



The Basic Education Core Curriculum

B.E. 2551 (A.D. 2008)

The Ministry of Education

Thailand

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Preface

As far back as 2002, the Ministry of Education announced experimental application of the Basic Education Curriculum 2001 in its pilot and network schools. Mandatory implementation was subsequently effected in all schools providing basic education from academic year 2003 to the present time. Various agencies with direct responsibilities, as well as those concerned, have continuously followed up and evaluated the application. Different strengths identified have proved to be quite gratifying. In fact, the application has been found to facilitate decentralization of educational authority, enabling local communities and educational institutions to participate and make significant contributions to preparation of curriculums that met their real needs. Clear concepts and principles for promoting learners' holistic development were quite apparent. Nonetheless, the outcomes of the studies revealed several problems and issues of concern arising from shortcomings of the 2001 Curriculum.

Problems and issues of concern included the Curriculum's its provisions, application process and results. Among the problems identified were confusion and uncertainty faced by practitioners in educational institutions in preparing school curriculums; the majority of schools were ambitious in prescribing learning contents and expected outcomes; measurement and evaluation did not correlate with the standards set, with negative effects on certification and transfer of learning achievements. Furthermore, issues of learners' quality resulting from acquisition of essential knowledge, skills, capacity and desirable characteristics and attributes were quite disconcerting.

Consequently, the Office of the Basic Education Commission (OBEC), under close supervision and wise guidance of the Basic Education Commission, took necessary measures to revise the Basic Education Curriculum 2001 in order to prepare the subsequent Basic Education Core Curriculum 2008. In so doing, OBEC availed of the outcomes of the studies undertaken and benefited from the data and information provided in the Tenth National Economic and Social Development Plan (2007-2011). Pertinent research results and projections led to greater clarity regarding the goals of improving

learners' quality and curriculum application at school and educational service area levels. Succinct information is presented regarding the vision, goals, learners' significant capacities, desirable characteristics and attributes, learning standards and relevant indicators, allotted time to each subject area for each grade level, and evaluation criteria that correlate with learning standards and consequently facilitate curriculum implementation. All these measures were aimed at providing schools with desirable orientation and guidance for preparation of the curriculum required for each level of education. The Basic Education Core Curriculum 2008 also allows opportunities for further amplification in accord with the schools' priorities and readiness.

The Basic Education Core Curriculum 2008 thus prepared will undoubtedly provide all educational service area offices, local offices and basic education institutions under jurisdiction of various agencies with an appropriate framework and guidance for preparing the pertinent curriculum. The basic education to be provided to all Thai children and youths will be of higher quality in regard to acquisition of essential knowledge and skills required for learners' lives in the constantly changing society. Learners will also be able to acquire knowledge for continuous lifelong self-development.

On behalf of the Basic Education Commission, may I express my thanks and appreciation for the active participation and contributions of all agencies concerned of both the Ministry of Education and other state offices, the private sector, people of all walks of life and parents and students. Their concerted efforts have led to successful completion of this policy document, which, I trust, will henceforth be most beneficial to educational provision for the Thai people.

Chai-anan Samudvanijja

(Mr. Chai-anan Samudvanijja)

Chairman of the Basic Education Commission



Directive of the Ministry of Education

No. OBEC 293/2551 (2008)

Subject: Implementation of the Basic Education Core Curriculum

B.E. 2551 (A.D. 2008)

Rapid economic and social change together with scientific and technological advancement have made it imperative for adaptation of basic education provision, which must be harmonized with such change and progress. Innovative strategies must be identified to improve the quality of education, which necessarily serves the needs of individuals as well as those of Thai society. Learners' capacities for competitiveness and creative cooperation will strengthen Thailand's international competitive position. There are also urgent needs for inculcation of awareness of Thai-ness, self-discipline, concern for public interest and adherence to a democratic form of government under constitutional monarchy as stipulated in Section 80 of the Constitution of the Kingdom of Thailand 2007 and the National Education Act 1999 and Amendments 2002 (Second National Education Act).

By virtue of Sections 12 and 15 of the Administrative Organization of the Ministry of Education Act 2003 as well as approval of the Basic Education Commission for application of the Basic Education Core Curriculum 2008, the Ministry of Education hereby authorizes implementation of the Curriculum, the provisions of which are appended to this directive. The Basic Education Core Curriculum 2008 shall replace the Basic Education Curriculum 2001. Conditions and time frame for application of the Basic Education Core Curriculum 2008 shall be as follow:

1. For model schools for curriculum implementation and those ready for such implementation, the names of which have been announced by the Ministry of Education:

(1) For academic year 2009, the Basic Education Core Curriculum 2008 shall be applied for Grades 1-6 and Grades 7 and 10;

(2) For academic year 2010, the Basic Education Core Curriculum 2008 shall be applied for Grades 1-6, and Grades 7, 8, 10 and 11; and

(3) As of academic year 2011, the Basic Education Core Curriculum 2008 shall be applied for all grades.

2. For schools in general:

(1) For academic year 2010, the Basic Education Core Curriculum 2008 shall be applied for Grades 1-6 and Grades 7 and 10;

(2) For academic year 2011, the Basic Education Curriculum 2008 shall be applied for Grades 1-6 and Grades 7, 8, 10 and 11; and

(3) As of academic year 2012, the Basic Education Core Curriculum 2008 shall be applied for all grades.

With prior approval of the Basic Education Commission, the Secretary-General of the Basic Education Commission is hereby authorized to make annulment, augmentation and change to the Basic Education Core Curriculum 2008 in accord with exigencies of the target groups and methods of educational provision.

Given on July 11, 2008.

Somchai Wongsawat
(Mr. Somchai Wongsawat)
Minister of Education

Background

The Ministry of Education announced implementation of the Basic Education Curriculum 2001, which served as the core curriculum for national education at the basic level. The curriculum prescribed goals and learning standards. It also provided a framework and orientation for enhancing quality of life of learners, who would attain virtue, wisdom, as well as capacity to maintain Thailand's competitive position in the world community (Ministry of Education, 2001). At the same time, the curriculum was duly adjusted for harmonisation with the objectives of the National Education Act 1999 and amendments made in 2002 (Second National Education Act). These laws have placed emphasis on decentralisation of educational authority to local communities and schools, which are to play significant roles and actively participate in preparing curriculums suitable to actual situations and serving their real needs (Office of the Prime Minister, 1999).

Based on relevant studies and monitoring as well as evaluation of the curriculum in application during the past six years (Bureau of Academic Affairs and Educational Standards, 2003 a, 2003b, 2005a; 2005b; Office of the Education Council, 2004; Bureau of Inspection and Evaluation, 2005; Suvimol Wongvanich and Nonglak Wiratchai, 2004; Nutravong, 2002; Kittisunthorn 2003), strengths of the Basic Education Curriculum 2001 were identified. For example, it facilitated decentralisation of educational authority, enabling local communities and schools to participate and play important roles in preparing curriculums which met their real needs. Clear concepts and principles for promoting learners' holistic development were quite apparent. Nonetheless, the outcomes of these studies revealed several problems arising from lack of clarity. Shortcomings were found in provisions of the curriculum itself, its application and emerging unsatisfactory outcomes, resulting in confusion and uncertainty of practitioners at school level in preparing their own curriculums. Most schools were ambitious in prescribing the learning contents, leading to overcrowded curriculums. Excessively high expectations were also set. Measurement and evaluation did not correlate with the standards set, with negative effects on preparation of

certifying documents and transfer of learning outcomes. Moreover, problems regarding learners' ability to acquire essential knowledge, skills, capacities and desirable characteristics were quite disconcerting.

In addition, the Tenth National Economic and Social Development Plan (2007-2011) emphasises the need to shift the focus of human development. It has become imperative for the Thai people to be endowed with desirable moral values, intelligence and sagacity. They should be able to enjoy full development in all respects—physical, intellectual, emotional and spiritual. They would thus be able to adjust themselves to unavoidable change, leading to a transformation to a firmly-founded knowledge-based society. The direction of such human capacity development would focus on providing children and youths with a firm foundation for attaining morality and public-mindedness, together with capacities, skills and basic knowledge essential to their future lives, leading to sustainability in national development (Office of the National Economic and Social Development Board, 2006). Such priorities are consistent with the policy of the Ministry of Education in guiding Thai children and youths towards the 21st century. Emphases have been placed on morality, preference for Thai-ness, skills in analytical and creative thinking, technological know-how, capacity for teamwork and ability to live in peace and harmony in the world community (Ministry of Education, 2008).

Studies, monitoring and evaluation of application of the Basic Education Curriculum 2001, together with guiding principles of the Tenth National Economic and Social Development Plan for human capacity development, as well as priorities advocated by the Ministry of Education for youth development for the 21st century led to revision of this curriculum. Consequently, the Basic Education Core Curriculum 2008 was formulated for greater clarity and appropriateness. Improvement was made for presentation of objectives and process of implementing the curriculum at educational service area and school levels. Succinct vision, objectives, learners' significant capacities and desirable characteristics, and learning standards and indicators have been presented, providing guidance for preparation of

curriculum for teaching-learning activities at each educational level. Furthermore, the new curriculum has prescribed a structure of minimum time to be allotted to each subject area for each grade level. Schools are given opportunities to increase learning time allotment, depending on their readiness and priorities. Improvement has been made to the process of measuring and evaluating learners' performance as well as criteria for graduation at each educational level. Adjustment has also been made for streamlining certification which correlates with learning standards, thus facilitating application of certifying documents.

The Basic Education Core Curriculum 2008 thus formulated will provide local communities and schools with a framework and orientation for preparing school curriculums. Teaching-learning activities organised for all Thai children and youths at basic education level are aimed at enhancing learners' quality regarding essential knowledge and skills required for their lives in an ever-changing society. They will thus be empowered to seek further knowledge for continuous lifelong self-development.

The learning standards and indicators prescribed in this document will enable agencies concerned at all levels to clearly visualise expected learning outcomes throughout the entire course of study. It will provide relevant local agencies and schools with confidence in their collaborative efforts to prepare school curriculums of higher quality and harmony. Learning measurement and evaluation will have greater clarity, thus eliminating the problem of inter-school transfer of learning outcomes. Therefore, curriculum development at all levels—from national to school levels—must exhibit the quality as prescribed in the learning standards and indicators. The core curriculum will provide a framework and direction for provision of education of all types, covering all target groups of learners receiving basic education.

Success in implementing the core curriculum to achieve the established goals will depend on the concerted efforts of the parties concerned at all levels—national, community, family and individual. They need to work on a systematic and continuous basis on planning,

functioning, promotion and support, inspection, and amendment as well as improvement, so that development of our youths will attain the learning standards and quality required.

Vision

The Basic Education Core Curriculum is aimed at enhancing capacity of all learners, who constitute the major force of the country, so as to attain balanced development in all respects—physical strength, knowledge and morality. They will fully realise their commitment and responsibilities as Thai citizens as well as members of the world community. Adhering to a democratic form of government under constitutional monarchy, they will be endowed with basic knowledge and essential skills and favourable attitude towards further education, livelihood and lifelong learning. The learner-centred approach is therefore strongly advocated, based on the conviction that all are capable of learning and self-development to their highest potentiality.

Principles

Notable principles underlying the Basic Education Core Curriculum are as follow.

1. The ultimate aim is attainment of national unity; learning standards and goals are therefore set with a view to enabling the children and youths to acquire knowledge, skills, attitude and morality to serve as a foundation for Thai-ness and universal values.
2. The curriculum facilitates education for all, who have equal access to education of high quality.
3. The curriculum facilitates decentralisation of authority by allowing society to participate in educational provision, which suits prevailing situations and serves local needs.
4. Structure of the curriculum enjoys flexibility regarding learning contents, time allotment and learning management.
5. The learner-centred approach is strongly advocated.

6. The curriculum is intended for education of all types—formal, non-formal and informal, covering all target groups and facilitating transfer of learning outcomes and experiences.

Goals

The Basic Education Core Curriculum is aimed at the full development of learners in all respects—morality, wisdom, happiness, and potentiality for further education and livelihood. The following goals have consequently been set for achievement upon completing basic education:

1. Morality, ethics, desirable values, self-esteem, self-discipline, observance of Buddhist teachings or those of one's faith, and guiding principles of Sufficiency Economy;
2. Knowledge and skills for communication, thinking, problem-solving, technological know-how, and life skills;
3. Good physical and mental health, hygiene, and preference for physical exercise;
4. Patriotism, awareness of responsibilities and commitment as Thai citizens and members of the world community, and adherence to a democratic way of life and form of government under constitutional monarchy; and
5. Awareness of the need to preserve all aspects of Thai culture and Thai wisdom, protection and conservation of the environment, and public-mindedness with dedication to public service for peaceful and harmonious co-existence.

Learners' Key Competencies

The Basic Education Core Curriculum is aimed at inculcating among learners the following five key competencies:

1. Communication Capacity

Capacity to receive and transmit information; linguistic ability and skills in expressing one's thoughts, knowledge and understanding, feelings and opinions for exchanging information and experience, which will be beneficial to oneself and society; negotiation for solving or reducing problems and conflicts; ability to distinguish and choose whether to receive or avoid information through proper reasoning and sound judgement; and ability to choose efficient methods of communication, bearing in mind possible negative effects on oneself and society.

2. Thinking Capacity

Capacity for analytical, synthetic, constructive, critical and systematic thinking, leading to creation of bodies of knowledge or information for judicious decision-making regarding oneself and society.

3. Problem-Solving Capacity

Capacity to properly eliminate problems and obstacles, based on sound reasoning, moral principles and accurate information; appreciation of relationships and changes in various social situations; ability to seek and apply knowledge to prevent and solve problems; and ability for judicious decision-making, bearing in mind possible negative effects on oneself, society and the environment.

4. Capacity for Applying Life Skills

Capacity for applying various processes in daily life; self-learning; continuous learning; working; and social harmony through strengthening of happy interpersonal relationships; elimination of problems and conflicts through proper means; ability for self-adjustment to keep pace with social and environmental changes; and capacity for avoiding undesirable behaviour with adverse effects on oneself and others.

5. Capacity for Technological Application

Ability to choose and apply different technologies; skills in application of technological processes for development of oneself and society in regard to learning, communication, working, and problem-solving through constructive, proper, appropriate and ethical means.

Desirable Characteristics

The Basic Education Core Curriculum focuses on learners' development for attainment of the following desirable characteristics, enabling learners to enjoy a life of harmony among others as Thai citizens and global citizens:

1. Love of nation, religion and king
2. Honesty and integrity
3. Self-discipline
4. Avidity for learning
5. Observance of principles of Sufficiency Economy Philosophy in one's way of life
6. Dedication and commitment to work
7. Cherishing Thai-ness
8. Public-mindedness

Learning Standards

Observance of the principles of development of the brain and multiple intelligence is required to achieve learners' balanced development. The Basic Education Core Curriculum has therefore prescribed the following eight learning areas:

1. Thai Language
2. Mathematics
3. Science
4. Social Studies, Religion and Culture
5. Health and Physical Education

6. Arts
7. Occupations and Technology
8. Foreign Languages.

For each learning area, the standards serve as the goals to be achieved in developing learners' quality. These standards prescribe what the learners should know and should be able to perform. They also indicate moral and ethical values as well as desirable characteristics upon completing education at basic level. Besides, the learning standards serve as essential mechanisms in advancing the whole education system, as they inform us of the contents and teaching and evaluation methods. They also serve as instruments for quality assurance and are adopted for both internal quality assurance and external evaluation, practised at both educational service area and national levels. Monitoring for internal quality assurance is essential, as it indicates the extent of success in achieving the quality as prescribed in the pertinent standards.

Indicators

Indicators specify what learners should know and be able to practise as well as their characteristics for each level. Indicators reflect the standard of learning. Being specific and concrete, they can be utilised for prescribing contents, determining learning units and organising teaching-learning activities. They serve as essential criteria for evaluation in order to verify the learners' quality.

1. Grade Level Indicators specify the goals to be achieved in developing learners for each level of compulsory education (Primary Education Grade 1-Secondary Education Grade 3, i.e., Grades 1-9).

2. Key Stage Indicators specify the goals to be achieved for upper secondary education (Secondary Education Grades 4-6, i.e., Grades 10-12).

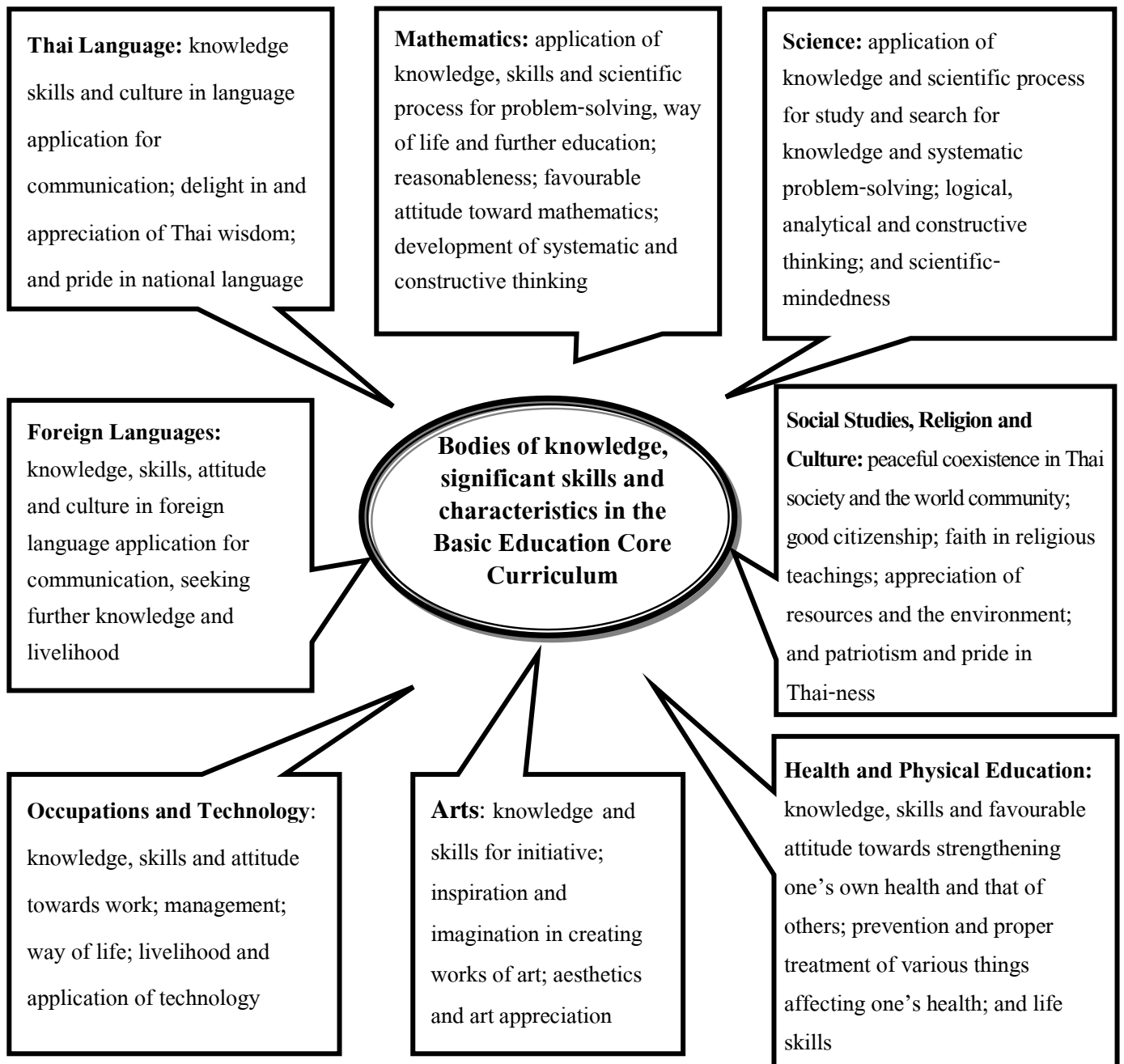
For common understanding and correct interpretation, the curriculum prescribes various codes for learning standards and indicators, examples of which are shown below.

Sc 1.1 Gr 1/2	
Sc	Subject area of Science
1.1	First subject area, Standard 1
Gr1/2	Indicator 2 for Grade 1

F 2.2 Gr 10-12/3	
F	Subject area of Foreign Languages
2.2	Second subject area, Standard 2
Gr 10-12/3	Indicator 3 for upper secondary education (Upper Secondary Education Grades 4-6, i.e., Grades 10-12)

Learning Areas

Learning areas comprise bodies of knowledge, skills or learning processes and desirable characteristics, attainment of which is required of all basic education learners. The contents are divided into eight learning areas:



Relationships in the Development of Learners' Quality According to the Basic

Education Core Curriculum

Vision

The Basic Education Core Curriculum is aimed at enhancing capacity of all learners, who constitute the major force of the country, so as to attain a balanced development in all respects – physical strength, knowledge and morality. They will fully realize their commitment and responsibilities as Thai citizens and members of the world community. Adhering to a democratic form of government under constitutional monarchy, they will be endowed with basic knowledge and essential skills and favourable attitude towards further education, livelihood and lifelong learning. The learner-centred approach is therefore strongly advocated, based on the conviction that all are capable of learning and self-development to their highest potentiality.

Goals

1. Morality, ethics, desirable values, self-esteem, self-discipline, observance of Buddhist teachings or those of one's faith, and guiding principles of Sufficiency Economy Philosophy;
2. Knowledge and skills for communication, thinking, problem-solving, technological know-how, and life skills;
3. Good physical and mental health, hygiene, and preference for physical exercise;
4. Patriotism, awareness of responsibilities and commitment as Thai citizens and members of the world community, and adherence to a democratic way of life and form of government under constitutional monarchy; and
5. Awareness of the need to preserve all aspects of Thai culture and Thai wisdom, protection and conservation of the environment, and public-mindedness with dedication to public service for peaceful and harmonious coexistence.

Learners' Key Competencies

1. Communication capacity
2. Thinking capacity
3. Problem-solving capacity
4. Capacity for applying life skills
5. Capacity for technological application

Desirable Characteristics

1. Love of nation, religion and king
2. Honesty and integrity
3. Self-discipline
4. Avidity for learning
5. Observance of principles of Sufficiency Economy Philosophy in one's way of life
6. Dedication and commitment to work
7. Cherishing Thai-ness
8. Public-mindedness

Learning Standards and Indicators for Eight Learning Areas

1. Thai Language
2. Mathematics
3. Science
4. Social Studies, Religion and Culture
5. Physical and Health Education
6. Arts
7. Occupations and Technology
8. Foreign Languages

Learner Development Activities

1. Counselling activities
2. Student activities
3. Activities for social and public interest

Learners' quality at basic education level

Strands and Learning Standards

The Basic Education Core Curriculum prescribes a total of 67 standards for the eight learning areas as follows:

Thai Language

Strand 1: Reading

Standard T1.1: Application of reading process to build knowledge and thoughts for decision-making and problem-solving in life, and encouraging acquisition of reading habit

Strand 2: Writing

Standard T2.1: Effective application of writing process for writing communications, compositions, synopses, stories in various forms, data and information reports, and study and research reports

Strand 3: Listening, Viewing and Speaking

Standard T3.1: Competency in selective and critical listening and viewing, and critical and creative expression of knowledge, thoughts and feelings on various occasions

Strand 4: Principles of Thai Language Usage

Standard T4.1: Understanding of nature and principles of Thai language, linguistic change and power, linguistic wisdom and preservation of Thai language as national treasure

Strand 5: Literature and Literary Works

Standard T5.1: Understanding and expressing opinions; criticism of Thai literature and literary works through appreciative approach; and application in real life

Mathematics**Strand 1: Numbers and Operations**

- Standard M1.1: Understanding of diverse methods of presenting numbers and their application in real life
- Standard M1.2: Understanding of results of operations of numbers, relationship of operations, and application of operations for problem-solving
- Standard M1.3: Use of estimation in calculation and problem-solving
- Standard M1.4: Understanding of numerical system and application of numerical properties

Strand 2: Measurement

- Standard M2.1: Understanding of the basics of measurement; ability to measure and estimate the size of objects to be measured
- Standard M2.2: Solving measurement problems

Strand 3: Geometry

- Standard M3.1: Ability to explain and analyse two-dimensional and three-dimensional geometric figures
- Standard M3.2: Capacity for visualisation, spatial reasoning and application of geometric models for problem-solving

Strand 4: Algebra

- Standard M4.1: Understanding and ability to analyse patterns, relations and functions
- Standard M4.2: Ability to apply algebraic expressions, equations, inequality, graphs and other mathematical models to represent various situations as well as interpretation and application for problem-solving

Strand 5: Data Analysis and Probability

- Standard M5.1: Understanding and ability to apply statistical methodology for data analysis

Standard M5.2: Application of statistical methodology and knowledge of probability for valid estimation

Standard M5.3: Application of knowledge of statistics and probability for decision-making and problem-solving

Strand 6: Mathematical Skills and Processes

Standard M6.1: Capacity for problem-solving, reasoning; communication and presentation of mathematical concept; linking various bodies of mathematical knowledge and linking mathematics with other disciplines; and attaining ability for creative thinking

Science

Strand 1: Living Things and Life Processes

Standard Sc1.1: Understanding of the basic units of living things; relationship between structures and functions of various systems of living things which are interlinked; having investigative process for seeking knowledge; ability to communicate acquired knowledge, which could be applied to one's life and care for living things

Standard Sc1.2: Understanding of process and importance of genetic transmission; evolution of living things; biodiversity; application of biotechnology affecting humans and the environment; having investigative process for seeking knowledge and scientific reasoning; communicating acquired knowledge that could be applied for useful purposes

Strand 2: Life and the Environment

Standard Sc2.1: Understanding of local environment; relationship between the environment and living things; relationship between living things in the eco-system; having investigative process for seeking knowledge and scientific reasoning; and communicating acquired knowledge that could be applied for useful purposes

Standard Sc2.2: Appreciating the importance of natural resources; utilisation of natural resources at local, national and global levels; and application of knowledge for management of natural resources and local environment on a sustainable basis

Strand 3: Substances and Properties of Substances

Standard Sc3.1: Understanding of properties of substances; relationship between properties of substances and structures and binding forces between particles; having investigative process for seeking knowledge and scientific reasoning; and communicating acquired knowledge that could be applied for useful purposes

Standard Sc3.2: Understanding of principles and nature of change in the state of substances; solution formation; chemical reaction; having investigative process for seeking knowledge and scientific reasoning; and communicating acquired knowledge that could be applied for useful purposes

Strand 4: Forces and Motion

Standard Sc4.1: Understanding of the nature of electromagnetic, gravitational and nuclear forces; having investigative process for seeking knowledge; and communicating acquired knowledge that could be applied for useful and ethical purposes

Standard Sc4.2: Understanding of characteristics and various types of motion of natural objects; having investigative process for seeking knowledge and scientific reasoning; and communicating acquired knowledge that could be applied for useful purposes

Strand 5: Energy

Standard Sc5.1: Understanding of relationship between energy and living; energy transformation; interrelationship between substances and energy; effects of energy utilisation on life and the environment; having investigative process for seeking knowledge; and communicating acquired knowledge that could be applied for useful purposes

Strand 6: Change Processes of the Earth

Standard Sc6.1: Understanding of various processes on the Earth's surface and interior; relationship between various processes causing changes in climate, topography and form of the Earth; having investigative process for seeking knowledge and scientific reasoning; and communicating acquired knowledge that could be applied for useful purposes

Strand 7: Astronomy and Space

Standard Sc7.1: Understanding of evolution of the solar system, galaxies and the universe; interrelationships within the solar system and their effects on living things on the Earth; having investigative process for seeking knowledge and scientific reasoning; and communicating acquired knowledge that could be applied for useful purposes

Standard Sc7.2: Understanding of importance of space technology utilised for space exploration and natural resources for agriculture and communication; having investigative process for seeking knowledge and scientific reasoning; and communicating acquired knowledge that could be ethically applied to life and the environment

Strand 8: Nature of Science and Technology

Standard Sc8.1: Application of scientific process and scientific reasoning in investigation for seeking knowledge and problem-solving; knowing that most natural phenomena assume definite patterns which are explainable and verifiable within limitations of data and instruments available during particular periods of time; and understanding that science, technology, society and the environment are interrelated

Social Studies, Religion and Culture

Strand 1: Religion, Morality and Ethics

Standard So1.1: Knowledge and understanding of the history, importance, the Masters, moral principles of Buddhism or those of one's faith and other religions; having the right faith; adherence and observance of moral principles for peaceful coexistence

Standard So1.2: Understanding, awareness and personal conduct of devout believers; and observance and furtherance of Buddhism or one's faith

Strand 2: Civics, Culture and Living in Society

Standard So2.1: Understanding and personal conduct in accord with duties and responsibilities of good citizens; observance and preservation of Thai tradition and culture; and enjoying peaceful coexistence in Thai society and the world community

Standard So2.2: Understanding of political and administrative systems of the present society; adherence to, faith in, and upholding of the democratic form of government under constitutional monarchy

Strand 3: Economics

Standard So3.1: Understanding and capability of managing resources for production and consumption; efficient and cost-effective utilisation of limited resources; and understanding principles of Sufficiency Economy for leading a balanced life

Standard So3.2: Understanding of various economic systems and institutions; economic relations; and necessity for economic cooperation in the world community

Strand 4: History

Standard So4.1: Understanding of the meaning and significance of historical times and periods; ability to use historical methodology for systematic analysis of various events

Standard So4.2: Understanding of development of mankind from the past to the present; realising the importance of relationships and continuous changes of events, and ability to analyse their effects

Standard So4.3: Knowledge of historical development of Thailand as a nation; culture; Thai wisdom; cherishing, pride in and preservation of Thai-ness

Strand 5: Geography

Standard So5.1: Understanding of physical characteristics of the Earth and inter-relationship of various things in the natural system which affect one another; utilisation of maps and geographical instruments for searching, analysing, drawing conclusions from, and efficiently utilising geo-data and information

Standard So5.2: Understanding of interrelationship between man and physical environment leading to cultural creativity; awareness and participation in conservation of resources and the environment for sustainable development

Health and Physical Education**Strand 1: Human Growth and Development**

Standard H1.1: Understanding of nature of human growth and development

Strand 2: Life and Family

Standard H2.1: Understanding and self-appreciation; family; sex education; and having life skills

Strand 3: Movement, Physical Exercise, Games, Thai and International Sports

Standard H3.1: Understanding and skills in movement; physical activities; playing games and sports

Standard H3.2: Favour for physical exercise, playing games and sports with regular practices; self-discipline; observance of rights, rules and regulations; having sporting spirit; having true competitive spirit; and appreciation of the aesthetics of sports

Strand 4: Health-Strengthening Capacity and Disease Prevention

Standard H4.1: Appreciation and skills in health-strengthening; maintaining one's health; disease prevention and strengthening capacity for health

Strand 5: Safety in Life

Standard H5.1: Prevention and avoidance of risk factors, behaviours detrimental to health, and accidents; use of medicines; addictive substances and violence

Arts**Strand 1: Visual Arts**

Standards A1.1: Creating works of visual art through imagination and creativity; analysis and criticism on value of works of visual art through free expression of feelings and thoughts; appreciation and application in daily life

Standard A1.2: Understanding of relationship between visual arts, history and culture; appreciating works of visual art that represent cultural heritage, local wisdom as well as Thai and universal wisdom

Strand 2: Music

Standard A2.1: Understanding and capacity for creative self-expression through music; analysis and criticism on value of music; free conveyance of feelings and thoughts on music; appreciation and application in daily life

Standard A2.2: Understanding of relationship between music, history and culture; appreciating musical works that represent cultural heritage, local wisdom, and Thai and universal wisdom

Strand 3: Dramatic Arts

Standard A3.1: Understanding and creative self-expression through dramatic arts; analysis and criticism on value of dramatic arts; free expression of feelings and thoughts; appreciation and application in daily life

Standard A3.2: Understanding of relationship between dramatic arts, history and culture; appreciating the value of dramatic arts that represent cultural heritage, local wisdom, and Thai and universal wisdom

Occupations and Technology

Strand 1: Living and Family

Standard O1.1: Understanding of the concept of work; possessing creativity and skills in various respects--work processes, management, problem-solving, teamwork and investigation for seeking knowledge; morality, diligence, and awareness of the need to economise on the use of energy, resources and the environment for one's living and for family

Strand 2: Design and Technology

Standard O2.1 Understanding of technology and technological processes; designing and creating objects, utensils or methodologies through creative technological processes; selective utilisation of technologies beneficial to one's life, society and the environment; participation in sustainable technological management

Strand 3: Information and Communication Technology (ICT)

Standard O3.1: Understanding, appreciation and efficient, effective and ethical use of information technology in searching for data, communication, problem-solving, working and livelihood

Strand 4: Occupations

Standard O4.1: Understanding and acquiring necessary skills and experiences; proper perception of future career; technological application for occupational development; possessing morality and favourable attitude towards occupations

Foreign Languages**Strand 1: Language for Communication**

Standard F1.1: Understanding and capacity for interpreting what has been heard and read from various types of media, and ability to express opinions with proper reasoning

Standard F1.2: Possessing language communication skills for effective exchange of data and information; efficient expression of feelings and opinions

Standard F1.3: Ability to present data and information, concepts and views on various matters by speaking and writing

Strand 2: Language and Culture

Standard F 2.1: Appreciating relationship between language and culture of native speakers and capacity for use of language appropriate to occasions and places

Standard F2.2: Appreciating similarities and differences between language and culture of native speakers and Thai speakers, and capacity for correct and appropriate use of language

Strand 3: Language and Relationship with Other Learning Areas

Standard F3.1: Using foreign languages to link knowledge with other learning areas and as foundation for further development, to seek knowledge and widen one's world view

Strand 4: Language and Relationship with Community and the World

- Standard F4.1: Ability to use foreign languages in various situations in school, community and society
- Standard F4.2: Using foreign languages as basic tools for further education, livelihood and exchange of learning with the world community

Learner Development Activities

Learner development activities are aimed at allowing learners to develop themselves to their highest potentiality, thus becoming well-rounded and fully developed in all respects—physical, intellectual, emotional and social; inculcating of morality, ethics and self-discipline; creating and strengthening spirit of philanthropy for social benefits; ability for self-management and enjoying happy life among others.

Learner development activities are divided into three types as follows.

1. Counselling Activities

These activities are aimed at encouraging and developing learners to know themselves, know how to protect the environment, be able to make decisions, solve problems, set goals and make plans in regard to their education and future careers and adapt themselves appropriately. Furthermore, these activities will enable teachers to know and understand their students and therefore assist and advise parents regarding their participation in learner development.

2. Student Activities

These activities are aimed at instilling self-discipline, ability to lead and follow, teamwork, responsibility, problem-solving ability, appropriate decision-making, rationality, helpfulness and generosity, care, concern and unity. The activities are organised in accord with capacities, aptitudes and interests of learners, who practise the activities at all stages, i.e., study, analysis, planning, plan implementation, evaluation and improvement. Emphasis is given to teamwork as appropriate and consistent with learners' maturity and school and local contexts. Student activities include:

2.1 Boy Scout organisation, Girl Guides, Junior Red Cross, social service and territorial defence; and

2.2 Activities of various clubs and societies.

3 Activities for Social and Public Interest

These activities are aimed at encouraging learners to devote themselves and provide voluntary services for the benefit of society, their communities and local areas in accord with their interests, thus manifesting commitment, virtue, sacrifice for social causes and public-mindedness. They include voluntary services in various fields and those for public interest and concerns.

Educational Levels

The Basic Education Core Curriculum covers three educational levels as follows.

1. Primary Education Level (Primary education grades 1-6)

This level covers the first stage of compulsory education. It focuses on acquiring various skills—reading, writing, calculation, fundamental thinking, communication, social learning process and fundamentals of human beings—as well as complete and balanced development of quality of life in various respects—physical, intellectual, emotional, social and cultural—with emphasis on integrated learning management.

2. Lower Secondary Education Level (Lower secondary education grades 1-3, also know as grades 7-9)

This level covers the last stage of compulsory education. It focuses on allowing learners to explore their aptitudes and interests, promoting development of individual personality, skills for critical and creative thinking, problem-solving, life skills and skills required to apply technologies as learning tools, social responsibility, proper balance in regard to knowledge, virtue and pride in Thai-ness, which together provide a foundation for future livelihood or further education.

3. Upper Secondary Education Level (Upper secondary education grades 4-6, also known as grades 10-12)

This level focuses on increasing specific knowledge and skills in line with capacities, aptitudes and interests of individual learners in regard to academic and technological application, skills for high-level thinking process, ability to apply knowledge for further education and livelihood, and self-development and national progress in accordance with students' respective roles, as well as ability to lead and offer community services in various respects.

Learning Time Allotment

The Basic Education Core Curriculum prescribes a framework for minimal learning time structure for the eight learning areas and learner development activities. Educational institutions can increase the allotment of time, depending on their readiness and priorities, through adjustment to suit their contexts and learners' situations as follows:

1. Primary Education Level (Primary education grades 1-6)

Learning time is allotted on annual basis; not exceeding five hours each day.

2. Lower Secondary Education Level (Secondary education grades 1-3 or grades 7-9)

Learning time is allotted on semester basis; not exceeding six hours each day; the weight of a course is counted in credits; the criterion is that 40 hours per semester is equivalent to one credit (cr).

3. Upper Secondary Education Level (Upper secondary education grades 4-6 or grades 10-12)

Learning time is allotted on semester basis; not less than six hours each day; the weight of a course is counted in credits; the criterion is that 40 hours per semester is equivalent to one credit (cr).

Learning Time Structure

The Basic Education Core Curriculum prescribes the framework for learning time as follows.

Learning Areas / Activities	Learning Time (in hours)									
	Primary Education Level						Lower Secondary Education Level			Upper Secondary Education Level
	G 1	G 2	G 3	G 4	G 5	G 6	G 7	G 8	G 9	G 10-12
● Learning Areas										
Thai Language	200	200	200	160	160	160	120 (3 crs)	120 (3 crs)	120 (3 crs)	240 (6 crs)
Mathematics	200	200	200	160	160	160	120 (3 crs)	120 (3 crs)	120 (3 crs)	240 (6 crs)
Science	80	80	80	80	80	80	120 (3 crs)	120 (3 crs)	120 (3 crs)	240 (6 crs)
Social Studies, Religion and Culture - <i>History</i>	120	120	120	120	120	120	160 (4 crs)	160 (4 crs)	160 (4 crs)	320 (8 crs)
- <i>Religion, Morality and Ethics, Civics, Culture and Living in Society, Economic, Geography</i>	40	40	40	40	40	40	40 (1cr)	40 (1cr)	40 (1cr)	80 (2 crs)
	80	80	80	80	80	80	120 (3 crs)	120 (3 crs)	120 (3 crs)	240 (6 crs)
Health and Physical Education	80	80	80	80	80	80	80 (2crs)	80 (2 crs)	80 (2 crs)	120 (3 crs)
Arts	80	80	80	80	80	80	80 (2crs)	80 (2 crs)	80 (2 crs)	120 (3 crs)
Occupations and Technology	40	40	40	80	80	80	80 (2crs)	80 (2 crs)	80 (2 crs)	120 (3 crs)
Foreign Languages	40	40	40	80	80	80	120 (3 crs)	120 (3 crs)	120 (3 crs)	240 (6 crs)
Total Learning Time (Basic Level)	840	840	840	840	840	840	880 (22 crs)	880 (22 crs)	880 (22 crs)	1,640 (41 crs)
● Learner Development Activities	120	120	120	120	120	120	120	120	120	360
● Additional courses/ activities provided by schools, depending on their readiness and priorities	Not more than 40 hours for each year						Not more than 200 hours for each year			Not less than 1,600 hours
Total Learning Time	Not more than 1,000 hours for each year						Not more than 1,200 hours for each year			Not less than 3,600 hours for a total of 3 years

Prescribing structure for basic and additional learning time

Educational institutions are authorised to proceed as follows.

Primary education level: basic learning time for each learning area can be adjusted as appropriate. Total learning time structure shall be as prescribed in basic learning time structure, while learners must attain the quality prescribed in learning standards and indicators.

Secondary education level: the basic learning time structure shall be as prescribed and shall meet all criteria and requirements for graduation.

Regarding additional learning time for both primary and secondary education levels, additional courses or learner development activities can be organised, with due consideration being given to the educational institutions' readiness and priorities as well as criteria and requirements for graduation. For primary education grades 1-3, additional learning time can be included in the learning areas of Thai language and mathematics.

Regarding the allocation of 120 hours each year for learner development activities for primary education grade 1 to -secondary education grade 3 (Grades 1-9) and 360 hours each year for secondary education grades 4-6 (Grades 10-12), such allotment is meant for counselling activities, student activities and activities for social and public interest. In regard to the last category of activities, educational institutions shall allot the time required as follows:

Primary education level (Grades 1-6), totalling 6 years: 60 hours

Lower secondary education level (Grades 7-9), totalling 3 years: 45 hours

Upper secondary education level (Grades 10-12), totalling 3 years: 60 hours.

Educational Provision for Special Target Groups

Regarding educational provision for special target groups, e.g., specialised education, education for the gifted and talented, alternative education, education for the disadvantaged and informal education, the Basic Education Core curriculum can be adjusted to suit the

situations and contexts of each target group, on condition that the quality attained shall be as prescribed in the standards. Such adjustment shall meet the criteria and follow the methods specified by the Ministry of Education.

Learning Management

Learning management is an important process for curriculum implementation. The Basic Education Core Curriculum prescribes learning standards and learners' major capacities and desirable characteristics, which are the main goals of children and youth development.

In the efforts to develop learners, enabling them attain various characteristics prescribed in the curriculum goals, attempts will be made by teachers to select appropriate learning processes. Learning is provided by assisting learners to master all the eight learning areas, as well as by inculcating and strengthening desirable characteristics, and developing various skills essential for acquiring major capacities as envisaged in the goals.

1. Principles of learning management

The principles of learning management enabling the learners to attain knowledge and competencies for the standards required, major capacities and desirable characteristics as prescribed in the Basic Core Curriculum are: learners are most important; all are capable of learning and self-development; priority is given to learners' benefits; the process of learning management must enable learners to develop themselves naturally to their highest potentiality; consideration must be given to differences among individuals and their brain development; and emphasis must be given to both knowledge and morality.

2. Learning process

For learning management through the learner-centred approach, learners will depend on a variety of learning processes that serve as tools for enabling them to achieve the curriculum goals. Among the essential learning processes for learners are: integrated learning process; knowledge-creating process; thinking process; social process; heuristic learning

process; learning process from actual experience; process of actual practice; management process; research process; self-learning process; and process of developing characteristics.

Learners should be trained and receive further development for acquiring competence in these processes, which will facilitate their learning, enabling them to achieve the curriculum goals. Teachers are therefore required to study and understand various learning processes in order to be able to make judicious choices.

3. Designing learning management

Teachers are required to study the curriculum of the educational institution concerned in order to understand the learning standards, indicators, learners' major capacities, desirable characteristics and learning contents suitable to the learners. The teachers then proceed to design learning management by choosing teaching methods and techniques, learning media/resources, and evaluation measures, so as to allow the learners to develop to their highest potentiality and thereby attain the established goals.

4. Roles of teachers and learners

In regard to learning management enabling learners to attain the quality as prescribed in the curriculum goals, teachers and learners should play the following roles.

4.1 Roles of teachers

Teachers should:

- 1) Study and analyse individual learners, and then use the data obtained for planning learning management in order to stimulate and challenge the learners' capacities;
- 2) Set the targets to be achieved by the learners in regard to knowledge, skills, process of conceptualisation, principles, relationships as well as desirable characteristics;
- 3) Design and organise learning responsive to individual differences and different levels of brain development, so as to enable the learners to attain the goals of learning;
- 4) Provide an ambience and atmosphere conducive to learning, and provide necessary care and assistance enabling the learners to learn;

5) Prepare and utilise media that are suitable to the activities organised, and avail of local wisdom and appropriate technologies for teaching-learning activities;

6) Assess the learners' progress through a variety of methods suitable to the intrinsic nature of the subjects and the learners' developmental level; and

7) Analyse assessment results for remedial and developmental measures for the learners' benefit, as well as improve their own teaching-learning methods and activities.

4.2 Roles of learners

Learners should:

1) Set the goals of learning, make plans and take responsibility for their own learning;

2) Seek knowledge, make serious efforts to access learning resources, analyse and synthesise bodies of knowledge, raise questions and search for answers or problem solutions through various methods;

3) Take action, draw conclusions regarding what has been learnt, and apply the knowledge gained to various situations;

4) Interact, work and join in activities organised by their peers and their teachers; and

5) Continuously assess and improve their own learning process.

Learning Media

Learning media serve as tools for promoting and supporting management of the learning process, enabling learners to efficiently acquire knowledge, skills, processes and characteristics as prescribed in the curriculum standards. There are several kinds of learning media, i.e., natural media, print media, technological media and various local learning networks. With a view to making judicious choices of learning media, attention should be paid to their suitability to the learners' different developmental levels and paces of learning.

For provision of leaning media, learners and teachers can produce and develop media themselves or make judicious choices from among the various media of quality around them, as well as improve the chosen media as appropriate. These media can be utilised in the learning process, enabling learners to learn through appropriate communication. Educational institutions should provide sufficient learning media to ensure proper learning by learners. Schools, educational service areas, relevant agencies and actors responsible for provision of basic education are therefore advised to:

1. Provide learning sources, learning media centres, learning information systems and efficient learning networks both in schools and communities for the purposes of study, research and exchange of learning experiences among educational institutions, local areas, communities and the world community;

2. Provide and procure learning media for study and research by learners to whom additional knowledge is given, and utilise duly adjusted locally available materials as learning media;

3. Choose and utilise learning media of high quality, which are suitable, diversified and consistent with the learning methods, the intrinsic nature of the learning contents and individual differences among learners;

4. Evaluate quality of the learning media selected for use on a systematic basis;

5. Study, explore and conduct research for development of learning media that are appropriate to the learners' learning process; and

6. Periodically and continuously supervise, monitor and assess the quality and efficiency of the learning media and their application.

In producing, selecting and evaluating the quality of learning media utilised in educational institutions, regard should be given to their major principles, e.g., harmony with the curriculum, learning objectives, design of learning activities; provision of experiences to learners; accuracy and timeliness of contents that are not detrimental to national security or

morality; proper use of language; and presentation models that are easily understood and interesting.

Learning Assessment

Learning assessment must be based on two fundamental principles, i.e., evaluation for the purpose of developing the learners' capacity and for appraising their achievements. With a view to succeeding in developing the learners' learning quality, learners must be strengthened and assessed by availing of the relevant indicators, so as to achieve the learning standards prescribed. Such evaluation also reflects the learners' major capacities and their desirable characteristics, which are the main goals of measuring and evaluating the learning outcomes at all levels, i.e., classroom level, educational institution level, educational service area level, and national level. Learning assessment is a process of enhancing the learners' quality by using assessment results as data and information to show learners' developmental progress and accomplishment. The data will also be useful for strengthening the learners, thus enabling them to learn to their highest potentiality.

As already mentioned, learning assessment can be divided into four levels, i.e., classroom level, educational institution level, educational service area level and national level, details of which are as follow.

1. Classroom assessment

Measurement and evaluation are part of the learning process. Teachers regularly and continuously measure and evaluate students' performance in teaching-learning activities by using diverse assessment techniques, e.g., asking questions, observing, examining homework, assessing projects, tasks/assignments and portfolios, and using written tests, etc. Teachers will conduct evaluations themselves or provide learners with opportunities for self-evaluation, peer-to-peer evaluation, and evaluation by parents. Learners who do not succeed in meeting the standards prescribed in the indicators will need remedial measures for teaching and learning.

Classroom assessments aimed at verifying whether and to what extent learners have achieved development and progress in learning through the provided teaching-learning activities, and determining what must be improved and which areas must be strengthened. Furthermore, evaluation also provides teachers with necessary data for improving their own performance, which must be in accord with the established learning standards and indicators.

2. School assessment

This evaluation is conducted by the educational institution in order to appraise the learners' achievements on an annual/semester basis, based on assessment of reading, analytical thinking and writing, desirable characteristics, and learner development activities. The aim is also to obtain relevant information about whether education provided by the educational institution has enabled learners to reach their goals of learning, and what are the learners' strengths. The learning outcomes can also be compared with national assessment criteria. School assessment will provide data and information for improving policy, curriculum, projects and teaching-learning methodology. Evaluation outcomes are also useful for preparation of each educational institution's educational quality development plan in accord with the educational quality assurance guidelines, as well as reports on each educational institution's achievement to its school board, the office of the educational service area, OBEC, parents and the community.

3. Local assessment

Evaluation is conducted in order to assess learners' quality at educational service area level, based on the learning standards prescribed in the Basic Education Core Curriculum. It is aimed at obtaining basic information required for developing quality of education provided by the educational service area as mandated. Evaluation of the learners' achievements can be conducted by availing of standard examination papers prepared and administrated by the educational service area or in cooperation with the parent agency. Besides, assessment results are also obtained from verification and review of the data obtained from evaluation at educational institution level in the educational service area.

4. National test

Evaluation is conducted in order to assess learners' quality at national level, based on the learning standards prescribed in the Basic Education Core Curriculum. Educational institutions are required to arrange for assessment of all students in Grades 3, 6, 9 and 12. The evaluation results will provide relevant data for comparing educational quality at different levels, which will be useful for planning in order to raise the quality of education provided. The data obtained will also support decision-making at national policy level.

The data from evaluation at the various levels mentioned above will be useful to educational institutions for checking, reviewing and developing learners' quality. It is incumbent upon the educational institutions to establish a system for providing necessary care and assistance, remedial measures, and encouragement and support in order to allow learners to develop themselves to their highest potentiality. Such development will be based on individual differences, depending on their particular problems and needs. The various groups include average achievers, the gifted and talented, under-achievers, those with disciplinary and behavioural problems, those who refuse schooling, those with economic and social problems, and those with physical and intellectual disabilities, etc. The data obtained from the evaluation therefore will provide essential information to the educational institutions for providing timely assistance to learners, who are thus allowed to enjoy full development and learning achievement.

Being responsible for educational provision, educational institutions are required to prepare relevant rules and regulations for measurement and evaluation of the learning outcomes, harmonious and in accord with the criteria and guidelines prescribed in the Basic Education Core Curriculum, thus providing a common and standard practice for all concerned.

Criteria for Learning Assessment

1. Judging, grading and reporting on learning outcomes

1.1 Judging learning outcomes

In judging the learning outcomes of various subject areas, reading, analytical thinking and writing, desirable characteristics and learner development activities, the teachers must base their judgement on development of individual learners. Teachers are required to regularly and continuously collect the learners' data in all respects for each semester, as well as provide remedial measures, enabling learners to develop to their highest potentiality.

Primary education level

(1) Learners must have an attendance record of not less than 80% of the total learning time requirement;

(2) Learners must be assessed on all indicators and must pass the criteria prescribed by the educational institutions;

(3) Learners must be judged on the learning outcomes of each course; and

(4) Learners must be evaluated and must pass all the criteria prescribed by the educational institutions regarding reading, analytical thinking and writing, desirable characteristics and learner development activities.

Secondary education level

(1) Teachers will judge the learning outcomes of all courses. Learners must have an attendance record of not less than 80% of the total learning time required for the respective courses for each semester;

(2) Learners must be assessed on all indicators and must pass all the criteria prescribed by the educational institutions;

(3) Learners must be judged on the learning outcomes of each course; and

(4) Learners must be evaluated and must pass all the criteria prescribed by the educational institutions regarding reading, analytical thinking and writing, desirable characteristics and learner development activities.

Regarding consideration of transition to next grade for both primary and secondary education levels, if learners have minor deficiencies which, in the view of the educational institutions, can be corrected and further developed with remedial measures, the educational institutions have the discretion to allow them to move to a higher grade. If, however, the learners have failed in many courses, and are likely to face problems in proceeding to a higher grade, the educational institutions can establish a committee to consider the possibility of repeating the year, with particular attention paid to the learners' maturity, knowledge and capacity.

1.2 Grading learning outcomes

Primary education level

In judging for the purpose of grading learning outcomes of each course, educational institutions can grade the level of learners' learning outcomes or the quality level of their performance by using numerical, alphabetical, and percentage systems or a system that uses key words to indicate the standard attained.

For assessment of reading, analytical thinking and writing, and desirable characteristics, the grading levels are: Excellent, Good Pass and Fail.

For assessment of learner development activities, consideration must be given to the amount of time devoted, and the participation and achievement of learners in accord with the criteria prescribed by the educational institutions. The outcomes of the participation are graded as: Pass and Fail.

Secondary education level

In judging for the purpose of grading learning outcomes of each course, eight numbers are applied to indicate the level of the learning outcomes.

For assessment of reading, analytical thinking and writing, and desirable characteristics, the grading levels are: Excellent, Good, Pass and Fail.

For assessment of learner development activities, consideration shall be given to the amount of time devoted, and the participation and achievement of learners in accord with the criteria prescribed by the educational institutions. The outcomes of the participation are graded as: Pass and Fail.

1.3 Reporting on learning outcomes

Reporting on learning outcomes is a means of communicating to parents and learners the latter's progress of achievement. Educational institutions are required to summarise the assessment outcomes and prepare written reports for submission for the parents' information on a periodical basis or at least once every semester.

Reporting on learning outcomes can indicate quality level of learners' performance, which reflects the standard of achievement for the various learning areas.

2. Criteria of graduation

The Basic Education Core Curriculum prescribes general criteria for graduation at three educational levels, i.e., primary, lower secondary, and upper secondary education levels.

2.1 Graduation criteria for primary education level

(1) Learners have completed basic courses and supplementary courses/activities in accord with the learning time structure as prescribed in the Basic Education Core Curriculum;

(2) Learners' assessment outcomes for each basic course must meet the criteria prescribed by the respective educational institutions;

(3) Learners' assessment outcomes regarding reading, analytical thinking, and writing must meet the criteria prescribed by the respective educational institutions;

(4) Learners' assessment outcomes regarding desirable characteristics must meet the criteria prescribed by the respective educational institutions; and

(5) Learners have participated in learner development activities and the assessment outcomes of their participation meet the criteria set by the respective educational institutions.

2.2 Graduation criteria for lower secondary education

(1) Learners have attained no more than 81 credits for basic and supplementary courses, with a distribution of 66 credits for basic courses and a number of credits for supplementary courses as prescribed by the respective educational institutions;

(2) Learners must have attained not less than 77 credits for the entire curriculum with a distribution of 66 credits for basic courses and not less than 11 credits for supplementary courses;

(3) Learners' assessment outcomes regarding reading and analytical thinking and writing must meet the criteria prescribed by the respective educational institutions;

(4) Learners' assessment outcomes regarding desirable characteristics must meet the criteria prescribed by the respective educational institutions; and

(5) Learners have participated in learner development activities and the assessment outcomes of their participation meet the criteria prescribed by the respective educational institutions.

2.3 Graduation criteria for upper secondary education

(1) Learners have attained not less than 81 credits, with a distribution of 41 credits for basic courses and a number of credits for supplementary courses as prescribed by the respective educational institutions;

(2) Learners must have attained not less than 77 credits for the entire curriculum, with a distribution of 41 credits for basic courses and not less than 36 credits for supplementary courses;

(3) Learners' assessment outcomes regarding reading and analytical thinking and writing must meet the criteria prescribed by the respective educational institutions;

(4) Learners' assessment outcomes regarding desirable characteristics must meet the criteria prescribed by the respective educational institutions; and

(5) Learners have participated in learner development activities and the assessment outcomes of their participation must meet the criteria prescribed by the respective educational institutions.

Regarding graduation criteria for education of special target groups, e.g., specialised education, education for the gifted and talented, alternative education, education for the disadvantaged, informal education, etc., school boards, educational service areas and those concerned will conduct measurement and evaluation of learning outcomes in accord with the criteria and guidelines prescribed in the Basic Education Curriculum for measurement and evaluation of special target groups.

Documents Showing Evidence of Education

Documents showing evidence of education are highly important, as they record the learning outcomes, data and information on various aspects of learners' development. These documents are divided into two categories as follow.

1. Documents showing evidence of education prescribed by the Ministry of Education

1.1 **Record of learning outcomes** shows and certifies learners' achievement, based on assessment outcomes of the various courses, reading, analytical thinking and writing and desirable characteristics required by the educational institutions as well as learner development activities. Educational institutions are required to record relevant data and issue such documents to individual learners upon their graduation at primary education level (Grade 6), compulsory education level (Grade 9), and basic education level (Grade 12) or any other cases of school-leaving.

1.2 **Certificate** shows the learners' qualifications, certifying their achievements and rights. Educational institutions are responsible for issuing certificates to graduates of

compulsory education and basic education as prescribed in the Basic Education Core Curriculum.

1.3 **Report on graduates** shows authorisation of graduation by recording the names and relevant data of graduates at primary education level (Grade 6), compulsory education level (Grade 9), and basic education level (Grade 12).

2. Documents showing evidence of education prescribed by educational institutions

Educational institutions are required to prepare documents in order to keep record of learners' development, learning outcomes and essential data. These documents include a student's personal record, grade record for each course, cumulative record, learning outcome certificate and other documents required for specific purposes.

Transfer of Learning Outcomes

Educational institutions can transfer learners' learning outcomes in various cases, e.g., moving to another educational institution, change of type of education, course transfer, drop-out and request for continuing in-country education received abroad. Besides, knowledge, skills and experiences attained from other learning sources can also be transferred e.g. enterprise, religious institution, occupational training institution, home school etc.

Transfer of learning outcomes should be made before the beginning of the first semester or during the first semester at educational institutions that admit the transferred learners. The latter are required to study at the educational institutions for at least one semester. These educational institutions should decide on the courses/number of credits to be transferred as appropriate.

For the purpose of transfer, the following should be taken into consideration:

1. Certificates and other documents providing information on the learners' knowledge and capacity;

2. Learners' knowledge and capacity tested through various methods for assessment of both knowledge and capacity for practical work; and

3. Competence and performance in real situations.

Transfer of learning outcomes must follow the Ministry of Education's proclamations or guidelines. The transfer of learning outcomes at basic education level must follow the guidelines on transfer of learning outcomes at basic education level.

Curriculum Implementation and Management

In an education system that promotes decentralisation of authority to local areas and local educational institutions so as to participate in curriculum development, the relevant agencies at different educational levels, i.e., national, local and educational institution levels, play important roles, and have duties and responsibilities to develop, provide support and encourage efficient curriculum implementation and development. These measures will ensure the highest efficiency in preparation of the education institutions' curriculums as well as educational provision by these educational institutions, resulting in enhancing learners' quality so as to attain the learning standards prescribed at the national level.

At the local level, offices of the educational service areas and other parent agencies play important roles in improving quality of educational provision. They provide the linkage between the Basic Education Core Curriculum prescribed at the national level and the local situations and needs, leading to preparation of the educational institutions' curriculums, the implementation and development of which will be strengthened to ensure success. Their main tasks are: setting the goals and points of emphasis for developing learners' quality at the local level, with due consideration given to national requirements; developing local learning contents; evaluating quality of education provided at the local level; increasing the quality of curriculum implementation through research and development, personnel development, support provision, promotion, evaluation monitoring, and analysis and reports on learners' quality.

Educational institutions play important roles in developing their own curriculums, planning for curriculum implementation, increasing quality of curriculum implementation through research and development, improving and further developing the curriculum, and preparing regulations for measurement and evaluation. In preparing their own curriculums, educational institutions must attach prime importance to attuning to the Basic Education Core Curriculum and other details provided by educational service areas or other parent agencies at the local level. Respective educational institutions can also add various aspects of problems and concerns of the community and the society, local wisdom, and learners' needs, with participation and contribution of all sectors in the preparation of their curriculums.

Learning Standards and Indicators

Learning Area of Thai Language

Why it is necessary to learn Thai language

Representing our national identity, Thai language is a cultural treasure leading to attainment of national unity and strengthening of Thai-ness in the Thai people's character. It serves as a communication tool for creating mutual understanding and happy relationships among the people, who are able to conduct their affairs and pursue their livelihoods, as well as enjoy peaceful coexistence in a democratic society. Thai language provides a tool for seeking knowledge and experiences from various sources of data and information in order to acquire knowledge and engage in processes of analytical, critical and creative thinking, so as to be attuned to social change and scientific and technological progress. It also serves the useful purpose of occupational development for achieving economic security. Furthermore, it is the medium of expression of our ancestors' wisdom regarding culture, tradition and aesthetics, representing a treasure of the highest value, worthy of learning, conserving and transmitting to succeeding generations as a permanent feature of the Thai nation.

What is learned in Thai language

Thai language skill requires training in language use for purposes of communication, effective learning and application in daily life.

- **Reading:** pronouncing words; reading aloud words, sentences, literature and different kinds of compositions; reading to oneself for comprehension and for acquiring thinking skills in analysing and synthesising knowledge from the readings for adapted application in daily life

- **Writing:** writing words in accord with rules of Thai orthography; writing various kinds of communications, compositions, synopses and reports based on study and research; and imaginative, analytical and critical, and creative writing

- **Listening, Viewing and Speaking:** critical listening and viewing; speaking to express opinions, feelings, speaking on various matters in logical sequence; speaking on various occasions, both formal and informal; and persuasive speaking

- **Principles of Usage of Thai Language:** studying nature and rules of Thai language; accurate linguistic usage appropriate to different occasions and persons; writing various kinds of works; and influence of foreign languages on Thai language

- **Literature and Literary Works:** analyse literature and literary works for studying data, concepts and values of literary writings as well as for pleasure; learning and comprehension of chants, children’s rhymes and folk songs representing valuable Thai wisdom—these have contributed to customs and traditions, social matters of the past as well as linguistic beauty, leading to appreciation and pride in our ancestors’ legacies accumulated over the years and passed on to the present

Learners’ Quality

Grade 3 graduates

- Can accurately and fluently pronounce words; read aloud alliterations, texts, short stories and simple verses; understand meanings of the words and texts read; pose logical questions; make a sequence of situations; surmise on situations; summarise knowledge and insights from what has been read; follow instructions and explanations from their readings; understand meanings and data from diagrams, maps and charts; read regularly, and have good reading manners

- Write skilfully in regular script by using full space between the lines; write descriptions, diaries, letters to teachers requesting leaves of absence; write stories about their experiences; write stories from imagination, and have good writing manners

- Describe details and present the essentials; pose questions, answer questions as well as verbally express thoughts and feelings about what they have heard and viewed; speak in order to communicate; describe experiences, and verbally provide advice or persuade others to comply, and have good listening, viewing and speaking manners

- Spell words and understand their meanings; recognise differences between words and syllables; understand functions of words in sentences; skilful in using dictionaries to search for meanings of words; construct simple sentences; compose alliterations, mottoes, and choose standard Thai language and dialects appropriate to the occasion

- Understand and summarise insights from reading of literature and literary works for application in daily life; express views from the literature and literary works read; know folk songs, lullabies representing local culture; sing popular rhymes for local children; memorise recitations and valuable verses in line with their interests

Grade 6 graduates

- Read loud accurately poetry and literature in prose and in verse presented in stylised melody; explain explicit and implicit meanings of words, sentences, texts, idioms; ornate phrases from their readings; understand suggestions and explanations in various manuals; distinguish between opinions and facts; capture knowledge and thoughts from their readings for decision-making to solve problems in life; have good reading manners and have acquired a reading habit, as well as appreciate their readings

- Write skilfully in regular script by using full and half spaces between the lines; write spellings of words; construct sentences and write texts as well as communications by using clear and appropriate words; use diagrams of outlines and mind-maps to refine writings; write compositions, synopses, personal letters; fill in various forms; write to express feelings and perceptions; write creatively from imagination; and have good writing manners

- Verbally express knowledge and thoughts on what they have heard and viewed; summarise or draw conclusions from material heard and viewed; pose questions, answer questions based on material heard and viewed; logically evaluate reliability from listening to and viewing advertisements; clearly present proper sequences of various matters; verbally report on subjects or issues of study and research from listening, viewing, conversation; speak persuasively and logically, as well as have good listening, viewing and speaking manners

- Spell and understand meanings of words, idioms, popular sayings and proverbs; know and understand kinds and functions of words from dialects or foreign words in Thai language; use royal and polite vocabularies appropriately; construct sentences; compose various types of Thai verses, e.g., Four-Stanza Verse, Yani 11 Verse etc.

- Understand and appreciate value of the literature and literary works read; narrate folk tales; sing local folk songs; apply views and insights from the readings in real life, and memorise prescribed recitations

Grade 9 graduates

- Read aloud accurately poetry and literature in prose and in verse presented in stylised melody; understand explicit and implicit meanings; capture the essentials and details of what has been read; express opinions and disagreements about their readings, and write conceptual frameworks, mind-maps, synopses; write reports on their readings; logically present analyses and syntheses; present proper sequence and probability of their readings; assess accuracy of the supporting data from their readings

- Write communications in simple and clear handwriting; accurately write texts by using words appropriate to language levels; write slogans, dictums, congratulatory messages on various occasions, advertisements, mottoes, speeches, biographies, autobiographies and experiential accounts, synopses, business letters, employment application forms; write to logically analyse, criticise and express feelings or disagreements; write reports on study and research; write projects

- Verbally present opinions; analyse criticise and evaluate the issues identified from listening and viewing; apply insights gained in daily life; present verbal reports on matters or issues identified from systematic study and research; master the art of speaking; speak on various occasions in line with objectives, and can speak persuasively, logically and convincingly; have good listening, viewing and speaking manners

- Understand and use royal words, Pali and Sanskrit words, words from dialects, foreign words, transliterations and terms coined in Thai language; analyse differences between spoken and written language; understand structures of compound and complex

sentences; understand characteristics of formal, semi-formal and informal language; compose various types of Thai verses, e.g., Four-Stanza Verse, Yani 11 Verse, etc.

- Summarise substance of the literature and literary works read; analyse main characters, Thai way of life and values obtained from literature, literary works and recitations, as well as summarise knowledge and insights for application in real life

Grade 12 graduates

- Read aloud accurately poetry and literature in prose and in verse presented in stylised melody; understand, interpret, convey meaning and elaborate on what has been read; analyse and criticise their readings; logically express disagreements and present new ideas from the readings; write conceptual frameworks, mind-maps, notes, synopses and reports from their readings; synthesise, evaluate and apply knowledge and thoughts from their readings for self-development and educational and occupational development; apply knowledge and thoughts for problem-solving in life; have good reading manners, and have acquired a reading habit

- Write various forms of communications by using accurate language in line with objectives; write synopses from media in diverse forms and substances; write compositions reflecting creative thinking by using idioms and ornate phrases; write notes; write reports on study and research based on principles of academic writing; use data and information to make references; produce their own works in various forms, both documentaries and writings for entertainment purposes, as well as evaluate others' works to refine their own writings

- Pose questions and express opinions on materials heard and viewed; have judgement in selecting materials to be heard and viewed; analyse objectives, line of thinking, use of language, and reliability of materials heard and viewed; evaluate things heard and viewed; speak skilfully on various occasions, both formal and informal, by using accurate language; logically express opinions, disagreements, persuasive arguments and present new concepts, as well as have good listening, viewing and speaking manners

- Understand nature of language, influence of language and characteristics of Thai language; use words, groups of words and construct sentences in line with objectives; compose various types of Thai verses; use language suitable to the occasion and accurately use royal and polite vocabularies; analyse principles of coining words in Thai language; understand influences of dialects and foreign languages on Thai language and understand dialects; analyse and evaluate use of language from print and electronic media

- Analyse and criticise literature and literary works, based on basic principles of literary criticism; know and understand outstanding characteristics of literature, linguistic wisdom and folk literary works; link with historical learning and Thai way of life; assess literary value; apply insights from literature and literary works in real life

Strand 1: Reading

Standard T1.1: Application of reading process to build knowledge and thoughts in decision-making and problem-solving in life, and encourage acquisition of a reading habit

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Read aloud words, alliterations and short texts.	1. Accurately read aloud words, alliterations, texts and simple verses.	1. Accurately and fluently read aloud words, texts short stories and simple verses.	1. Accurately read aloud poetic pieces in prose and in verse.	1. Accurately read aloud poetic pieces in prose and in verse.	1. Accurately read aloud poetic pieces in prose and in verse.
2. Tell meanings of words and texts read.	2. Explain meanings of words and texts read.	2. Explain meanings of words and texts read.	2. Explain meanings of words, sentences and idioms from what has been read.	2. Explain meanings of words, sentences and narrative and descriptive texts.	2. Explain meanings of words, sentences and idiomatic expression.
3. Answer questions about what has been read.	3. Pose and answer questions about what has been read.	3. Pose questions and give logical answers about what has been read.	3. Read short stories in prescribed time and answer questions on the stories read.	3. Explain implications from diverse readings.	3. Read diverse short stories by setting time limits and ask questions about the readings.
4. Present summaries of readings.	4. Identify the essentials and details from readings.	4. Present a sequence of situations and surmise on situations from readings, providing reasons for justification.	4. Differentiate between facts and opinions from readings.	4. Differentiate between facts and opinions from readings.	4. Differentiate between facts and opinions from readings.
5. Surmise on situations from readings					

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Accurately read aloud poetic pieces in prose and in verse suitable to their readings.</p> <p>2. Capture the essentials from their readings.</p> <p>3. Specify causes and effects and differentiate between facts and opinions from their readings.</p> <p>4. Identify and explain analogies and words with several meanings in various contexts from their readings.</p> <p>5. Interpret difficult terms in academic documents by considering the context.</p>	<p>1. Accurately read aloud poetic pieces in prose and in verse.</p> <p>2. Capture the essentials, summarise and explain details from their readings.</p> <p>3. Write mind-maps to show understanding of the various lessons read.</p> <p>4. Discuss to show opinions and disagreements with their readings.</p>	<p>1. Accurately read aloud poetic pieces in prose and in verse suitable to their readings.</p> <p>2. Differentiate words with explicit and implicit meanings.</p> <p>3. Specify the essentials and details of supporting data from their readings.</p> <p>4. Read various stories and write conceptual frameworks, mind-maps, notes, synopses and reports.</p>	<p>1. Accurately and pleasantly read aloud poetic pieces in prose and in verse suitable to their readings.</p> <p>2. Interpret, convey meaning and elaborate on their readings.</p> <p>3. Logically analyse and criticise all aspects of their readings.</p> <p>4. Surmise on situations from their readings and evaluate for application of knowledge and insights for decision-making to solve problems in life.</p> <p>5. Analyse, criticise and express disagreements with their readings and present new concepts logically.</p> <p>6. Answer questions from reading various types of writings within the time limit.</p>

Strand 1: Reading

Standard T1.1: Application of reading process to build knowledge and thoughts in decision-making and problem-solving in life, and encouraging acquisition of a reading habit

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
6. Regularly read books in line with their interests and present their readings.	5. Express opinions and surmise on situations from their readings. 6. Regularly read books in line with their interests and present their readings.	5. Summarise knowledge and insights from their readings for application in daily life. 6. Regularly read books in line with their interests and present their readings.	5. Surmise on situations from their readings, providing reasons for justification. 6. Summarise knowledge and insights from their readings for application in daily life.	5. Analyse and express opinions on their readings for application in life. 6. Read explanatory texts, instructions and suggestions to be followed.	5. Explain application of knowledge and thoughts from their readings for decision-making to solve problems in life. 6. Read explanatory texts, instructions and suggestions to be followed.
7. Tell meanings of important signs or symbols frequently seen in daily life.	7. Read explanatory texts and follow instructions or suggestions.	7. Read explanatory texts and follow instructions or suggestions.	7. Regularly read valuable books in line with their interests and present opinions on their readings.	7. Regularly read valuable books in line with their interests and present opinions about their readings.	7. Explain meanings of data from reading diagrams, maps, charts and graphs.
8. Have good reading manners.	8. Have good reading manners.	8. Explain meanings of data from diagrams, maps and charts. 9. Have good reading manners.	8. Have good reading manners.	8. Have good reading manners.	8. Regularly read valuable books in line with their interests and explain benefits obtained from their readings. 9. Have good reading manners.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>6. Specify observations and validity of persuasive writings.</p> <p>7. Follow instructions in manuals on application of tools or appliances at more difficult level.</p> <p>8. Analyse values obtained from diverse readings for problems-solving in life.</p> <p>9. Have good reading manners.</p>	<p>5. Analyse and distinguish between facts, supporting data and opinions in articles read.</p> <p>6. Specify observations, propaganda, persuasion or validity of writings.</p> <p>7. Read diverse books, articles or writings, and assess value of concepts obtained from readings for application in life.</p> <p>8. Have good reading manners.</p>	<p>5. Analyse, criticise and evaluate their readings by using comparative techniques for readers' better understanding.</p> <p>6. Evaluate accuracy of supporting data in their readings.</p> <p>7. Criticise validity, sequencing and probability of their readings.</p> <p>8. Analyse to show disagreements with their readings.</p> <p>9. Interpret and assess value of concepts obtained from diverse writings for application for problem-solving in life.</p> <p>10. Have good reading manners.</p>	<p>7. Read various texts and write conceptual frameworks, mind-maps, notes, synopses and reports.</p> <p>8. Synthesise knowledge from reading newspapers, electronic media and various learning sources for self-development and educational and occupational development.</p> <p>9. Have good reading manners.</p>

Strand 2: Writing

Standard T2.1: Effective application of writing process for writing communications, compositions, synopses, stories in various forms, data, information reports, study reports and research reports

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<p>1. Write in regular script by using full space between the lines.</p> <p>2. Write communications by using simple words and sentences.</p> <p>3. Have good writing manners.</p>	<p>1. Write in regular script by using full space between the lines.</p> <p>2. Write short stories about their experiences.</p> <p>3. Write short stories from imagination.</p> <p>4. Have good writing manners.</p>	<p>1. Write in regular script by using full space between the lines.</p> <p>2. Can describe things clearly in writing.</p> <p>3. Write diaries.</p> <p>4. Write letters to teachers requesting leave of absence.</p> <p>5. Write stories from imagination.</p> <p>6. Have good writing manners.</p>	<p>1. Write in regular script by using full and half spaces between the lines.</p> <p>2. Can write communications by using accurate, clear and appropriate words.</p> <p>3. Write diagrams of outlines and mind-maps for refining their writings.</p> <p>4. Write synopses from short stories.</p>	<p>1. Write in regular script by using full and half spaces between the lines.</p> <p>2. Can write communications by using accurate, clear and appropriate words.</p> <p>3. Write diagrams of outlines and mind-maps for refining their writings.</p> <p>4. Write synopses from their readings.</p> <p>5. Write letters to parents and relatives.</p>	<p>1. Write in regular script by using full and half spaces between the lines.</p> <p>2. Can write communications by using accurate, clear and appropriate words.</p> <p>3. Write diagrams of outlines and mind-maps for refining their writings.</p> <p>4. Write compositions.</p> <p>5. Write synopses from their readings.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Write in regular script by using half space between the lines.</p> <p>2. Write communications by using accurate, clear, appropriate and refined words.</p> <p>3. Describe their experiences in writing by specifying the essentials and providing supporting data.</p> <p>4. Write compositions.</p> <p>5. Write synopses from their readings.</p> <p>6. Express in writing their opinions on the substance of media received.</p>	<p>1. Write in regular script by using half space between the lines.</p> <p>2. Write narrative and descriptive texts.</p> <p>3. Write compositions.</p> <p>4. Write synopses.</p> <p>5. Write reports on study and research.</p> <p>6. Write business letters.</p> <p>7. Logically analyse, criticise and express knowledge, opinions or disagreements on their readings.</p> <p>8. Have good writing manners.</p>	<p>1. Write in regular script by using half space between the lines.</p> <p>2. Accurately write texts by using words appropriate to language levels.</p> <p>3. Write biographies or autobiographies, describing events, opinions and views on various matters.</p> <p>4. Write synopses.</p> <p>5. Write business letters.</p> <p>6. Write to logically explain, clarify, express opinions and disagreements.</p>	<p>1. Write communications in various forms in line with objectives by using accurate language and with clear data and essentials.</p> <p>2. Write compositions.</p> <p>3. Write synopses from media in diverse forms and substances.</p> <p>4. Produce their own writings in various forms.</p> <p>5. Evaluate others' work to for refine their own writings.</p> <p>6. Write reports on study and research, matters of interest, based on principles of academic writing and use data and information.</p> <p>7. Regularly prepare notes on study and research for self-development.</p> <p>8. Have good writing manners.</p>

Strand 2: Writing

Standard T2.1: Effective application of writing process for writing communications, compositions, synopses, stories in various forms, data, information reports, study reports and research reports

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	-	5. Write letters to friends and parents. 6. Write notes and reports from study and research. 7. Write stories from imagination. 8. Have good writing manners.	6. Can express in writing their feelings and opinions in line with intentions. 7. Fill in various forms. 8. Write stories from imagination. 9. Have good writing manners.	6. Write personal letters. 7. Fill in various forms. 8. Write stories from imagination and creativity. 9. Have good writing manners.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>7. Write personal letters and business letters.</p> <p>8. Write reports on study and research and projects.</p> <p>9. Have good writing manners.</p>	-	<p>7. Write to analyse, criticise and express knowledge, opinions or disagreements on various matters.</p> <p>8. Fill in employment application forms and write to describe their knowledge and skills suitable to the jobs.</p> <p>9. Write reports on study and research and projects.</p> <p>10. Have good writing manners.</p>	-

Strand 3: Listening

Standard T3.1: Competency in selective and critical listening and viewing, and critical and creative expression of knowledge, thoughts and feelings on various occasions

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Listen to simple suggestions and instructions that are to be followed.	1. Listen to complicated suggestions and instructions that are to be followed.	1. Tell details of materials listened to and viewed, both for acquiring knowledge and for entertainment.	1. Distinguish between facts and opinions from materials listened to and viewed.	1. Verbally present knowledge, opinions, and feelings about materials listened to and viewed.	1. Verbally express knowledge and understanding of objectives of materials listened to and viewed.
2. Answer questions and verbally present about materials listened to and viewed, both for acquiring knowledge and for entertainment.	2. Verbally present about materials listened to and viewed, both for acquiring knowledge and for entertainment.	2. Tell the essentials from listening and viewing.	2. Verbally present the essentials from listening and viewing.	2. Pose questions and logically answer questions about materials listened to and viewed.	2. Pose questions and logically answer questions from materials listened to and viewed.
	3. State the essentials of materials listened to and viewed.	3. Pose questions and answer questions about materials listened to and viewed.	3. Verbally present knowledge, opinions and feelings about materials listened to and viewed.	3. Logically analyse reliability of materials listened to and viewed.	3. Analyse reliability from logical listening to and viewing of advertising media.
		4. Verbally present opinions and feelings about materials listened to and viewed.			

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Verbally present the essentials of materials listened to and viewed.</p> <p>2. Present summaries of materials listened to and viewed.</p> <p>3. Verbally present creative opinions about materials listened to and viewed.</p> <p>4. Evaluate reliability of media with persuasive substance.</p> <p>5. Verbally report on subjects or issues of study and research from listening, viewing and conversation.</p> <p>6. Have good listening, viewing and speaking manners.</p>	<p>1. Verbally present the essentials of materials listened to and viewed.</p> <p>2. Analyse facts, opinions and reliability of information from various media.</p> <p>3. Logically analyse and criticise materials listened to and viewed for application of insights in life.</p> <p>4. Can speak on various occasions in line with objectives.</p> <p>5. Verbally report on subjects or issues of study and research from listening, viewing and conversation.</p>	<p>1. Express opinions and evaluate matters from listening and viewing.</p> <p>2. Analyse and criticise materials listened to and viewed for application in life.</p> <p>3. Verbally report on subjects or issues of study and research from listening, viewing and conversation.</p> <p>4. Can speak on various occasions in line with objectives.</p>	<p>1. Summarise concepts and express opinions from about materials listened to and viewed.</p> <p>2. Logically analyse concepts, use of language and reliability of materials listened to and viewed.</p> <p>3. Evaluate materials listened to and viewed, and set guidelines for application in life.</p> <p>4. Have judgement in selecting materials for listening and viewing.</p> <p>5. Speak on various occasions, express views, disagreements and persuasive arguments, and present new concepts by using accurate and appropriate language.</p> <p>6. Have good listening, viewing and speaking manners.</p>

Strand 3: Listening

Standard T3.1: Competency in selective and critical listening and viewing, and critical and creative expression of knowledge, thoughts and feelings on various occasions

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
3. Verbally express opinions and feelings from materials listened to and viewed.	4. Pose questions and answer questions about materials listened to and viewed.	5. Speak clearly to communicate in line with objectives.	4. Pose questions and logically answer questions from materials listened to and viewed.	4. Verbally report on subjects or issues of study and research from listening, viewing and conversation.	4. Verbally report on subjects or issues of study and research from listening, viewing and conversation.
4. Can verbally communicate in line with objectives.	5. Verbally present opinions and feelings about materials listened to and viewed.	6. Have good listening, viewing and speaking manners.	5. Verbally report on subjects or issues of study and research from listening, viewing and conversation.	5. Have good listening, viewing and speaking manners.	5. Can speak persuasively, logically and convincingly.
5. Have good listening, viewing and speaking manners.	6. Speak clearly to communicate in line with objectives.		6. Have good listening, viewing and speaking manners.		6. Have good listening, viewing and speaking manners.
	7. Have good listening, viewing and speaking manners.				

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	6. Have good listening, viewing and speaking manners.	5. Speak persuasively by logically and convincingly presenting evidence in proper sequence. 6. Have good listening, viewing and speaking manners.	-

Strand 4: Principles of Thai Language Usage

Standard T4.1: Understanding of nature and principles of Thai language, linguistic change and power, linguistic wisdom and preservation of Thai language as a national treasure

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Say and write consonants, vowels, intonations and Thai numerals. 2. Write spellings and tell meanings of words. 3. Arrange words into simple sentences. 4. Make sequences of simple alliterations.	1. Say and write consonants, vowels, intonations and Thai numerals. 2. Write spellings and tell meanings of words. 3. Arrange words into sentences in line with communication objectives. 4. Tell characteristics of alliterations. 5. Choose standard Thai language and dialects appropriate to the occasion.	1. Write spellings and tell meanings of words. 2. Specify kinds and functions of words in sentences. 3. Use dictionaries to search for meanings of words. 4. Construct simple sentences. 5. Coin alliterations and mottoes. 6. Choose standard Thai language and dialects appropriate to the occasion.	1. Spell words and tell their meanings in various situations. 2. Specify kinds and functions of words in sentences. 3. Use dictionaries to search for meanings of words. 4. Accurately construct sentences in accord with linguistic rules. 5. Write verses and mottoes. 6. Tell meanings of idioms. 7. Can compare standard Thai language with dialects.	1. Identify kinds and functions of words in sentences. 2. Distinguish components of sentences. 3. Compare standard Thai language with dialects. 4. Use royal vocabulary. 5. Identify foreign words in Thai language. 6. Write verses. 7. Use idioms properly.	1. Analyse kinds and functions of words in sentences. 2. Can use words appropriate to the occasion and audience. 3. Collect and tell meanings of foreign words used in Thai language. 4. Identify characteristics of sentences. 5. Write verses. 6. Analyse and compare idioms that are popular sayings and proverbs.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Explain characteristics of sounds in Thai language. 2. Coin words in Thai language. 3. Analyse kinds and functions of words in sentences. 4. Analyse differences between spoken and written language. 5. Write verses. 6. Distinguish and use idioms that are popular sayings and proverbs.	1. Coin words in Thai language. 2. Analyse structures of simple, compound and complex sentences. 3. Write verses. 4. Use royal vocabulary. 5. Collect and explain meanings of foreign words used in Thai language.	1. Distinguish and use foreign words in Thai language. 2. Analyse structures of sentences with several clauses. 3. Analyse linguistic levels. 4. Use transliterations and translated terms. 5. Explain meanings of academic and professional terms. 6. Write verses.	1. Explain nature, power and characteristics of language. 2. Use words and groups of words to construct sentences in line with objectives. 3. Use language appropriate to opportunity, occasion and audience, as well as use appropriate royal vocabulary. 4. Write verses. 5. Analyse influences of foreign languages and dialects. 6. Explain and analyse principles of coining words in Thai language. 7. Analyse and evaluate use of language from print and electronic media.

Strand 5: Literature and Literary Works

Standard T5.1: Understanding and expressing opinions; criticism of Thai literature and literary works through appreciative approach, and application in real life

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Tell insights obtained from reading or listening to literary works for children in prose and in verse. 2. Memorise the recitations and verses in line with their interests.	1. Specify insights obtained from reading or listening to literary works for children application in daily life. 2. Sing popular rhymes for local children. 3. Memorise the recitations prescribed and valuable verses in line with their interests.	1. Specify insights obtained from reading literary works for application in daily life. 2. Know folk songs and lullabies for inculcating appreciation of local culture. 3. Express opinions about the literature read. 4. Memorise the recitations prescribed and valuable verses in line with their interests.	1. Specify insights from folk tales or moral tales. 2. Explain insights from reading for application in real life. 3. Sing folk songs. 4. Memorise the recitations prescribed and valuable verses in line with their interests.	1. Summarise from the literature or literary works read. 2. Specify knowledge and insights from reading literature and literary works which can be applied in real life. 3. Explain the value of literature and literary works. 4. Memorise the recitations prescribed and valuable verses in line with their interests.	1. Express opinions about the literature or literary works read. 2. Tell folk tales of their local areas and those of other areas. 3. Explain value of the literature and literary works read, and apply them in real life. 4. Memorise the recitations prescribed and valuable verses in line with their interests.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Summarise the substance of the literature and literary works read.</p> <p>2. Analyse the literature and literary works read, as well as provide reasons for justification.</p> <p>3. Explain value of the literature and literary works read.</p> <p>4. Summarise knowledge and insights from reading for application in real life.</p> <p>5. Memorise the recitations prescribed and valuable verses in line with their interests.</p>	<p>1. Summarise the substance of the literature and literary works read at more difficult level.</p> <p>2. Analyse and criticise literature, literary works and local literary works read, as well as provide reasons for justification.</p> <p>3. Explain value of the literature and literary works read.</p> <p>4. Summarise knowledge and insights from reading for application in real life.</p> <p>5. Memorise the recitations prescribed and valuable verses in line with their interests.</p>	<p>1. Summarise the substance of literature, literary works and local literary works at even more difficult level.</p> <p>2. Analyse Thai way of life and values from the literature and literary works read.</p> <p>3. Summarise knowledge and insights from reading for application in real life.</p> <p>4. Memorise and tell the value of the recitations prescribed, and the value of valuable verses in line with their interests and use them as references.</p>	<p>1. Analyse and criticise literature and literary works, based on basic principles of literary criticism.</p> <p>2. Analyse outstanding characteristics of literature; link with historical learning and social way of life in the past.</p> <p>3. Analyse and evaluate literary value of literature and literary works as national cultural legacies.</p> <p>4. Synthesise insights from literature and literary works for application in real life.</p> <p>5. Collect folk literary works and explain linguistic wisdom.</p> <p>6. Memorise and tell value of the recitations prescribed and of valuable verses in line with their interests and use them as references.</p>

Learning Area of Mathematics

Why it is necessary to learn mathematics

Mathematics is highly important to development of the human mind. It enables a person to acquire skills in creativity, logic and systematic and methodical thinking, and allows one to carefully and thoroughly analyse various problems or situations, anticipate, plan, make decisions, solve problems and accurately and appropriately apply mathematics in daily life. Mathematics serves as a tool for learning science, technology and other disciplines. It is therefore useful to one's life, enhances quality of life and enables a person to live in harmony with others.

What is learned in mathematics

The learning area for mathematics is aimed at enabling all children and youths to continuously learn this subject in accord with their potentiality. The contents prescribed for all learners are as follow:

- **Numbers and Operations:** numerical concepts and sense of perception; real number system; properties of real numbers; operation of numbers; ratio; percentage; problem-solving involving numbers; and application of numbers in real life
- **Measurement:** length; distance; weight; area; volume and capacity; money and time; measuring units; estimation for measurement; trigonometric ratio; problem-solving regarding measurement; and application of measurement in various situations
- **Geometry:** geometric figures and properties of one-dimensional geometric figures; visualization of geometric models; geometric theories; and geometric transformation through translation, reflection and rotation
- **Algebra:** pattern; relationship; function; sets and their operations; reasoning; expression; equation; equation system; inequality; graph; arithmetic order; geometric order; arithmetic series; and geometric series

- **Data Analysis and Probability:** determining an issue; writing questions; determining methods of study; study; data collection, systematization and presentation; central tendency and data distribution; data analysis and interpretation; opinion polling; probability; application of statistical knowledge and probability; application of probability in explaining various situations as well as for facilitating decision-making in real life

- **Mathematical Skills and Processes:** problem-solving through diverse methods; reasoning; communication; communication and presentation of mathematical concepts; linking mathematics with other disciplines; and attaining ability for creative thinking

Learners' Quality

Grade 3 graduates

- Have numerical knowledge, understanding and sense of cardinal numbers not more than 100,000, and zero as well as operation of numbers; can solve problems involving addition, subtraction, multiplication and division; and are aware of validity of the answers reached

- Have knowledge and understanding of length, distance, weight, volume, capacity, time and money; can measure correctly and appropriately; and can apply knowledge of measurement for solving problems faced in various situations

- Have knowledge and understanding of triangle, quadrilateral, circle, ellipse, cuboid, sphere and cylinder as well as point, line segment and angle

- Have knowledge and understanding of pattern and can explain relationship

- Can collect and analyse relevant data and information about themselves and their surroundings in their daily lives; can avail of pictograms and bar charts for discussing various issues

- Can apply diverse methods for problem-solving; can avail of mathematical knowledge, skills and processes appropriately for solving problems faced in various situations; can suitably present reasoning for decision-making and appropriately present the conclusion reached; can use mathematical language and symbols for communication, as well as accurate and appropriate communication and presentation of mathematical concepts; can

link various bodies of mathematical knowledge; can link mathematics with other disciplines; and have attained ability for creative thinking

Grade 6 graduates

- Have numerical knowledge, understanding, and sense of cardinal numbers and zero, fractions, decimals of not more than three places, percentages, operation of numbers and properties of numbers; can solve problems involving addition, subtraction multiplication and division of cardinal numbers, fractions, decimals of not more than three places and percentages; are aware of validity of the answers reached; and can find estimates of cardinal numbers and decimals of not more than three places

- Have knowledge and understanding of length, distance, weight, area, volume, capacity, time, money, direction, diagrams and size of angles; can measure correctly and appropriately; and can apply knowledge of measurement for solving problems faced in various situations

- Have knowledge and understanding of characteristics and properties of triangles, squares, circles, cuboids, cylinders, cones, prisms, pyramids angles and parallel lines

- Have knowledge and understanding of patterns and can explain their relationships and solve problems involving patterns; can analyse situations or problems as well as write linear equations with an unknown that can be solved

- Can collect data and information and discuss various issues from pictograms, bar charts, comparative bar charts, pie charts, line graphs and tables that are availed of for presentation; and can apply knowledge of basic probability in projecting various possible situations

- Can apply diverse methods for problem-solving, availing of mathematical and technological knowledge, skills, and processes appropriately to solve problems faced in various situations; can suitably provide reasoning for decision-making and appropriately present the conclusions reached; can use mathematical language and symbols for communication as well as accurate and appropriate communication and presentation of mathematical concepts; can link various bodies of mathematical knowledge and can link

mathematical knowledge with other disciplines; and have attained ability for creative thinking

Grade 9 graduates

- Understand concepts of numbers, ratio, proportion, percentage, real numbers expressed in exponential notation with integer indices, square root and cube root of real numbers; can carry out operations involving integral numbers, fractions, decimals, exponents, square roots and cube roots of real numbers; can apply numerical knowledge in real life

- Have knowledge and understanding of surface areas of prisms and cylinders, and volume of prisms, cylinders, pyramids, cones and spheres; can appropriately choose units of the various systems of measuring length, area, and volume; and can apply knowledge of measurement in real life

- Can construct and explain stages of constructing two-dimensional geometric figures with compass and straight edge; can explain characteristics and properties of three-dimensional geometric figures, i.e., prisms, pyramids, cylinders, cones and spheres

- Understand properties of congruence and similarities of triangles, parallels, Pythagoras' theorems and converse; can apply these properties for reasoning and problem-solving; and understand geometric transformation through translation, reflection and rotation

- Can visualise and explain characteristics of two-dimensional and three-dimensional geometric figures

- Can analyse and explain relationships of patterns, situations or problems; and can use single-variable linear equations, two-variable linear equation systems, single-variable linear inequality, and graphs in problem-solving

- Can determine an issue, write questions about a problem or a situation, determine methods of study and collect and present data by utilizing pie charts or any other forms of presentation

- Understand concepts of the measures of central tendency, arithmetic mean, median, and mode of non-frequency distribution data that can be chosen appropriately for application, as well as apply knowledge in considering statistical data and information

- Understand the concepts of random sampling and probability; can apply knowledge of probability for projecting and for decision-making in various situations

- Can apply diverse methods for problem-solving; avail mathematical and technological knowledge, skills and processes appropriately to solve problems faced in various situations; can suitably provide reasoning for decision-making and appropriately present the conclusion reached; can use mathematical language and symbols for communication; can communicate and present mathematical concepts accurately and clearly; can link various bodies of mathematical knowledge; can link mathematical knowledge, principles and processes with other disciplines; and have attained ability for creative thinking

Grade 12 graduates

- Have concepts of the real number system, absolute values of real numbers and real numbers expressed in radicals and in exponential notation with rational indices; can find estimates of real numbers expressed in radicals and exponents through appropriate calculation methods; and can apply properties of real numbers

- Apply knowledge of trigonometric ratio for estimating distance and height, and can solve measurement problems

- Have concept of sets and their operation; and can apply knowledge of Venn-Euler diagrams for problem-solving and checking validity of reasoning

- Understand and can apply reasoning through induction and deduction

- Have concepts of relation and function that can be applied for problem-solving in various situations

- Understand concepts of arithmetic sequence, geometric sequence and can find general terms; understand the concepts of the sums of the first n terms of arithmetic and geometric series, by using formulas that can be applied

- Know and understand the concept of solving equations and inequalities with one variable (degree not more than two); and can also use graphs of equations, inequalities or functions for problem-solving
- Understand simple methodology for opinion polling; can choose central tendency suitable to data and objectives; can find arithmetic mean, median, mode, standard deviation and percentile of data; can analyse data and apply results of data analysis for facilitating decision-making
- Understand concepts of random sampling and probability; can apply knowledge of probability for projection and for decision-making in various situations
- Can apply diverse methods for problem-solving; can avail of mathematical and technological knowledge, skills and processes for appropriately solving problems faced in various situations; can suitably provide reasoning for decision-making and appropriately present the conclusions reached; can use mathematical language and symbols for communication; can communicate and present mathematical concepts accurately and clearly; can link various bodies of mathematical knowledge, principles, and processes with other disciplines; and have attained ability for creative thinking

Strand 1: Numbers and Operations

Standard M1.1: Understanding diverse methods of presenting numbers and their application in real life

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<p>1. Write and read Hindu-Arabic and Thai numerals showing quantity of objects or cardinal numbers not exceeding 100, and 0.</p> <p>2. Compare and arrange sequence of cardinal numbers not exceeding 100, and 0.</p>	<p>1. Write and read Hindu-Arabic and Thai numerals and written forms showing quantity of objects or cardinal numbers not exceeding 1,000, and 0.</p> <p>2. Compare and arrange sequence of cardinal numbers not exceeding 1,000, and 0.</p>	<p>1. Write and read Hindu-Arabic and Thai numerals and written forms showing quantity of objects or cardinal numbers not exceeding 100,000, and 0.</p> <p>2. Compare and arrange sequence of cardinal numbers not exceeding 100,000, and 0.</p>	<p>1. Write and read Hindu-Arabic and Thai numerals and written forms showing cardinal numbers, 0, fractions, and one-place decimals.</p> <p>2. Compare and arrange sequence of cardinal numbers and 0, fractions, and one-place decimals.</p>	<p>1. Write and read fractions, mixed numbers and decimals with not more than 2 places.</p> <p>2. Compare and arrange sequence of fractions and decimals with not more than 2 places.</p> <p>3. Write fractions in decimal form and percentages; write percentages in the forms of fractions and decimals, and write decimals in the forms of fractions and percentages.</p>	<p>1. Write and read decimals with not more than 3 places.</p> <p>2. Compare and arrange sequence of fractions and decimals with not more than 3 places.</p> <p>3. Write decimals in the form of fractions and write fraction in form of decimal.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Specify or give examples and compare added integral numbers, subtracted integral numbers, 0, fractions and decimals.</p> <p>2. Have concept of real numbers expressed in exponential notation with integer indices and write numbers in scientific notation.</p>	<p>1. Write fractions in the form of decimals and write circulating decimals in form of fractions.</p> <p>2. Distribute prescribed real numbers and give examples of rational and irrational numbers.</p> <p>3. Explain and specify square roots and cube roots of real numbers.</p> <p>4. Apply knowledge of ratio, fraction and percentage to solve problems.</p>	-	<p>1. Show relationships of various numbers in the real number system.</p> <p>2. Have concepts of absolute values of real numbers.</p> <p>3. Have concepts of real numbers expressed in exponential notation with rational indices, and real numbers expressed in radicals.</p>

Strand 1: Numbers and Operations

Standard M1.2: Understanding results of operations of numbers, relationships of operations, and application of operations for problem-solving

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<p>1. Add, subtract and mix addition and subtraction of cardinal numbers not exceeding 100, and 0, as well as be aware of validity of the answers.</p> <p>2. Analyse and find answers to problems and mix-problems of cardinal numbers not exceeding 100, and 0,</p>	<p>1. Add, subtract and mix addition and subtraction of cardinal numbers not exceeding 1,000, and 0, as well as be aware of validity of the answers.</p> <p>2. Analyse and find answers to problems and mix-problems of cardinal numbers not exceeding 1,000, and 0, as well as be aware of validity of the answers.</p>	<p>1. Add, subtract and mix addition and subtraction of cardinal numbers not exceeding 100,000, and 0, as well as be aware of validity of the answers.</p> <p>2. Analyse and show method of finding answers to problems and mix-problems of cardinal numbers not exceeding 100,000, and 0, as well as be aware of validity of the answers.</p>	<p>1. Add, subtract and mix addition, subtraction, multiplication and division of cardinal numbers and 0, as well as be aware of validity of the answers.</p> <p>2. Analyse and show method of finding answers to problems and mix-problems of cardinal numbers and 0, as well as be aware of validity of the answers, and be able to construct problems.</p>	<p>1. Add, subtract and mix addition and subtraction of fractions, as well as be aware of validity of the answers.</p> <p>2. Add, subtract and mix addition and subtraction of decimals with answers in more than 2 places, as well as be aware of validity of the answers.</p> <p>3. Analyse and show method of finding answers to problems and mix-problems of cardinal numbers,</p>	<p>1. Add, subtract and mix addition, subtraction, multiplication and division of fractions, mixed numbers and decimals, as well as be aware of validity of the answers.</p> <p>2. Analyse and show method of finding answers to problems and mix-problems of cardinal numbers, fractions mixed numbers, decimals and percentages, as well as be aware of validity of the answers.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Add, subtract, multiply and divide integral numbers for the purpose of problem-solving; be aware of validity of the answers; explain the results obtained from the addition, subtraction, multiplication, and division, and explain the relationship between addition and subtraction, and between multiplication and division of integral numbers.</p> <p>2. Add, subtract, multiply and divide fractions and decimals for the purpose of problem-solving; be aware of validity of the answers; explain the results of the addition, subtraction, multiplication and division; and explain relationships between addition and subtraction, and between multiplication and division of fractions and decimals.</p>	<p>1. Find square root and cube root of integral numbers by separating factors for the purpose of problem-solving as well as be aware of validity of the answers.</p> <p>2. Explain results of finding square root and cube root of integral numbers, fractions and decimals, and express the relationship between exponents and roots of real numbers.</p>	-	<p>1. Understand concepts and find results of addition, subtraction, multiplication and division of real numbers; understand real numbers expressed in exponential notation with rational indices, and real numbers expressed in radicals.</p>

Strand 1: Numbers and Operations

Standard M1.2: Understanding results of operations of numbers, relationships of operations, and application of operations for problem-solving

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
as well as aware of validity of the answers.	-	-	3. Add and subtract fractions with same denominator.	fractions, decimals and percentages, as well as aware of validity of the answers, and can construct problems involving cardinal numbers.	the answers, and can construct problems involving cardinal numbers.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
3. Explain results of expression in exponential notation of integral numbers, ratios and decimals.	-	-	-
4. Multiply and divide real numbers in the form of exponents with the same bases and integer indices.			

Strand 1: Numbers and Operations

Standard M1.3: Use of estimation in calculation and problem-solving

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	-	-	1. Make approximate estimates of integers of 10, 100 and 1,000 of cardinal numbers, which can be applied.	1. Make approximate estimates of various integers of cardinal numbers, which can be applied. 2. Make estimates of decimals of not more than 3 places.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Use estimation appropriately in various situations, as well as for considering validity of answers reached through calculation.	1. Find estimates of square root and cube root of real numbers, which can be applied for problem-solving, as well as be aware as validity of the answers.	-	1. Find estimates of real numbers expressed in radicals and real numbers expressed in exponents through appropriate calculation methods.

Strand 1: Numbers and Operations

Standard M1.4: Understanding of numerical system and application of numerical properties

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	-	-	-	1. Use communicative, associative and distributive properties in calculation. 2. Find highest common factor (H.C.F.) and lowest common multiples (L.C.M.) of cardinal numbers.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Apply knowledge and properties of integers for problem-solving.	1. Explain relationships between real numbers, rational numbers, and irrational numbers.	-	1. Understand properties of real numbers relating to addition and multiplication, equality and inequality, which can be applied.

Strand 2: Measurement

Standard M2.1: Understanding the basics of measurement; ability to measure and estimate the size of objects to be measured

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<p>1. Tell length, weight, volume, and capacity by using non-standard units of measure.</p> <p>2. Tell period of time, number and names of days of the week.</p>	<p>1. Tell length in metres and centimetres, and compare length by using the same unit.</p> <p>2. Tell weight in kilogrammes and grammes, and compare weight by using the same unit.</p> <p>3. Tell volume and capacity in litres, and compare volume and capacity.</p>	<p>1. Tell length in metres, centimetres and millimetres by using appropriate measuring tools, and compare length.</p> <p>2. Tell weight in kilogrammes and grammes by using appropriate weighing machine, and compare weights.</p> <p>3. Tell volume and capacity in litres and millilitres by using appropriate measuring tools, and compare weight and capacity by using the same units.</p>	<p>1. Tell the relationship between measuring units for length, weight, volume or capacity and time.</p> <p>2. Find area of rectangle.</p> <p>3. Tell the time on a clock dial; read and write the time by using numerals; and tell length of time.</p> <p>4. Estimate length, weight and volume or capacity.</p>	<p>1. Tell the relationship between measuring units for length, weight and volume or capacity.</p> <p>2. Find the perimeter of quadrilaterals and triangles.</p> <p>3. Find the area of rectangles and triangles.</p> <p>4. Measure the size of angle.</p> <p>5. Find volume or capacity of cuboids.</p>	<p>1. Explain a route or indicate positions of various objects by specifying direction and real distance from pictures, maps and diagrams.</p> <p>2. Find the area of quadrilateral.</p> <p>3. Find the circumference and area of circles.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	<p>1. Compare measuring units for length and area of the same and different systems and choose appropriate measuring units.</p> <p>2. Appropriately estimate time, distance, area, volume and weight, and explain the method used for estimation.</p> <p>3. Appropriately choose estimation for measurement in various situations.</p>	<p>1. Find the surface area of prisms and cylinders.</p> <p>2. Find the volume of prisms, cylinders, pyramids, cones and spheres.</p> <p>3. Compare units for measuring volume or capacity of the same or different systems and choose appropriate units of measure.</p> <p>4. Appropriately use estimation for measurement in various situations.</p>	<p>1. Apply knowledge of trigonometric ratio of angles in estimating distance and height.</p>

Strand 2: Measurement

Standard M2.1: Understanding the basics of measurement; ability to measure and estimate the size of objects to be measured

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	<p>4. Tell total amount of money from coins and bank notes.</p> <p>5. Tell the time on a clock dial (period of 5 minutes).</p> <p>6. Tell the days, months and year from a calendar.</p>	<p>4. Tell the time on a clock dial (period of 5 minutes); read, write and tell the time by using numerals.</p> <p>5. Tell the relationship between measuring units for length, height and time.</p> <p>6. Read and write amount of money by using numerals.</p>	-	-	-

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	-	-	-

Strand 2: Measurement

Standard M2.2: Solving measurement problems

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	1. Solve problems involving measurement of length, weight, volume and money.	1. Solve problems involving measurement of length, weight, volume, money and time. 2. Read and keep record of income and expenditure. 3. Read and keep record of activities or events, specifying the time.	1. Solve problems involving measurement of length, weight, volume, money and time. 2. Read and keep record of income and expenditure. 3. Read and keep record of activities or events, specifying the time.	1. Solve problems involving area and perimeter of quadrilaterals and triangles.	1. Solve problems involving area and perimeter of quadrilaterals and circles. 2. Solve problems involving volume and capacity of cuboids. 3. Draw diagrams showing positions of various objects and diagrams showing travel routes.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	1. Apply knowledge of length and area for problem-solving in various situations.	1. Apply knowledge of length and area for problem-solving in various situations	1. Solve problems on length and height by applying trigonometric ratio.

Strand 3: Geometry

Standard M3.1: Ability to explain and analyse two-dimensional and three-dimensional geometric figures

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Distinguish triangles, quadrilaterals, circles and ellipses.	1. Identify two-dimensional geometric figures whether in the form of triangles, quadrilaterals, circles or ellipses. 2. Identify three-dimensional figures whether in the form of cuboids, spheres or cylinders. 3. Distinguish between rectangles and cuboids, and between circles and spheres.	1. Identify two-dimensional geometric figures that are components of an object in the form of a three-dimensional geometric figure. 2. Identify two-dimensional geometric figures with axis of symmetry from a given figure. 3. Write linear points, straight lines, rays, parts of straight lines, angles and symbols.	1. Identify kind, name and components of angles and write symbols. 2. Can identify which pair of straight lines or parts of straight lines form a parallel, as well as use symbols to indicate kind of parallel. 3. Identify components of a circle. 4. Can identify which figure or which part of an object has the form of a rectangle, and can identify whether it is a square or a rectangle.	1. Identify characteristics and differentiate between various kinds of three-dimensional geometric figures. 2. Identify characteristics, relationship and differentiate between various kinds of quadrilaterals. 3. Identify characteristics, components, relationships and differentiate between various kinds of triangles.	1. Identify kinds of two-dimensional geometric figures that are components of three-dimensional geometric figures. 2. Identify characteristics of diagonals in various kinds of quadrilaterals. 3. Identify which pair of straight lines is parallel.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Construct and explain steps of basic geometric construction.</p> <p>2. Construct two-dimensional geometric figures by using basic geometric construction, and explain steps of construction without emphasizing proof.</p> <p>3. Search for, observe and project about geometric properties.</p> <p>4. Explain characteristics of three-dimensional geometric figures from a given image.</p> <p>5. Identify two-dimensional images from front view and side view of a given three-dimensional geometric figure.</p>	-	<p>1. Explain characteristics and properties of prisms, pyramids, cylinders, cones and spheres.</p>	-

Strand 3: Geometry

Standard M3.1: Ability to explain and analyse two-dimensional and three-dimensional geometric figures.

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	-	5. Can identify which two-dimensional geometric figures have axes of symmetry, and identify the number of axes.	-	-

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
6. Draw or create a three-dimensional figure from a cube, when given two-dimensional image from front view, side view and top view.	-	-	-

Strand 3: Geometry

Standard M3.2: Ability for visualization, spatial reasoning and application of geometric models for problem-solving

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	1. Draw two-dimensional geometric figures by using geometric models.	1. Draw two-dimensional geometric figures given in various models. 2. Identify various geometric figures in the surroundings.	1. Use geometric figures to create various designs.	1. Construct angles by using a protractor. 2. Create rectangles, triangles, and circles. 3. Create parallels by using a set square.	1. Create cuboids, cylinders, cones, prisms and pyramids from nets of three-dimensional geometric figures or two-dimensional geometric figures given. 2. Construct various kinds of quadrilaterals.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	<p>1. Use properties of congruence of triangles and those of parallels for reasoning and problem-solving.</p> <p>2. Use Pythagoras' Theorem and converse for reasoning and problem-solving.</p> <p>3. Understand and apply geometric transformation through translation, reflection and rotation.</p> <p>4. Identify images from translation, reflection and rotation of models, and explain the method of obtaining the images when given such models and images.</p>	<p>1. Use properties of similar triangles for reasoning and problem-solving.</p>	-

Strand 4: Algebra

Standard M4.1: Understanding and ability to analyse pattern, relation and function

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<p>1. Tell the numbers and relations in patterns of numbers that increases by 1s and 2s, and decreases by 1s.</p> <p>2. Identify the forms and relations in patterns in which forms are related in one of the following respects: shape, size or colour.</p>	<p>1. Tell the numbers and relations in patterns of numbers that increases by 5s, 10s and 100s , and decreases by 2s, 10s and 100s.</p> <p>2. Identify the forms and relations in patterns in which forms are related in one of the following respects: shape, size or colour.</p>	<p>1. Tell the numbers and relations in patterns of numbers that increases by 3s, 4s, 25s and 50s, and decreases by 3s, 4s, 5s, 25s and 50s and in repeated patterns.</p> <p>2. Identify the forms and relations in patterns in which forms are related in two of the following respects: shape, size or colour.</p>	<p>1. Tell the numbers and relations in patterns of number which increases or decreases in equal amount each time.</p> <p>2. Identify the forms and relations in patterns of a given form.</p>	<p>1. Tell the numbers and relations in patterns of given numbers.</p>	<p>1. Solve problems involving pattern.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Analyse and explain relations of a given pattern.	-	-	<ol style="list-style-type: none"> 1. Have concept of sets and their operation. 2. Understand and can use reasoning through induction and deduction. 3. Have concept of relation and function, and show relation and function through various methods, e.g., tables, graphs and equations. 4. Understand concept of sequence and can express general terms of finite sequence. 5. Understand concepts of arithmetic and geometric sequences, and can express general terms of arithmetic and geometric sequences, which can be applied.

Strand 4: Algebra

Standard M4.2: Ability to apply algebraic expressions, equations, inequalities, graphs and other mathematical models to represent various situations, as well as interpretation and application for problem-solving

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	-	-	-	1. Write an equation based on a situation or problem, solve the equation and check the answer.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Solve simple linear equations with one variable.</p> <p>2. Write linear equations with one variable from simple situations or problems.</p> <p>3. Solve problems involving simple linear equations with one variable, as well as be aware of the validity of the answer.</p> <p>4. Draw a graph on the plane of the rectangular coordinate system showing the relationship of the two sets of quantities given.</p> <p>5. Read and interpret the meaning of the graph on the plane of the rectangular coordinate system given.</p>	<p>1. Solve problems involving linear equations with one variable, and be aware of the validity of the answer.</p> <p>2. Find coordinates of points and explain characteristics of geometric figures obtained from translation, reflection and rotation on the plane of the rectangular coordinate system.</p>	<p>1. Apply knowledge of linear inequalities with one variable for problem-solving, as well as be aware of the validity of the answer.</p> <p>2. Write a graph showing link of two sets of quantities with linear relationship.</p> <p>3. Draw graphs of linear equations with two variables.</p> <p>4. Read and interpret meaning of systems of linear equations with two variables and other graphs.</p> <p>5. Solve systems of linear equations with two variables which can be applied for problem-solving, as well as be aware of the validity of the answer.</p>	<p>1. Draw Venn-Euler diagrams that can be applied for problem-solving.</p> <p>2. Check validity of reasoning by applying Venn-Euler diagrams.</p> <p>3. Solve equations and inequalities with one variable (degree not more than two).</p> <p>4. Construct relations or functions from situations or problems that can be applied for problem-solving.</p> <p>5. Apply graphs of equations, inequalities and functions in problem-solving.</p> <p>6. Understand the concepts of the sums of the first n terms of arithmetic series, and find the sums of arithmetic series by using applicable formulas.</p>

Strand 5: Data Analysis and Probability

Standard M5.1: Understanding and ability to apply statistical methodology for data analysis

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	1. Collect and categorize data about oneself and the surroundings in daily life. 2. Read data from simple pictograms and bar charts.	1. Collect and categorize data. 2. Read data from pictograms, bar charts and tables. 3. Draw pictograms and bar charts.	1. Draw bar charts with shortening of lines to represent numbers. 2. Read data from comparative bar charts.	1. Read data from line graphs and pie-charts. 2. Draw comparative bar charts and line graphs.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	1. Read and present data by using pie-charts.	<p>1. Determine an issue and write questions about various problems or situations, as well as set appropriate methods for study and for data collection.</p> <p>2. Find arithmetic mean, median and mode of non-frequency distribution data, and make appropriate selection for utilization.</p> <p>3. Present data in appropriate forms.</p> <p>4. Read, interpret and analyse the data obtained from presentations.</p>	<p>1. Understand simple methodology for opinion polling.</p> <p>2. Find arithmetic mean, median, mode, standard deviation and percentile of data.</p> <p>3. Select central tendency suitable to data and objectives.</p>

Strand 5: Data Analysis and Probability

Standard M5.2: Application of statistical methodology and knowledge of probability
for valid estimation

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	-	-	1. Can tell whether a described situation: - will definitely happen; - may or may not happen; - will definitely not happen.	1. Explain events by using terms with similar meaning to: - will definitely happen; - may or may not happen; - will definitely not happen.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Can explain which, among events described, are more likely to happen.	1. Can explain that, among events described: - which will definitely happen; - which will definitely not happen; - which are more likely to happen.	1. Find probability of events from random sampling with equal probability for each result, and apply knowledge of probability for valid projection of events.	1. Apply opinion poll results for projecting events that may happen in given situations. 2. Explain random sampling, events, probability of events, and apply results obtained for projecting events that may happen in given situations.

Strand 5: Data Analysis and Probability

Standard M5.3: Application of knowledge of statistics and probability for decision-making and problem-solving

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	-	-	-	-

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	-	<ol style="list-style-type: none"> 1. Apply knowledge of statistics and probability for decision-making in various situations. 2. Discuss possible errors in presenting statistical data. 	<ol style="list-style-type: none"> 1. Apply data, information and statistics for decision-making and problem-solving. 2. Apply knowledge of probability for decision-making and problem-solving.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Apply diverse methods for problem-solving.</p> <p>2. Appropriately apply mathematical and technological knowledge, skills and processes for problem-solving in various situations.</p> <p>3. Suitably provide reasoning for decision-making and appropriately present the conclusions reached.</p> <p>4. Accurately and succinctly use mathematical language and symbols for communication of concepts and presentation.</p>	<p>1. Apply diverse methods for problem-solving.</p> <p>2. Appropriately apply mathematical and technological knowledge, skills and processes for problem-solving in various situations.</p> <p>3. Suitably provide reasoning for decision-making and appropriately present the conclusions reached.</p> <p>4. Accurately and succinctly use mathematical language and symbols for communication, communication of concepts and presentation.</p>	<p>1. Apply diverse methods for problem-solving.</p> <p>2. Appropriately apply mathematical and technological knowledge, skills and processes for problem-solving in various situations.</p> <p>3. Suitably provide reasoning for decision-making and appropriately present the conclusions reached.</p>	<p>1. Apply diverse methods for problem-solving.</p> <p>2. Appropriately apply mathematical and technological knowledge, skills and processes for problem-solving in various situations.</p> <p>3. Suitably provide reasoning for decision-making and appropriately present the conclusions reached.</p> <p>4. Accurately and succinctly use mathematical language and symbols for communication, communication of concepts and presentation.</p> <p>5. Link various bodies of mathematical knowledge and link mathematical knowledge, principles and processes with those of other disciplines.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>5. Link various bodies of mathematical knowledge, and link mathematical knowledge, principles and processes with those of other disciplines.</p> <p>6. Attain ability for creative thinking.</p>	<p>5. Link various bodies of mathematical knowledge, and link mathematical knowledge, principles and processes with those of other disciplines.</p> <p>6. Attain ability for creative thinking.</p>	<p>4. Accurately and succinctly use mathematical language and symbols for communication, communication of concepts and presentation.</p> <p>5. Link various bodies of mathematical knowledge, and link mathematical knowledge, principles and processes with those of other disciplines.</p> <p>6. Attain ability for creative thinking.</p>	<p>6. Attain ability for creative thinking.</p>

Learning Area of Science

Why it is necessary to learn science

Science plays an important role in our present and future world communities, as it concerns all of us in our daily lives and livelihoods. Science also involves technologies, instruments, devices and various products at our disposal, which facilitate our life and work. All these benefit from our scientific knowledge, which is combined with creativity as well as other disciplines. Science enables us to develop our thinking skills in various respects—logical, creative, analytical and critical. It also enables us to acquire essential investigative skills for seeking knowledge, and allows the ability for systematic problem-solving, and for verifiable decision-making based on diverse data and evidences. Science is essential to the modern world, which is intrinsically a knowledge society. All of us therefore need to be provided with scientific knowledge so as acquire knowledge and understanding of nature and man-made technologies that can be applied through logical, creative and moral approaches.

What is learned in science

The learning area of science is aimed at enabling learners to learn this subject with emphasis on linking knowledge with processes, acquiring essential skills for investigation, building knowledge through investigative processes, seeking knowledge and solving various problems. Learners are allowed to participate in all stages of learning, with activities organized through diverse practical work suitable to their levels. The main content areas are prescribed as follows:

- **Living Things and Processes of Life:** living things; basic units of living things; structures and functions of various systems of living things and processes of life; biodiversity; genetic transmission; functioning of various systems of living things, evolution and diversity of living things and biotechnology

- **Life and the Environment:** diverse living things in the environment; relationship between living things and the environment; relationships among living things in the eco-system; importance of natural resources, and utilization and management of natural

resources at local, national and global levels; factors affecting survival of living things in various environments

- **Substances and Properties of Substances:** properties of materials and substances; binding forces between particles; changes in the state of substances; solution formation and chemical reaction of substances, chemical equations and separation of substances

- **Forces and Motion:** nature of electromagnetic, gravitational and nuclear forces; forces acting on objects; motion of objects; frictional forces; moment of variety of motions in daily life

- **Energy:** energy and life; energy transformation; properties and phenomena of light, sound, electrical circuits, electromagnetic waves, radioactivity and nuclear reactions; interrelationship between substances and energy; energy conservation; effects of utilization of energy on life and the environment

- **Change Process of the Earth:** structure and components of the Earth; geological resources; physical properties of soil, rock, water and air; properties of the Earth's surface and atmosphere; change processes of the Earth's crust; geological phenomena; factors affecting atmospheric change

- **Astronomy and Space:** evolution of the solar system; galaxies; the universe; interrelationship and effects on living things on Earth; relationship between the sun, the moon and Earth; importance of space technology

- **Nature of Science and Technology:** scientific processes; investigation for seeking knowledge, problem-solving, and scientific mind

Learners' Quality

Grade 3 graduates

- Understand general characteristics of living things and the existence of diverse living things in the local environment

- Understand the phenomena and changes in materials in the surroundings; natural forces; forms of energy

- Understand physical properties of soil, rock, water, air, the sun and stars

- Pose questions about living things, materials and objects as well as various phenomena in the surroundings; observe, explore and verify with the use of simple instruments, and communicate what has been learned through story-telling, writing or drawing pictures

- Apply scientific knowledge and processes in life and search for additional knowledge; implement the projects or work assignments as prescribed or in accord with their interests

- Show enthusiasm, interest in learning and appreciation of the environment around them; show kindness and care and concern for other living things

- Carry out assignments with determination, care, economy and honesty until successfully complete, and work happily with others

Grade 6 graduates

- Understand structure and function of various systems of living things and relationships among diverse living things in different environments

- Understand properties and distribution of groups of materials; states of substances; properties of substances and causing change in substances; substances in daily life; simple methods of separating substances

- Understand effects of force acting on objects; pressure; basic principles of buoyancy; properties and basic phenomena of light, sound and electrical circuits.

- Understand characteristics, components and properties of the Earth's surface and atmosphere; relationship between the sun, Earth and the moon, which affects natural phenomena

- Pose questions about what is to be learned; give estimates of several possible answers; plan, investigate and verify by applying tools and devices; analyse data and communicate knowledge obtained from investigation and verification

- Apply scientific knowledge and processes in life and search for additional knowledge; implement projects or tasks as prescribed or in accord with their interests
- Show interest, determination, responsibility, care and honesty in seeking knowledge
- Are aware of the value of knowledge of science and technology; show appreciation, honour and respect of inventors' rights to their achievements
- Show recognition, care and concern as evident in conscientious behaviour for utilization, protection and conservation of natural resources and the environment
- Work constructively with others; be ready to express their opinions and recognise views of others

Grade 9 graduates

- Understand characteristics and main components of cells of living things; relationship of function in various systems; genetic transmission; biotechnology; diversity of living things; living things' behaviour and responses to stimuli in the environment.
- Understand components and properties of solutions; pure substances; transformation of substances through change of their state; solution forming and chemical reaction.
- Understand frictional forces; moment of forces; variety of motion in daily life; rules for energy conservation; energy transfer; heat equilibrium; reflection, refraction and density of light.
- Understand relationship between electrical quantities; principles of electrical domestic circuits; electrical energy and basic principles of electronic circuits
- Understand change processes of the Earth's crust; geological sources; factors affecting atmospheric change; reactions within the solar system and effects on various things on Earth; importance of space technology
- Understand relationship between science and technology; development and effects of development on quality of life and the environment

- Pose questions with prescription and control of variables; give estimates to several possible answers; plan, investigate, verify, analyse and evaluate data conformity and create bodies of knowledge

- Communicate thoughts and knowledge obtained from investigation and verification through verbal or written presentation, display, or application of information technology

- Apply scientific and technological knowledge and processes in life and seek additional knowledge; create projects or work pieces in accord with their interests

- Show interest, determination, responsibility, care and honesty in investigating and seeking knowledge by applying instruments and methods that provide reliable results

- Are aware of the value of scientific and technological knowledge applied in daily life and livelihood; show appreciation, honour and respect of inventors' rights to their achievements

- Show recognition, care and concern, as well as appreciate behaviour for utilization and conservation of natural resources and local environment

- Work constructively with others; be ready to express opinions and acknowledge views of others

Grade 12 graduates

- Understand maintenance of cell equilibrium and mechanisms for maintaining equilibrium of living things

- Understand processes of genetic transmission, variation, mutation, evolution of living things and factors affecting their survival in various environments

- Understand processes, importance and effects of biotechnology on human beings, living things and the environment

- Understand kinds of important particles that form components of atomic structures, sequencing of elements in the Periodic Table, chemical reactions and writing chemical equations, and factors affecting rates of chemical reaction

- Understand kinds of binding forces between particles and various properties of substances that are related to binding forces
- Understand the origin of petroleum, natural gas separation and fractional distillation of crude oil, the application of petroleum products for useful purposes and their effects on living things and the environment
- Understand kinds, properties and important reactions of polymers and biomolecular substances
- Understand relationships between quantities involving various types of motion; properties of mechanical waves; quantities of sound and hearing; properties, benefits and harms of electromagnetic waves, radioactivity and nuclear energy.
- Understand change processes of the Earth and geological phenomena affecting living things and the environment
- Understand origin and evolution of the solar system, galaxies, the universe, and the importance of space technology
- Understand how scientific knowledge can result in development of various kinds of technologies, and how technological development can result in discovery of advanced scientific knowledge, as well as the effects of technology on life, society and the environment
- Identify problems; pose questions for investigation and verification by prescribing relationships between various variables; search for data from various sources; propose several possible hypotheses; decide to investigate feasible hypotheses
- Plan processes of investigation and verification for problem-solving or answering questions; analyse and link relationships of various variables by applying mathematical equations or creating models from results or knowledge obtained from investigation and verification
- Communicate thoughts and knowledge obtained from investigation through verbal or written presentation, display or application of information technology

- Explain scientific knowledge and apply scientific processes for living and seeking additional knowledge; create projects or work pieces in accord with their interests
- Show interest, dedication, responsibility, care and honesty in investigating and seeking knowledge by applying instruments and methods that yield accurate and reliable results
- Are aware of the value of scientific and technological knowledge applied in daily life and livelihood; show appreciation, pride, respect, and make references to achievements and accomplishments resulting from local wisdom and development of modern technology
- Show recognition, care and concern as well as appreciative behaviour for utilization and conservation of natural resources and the environment; volunteer to cooperate with the community for protection and care for natural resources and local environment
- Show satisfaction and appreciation of abilities to discover knowledge, find answers or solve problems
- Work constructively with others; express opinions based on reliable references and sound reasoning resulting from scientific and technological development and application, bearing in mind moral obligation to society and the environment; and be ready to acknowledge views of others

Strand 1: Living and Family

Standard Sc1.1: Understanding basic units of living things; relationship between structures and functions of living things, which are interlinked; investigative process for seeking knowledge; ability to communicate acquired knowledge that could be applied to one's life and care for living things

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<p>1. Compare differences between living things and non-living things.</p> <p>2. Observe and explain characteristics and functions of external structures of plants and animals.</p> <p>3. Observe and explain characteristics, functions and importance of external human organs as well as health care.</p>	<p>1. Experiment and explain that water and light are essential factors for plan life.</p> <p>2. Explain that nutrients, water and air are essential factors for the life and growth of plants and animals, and apply acquired knowledge for useful purposes.</p>	-	<p>1. Experiment and explain functions of bundles and stomas of plants.</p> <p>2. Explain that water, carbon dioxide, light and chlorophyll are some of the factors essential for growth and photosynthesis.</p> <p>3. Experiment and explain responses of plants to light, sound and touch.</p>	<p>1. Observe and specify components of flowers and structures involved in reproduction of angiosperms.</p> <p>2. Explain reproduction of flowers, plants, plant propagation, and apply acquired knowledge for useful purposes.</p>	<p>1. Explain human growth from birth to adulthood.</p> <p>2. Explain interrelated functioning of digestive, respiratory and circulatory systems of human beings.</p> <p>3. Analyse nutrients and discuss body requirements for nutrients in proportions suitable to gender and age.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Observe and explain forms and characteristics of cells of unicellular and multicellular organisms.</p> <p>2. Observe and compare essential components of plant and animal cells.</p> <p>3. Experiment and explain functions of essential components of plant and animal cells.</p> <p>4. Experiment and explain processes of passing substances through cells by diffusion and osmosis.</p> <p>5. Experiment to find some factors essential for photosynthesis of plants, and explain that light, chlorophyll carbon dioxide and water are essential for photosynthesis.</p>	<p>1. Explain structures and functions of digestive, circulatory, respiratory, excretory and reproductive systems of human beings and animals as well as nervous system of human beings.</p> <p>2. Explain relationship of various systems of human beings and apply acquired knowledge for useful purposes.</p> <p>3. Observe and explain behaviour of human beings and animals responding to internal and external stimuli.</p> <p>4. Explain principles and effects of biotechnological application for propagation, improved breeding and increased productivity of animals, and apply acquired knowledge for useful purposes.</p>	-	<p>1. Experiment and explain maintenance of cell equilibrium of living things</p> <p>2. Experiment and explain mechanisms for maintenance of water equilibrium in plants.</p> <p>3. Search for data and explain mechanisms for control of equilibrium of water, minerals and temperature by human beings and other animals, and apply acquired knowledge for useful purposes.</p> <p>4. Explain the body's immune system, and apply acquired knowledge for health care.</p>

Strand 1: Living and Family

Standard Sc1.1: Understanding basic units of living things; relationship between structures and functions of living things, which are interlinked; investigative process for seeking knowledge; ability to communicate acquired knowledge that could be applied to one's life and care for living things

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	<p>3. Explore and explain abilities of plants and animals to respond to light, temperature and touch.</p> <p>4. Explore and explain the ability of the human body to respond to light, temperature and touch.</p> <p>5. Explain the factors essential for the life and growth of human beings.</p>	-	<p>4. Explain behaviour of animals responding to light, temperature and touch, and apply acquired knowledge for useful purposes.</p>	<p>3. Explain life cycles of some kinds of angiosperms.</p> <p>4. Explain animal reproduction and propagation.</p> <p>5. Explain life cycles of some kinds of animals and apply acquired knowledge for useful purposes.</p>	-

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>6. Experiment and explain results obtained concerning photosynthesis by plants.</p> <p>7. Explain importance of the photosynthesis process of plants on living things and the environment.</p> <p>8. Experiment and explain groups of cells involved in transportation of water in plants.</p> <p>9. Observe and explain structures of the systems for transportation of water and nutrients in plants.</p> <p>10. Experiment and explain floral structures involved in plant reproduction.</p> <p>11. Explain sexual reproduction processes of angiosperms and plant asexual reproduction processes by referring to various parts for propagation.</p> <p>12. Experiment and explain responses of plants to light, water and touch.</p> <p>13. Explain principles and effects of biotechnological application for propagation, improved breeding and increased productivity of plants, and apply acquired knowledge for useful purposes.</p>	<p>5. Experiment, analyse and explain nutrients in foods with energy quantity and proportion suitable to gender and age.</p> <p>6. Discuss effects of addictive substances on various systems of the body, and guidelines for self-protection from addictive substances.</p>	-	-

Strand 1: Living and Family

Standard Sc1.2 : Understanding of process and importance of genetic transmission; evolution of living things; biodiversity; application of biotechnology affecting humans and the environment; investigative process for seeking knowledge and scientific mind; communicating knowledge that could be applied for useful purposes

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Specify characteristics of living things in the local area, and categorise them by using external characteristics as criteria.	1. Explain benefits of plants and animals in the local area.	1. Discuss various characteristics of living things in the immediate environment. 2. Compare and specify similar characteristics of parents and children. 3. Explain that the similar characteristics of parents and children originate from genetic transmission, and apply the knowledge gained for useful purposes. 4. Search for data and discuss kinds of extinct living things and kinds that exist in the present.	-	1. Explore, compare and specify their own characteristics and those of their family members. 2. Explain genetic transmission of each generation of living things. 3. Distinguish between flowering and non-flowering plants. 4. Specify characteristics of monocellular and multicellular plants by using their external organs as criteria. 5. Categorise animals into groups by using external characteristics and some internal characteristics as criteria.	-

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	-	<ol style="list-style-type: none"> 1. Observe and explain characteristics of chromosomes with genetic units or genes in their nuclei. 2. Explain the importance of genetic material or DNA and the process of transmitting genetic characteristics. 3. Discuss genetic diseases resulting from abnormality of genes and chromosomes, and apply the knowledge gained for useful purposes. 4. Explore and explain biodiversity in the local area enabling living things to maintain equilibrium in their lives. 5. Explain effects of biodiversity on human beings animals, plants and the environment. 6. Explain effects of biotechnology on living of human beings and the environment. 	<ol style="list-style-type: none"> 1. Explain the processes of genetic transmission, transformation, mutation and the origin of biodiversity. 2. Search for data and discuss effects of biotechnology on human beings and the environment, and apply the knowledge gained for useful purposes. 3. Search for data and discuss effects of biodiversity on human beings and the environment. 4. Explain natural selection processes and their effects on diversity of living things.

Strand 2: Life and the Environment

Standard Sc2.1: Understanding of local environment; relationship between the environment and living things; relationship between living things in the eco-system; investigative process for seeking knowledge and scientific mind; and communicating acquired knowledge that could be applied for useful purposes

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
		1. Explore the environment in the local area and explain the relationship between living things and the environment.			1. Explore and discuss relationship of groups of living things in various habitats. 2. Explore relationship of living things in terms of food chain and food web. 3. Search for data and explain relationships between the lives of living things and the environment.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
		<ol style="list-style-type: none"> 1. Explore various eco-systems in the local area and explain relationships of the components within the eco-systems. 2. Analyse and explain relationship of energy transmission in living things in term of food chain and food web. 3. Explain water and carbon cycles and their importance to the eco-system. 4. Explain the factors affecting change in size of population in the eco-system. 	<ol style="list-style-type: none"> 1. Explain the equilibrium of the eco-system. 2. Explain processes of change and replacement of living things. 3. Explain the importance of biodiversity and propose guidelines for providing care and preservation.

Strand 2: Life and the Environment

Standard Sc2.2: Appreciating the importance of natural resources; utilization of natural resources at local, national and global levels; and application of knowledge for management of natural resources and local environment on a sustainable basis

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	1. Explore natural resources and discuss utilization of local natural resources. 2. Specify utilization of natural resources conducive to creating local environmental problems. 3. Discuss and present ideas for economical and cost-effective utilization of natural resources and participate in the practice.	-	-	1. Search for data and discuss sources of natural resources in each local area beneficial to living. 2. Analyse effects of population increase on utilization of natural resources. 3. Discuss effects on living things from environmental change both due to nature and due to human beings. 4. Discuss guidelines for taking care of and preserving natural resources and the environment. 5. Participate in providing care and preservation of natural resources in the local area.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	-	<ol style="list-style-type: none"> 1. Analyse the state of problems concerning the environment and natural resources in the local area, and propose guidelines for problem-solving. 2. Explain guidelines for preserving the equilibrium of the eco-system. 3. Discuss sustainable utilization of natural resources. 4. Analyse and explain utilization of natural resources in terms of the Sufficiency Economy Philosophy. 5. Discuss environmental problems and propose relevant guidelines for problem-solving. 6. Discuss and participate in providing care and preserving the local environment on a sustainable basis. 	<ol style="list-style-type: none"> 1. Analyse the state and causes of problems concerning the environment and natural resources at local, national and global levels. 2. Discuss guidelines for preventing and solving problems concerning the environment and natural resources. 3. Plan and observe, preserve and develop the environment and natural resources.

Strand 3: Substances and Properties of Substances

Standard Sc3.1: Understanding of properties of substances; relationship between properties of substances and structures and binding forces between particles; investigative process for seeking knowledge and scientific mind; and communicating acquired knowledge for useful purposes

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<p>1. Observe and specify apparent characteristics or properties of materials utilized for making toys or articles of everyday use.</p> <p>2. Classify the materials utilized for making toys or articles of everyday use as well as specify the criteria for such classification.</p>	<p>1. Specify the kinds and compare properties of materials for making toys and articles of everyday use.</p> <p>2. Choose appropriate and safe materials and articles for use in daily life.</p>	<p>1. Classify the kinds and properties of materials that are components of toys and articles of everyday use.</p> <p>2. Explain utilization of each kind of material for useful purposes.</p>	-	<p>1. Experiment and explain properties of various kinds of materials concerning elasticity, hardness, toughness, heat conductivity and density.</p> <p>2. Search for data and discuss application of materials in daily life.</p>	<p>1. Experiment and explain properties of solids, liquids and gases.</p> <p>2. Categorise substances into groups by using their state or other student-prescribed criteria prescribed.</p> <p>3. Experiment and explain separation of materials through sifting, precipitation, filtering, sublimation and evaporation.</p> <p>4. Explore and categorise various substances used in daily life by using their properties and utilization for useful purposes as criteria.</p> <p>5. Discuss selection of correct and safe application of each kind of substance.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Experiment and classify substances into groups by using their texture or particle size as criteria and explain properties of each group of substances.</p> <p>2. Explain properties and transition of substances by using particle arrangement models.</p> <p>3. Experiment and explain acid-base properties of solutions.</p> <p>4. Verify pH value of solutions, and apply the knowledge gained for useful purposes.</p>	<p>1. Explore and explain components and properties of elements and compounds.</p> <p>2. Search for data and compare properties of metallic, non-metallic semi metallic and nuclear elements and apply the knowledge gained for useful purposes.</p> <p>3. Experiment and explain principles of substance separation by applying methods of filtering, crystallisation, expunctions, distillation and chromatography, and apply the knowledge gained for useful purposes.</p>	-	<p>1. Search for data and explain structure of atoms and nuclear symbols of elements.</p> <p>2. Analyse and explain electronic configuration in atoms and relationship between electrons in outermost energy- level with properties of elements and formation of reactions.</p> <p>3. Explain sequencing of elements and predict properties of elements in the Periodic Table.</p> <p>4. Analyse and explain formation of chemical bonds in crystal network and in molecules of substances.</p> <p>5. Search for data and explain relationship between boiling point, melting point and state of substances with binding forces between particles of substances.</p>

Strand 3: Substances and Properties of Substances

Standard Sc3.2 : Understanding of principles and nature of change in the state of substances; solution formation; reaction; investigative process for seeking knowledge and scientific mind; and communication of acquired knowledge that could be applied for useful purposes

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
		1. Experiment and explain effects of change in objects when a force acts on them or upon heating and cooling. 2. Discuss benefits and detriments that may arise due to changes in the objects.			1. Experiment and explain properties of substances when they dissolve and change their state. 2. Analyse and explain the changes resulting in transition of substances to new substances with different properties. 3. Explain substance changes affecting living things and the environment.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Experiment and explain methods of preparing solutions with density in percentage, and discuss application of knowledge about solutions for useful purposes.</p> <p>2. Experiment and explain change of properties, mass and energy of substances when they change state and dissolve.</p> <p>3. Experiment and explain factors affecting changes in the state and dissolution of substances.</p>	<p>1. Experiment and explain changes in properties, mass and energy when substances have chemical reactions as well as explain factors affecting the chemical reactions.</p> <p>2. Experiment, explain and write chemical equations of reactions of various substances, and apply the knowledge gained for useful purposes.</p> <p>3. Search for data and discuss effects of chemical substances and chemical reactions on living things and the environment.</p> <p>4. Search for data and explain proper and safe application of chemical substances as well as methods of protection from and remedies for harm from use of chemical substances.</p>	-	<p>1. Experiment, explain and write equations of general chemical reactions found in daily life as well as explain effects of chemical substances on living things and the environment.</p> <p>2. Experiment and explain the rates of chemical reactions and factors affecting chemical reactions and apply the knowledge gained for useful purposes.</p> <p>3. Search for data and explain the origin of petroleum, natural gas separation and fractional distillation of crude oil.</p> <p>4. Search for data and discuss application of products from natural gas and fractional distillation of crude oil for useful purposes as well as effects of these products on living things and the environment.</p> <p>5. Experiment and explain the origin of polymers and their properties.</p> <p>6. Discuss utilization of polymers for useful purposes as well as effects from production and utilization of polymers on living things and the environment.</p> <p>7. Experiment and explain the components, benefits and some kinds of reactions of carbohydrates.</p> <p>8. Experiment and explain benefits and some kinds of reactions of fat and oil.</p> <p>9. Experiment and explain the components, benefits and some kinds of reactions of proteins and nucleic acids.</p>

Strand 4: Forces and Motion

Standard Sc4.1: Understanding of the nature of electromagnetic, gravitational and nuclear forces; investigative process of seeking knowledge and applying acquired knowledge for useful and ethical purposes

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Experiment and explain the act of pulling or pushing objects.	1. Experiment and explain forces originating from a magnet. 2. Explain application of magnets for useful purposes 3. Experiment and explain electrical forces resulting from rubbing some kinds of materials.	1. Experiment and explain effects of forces acting on objects. 2. Experiment the falling of objects on the Earth's surface and explain the Earth's attractive forces for the objects.	-	1. Experiment and explain finding resultant force of two parallel forces acting on objects. 2. Experiment and explain air pressure. 3. Experiment and explain liquid pressure. 4. Experiment and explain buoyant forces of liquid, floating and sinking of objects.	-

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Search for data and explain scalar and vector quantities.</p> <p>2. Experiment and explain distance, speed, displacement and velocity of motion of objects.</p>	<p>1. Experiment and explain finding resultant force of several forces on the same plane acting on objects.</p> <p>2. Explain resultant forces acting on static objects or objects moving with constant velocity.</p>	<p>1. Explain acceleration and effects of resultant forces acting on objects.</p> <p>2. Experiment and explain actionary and reactionary forces between objects, and apply the knowledge gained for useful purposes.</p> <p>3. Experiment and explain buoyant forces acting on liquid.</p>	<p>1. Experiment and explain relationship between forces and motion of objects in gravitational fields and explain application of the knowledge gained for useful purposes.</p> <p>2. Experiment and explain relationship between forces and motion of particles in electrical fields, and apply the knowledge gained for useful purposes.</p> <p>3. Experiment and explain relationship between forces and motion of particles in magnetic fields, and apply the knowledge gained for useful purposes.</p> <p>4. Analyse and explain nuclear and electrical forces between particles in nuclei.</p>

Strand 4: Forces and Motion

Standard Sc4.2: Understanding of characteristics and various types of motion of natural objects; investigative process for seeking knowledge and scientific mind; and communication of acquired knowledge for useful purposes

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	-	-	1. Experiment and explain frictional forces and apply the knowledge gained for useful purposes.	-

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	-	<ol style="list-style-type: none"> 1. Experiment and explain differences between static, friction and forces, and apply the knowledge gained for useful purposes. 2. Experiment and explain moment of forces, and apply the knowledge gained for useful purposes. 3. Observe and explain motions of objects in a straight line and in curves. 	<ol style="list-style-type: none"> 1. Experiment and explain relationship between displacement, time, velocity, acceleration of in a straight line. 2. Observe and explain simple projectile, circular and harmonic motions. 3. Discuss results of investigation and benefits of simple projectile, circular and harmonic motions.

Strand 5: Energy

Standard Sc5.1: Understanding of relationship between energy and life; energy transformation; interrelationship between substances and energy; effects of energy utilization on life and the environment; investigative process for seeking knowledge; and communication of acquired knowledge that could be applied for useful purposes

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	<p>1. Experiment and explain that electricity is a form of energy.</p> <p>2. Explore and cite examples of electric appliances at home that can transform electrical energy into other forms of energy.</p>	<p>1. Identify natural energy sources utilized for producing electricity.</p> <p>2. Explain the importance of electrical energy and propose economical and safe methods for utilizing electricity.</p>	<p>1. Experiment and explain motion of light from its source.</p> <p>2. Experiment and explain reflection of light on objects.</p> <p>3. Experiment and classify objects based on visual characteristics from sources of light.</p>	<p>1. Experiment and explain origin and propagation of sound.</p> <p>2. Experiment and explain origin of high pitched and low-pitched sound.</p> <p>3. Experiment and explain loud and soft sound.</p> <p>4. Explore and discuss detrimental effects of listening to excessively loud sounds.</p>	<p>1. Experiment and explain connecting a simple electrical circuit.</p> <p>2. Experiment and explain electrical conductors and insulators.</p> <p>3. Experiment and explain a series connection of cells, and apply the knowledge gained for useful purposes.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Experiment and explain temperature and its measurement</p> <p>2. Observe and explain heat transmission, and apply the knowledge gained for useful purposes.</p> <p>3. Explain heat adsorption and emission through radiation, and apply the knowledge gained for useful purposes.</p> <p>4. Explain thermal equilibrium and effects of heat on expansion of substances, and apply the knowledge gained in daily life.</p>	<p>1. Experiment and explain reflection and refraction of light, and apply the knowledge gained for useful purposes.</p> <p>2. Explain effects of brightness on human beings and other living things.</p> <p>3. Experiment and explain absorption of light, heat, seeing colours of objects, and apply the knowledge gained for useful purposes.</p>	<p>1. Explain kinetic and gravitational potential energy, rules for conservation of energy and relationship between these quantities as well as apply the knowledge gained for useful purposes.</p> <p>2. Experiment and explain relationship between potential difference, electrical current and resistance, and apply the knowledge gained for useful purposes.</p>	<p>1. Experiment and explain qualities of mechanical waves and explain relationship between speed, frequency and wavelength.</p> <p>2. Explain origin of sound waves, sound beats, sound intensity, level of sound intensity, hearing of sounds and sound quality, and apply the knowledge gained for useful purposes.</p> <p>3. Discuss results of searching for data on noise pollution affecting human health and propose preventive measures.</p> <p>4. Explain electromagnetic waves and their spectrums and present results of searching for data on benefits and prevention of harm from electromagnetic waves.</p> <p>5. Explain nuclear reaction, fission, fusion and the relationship between man and energy.</p>

Strand 5: Energy

Standard Sc5.1 : Understanding of relationship between energy and life; energy transformation; interrelationship between substances and energy; effects of energy utilization on life and the environment; investigative process for seeking knowledge; and communication of acquired knowledge that could be applied for useful purposes

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	-	<p>4. Experiment and explain refraction of light that passes through two kinds of transparent mediums.</p> <p>5. Experiment and explain transformation of light into electrical energy, and apply the knowledge gained for useful purposes.</p> <p>6. Experiment and explain that white light comprises various coloured lights, and apply the knowledge gained for useful purposes.</p>	-	<p>4. Experiment and explain connection of bulbs in both series and parallel circuits, and apply the knowledge gained for useful purposes.</p> <p>5. Experiment and explain origin of a magnetic field produced when electric current is present in a wire, and apply the knowledge gained for useful purposes.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
		<p>3. Calculate electrical energy of electric appliances, and apply the knowledge gained for useful purposes.</p> <p>4. Observe and discuss correct, safe and economical connection of electrical circuits at home.</p> <p>5. Explain resistors, diodes and transistors and experiment in connecting basic electronic circuits with transistors.</p>	<p>6. Search for data on energy originating from nuclear reactions and effects on life and the environment.</p> <p>7. Discuss results of searching for data on nuclear power plants and application for useful purposes.</p> <p>8. Explain the kinds and properties of radiation from radioactive elements.</p> <p>9. Explain origin of radioactivity and identify methods of checking radiation in the environment, their application for useful purposes, and effects on living things and the environment.</p>

Strand 6: Change Processes of the Earth

Standard Sc6.1: Understanding of various processes on the Earth's surface and inside the Earth; relationship between various processes causing changes in climate, topography and form of the Earth; investigative process for seeking knowledge and scientific mind; and communication of acquired knowledge that could be applied for useful purposes

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Explore, experiment and explain components and physical properties of soil in the local area.	1. Explore and categorise soil by using physical properties as criteria, and apply the knowledge gained for useful purposes.	1. Explore and explain physical properties of water from sources in the local area, and apply the knowledge gained for useful purposes. 2. Search for data and discuss the components of air and the importance of air. 3. Experiment and explain the motion of air resulting from differences in temperature.	1. Explore and explain soil formation. 2. Specify kinds and properties of soil used for growing plants in the local area.	1. Explore, experiment and explain formation of clouds, mist, dew, rain and hail. 2. Experiment and explain formation of the water cycle. 3. Design and make simple instruments for measuring temperature, humidity and air pressure. 4. Experiment and explain formation of wind, and apply the knowledge gained for useful purposes.	1. Explain and classify rocks by using their characteristics and properties as criteria, and apply the knowledge gained for useful purposes. 2. Explore and explain changes of rocks. 3. Search for data and explain geological disasters affecting human beings and the environment in the local area.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Search for relevant information and explain components and division of atmospheric layers covering the Earth's surface.</p> <p>2. Experiment and explain relationship between temperature, humidity and air pressure and climate-affecting phenomena.</p> <p>3. Observe, analyse and discuss formation of climate phenomena affecting human beings.</p> <p>4. Search for relevant information, analyse and interpret meanings of data from weather forecasts.</p> <p>5. Search for, analyse and explain effects of climate on the lives of living things and the environment.</p>	<p>1. Explore, experiment and explain soil profile, soil properties and the soil formation process.</p> <p>2. Explore, analyse and explain utilization of soil and improvement of soil quality.</p> <p>3. Experiment with geological process simulation models to explain the rock formation process and the characteristics of components of rocks.</p> <p>4. Test and observe components and properties of rocks for their classification, and apply the knowledge gained for useful purposes.</p> <p>5. Verify and explain physical characteristics of minerals and their application for useful purposes.</p>	-	<p>1. Search for relevant information and explain principles for dividing the Earth's structure.</p> <p>2. Experiment with geological process simulation models and explain the Earth's geological change processes.</p> <p>3. Experiment with simulation models and explain the processes that form mountains, faults, folds, earthquakes and volcanic eruptions.</p> <p>4. Search for relevant information and explain the importance of geological phenomena, earthquakes and volcanic eruptions affecting living things and the environment.</p>

Strand 6: Change Processes of the Earth

Standard Sc6.1: Understanding of various processes on the Earth's surface and interior; relationship between various processes causing changes in climate, topography and form of the Earth; investigative process for seeking knowledge and scientific mind; and communication of acquired knowledge that could be applied for useful purposes

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	-	-	-	-

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>6. Search for relevant information, analyse and explain natural factors and man-made actions affecting changes of the Earth's temperature, ozone holes and acid rain.</p> <p>7. Search for relevant information, analyse and explain effects of global warming, ozone holes and acid rain on living things and the environment.</p>	<p>6. Search for relevant information and explain formation process, characteristics and properties of petroleum, coal and oil shale, and their application for useful purposes.</p> <p>7. Explore and explain characteristics of natural water sources, and utilization and conservation of local water sources for benefits.</p> <p>8. Experiment with simulation models and explain formation process of ground water sources and underground water sources.</p> <p>9. Experiment with simulation models and explain processes of weathering, erosion, sweeping away, piling up and crystallisation and the effects of these processes.</p> <p>10. Search for relevant information, make a model and explain structure and components of the Earth.</p>	-	<p>5. Explore, analyse and explain stratigraphy from rock layer orientation, fossils and geological structures to explain the origin and development of the local area.</p> <p>6. Search for relevant information, analyse and explain benefits of geological data.</p>

Strand 7: Astronomy and Space

Standard Sc7.1: Understanding of evolution of the solar system, galaxies and the universe; interrelationships within the solar system and their effects on living things on Earth; investigative process for seeking knowledge and scientific mind; and communication of acquired knowledge for useful purposes

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Specify that in the sky there are the sun, the moon and stars.	1. Search for and discuss the importance of the sun.	1. Observe and explain the rising and setting of the sun, the moon, causes of day and night and setting of directions.	1. Make a model to explain characteristics of the solar system.	1. Observe and explain formation of directions (north, east, south, west) and phenomena of the rising and falling of stars by using star chart.	1. Make a model and explain formation of seasons, waxing and waning of the moon, solar eclipses and lunar eclipses, and apply the knowledge gained for useful purposes.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	-	<p>1. Search for relevant information and explain relationships between the sun, Earth, the moon and other planets, and the effects on the environment and living things on Earth.</p> <p>2. Search for relevant information and explain components of the universe, galaxies and the solar system.</p> <p>3. Specify position of constellations, and apply the knowledge gained for useful purposes.</p>	<p>1. Search for relevant information and explain formation and evolution of the solar system, galaxies and the universe.</p> <p>2. Search for relevant information and explain nature and evolution of fixed stars.</p>

Strand 7: Astronomy and Space

Standard Sc7.2: Understanding of importance of space technology utilized for space exploration and natural resources for agriculture and communication; investigative process for seeking knowledge and scientific mind; and communication of acquired knowledge that could be ethically applied to life and the environment

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	-	-	-	1. Search for data and discuss progress and benefits of space technology.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	-	<p>1. Search for relevant information and discuss process of utilizing space technology for exploration of space, objects in the sky, weather conditions, natural resources for agriculture and communication.</p>	<p>1. Search for relevant information and explain the launching of satellites, and calculate the velocity of satellites revolving around the Earth.</p> <p>2. Search for relevant information and explain benefits of satellites in various respects.</p> <p>3. Search for relevant information and explain the launching of space ships, and space exploration by utilizing space ships and space stations.</p>

Strand 8: Nature of Science and Technology

Standard Sc8.1: Application of scientific process and scientific mind in investigation for seeking knowledge and problem-solving; knowing that most natural phenomena assume definite patterns that are explainable and verifiable within limitations of data and instruments available during particular periods of time; and understanding that science, technology, society and the environment are interrelated

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Pose questions about the matters to be studied as prescribed or in accord with their interests. 2. Plan for observation, exploration, verification, study and research by using their own ideas and those of their teachers.	1. Pose questions about the matters to be studied as prescribed or in accord with their interests. 2. Plan for observation, exploration, verification, study and research by using their own ideas and those of their teachers.	1. Pose questions about the matters to be studied as prescribed and in accord with their interests. 2. Plan for observation, propose methods of exploration, verification, study and research by using their own ideas, those of groups, and form expectations of what is to be found from the exploration and verification.	1. Pose questions about the issues, matters or situations to be studied as prescribed and in accord with their interests. 2. Plan for observation and propose methods for exploration, verification, study and research, and form expectations of what is to be found from the exploration and verification.	1. Pose questions about the issues, matters or situations to be studied as prescribed and in accord with their interests. 2. Plan for observation and propose methods for exploration, verification, study and research, and form expectations of what is to be found from the exploration and verification.	1. Pose questions about the issues, matters or situations to be studied as prescribed and in accord with their interests. 2. Plan for observation and propose methods for exploration, verification, study and research, and form expectations of what is to be found from the exploration and verification.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Pose questions prescribing the issues or important variables for exploration and verification or conduct comprehensive and reliable study and research on matters of their interest.</p> <p>2. Make verifiable hypotheses and plan several methods for exploration and verification.</p> <p>3. Select techniques and methods for quantitative and qualitative exploration and verification yielding accurate and safe results by using appropriate materials and equipment.</p>	<p>1. Pose questions prescribing the issues or important variables for exploration and verification or conduct comprehensive and reliable study and research on matters of their interest.</p> <p>2. Make verifiable hypotheses and plan several methods for exploration and verification.</p> <p>3. Select techniques and methods for quantitative and qualitative exploration and verification yielding accurate and safe results by using appropriate materials and equipment.</p>	<p>1. Pose questions prescribing the issues or important variables for exploration and verification and conduct comprehensive and reliable study and research on matters of their interest.</p> <p>2. Make verifiable hypotheses and plan several methods for exploration and verification.</p> <p>3. Select techniques and methods for quantitative and qualitative exploration and verification yielding accurate and safe results by using appropriate materials and equipment.</p>	<p>1. Pose questions based on scientific knowledge and understanding or their interests or from current issues for comprehensive and reliable exploration and verification.</p> <p>2. Make hypotheses supported by theories, or form expectations on what is to be found, or make models or formats leading to exploration and verification.</p> <p>3. Search for and collect data requiring consideration of factors or important variables, factors affecting other factors, uncontrollable factors and the number of times the exploration and verification process should be repeated to ensure that reliable and sufficient data is obtained.</p>

Strand 8: Nature of Science and Technology

Standard Sc8.1: Application of scientific processes and scientific mind in investigation for seeking knowledge and problem solving; knowing that most natural phenomena assume definite patterns that are explainable and verifiable within limitations of data and instruments available during particular periods of time; and understanding that science, technology, society and the environment are interrelated

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
3. Use materials and instruments for exploration and verification and record results using simple methods. 4. Arrange data obtained from exploration and verification into groups and present results.	3. Use suitable materials, instruments and equipment for exploration and verification, and record data. 4. Arrange data into groups, compare and present results. 5. Pose new questions arising from the results of exploration and verification.	3. Select suitable materials, instruments and equipment for exploration and verification, and record data. 4. Arrange data into groups, compare it with expectations and present results. 5. Pose new questions arising from the results of exploration and verification.	3. Select accurate and appropriate instruments for exploration and verification. 4. Make a record of quantitative data, and present conclusion of results. 5. Pose new questions for subsequent exploration and verification. 6. Express opinions and conclusions about what is being learned.	3. Select accurate and appropriate instruments for exploration and verification in order to obtain reliable data. 4. Make a record of quantitative and qualitative data, verify results with expectations, and present results and conclusions.	3. Select accurate and appropriate instruments and methods for exploration and verification in order to obtain comprehensive and reliable data. 4. Make a record of quantitative and qualitative data, analyse and verify results with expectations, and present results and conclusions.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
4. Collect data and process it quantitatively and qualitatively.	4. Collect data and process it quantitatively and qualitatively.	4. Collect data and process it quantitatively and qualitatively.	4. Select materials, techniques and methods, instruments utilized in accurate observation measurement, exploration and verification in width and in depth for quantitative and qualitative dimensions.
5. Analyse and evaluate conformity of eye-witnesses with the conclusions both supporting and contradicting the hypotheses and data abnormality from exploration and verification.	5. Analyse and evaluate conformity of eye-witnesses with the conclusions both supporting or contradicting the hypotheses and data abnormality from exploration and verification.	5. Analyse and evaluate conformity of eye-witnesses with the conclusions both supporting or contradicting the hypotheses and data abnormality from exploration and verification.	5. Collect data and systematically and accurately record results of exploration and verification addressing both quantity and quality by verifying probability, appropriateness or errors in the data.
6. Create models or formats explaining or showing results of exploration and verification.	6. Create models or formats explaining or showing results of exploration and verification.	6. Create models or formats explaining or showing results of exploration and verification.	6. Process data by taking into consideration accurate quantitative reporting of results, and present the data through appropriate techniques and methods.

Strand 8: Nature of Science and Technology

Standard Sc8.1: Application of scientific processes and scientific mind in investigation for seeking knowledge and problem solving; knowing that most natural phenomena assume definite patterns that are explainable and verifiable within limitations of data and instruments available during particular periods of time; and understanding that science, technology, society and the environment are interrelated

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
5. Express opinions in the course of exploration and verification.	6. Express group opinions that are compiled as a body of knowledge.	6. Express opinions and collect data from groups, leading to knowledge creation.	7. Make a record and clearly and directly explain results of exploration and verification.	5. Pose new questions for subsequent exploration and verification.	5. Pose new questions for subsequent exploration and verification.
6. Make a record and explain results of the exploration and verification by drawing pictures or writing short texts.	7. Make a record and clearly and directly explain results of exploration and verification by drawing pictures, diagrams or explanations.	7. Make a record and explain authentic results of the exploration and verification, using diagrams in the explanations.	8. Present and display work through verbal presentation or write to explain the processes and results of their work for others to understand.	6. Freely express opinions, explanations and conclusions about what is being learned.	6. Freely express opinions, provide explanations, reach agreements, and draw conclusions about what is being learned.
7. Verbally present their work for others to understand.	8. Verbally present their work so others can understand the processes and results.	8. Present and display work through verbal presentation and write to show the processes and results of their work for others to understand.		7. Make a record and explain results of the exploration and verification based on the real situations and references.	7. Make a record and explain results of the exploration and verification based on the real situations, with rationality and eye-witnesses for reference.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>7. Pose questions leading to exploration and verification of relevant matters, and apply the knowledge gained in new situations or to explain the concepts, processes and results of the project or task for others to understand.</p> <p>8. Make a record and explain results of additional observation, exploration, verification and research from various sources of knowledge in order to obtain reliable data, and accept changes in the knowledge discovered when presented with new and additional data, eye-witnesses or contradictory data.</p>	<p>7. Pose questions leading to exploration and verification of relevant matters, and apply the knowledge gained in new situations or to explain the concepts, processes and results of the project or task for others to understand.</p> <p>8. Make a record and explain results of additional observation, exploration, verification and research from various sources of knowledge in order to obtain reliable data and accept changes in the knowledge discovered when presented with new and additional data, eye-witnesses or contradictory data.</p>	<p>7. Pose questions leading to exploration and verification of relevant matters, and apply the knowledge gained in new situations or to explain the concepts, processes and results of the project or task for others to understand.</p> <p>8. Make a record and explain results of additional observation, verification and research from various sources of knowledge in order to obtain reliable data, and accept changes in the knowledge discovered when presented with new and additional data, eye-witnesses or contradictory data.</p>	<p>7. Analyse data, interpret meanings of data and evaluate conformity of the conclusions or main substance for verification with the hypotheses.</p> <p>8. Consider reliability of the methods and results of the exploration and verification based on principles of error of measurement and observation, and recommend improvement of the exploration and verification methods.</p> <p>9. Apply results obtained from exploration and verification, both in regard to methodology and bodies of knowledge, to pose new questions, and apply results to problem-solving in new situations and in real life.</p>

Strand 8: Nature of Science and Technology

Standard Sc8.1: Application of scientific processes and scientific mind in investigation for seeking knowledge and problem solving; knowing that most natural phenomena assume definite patterns that are explainable and verifiable within limitations of data and instruments available during particular periods of time; and understanding that science, technology, society and the environment are interrelated

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	-	-	8. Present and display their work through verbal or written presentations to explain the processes and results so that others can understand.	8. Present and display their work through verbal or written presentations to explain the processes and results so that others can understand.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
9. Display their work, write reports and/or explain the concepts, processes and results of the project or task so that others can understand.	9. Display their work, write reports and/or explain the concepts, processes and results of the project or task so that others can understand.	9. Display their work, write reports and/or explain the concepts, processes and results of the project or task so that others can understand.	<p>10. Realise the importance of the need to participate and to be responsible for explanation, agreeing on views and drawing conclusions about results of scientific learning accurately presented to the public.</p> <p>11. Make a record and logically explain the results of exploration and verification; use evidence for reference or conduct additional research in order to find reliable evidence for reference, and accept that the knowledge previously acquired can be changed in light of new and additional data and eye-witnesses or after careful verification of contradictory data, leading to acceptance in the body of knowledge.</p> <p>12. Display their work, write reports and/or explain the concepts, processes and results of their project or task so that others can understand.</p>

Learning Area of Social Studies, Religion and Culture

Why it is necessary to learn social studies, religion and culture

The learning area of social studies, religion and culture enables learners to acquire knowledge and understand the lives of human beings as both individuals and as coexisting members of a society. The area addresses self-adjustment in accord with exigencies of environmental situations and management of limited resources. Learners acquire understanding of development and change in accord with exigencies of various periods, times and factors, leading to understanding of oneself and others. Learners also acquire patience, forbearance and acceptance of differences. They are endowed with morality and the ability to adjust knowledge gained for application in leading their lives as good citizens of the country and desirable members of the world community.

What is learned in social studies, religion and culture

The learning area of social studies, religion and culture focuses on coexistence in societies that are interlinked and that have many differences, enabling the learners to adjust themselves to various environmental contexts. They will thus become good, responsible citizens, are endowed with knowledge, skills, morality and desirable values. The main strands prescribed are as follow:

- **Religion, Morality and Ethics:** fundamental concepts about religion, morality, ethics and principles of Buddhism or those of learners' religions; application of religions, principles and teachings for self-development and peaceful and harmonious coexistence; ability to do good deeds; acquisition of desirable values; continuous self-development as well as provision of services for social and common interests and concerns
- **Civics, Culture and Living:** political and administrative systems of the present society; democratic form of government under constitutional monarchy; characteristics and importance of good citizenship; cultural differences and diversity; values under

constitutional monarchy; rights, duties and freedoms in peaceful existence in Thai society and the world community

- **Economics:** production, distribution and consumption of goods and services; management of limited resources available; lifestyle of equilibrium and application of the principles of Sufficiency Economy in daily life

- **History:** historical times and periods; historical methodology; development of mankind from the past to the present; relationships and changes of various events; effects of important events in the past; personalities that influenced various changes in the past; historical development of the Thai nation; culture and Thai wisdom; origins of important civilizations of the world

- **Geography:** physical characteristics of the Earth; physical characteristics, resources and climate of Thailand and various other regions of the world; utilisation of maps and geographical instruments; inter-relationship of various things in the natural system; relationship between man and natural environment and man-made objects; presentation of geo-data and information; preservation of the environment for sustainable development

Learners' Quality

Grade 3 graduates

- Have knowledge about themselves and those around them as well as the local environment, places where they live, and can link experiences to the wider world

- Have skills, knowledge and necessary data for development to attain morality, ethics, behaviour and practices in accord with the principles and teachings of their religions; attain qualities of good citizens and sense of responsibility; can live and work with others; participate in classroom activities, and have practice in decision-making

- Have knowledge about themselves, and their families, schools and communities on an integrated basis; understand concepts about the present and the past; have fundamental economic knowledge; have been given ideas about family income and expenditure;

understand roles of producers and consumers; know basic saving and methodology of Sufficiency Economy

- Know and understand basic concepts about religion, morality, ethics, civics, economics, history and geography, so as to provide foundation for understanding at higher levels

Grade 6 graduates

- Have knowledge about their own provinces, regions and the country regarding history, physical characteristics, societies, traditions and culture as well as politics, administration and economic situations, with emphasis on Thai nationhood

- Have knowledge and understanding about religion, morality and ethics; observe principles and teachings of their religions, as well as exhibit greater participation in religious rites and ceremonies

- Conduct themselves in accord with the status, roles, rights and duties as good citizens of the local areas, provinces, regions and the country, as well as exhibit greater participation in activities in line with customs, traditions and culture of their own areas

- Can compare data and information about Thailand's various provinces and regions with those of neighbouring countries; have developed sociological concepts regarding religion, morality, ethics, civics, economics, history and geography, with a view to widening their experiences for understanding of the Eastern and Western worlds regarding religion, morality, ethics, values, beliefs, customs, traditions, culture and way of life; have developed concepts of organisation of social order and social change from past to the present

Grade 9 graduates

- Have knowledge about world affairs through comparative studies of Thailand and countries in various regions of the world with a view to developing concepts of peaceful coexistence

- Have essential skills of critical thinkers; have developed concepts and widened experiences; have compared Thailand with other countries in various regions, i.e., Asia, Australia, Oceania, Africa, Europe, North America and South America, regarding religion,

morality, ethics, values, beliefs, customs, traditions, culture, politics, administration, history and geography by applying historical and sociological methodology

- Know and understand concepts and analyse future events that can be appropriately applied for leading their lives and planning for various undertakings

Grade 12 graduates

- Have wider and more profound knowledge about world affairs
- Are endowed with qualities of good citizens, morality and ethics; observe principles of their religions as well as are endowed with desirable values; are able to live happily with others and in society; have potential to continue their education at higher levels as intended

- Have knowledge about wisdom, pride in Thai-ness, history of the Thai nation; adhere to the way of life and democratic form of government under constitutional monarchy

- Have good consumption habits; appropriately choose and decide on consumption; are aware of and participate in preservation of Thai traditions, culture and the environment, and love their local areas and the country; are dedicated to providing services and creating things of value for social benefit

- Have knowledge and capability of managing their own learning; are able to guide themselves and seek knowledge from various learning sources in society throughout their lives

Strand 1: Religion, Morality and Ethics

Standard So1.1: Knowledge and understanding of the history, importance, the Masters and moral principles of Buddhism or of one's faith and other religions; having the right faith; adherence to and observance of moral principles for peaceful coexistence

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Recount in brief the life of the Buddha or the lives of the Masters of students' own religions. 2. Delight in and tell the models of living and the insights from the lives of the disciples, stories of the Buddha's previous lives, tales and exemplary believers as prescribed.	1. Tell the importance of Buddhism or that of students' own religions. 2. Summarise the life of the Buddha from birth to ordination or the lives of the Masters of students' own religions as prescribed.	1. Explain the importance of Buddhism or that of students' own religions as a significant foundation of Thai culture. 2. Summarise the life of the Buddha from the practice of self-mortification to the Great Decease of the Buddha or the lives of the Masters of students' own religions as prescribed.	1. Explain the importance of Buddhism or that of students' own religions as the spiritual focal point for believers. 2. Summarise the life of the Buddha from enlightenment to propagation of the Dhamma or the lives of the Masters of students' own religions as prescribed.	1. Analyse the importance of Buddhism or that of students' own religions as cultural heritage and a pivot for developing the Thai nation. 2. Summarise the life of the Buddha from arrival at the town of Kapilavastu to his important deeds or the lives of the Masters of students' own religions as prescribed.	1. Analyse the importance of Buddhism as the national religion or the importance of students' own religions. 2. Summarise the life of the Buddha from the announcement of his coming death to the Four Holy Places of Buddhism or the lives of the Masters of students' own religions as prescribed.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Explain the dissemination of Buddhism or students' own religions to Thailand.</p> <p>2. Analyse the importance of Buddhism or students' own religions for the Thai social environment as well as self-development and family development.</p> <p>3. Analyse the life of the Buddha from birth to the practice of self-mortification or the lives of the Masters of students' own religions as prescribed.</p>	<p>1. Explain the dissemination of Buddhism or student's own religions to neighbouring countries.</p> <p>2. Analyse the importance of Buddhism or that of students' own religions in contributing to strengthening mutual understanding with neighbouring countries.</p> <p>3. Analyse the importance of Buddhism or that of student's own religions as a foundation of culture, national identity and national heritage.</p>	<p>1. Explain the dissemination of Buddhism or student's own religions to various countries worldwide.</p> <p>2. Analyse the importance of Buddhism or that of students' own religions in contributing to creating civilisation and world peace.</p> <p>3. Discuss the importance of Buddhism or that of students' own religions and the principles of the Sufficiency Economy Philosophy and sustainable development.</p>	<p>1. Analyse Indian society and religious beliefs before the period of the Buddha or past societies of the Masters of students' own religions.</p> <p>2. Analyse the Buddha as a supreme human being for self-training for enlightenment, the founding, teaching methods and dissemination of Buddhism or analyse lives of the Masters of students' own religions as prescribed.</p> <p>3. Analyse the life of the Buddha regarding religious administration or analyse the lives of the Masters of their religions as prescribed.</p> <p>4. Analyse the practices of the Middle Path in Buddhism or the concepts of students' own religions as prescribed.</p>

Strand 1: Religion, Morality and Ethics

Standard So1.1: Knowledge and understanding of the history, importance, the Masters and moral principles of Buddhism or of one's faith and other religions; having the right faith; adherence to and observance of moral principles for peaceful coexistence

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
3. Tell the meaning and importance of and respect the Triple Gem, observe the principles of the Three Admonitions of the Buddha in Buddhism, or the moral principles of students' own religions as prescribed.	3. Delight in and tell the models of living and the insights from the lives of the disciples, the stories of the Buddha's previous lives, other tales and exemplary believers as prescribed.	3. Delight in and tell the models of living and the insights from the lives of the disciples, the stories of the Buddha's previous lives, other tales and exemplary believers. 4. Tell the meaning and importance of the Tipitaka (the three divisions of the Buddhist Canon) or the scriptures of students' own religions.	3. Appreciate and conduct themselves in accord with the models of living and the insights from the lives of the disciples, the stories of the Buddha's previous lives, other tales and exemplary believers as prescribed.	3. Appreciate and conduct themselves in accord with the models of living and the insights from the lives of the disciples, the stories of the Buddha's previous lives, other tales and exemplary believers as prescribed.	3. Appreciate and conduct themselves in accord with the models of living and the insights from the lives of the disciples, the stories of the Buddha's previous lives, other tales and exemplary believers as prescribed. 4. Analyse the importance and respect the Triple Gem, observe the principles of the Threefold Learning and

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>4. Analyse and conduct themselves in accord with the models of living and the insights from the lives of the disciples, the stories of the Buddha's previous lives, other tales and exemplary believers as prescribed.</p> <p>5. Explain the Buddha's virtues and important teachings within the framework of the Four Noble Truths or explain the principles of students' own religions as prescribed; appreciate and apply for solving their own problems and those of their families.</p>	<p>4. Analyse the importance of Buddhism or that of students' own religions for community development and for organising social order.</p> <p>5. Analyse the life of the Buddha or the lives of the Masters of students' own religions as prescribed.</p> <p>6. Analyse and conduct themselves in accord with the models of living and the insights from the lives of the disciples, the stories of the Buddha's previous lives, other tales and exemplary believers as prescribed.</p>	<p>4. Analyse the life of the Buddha from various poses of Buddha images or analyse the lives of the Masters of students' own religions as prescribed.</p> <p>5. Analyse and conduct themselves in accord with the models of living and the insights from the lives of the disciples, the stories of the Buddha's previous lives, other tales and exemplary believers as prescribed.</p>	<p>5. Analyse development of proper faith and wisdom in Buddhism or concepts of students' own religions as prescribed.</p> <p>6. Analyse democratic characteristics in Buddhism or democratic concepts in students' own religions as prescribed.</p> <p>7. Analyse Buddhist principles and scientific principles or concepts of students' own religions as prescribed.</p> <p>8. Analyse self-training and self-development, self-reliance and determination to attain liberation in Buddhism or similar concepts in the students' own religions as prescribed.</p> <p>9. Analyse Buddhism as the science of education that emphasises the relationship between the root causes and methods for problem-solving or similar concepts in students' own religions as prescribed.</p>

Strand 1: Religion, Morality and Ethics

Standard So1.1: Knowledge and understanding of the history, importance, the Masters and moral principles of Buddhism or those of one’s faith and other religions; having the right faith; adherence to and observance of moral principles for peaceful coexistence

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
4. Appreciate and pray for the spreading of loving-kindness; have mindfulness as the basis for concentration in Buddhism, or spiritual development in accord with the guidelines of students’ own religions as prescribed.	4. Tell the meaning, importance and respect the Triple Gem and observe the principles of the Three Admonitions of the Buddha in Buddhism, or the moral principles of students’ own religions as prescribed.	5. Pay respect to the Triple Gem and observe the principles of the Three Admonitions of the Buddha in Buddhism, or the moral principles of students’ own religions as prescribed.	4. Pay respect to the Triple Gem, observe the principles of the Threefold Learning and the Three Admonitions of the Buddha in Buddhism, or the moral principles of students’ own religions as prescribed.	4. Explain the components and the importance of the Tipitaka (the Three divisions of the Buddhist Canon) or the scriptures of students’ own religions. 5. Pay respect to the Triple Gem and observe the principles of the Threefold Learning and the Three Admonitions	the Three Admonitions of the Buddha in Buddhism, or the principles of students’ own religions as prescribed. 5. Delight in their countrymen’s performance of good deeds in accord with religious principles as well as relate the practices in life. 6. Appreciate and pray for spreading of loving-kindness,

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>6. Appreciate the value of spiritual development for learning and living by adopting the Yonisonamasikara way of thinking, i.e., through the approach of true-false values and benefits-harms and solutions, or spiritual development in accord with the guidelines of students' own religions.</p> <p>7. Pray for the spreading of loving-kindness, train their spirit and acquire wisdom through mindfulness of breathing or in accord with the guidelines of students' own religions as prescribed.</p>	<p>7. Explain in brief the structure and substance of the Tipitaka (the three divisions of the Buddhist Canon) or the scriptures of students' own religions.</p> <p>8. Explain the Buddha's virtues and important teachings within the framework of the Four Noble Truths, or explain the principles of students' own religions as prescribed; appreciate and apply for development and for solving community and social problems.</p>	<p>6. Explain virtues of the Sangha and important teachings within the framework of the Four Noble Truths or the moral principles of students' own religions as prescribed.</p> <p>7. Appreciate and analyse self-conduct in accord with moral principles for self-development to prepare themselves for work and for having a family.</p>	<p>10. Analyse Buddhism regarding self-training to avoid heedlessness; aim to achieve the benefits and personal, social and world peace or concepts of students' own religions as prescribed.</p> <p>11. Analyse Buddhism and Sufficiency Economy Philosophy and national sustainable development or the concepts of students' own religions as prescribed.</p> <p>12. Analyse the importance of Buddhism regarding complete education, politics and peace or the concepts of students' own religions as prescribed.</p> <p>13. Analyse the principles within the framework of the Four Noble Truths or the principles of the teachings of students' own religions.</p> <p>14. Analyse the insights and models of living from the lives of the disciples, stories of the Buddha's previous lives, other tales and exemplary believers as prescribed.</p>

Strand 1: Religion, Morality and Ethics

Standard So1.1: Knowledge and understanding of the history, importance, the Masters and moral principles of Buddhism or those of one’s faith and other religions; having the right faith; adherence to and observance of moral principles for peaceful coexistence

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
	<p>5. Delight in the performance of good deeds, and family member’s performance of good deeds, at school and elsewhere, in accord with religious principles.</p> <p>6. Appreciate and pray for the spreading of loving-kindness; have mindfulness as the basis for concentration in Buddhism or spiritual development in accord with the guidelines of students’ own religions as prescribed.</p>	<p>6. Appreciate and pray for the spreading of loving-kindness; have mindfulness as the basis for concentration in Buddhism or spiritual development in accord with the guidelines of students’ own religions as prescribed.</p> <p>7. Tell the names and importance of, and behave appropriately towards, religious objects, places and persons of students’ own religions.</p>	<p>5. Delight in the performance of good deeds, and family members’ performance of good deeds, at school and in the community in accord with religious principles, as well as tell the guidelines for living.</p> <p>6. Appreciate and pray for the spreading of loving-kindness; have mindfulness as the basis for concentration in Buddhism</p>	<p>of the Buddha in Buddhism, or the moral principles of students’ own religions as prescribed.</p> <p>6. Appreciate and pray for the spreading of loving-kindness; have mindfulness as the basis for concentration in Buddhism or spiritual development in accord with the guidelines of students’ own religions as prescribed.</p>	<p>train their spirit and acquire wisdom; have mindfulness as the basis for concentration in Buddhism, or spiritual development in accord with the guidelines of students’ own religions as prescribed.</p> <p>7. Observe the moral principles of students’ own religions for solving problems of the evil paths and addictive substances.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>8. Analyse and observe the moral principles of students' own religions in life, based on the principles of Sufficiency Economy, and care for and protect the environment for peaceful coexistence.</p> <p>9. Analyse the reasons and need for all to study and learn about other religions.</p> <p>10. Conduct themselves appropriately with other believers in various situations.</p>	<p>9. Appreciate the value of spiritual development for learning and living by adopting the Yonisonamasikara way of thinking, i.e., through the means of stimulating morality and relationships of spiritual teachings, or spiritual development in accord with the guidelines of students' own religions.</p> <p>10. Pray for the spreading of loving-kindness, train their spirit and acquire wisdom through mindfulness of breathing or in accord with the guidelines of students' own religions.</p>	<p>8. Appreciate the value of spiritual development for learning and living by adopting the Yonisonamasikara way of thinking, i.e., through the approach of the Four Noble Truths and through investigation for root causes, or spiritual development in accord with guidelines of students' own religions.</p> <p>9. Pray for the spreading of loving-kindness, train their spirit and acquire wisdom through mindfulness of breathing or in accord with the guidelines of students' own religions.</p>	<p>15. Analyse the value and importance of settling questions of doctrine and fixing the text of the Tipitaka (the three divisions of the Buddhist Canon) or the scriptures of students' own religions and dissemination of doctrine.</p> <p>16. Firmly believe in the effects of doing good deeds and evil; be able to analyse situations and decide to take action or conduct themselves reasonably and appropriately in accord with moral and ethical principles, and set goals and roles in life for peaceful coexistence and harmonious coexistence as a nation.</p> <p>17. Explain in brief the lives of the Masters of other religions.</p>

Strand 1: Religion, Morality and Ethics

Standard So1.1: Knowledge and understanding of the history, importance, the Masters and moral principles of Buddhism or those of one's faith and other religions; having the right faith; adherence to and observance of moral principles for peaceful coexistence

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	7. Tell the names of the religions, the Masters and importance of the scriptures of students' own religions and those of other religions.	-	<p>or spiritual development in accord with the guidelines of students' own religions as prescribed.</p> <p>7. Observe the moral principles of students' own religions for harmonious coexistence as a nation.</p> <p>8. Explain in brief the lives of the Masters of other religions.</p>	7. Observe the principles of students' own religions for developing themselves and the environment.	<p>8. Explain in brief the important principles of other religions.</p> <p>9. Explain the important characteristics of religious rites and ceremonies of other religions and conduct themselves appropriately when participating in such rites and ceremonies.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
11. Analyse actions of the exemplary figures in religious relations and present guidelines for their own actions.	11. Analyse self-conduct in accord with moral principles of students' own religions for appropriate behaviour amidst the tide of global change and for peaceful coexistence.	10. Analyse the differences and accept the ways of life of believers of other religions.	<p>18. Appreciate and realise the importance of ethical values that determine the different beliefs and behaviours of believers of various religions for eliminating conflicts and for peaceful coexistence in society.</p> <p>19. Appreciate the value of, firmly believe in and show determination for personal improvement through spiritual and learning development by adopting the Yonisonamasikara way of thinking, or spiritual development in accord with the guidelines of students' own religions.</p> <p>20. Pray for the spreading of loving-kindness and train their spirit and acquire wisdom in accord with the principles of the Foundations of Mindfulness or the guidelines of their religions.</p> <p>21. Analyse major moral principles for peaceful coexistence of other religions, and persuade, encourage and provide support for others to recognise the importance of mutually doing good deeds.</p> <p>22. Propose guidelines for organising cooperative activities of all religions for problem-solving and social development.</p>

Strand 1: Religion, Morality and Ethics

Standard So1.2: Understanding, awareness and self-conduct of devout believers; and observance and furtherance of Buddhism or one's faith

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<p>1. Provide services to temples or places of worship of their religions.</p> <p>2. Profess themselves as Buddhists or believers of their religions.</p> <p>3. Conduct themselves correctly in religious rites and ceremonies and on important religious days as prescribed.</p>	<p>1. Conduct themselves appropriately and correctly towards the disciples of their religions as prescribed.</p> <p>2. Conduct themselves correctly in religious rites and ceremonies as prescribed.</p>	<p>1. Conduct themselves appropriately and correctly towards the disciples, places of worship, and religious objects of their religions as prescribed.</p> <p>2. Appreciate the value of and conduct themselves correctly in religious rites and ceremonies and on important religious days as prescribed.</p> <p>3. Profess themselves as Buddhists or believers of their religions.</p>	<p>1. Discuss the importance of and participate in maintaining places of worship of their religions.</p> <p>2. Have the manners of good believers as prescribed.</p> <p>3. Conduct themselves correctly in religious rites and ceremonies and on important religious days as prescribed.</p>	<p>1. Organise simple and useful ceremonies of their religions and conduct themselves correctly.</p> <p>2. Conduct themselves in religious rites and ceremonies and on important religious days as prescribed, and discuss the benefits obtained from participation in these activities.</p> <p>3. Have the manners of good believers as prescribed.</p>	<p>1. Explain their knowledge of various parts of places of worship and conduct themselves appropriately.</p> <p>2. Have the manners of good believers as prescribed.</p> <p>3. Explain the benefits obtained from participation in religious rites and ceremonies and activities on important religious days as prescribed, and conduct themselves correctly.</p> <p>4. Profess themselves as Buddhists or believers of their religions.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Provide services to places of worship of their religions.</p> <p>2. Explain disciples' behaviour so as to serve as a model for personal conduct, and conduct themselves appropriately towards the disciples of their religions.</p> <p>3. Conduct themselves appropriately towards various persons in accord with the principles of their religions as prescribed.</p> <p>4. Organise religious ceremonies and conduct themselves correctly in religious rites and ceremonies.</p> <p>5. Explain the historical importance of important days of their religions as prescribed, and conduct themselves correctly.</p>	<p>1. Conduct themselves appropriately towards various persons in accord with the principles of their religions as prescribed.</p> <p>2. Have the manners of good believers as prescribed.</p> <p>3. Analyse the value of religious rites and conduct themselves correctly.</p> <p>4. Explain the teachings related to important religious days and conduct themselves correctly.</p> <p>5. Explain the differences of religious rites and ceremonies in accord with practices of other religions with a view to attaining mutual acceptance and understanding.</p>	<p>1. Analyse disciples' duties and roles and conduct themselves correctly towards disciples as prescribed.</p> <p>2. Conduct themselves appropriately towards various persons in accord with religious principles as prescribed.</p> <p>3. Carry out the duties of good believers.</p> <p>4. Conduct themselves correctly in religious rites and ceremonies.</p> <p>5. Explain the history of important religious days as prescribed, and conduct themselves correctly.</p> <p>6. Profess themselves as Buddhists or believers of their religions.</p> <p>7. Present guidelines for the upholding of their religions.</p>	<p>1. Conduct themselves as good believers towards disciples, family members and those around them.</p> <p>2. Conduct themselves correctly in religious rites and ceremonies in accord with the principles of their religions.</p> <p>3. Profess themselves as Buddhists or believers of their religions.</p> <p>4. Analyse the moral principles and doctrines related to important days and festivals of their religions, and conduct themselves correctly.</p> <p>5. Organise seminars and propose guidelines for the upholding of their religions conducive to development of self, the nation and the world.</p>

Strand 2: Civics, Culture and Living in Society

Standard So2.1: Understanding and self-conduct in accord with duties and responsibilities of good citizens; observance and preservation of Thai tradition and culture; and enjoying peaceful coexistence in Thai society and the world community

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<p>1. Tell the benefits and conduct themselves as desirable members of their families and schools.</p> <p>2. Cite examples of their own goodness and that of others and tell the effects from good actions.</p>	<p>1. Observe the agreements, rules, regulations, orders and duties required in daily life.</p> <p>2. Observe Thai manners.</p> <p>3. Show behaviour of accepting different thoughts, beliefs and practices of others without prejudice.</p> <p>4. Respect their own rights and those of others.</p>	<p>1. Summarise the benefits of and observe family and local traditions and culture.</p> <p>2. Tell their own behaviour in life and that of others in the tide of diversified cultures.</p> <p>3. Explain the significance of important official holidays.</p> <p>4. Cite examples of people whose achievements are beneficial to their communities and local areas.</p>	<p>1. Conduct themselves as good citizens of the democratic way of life, thus constituting desirable community members.</p> <p>2. Conduct themselves as good leaders and good followers.</p> <p>3. Analyse children's fundamental rights entitled to them as provided by law.</p> <p>4. Explain cultural differences of various groups of local people.</p>	<p>1. Cite examples and conduct themselves in accord with the status, roles rights, freedoms and duties of good citizens.</p> <p>2. Propose methods of protecting themselves and others from violation of child rights.</p> <p>3. Appreciate the values of Thai culture that affect the way of life in Thai society.</p>	<p>1. Abide by the laws relating to the daily life of their families and communities.</p> <p>2. Analyse cultural change over time and preserve the fine culture.</p> <p>3. Show Thai manners appropriate to the occasion.</p> <p>4. Explain different cultural values of various groups of people in Thai society.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Abide by the laws for protecting personal rights.</p> <p>2. Specify their own capacity for providing services to society and the nation.</p> <p>3. Discuss cultural values conducive to creating harmonious relations or mutual misunderstanding.</p> <p>4. Show respect for their own rights and freedoms and those of others.</p>	<p>1. Explain and abide by the laws relating to themselves, their families, communities and the country.</p> <p>2. Appreciate the value of self-conduct in accord with the status, roles, duties, freedoms and duties of good citizens along the democratic path.</p> <p>3. Analyse the roles, importance and relationships of social institutions.</p> <p>4. Explain similarities and differences between Thai culture and those of other countries in the Asian region conducive to creating mutual understanding.</p>	<p>1. Explain differences of committing misdeeds in criminal and civil cases.</p> <p>2. Participate in protecting others in accord with the principles of human rights.</p> <p>3. Preserve Thai culture and choose to absorb appropriate universal culture.</p> <p>4. Analyse factors conducive to creating conflicts in the country, and propose concepts for mitigating the conflicts.</p> <p>5. Propose concepts for living happily in the country and in the world community.</p>	<p>1. Analyse and abide by the laws relating to themselves, their families, communities, the nation and the world community.</p> <p>2. Analyse the importance of social structure, social refinement and social change.</p> <p>3. Conduct themselves and participate in encouraging others to conduct themselves so as to become good citizens of the nation and the world community.</p> <p>4. Evaluate human rights situations in Thailand and propose developmental guidelines.</p> <p>5. Analyse the necessity to improve, change and preserve Thai culture and choose to absorb universal culture.</p>

Strand 2: Civics, Culture and Living in Society

Standard So2.1: Understanding and self-conduct in accord with duties and responsibilities of good citizens; observance and preservation of Thai tradition and culture; and enjoying peaceful coexistence in Thai society and the world community

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	-	5. Propose methods of peaceful coexistence in daily life.	4. Participate in the preservation and dissemination of the local wisdom of their communities.	5. Follow various data, information and events in daily life, and choose to receive and utilise the data and information appropriately for learning.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	-	-	-

Strand 2: Civics, Culture and Living in Society

Standard So2.2: Understanding of political and administrative systems of the present society; adherence to, faith in and upholding of the democratic form of government under constitutional monarchy

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<p>1. Tell the structure, roles and duties of family members in school.</p> <p>2. Specify their own roles, rights and duties in family and in school.</p> <p>3. Participate in decision-making and take part in family and school activities through democratic processes.</p>	<p>1. Explain the relationship between themselves and family members as part of the community.</p> <p>2. Specify those with the roles and authority in decision-making in school and community.</p>	<p>1. Specify the roles and duties of community members in participating in various activities through democratic processes.</p> <p>2. Analyse differences of decision-making processes in class, school and community by means of direct voting and by electing representatives to vote.</p> <p>3. Cite examples of changes in classroom, school and community resulting from decisions of individuals and groups of persons.</p>	<p>1. Explain sovereign power and the importance of the democratic system.</p> <p>2. Explain the people’s roles and duties in the election process.</p> <p>3. Explain the importance of the monarchy in the democratic form of government under constitutional monarchy.</p>	<p>1. Explain the structure, power, duties and importance of local administration.</p> <p>2. Specify the roles, duties and methods of assuming posts in local administrations.</p> <p>3. Analyse the benefits to be received by communities from local administration organisations.</p>	<p>1. Compare the roles and duties of local administrations and those of the central government.</p> <p>2. Participate in various activities that promote democracy in local areas and in the country.</p> <p>3. Discuss the role and importance of exercising electoral rights in the democratic system.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Explain in brief the principles, intents, structure and important substance of the current Constitution of the Kingdom of Thailand.</p> <p>2. Explain the role of balancing sovereign powers in the current Constitution of the Kingdom of Thailand.</p> <p>3. Observe the provisions of the current Constitution of the Kingdom of Thailand concerning themselves.</p>	<p>1. Explain the legislative process.</p> <p>2. Analyse the political and administrative data and information affecting the present Thai society.</p>	<p>1. Explain various forms of government adopted at present.</p> <p>2. Make a comparative analysis of Thailand's form of government and those of other countries with democratic systems of government.</p> <p>3. Analyse various provisions of the current Constitution relating to elections, participation and checking application of state power.</p> <p>4. Analyse problematic issues that hamper democratic development of Thailand and propose guidelines for remedial measures.</p>	<p>1. Analyse important political issues of various countries from various sources of data as well as propose guidelines for remedial measures.</p> <p>2. Propose political and administrative guidelines leading to creating understanding and mutual benefits among countries.</p> <p>3. Analyse the importance and necessity to uphold the democratic form of government under constitutional monarchy.</p> <p>4. Propose guidelines and participate in checking application of state power.</p>

Strand 3: Economics

Standard So3.1: Understanding and capability of managing resources for production and consumption; efficiency and cost-effective utilisation of limited resources available; and understanding principles of Sufficiency
Economy for leading a life of equilibrium

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<p>1. Specify the goods and services utilised in daily life.</p> <p>2. Cite examples from daily life of spending without exceeding the amount of money available, and appreciate benefits of saving.</p> <p>3. Cite examples of economical use of resources in daily life.</p>	<p>1. Specify the resources utilised for producing goods and services used in daily life.</p> <p>2. Tell the sources of their own income and expenditure and those of their families.</p> <p>3. Keep records of their own income and expenditure.</p> <p>4. Conclude about the benefits of spending appropriate to income available and those of saving.</p>	<p>1. Distinguish between desire and necessity in utilising goods and services.</p> <p>2. Analyse their own spending.</p> <p>3. Can explain that the limited resources available affect production of goods and services.</p>	<p>1. Specify the factors affecting choice in buying goods and services.</p> <p>2. Tell the fundamental rights as consumers and protect their own interests as consumers.</p> <p>3. Explain the principles of Sufficiency Economy and apply them in their own daily lives.</p>	<p>1. Explain the factors for producing goods and services.</p> <p>2. Apply the concepts of the Sufficiency Economy Philosophy in organising various activities in family, school and community.</p> <p>3. Explain the main principles and benefits of a cooperative.</p>	<p>1. Explain the roles of responsible producers.</p> <p>2. Explain the roles of sharp consumers.</p> <p>3. Tell the methods and benefits of sustainable utilisation of resources.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Explain the meaning and importance of economics.</p> <p>2. Analyze the values and consuming behaviour of people in society affecting the economies of communities and the country.</p> <p>3. Explain the historical development, principles and importance of the Sufficiency Economy Philosophy for Thai society.</p>	<p>1. Analyse the factors affecting investment and saving.</p> <p>2. Explain the factors for production of goods and services and the factors influencing production of goods and services.</p> <p>3. Propose guidelines for development of local production along the lines of the Sufficiency Economy.</p> <p>4. Discuss the guidelines for protecting their own rights as consumers.</p>	<p>1. Explain the price mechanism in the economic system.</p> <p>2. Participate in problem-solving and in local development along the lines of Sufficiency Economy.</p> <p>3. Analyse the relationship between the concepts of Sufficiency Economy and those of the cooperative system.</p>	<p>1. Discuss fixing of prices and wages in the economic system.</p> <p>2. Realise the importance of the Sufficiency Economy Philosophy to the socio-economic system of the country.</p> <p>3. Realise the importance of the cooperative system to economic development at community and national levels.</p> <p>4. Analyse economic problems of the community and propose remedial measures.</p>

Strand 3: Economics

Standard So3.2: Understanding of various economic systems and institutions, economic relations and necessity for economic cooperation in the world community

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Explain the reasons and necessity for people to be engaged in honest livelihoods.	1. Explain exchanges of goods and services by various methods. 2. Tell relationship between buyers and sellers.	1. Tell the goods and services procured by the state and provided to the people. 2. Tell the importance of taxes and the people's roles in paying taxes. 3. Explain the reasons for trade competition resulting in reduction of prices of goods.	1. Explain economic relationships of people in the community. 2. Explain basic functions of money.	1. Explain basic roles and functions of banks. 2. Identify advantages and disadvantages of borrowing.	1. Explain relationships between producers, consumers, bank and the government. 2. Cite examples of economic grouping in the local area.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Analyse the roles, functions and differences of types of financial institutions and the central bank.</p> <p>2. Cite examples of economic dependence and competition in the country.</p> <p>3. Specify the factors influencing determination of demand and supply.</p> <p>4. Discuss effects of having intellectual property laws.</p>	<p>1. Discuss various economic systems.</p> <p>2. Cite examples of economic dependence and competition in the Asian region.</p> <p>3. Analyse distribution of resources in the world affecting international economic relations.</p> <p>4. Analyse internal and external trade competition affecting the quality, production quantity and price of goods.</p>	<p>1. Explain the government's roles and functions in the economic system.</p> <p>2. Express opinions about the government's economic policies and activities affecting individuals, groups of persons and the nation.</p> <p>3. Discuss the roles and importance of international economic groupings.</p> <p>4. Discuss effects of inflation and liquidity shortage.</p> <p>5. Analyse disadvantages of unemployment and guidelines for solving unemployment problems.</p> <p>6. Analyse causes and methods of international trade discrimination.</p>	<p>1. Explain the government's roles concerning financial and local policies in national economic development.</p> <p>2. Analyse the effects of economic liberalisation affecting Thai society.</p> <p>3. Analyse advantages and disadvantages of international economic cooperation in various forms.</p>

Strand 4: History

Standard So4.1: Understanding of the meaning and significance of historical times and periods; and ability to avail of historical methodology for systematic analysis of various events

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<p>1. Tell the days, months, year and the counting of time period, based on the calendar used in daily life.</p> <p>2. Make a sequence of events in daily life, based on the day and time of the events.</p> <p>3. Tell their own origins and biographical development as well as those of their families by asking those concerned.</p>	<p>1. Use specific terms for the times of events in the past, present and future.</p> <p>2. Make sequences of events in their families or in their own lives by using relevant evidence.</p>	<p>1. Compare important eras, based on the calendar used in daily life.</p> <p>2. Make important events in school and community by specifying relevant evidence and data sources.</p>	<p>1. Count the time period by decade, century and millennium.</p> <p>2. Explain the ages in studying the brief history of mankind.</p> <p>3. Categorise the evidence used in studying historical development of the local area.</p>	<p>1. Investigate historical development of the local area by using a variety of evidence.</p> <p>2. Collect data from various sources in order to reasonably answer historical questions.</p> <p>3. Explain differences between truths and facts concerning the history of the local area.</p>	<p>1. Explain the importance of historical methodology in making a simple study of historical events.</p> <p>2. Present data from a variety of evidence in order to understand events of the past.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Analyse the importance of time in studying history.</p> <p>2. Compare the eras used in the various systems for studying history.</p> <p>3. Apply historical methodology for studying historical events.</p>	<p>1. Evaluate the reliability of historical evidence in various forms.</p> <p>2. Analyse differences between truths and facts of historical events.</p> <p>3. Recognise the importance of interpreting reliable historical evidence.</p>	<p>1. Reasonably analyse historical matters and important events by using historical methodology.</p> <p>2. Apply historical methodology in studying various matters of their interests.</p>	<p>1. Be aware of the importance of historical times and periods indicating changes in the development of mankind.</p> <p>2. Create new bodies of historical knowledge through systematic application of historical methodology.</p>

Strand 4: History

Standard So4.2: Understanding of development of mankind from the past to the present; realising the importance of relationships and continuous change of events, and ability to analyse their effects

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<p>1. Tell the changes in environmental conditions, objects, utensils and lifestyles between their own time and the times of their parents and grandparents.</p> <p>2. Tell events of the past affecting themselves at present.</p>	<p>1. Search for changes in the ways of daily life of their community members from the past to the present.</p> <p>2. Explain effects of changes on ways of life of community members.</p>	<p>1. Specify the factors influencing the settling and development of the community.</p> <p>2. Summarise important characteristics of the customs, traditions and culture of the community.</p> <p>3. Compare cultural similarities and differences of their own community and other communities.</p>	<p>1. Explain in brief the settling and development of human beings in the pre-historic and historic ages.</p> <p>2. Cite examples of historical evidence found in the local area that show development of mankind.</p>	<p>1. Explain in brief the influence of Indian and Chinese civilisations on Thailand and Southeast Asia.</p> <p>2. Discuss in brief the influence of foreign cultures on the present Thai society.</p>	<p>1. Explain the present social, economic and political situations of neighbouring countries.</p> <p>2. Tell in brief the relationship of the ASEAN Group.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Explain the social, economic and political development of various countries in the Southeast Asian region.</p> <p>2. Specify the importance of origins of civilisations in the Southeast Asian region.</p>	<p>1. Explain the social, economic and political development of the Asian region.</p> <p>2. Specify the importance of origins of ancient civilisations in the Asian region.</p>	<p>1. Explain in brief the social, economic and political development of the various regions of the world.</p> <p>2. Analyse the effects of change leading to cooperation and conflicts in the 20th century as well as the attempts to solve the problems of conflicts.</p>	<p>1. Analyse the importance of ancient civilisations and communication between the Eastern and Western worlds affecting development and change in the world.</p> <p>2. Analyse various important events affecting social, economic and political changes leading to the present world.</p> <p>3. Analyse the effects of expansion of influence of European countries to the continents of America, Africa and Asia.</p> <p>4. Analyse the world situation of the 21st century.</p>

Strand 4: History

Standard So4.3: Knowledge of historical development of Thailand as a nation and culture; Thai wisdom; cherishing, pride in and preservation of Thai-ness

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<p>1. Explain the meaning and significance of important symbols of the Thai nation and conduct themselves correctly.</p> <p>2. Tell important places that are cultural resources in the community.</p> <p>3. Specify what they cherish and are proud of in the local area.</p>	<p>1. Specify benefactors of the local area or the nation.</p> <p>2. Cite examples of culture, tradition and Thai wisdom that they are proud of and should be preserved.</p>	<p>1. Specify the names and brief achievements of the Thai kings who founded the Kingdom of Thailand.</p> <p>2. Explain in brief the life and achievements of the current king.</p> <p>3. Relate heroic deeds of the Thai ancestors who participated in defending the nation.</p>	<p>1. Explain in brief the development of the Sukhothai kingdom.</p> <p>2. Tell the lives and achievements of important persons of the Sukhothai period.</p> <p>3. Explain about important Thai wisdom of the Sukhothai period that they are proud of and should be preserved.</p>	<p>1. Explain in brief the development of the Ayutthaya and Thonburi kingdoms.</p> <p>2. Explain factors contributing to economic prosperity and administrative achievements of the Ayutthaya kingdom.</p> <p>3. Tell the lives and achievements of important persons of the Ayutthaya and Thonburi periods whom they are proud of.</p> <p>4. Explain about important Thai wisdom of the Ayutthaya and Thonburi periods that they are proud of and should be preserved.</p>	<p>1. Explain in brief Thailand's development during the Rattanakosin period.</p> <p>2. Explain factors contributing to Thailand's economic prosperity and administrative achievements during the Rattanakosin period.</p> <p>3. Cite examples of achievements of important persons in various respects during the Rattanakosin period.</p> <p>4. Explain about important Thai wisdom of the Rattanakosin period that they are proud of and should be preserved.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Explain in brief historical development of the Thai territory during the pre-Sukhothai period.</p> <p>2. Analyse various aspects of development of the Sukhothai kingdom.</p> <p>3. Analyse the influence of culture and Thai wisdom of the Sukhothai period and the present Thai society.</p>	<p>1. Explain various aspects of development of the Ayutthaya and Thonburi kingdoms.</p> <p>2. Analyse factors contributing to security and prosperity of the Ayutthaya kingdom.</p> <p>3. Specify Thai wisdom and culture of the Ayutthaya and Thonburi periods and the influence of such wisdom on development of the Thai nation in the subsequent period.</p>	<p>1. Analyse various aspects of Thailand's development during the Rattanakosin period.</p> <p>2. Analyse factors contributing to Thailand's security and prosperity during the Rattanakosin period.</p> <p>3. Analyse Thai wisdom and culture of the Rattanakosin period and their influence on development of the Thai nation.</p> <p>4. Analyse Thailand's role in the period of democracy.</p>	<p>1. Analyse important issues of Thai history.</p> <p>2. Analyse the importance of the monarchy to the Thai nation.</p> <p>3. Analyse factors conducive to creation of Thai wisdom and Thai culture that affect the present Thai society.</p> <p>4. Analyse achievements of important persons, both Thai and foreign, who have contributed to creating Thai culture and Thai history.</p> <p>5. Plan, set guidelines and participate in preservation of Thai wisdom and Thai culture.</p>

Strand 5: Geography

Standard So5.1: Understanding of physical characteristics of the Earth and relationship of various things in the natural system which affect one another; utilisation of maps and geographical instruments for searching, analysis, conclusion and efficient utilisation of geo-data and information

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Differentiate various things in the surroundings, both natural and man-made. 2. Specify relationships of position, distance and direction of various things in the surroundings. 3. Specify the main directions and positions of various things. 4. Use simple diagrams to show positions of various things in the classroom. 5. Observe and tell weather changes in a day.	1. Specify various natural and man-made things seen between home and school. 2. Specify simple positions and physical characteristics of various things appearing on the globe, maps, diagrams and photographs. 3. Explain relationships of phenomena between the Earth, the sun and the moon.	1. Use maps, diagrams and photographs in efficiently searching for geo-data in the community. 2. Draw simple diagrams to show locations of important places in school and community areas. 3. Tell relationships of physical and social characteristics of the community.	1. Use maps and photographs; specify important physical characteristics of their own province. 2. Specify sources of resources and various things in their own province by using maps. 3. Use maps to explain relationships of various things in the province.	1. Know positions (geographical specifications, latitude, longitude), distance and direction of their own region. 2. Specify important marks and geographical characteristics of their own region on a map. 3. Explain relationships of physical and social characteristics of their own region.	1. Use geographical instruments (various kinds of maps, photographs) for specifying important physical and social characteristics of the country. 2. Explain relationships between physical characteristics and natural phenomena of the country.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Select geographical instruments (globe, maps, graphs, charts) in searching for data to analyse physical and social characteristics of Thailand, Asia, Australia and Oceania.</p> <p>2. Explain the international date line and compare the days and times of Thailand with those other continents.</p> <p>3. Analyse causes of natural disasters and link guidelines for preventing natural disasters and disaster warning in Thailand, Asia, Australia and Oceania.</p>	<p>1. Use geographical instruments for collecting, analysing and presenting data on physical and social characteristics of Europe and Africa.</p> <p>2. Analyse relationships between physical and social characteristics of Europe and Africa.</p>	<p>1. Use geographical instruments for collecting, analysing and presenting physical and social characteristics of North and South America.</p> <p>2. Analyse relationships between physical and social characteristics of North and South America.</p>	<p>1. Use geographical instruments for collecting, analysing and efficiently presenting geo-data and information.</p> <p>2. Analyse influence of geographical conditions causing physical problems or natural disasters in Thailand and other regions of the world.</p> <p>3. Analyse changes in the area influenced by geographical factors in Thailand and various continents.</p> <p>4. Analyse whether natural changes in the world result from human and/or natural actions.</p>

Strand 5: Geography

Standard So5.2: Understanding of interrelationship between man and physical environment leading to cultural creativity; awareness of and participation in conservation of resources and the environment for sustainable development

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Tell various things of natural origin affecting the lives of human beings.	1. Explain the importance and value of natural and social environments.	1. Compare environmental changes in the community from the past to the present.	1. Explain the physical environment of the community affecting the lives of people in the province.	1. Analyse physical environment influencing characteristics of the settling and migration of people in the region.	1. Analyse relationship between natural and social environments in the country.
2. Observe and compare environmental changes in the surroundings.	2. Distinguish and cost-effectively use depleting and non-depleting natural resources.	2. Explain dependence on the environment and natural resources in meeting basic needs and livelihood of human beings.	2. Explain environmental changes in the province and results of such changes.	2. Explain the influence of natural environment leading to lifestyles and cultural creativity in the region.	2. Explain natural transformations in Thailand from the past to the present and the results of such changes.
3. Participate in organising environmental order at home and in the classroom.	3. Explain relationship of seasons and human lives.	3. Explain about pollution and origin of pollution caused by man.	3. Participate in conservation of the environment in the province.	3. Present examples reflecting the results of conservation and destruction of the environment, and propose concepts for environment conservation in the region.	3. Prepare a plan for utilising natural resources in the community.
	4. Participate in rehabilitating and improving the environment in school and in the community.	4. Explain differences between urban and rural areas.			
		5. Be aware of the environmental changes in the community.			

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Explain the effects of natural changes in Asia, Australia and Oceania.</p> <p>2. Analyse cooperation between various countries affecting natural resources in Asia, Australia and Oceania.</p> <p>3. Explore and explain locations of economic and social activities in Asia, Australia and Oceania by using a variety of data sources.</p> <p>4. Analyse physical and social factors affecting the flow of thoughts, technologies, goods and populations in Asia, Australia and Oceania.</p>	<p>1. Analyse formation of the new social environment resulting from natural and social changes of Europe and Africa.</p> <p>2. Specify guidelines for conservation of natural resources and environment in Europe and Africa.</p> <p>3. Explore and discuss environmental issues and problems in North and South America.</p> <p>4. Analyse causes and effects on Thailand from environmental changes in Europe and Africa.</p>	<p>1. Analyse the formation of the new social environment resulting from natural and social changes of North and South America.</p> <p>2. Specify guidelines for conservation of natural resources and environment in North and South America.</p> <p>3. Explore and discuss environmental issues and problems in North and South America.</p> <p>4. Analyse causes and continuing effects of environmental changes in North and South America on Thailand.</p>	<p>1. Analyse the situations and crises relating to natural resources and the environment of Thailand and elsewhere in the world.</p> <p>2. Specify preventive and problem-solving measures, roles of organisations and coordinating internal and external cooperation relating to laws on environment and management of natural resources and environment.</p> <p>3. Specify the guidelines for conservation of natural resources and environment in various regions of the world.</p> <p>4. Explain utilisation of the environment for cultural creativity representing local identities both in Thailand and around the world.</p> <p>5. Participate in problem-solving and leading lives along the line of conservation of resources and environment for sustainable development.</p>

Learning Area of Health and Physical Education

Why it is necessary to learn health and physical education

Health or state of health means the human condition with full development in all respects—physical, mental, social and intellectual or spiritual. Health or state of health is therefore important, as it is linked to all dimensions of life. All should learn about health for acquisition of knowledge, accurate understanding with proper attitude, morality and appropriate values, as well as practical skills in health for acquiring hygienic habits, resulting in the achievement of a society of quality.

What is learned in health and physical education

Health and physical education is education about health with the aims of maintaining and strengthening health and sustainable development of quality of life of individuals, families and communities.

Health Education places emphasis on enabling learners to concurrently develop behaviours regarding knowledge, attitude, morality, values and health practices.

Physical Education places emphasis on enabling learners to participate in kinesthetic activities, physical exercises, playing games and sports. It serves as an instrument in holistic development in all respects—physical, mental, emotional, social and intellectual, as well as imparting capacities for health and sports.

The learning area for health and physical education includes the following bodies of knowledge:

- **Human Growth and Development:** the nature of human growth and development; factors affecting growth; relationships and linkages in the functioning of various body systems as well as self-conduct for attaining growth and development in accord with students' age

- **Life and Family:** students' values and those of their families; self-adjustment to changes in various respects—physical, mental, emotional, sexual; creating and maintaining relationships with others; sexual health practices and life skills

- **Movement, Doing Physical Exercises, Playing Games, Thai and International Sports:** various forms of movement; participation in a variety of physical activities and sports, both as individuals and in teams, and both Thai and international sports; observance of rules, regulations, orders, agreements for participation in physical activities and sports, and having sporting spirit

- **Strengthening of Health, Capacity and Disease Prevention:** principles and methods of selecting food for consumption, health products and services; capacity-strengthening for health and prevention of communicable and non-communicable diseases

- **Safety in Life:** self-protection from various risk behaviours, i.e., health risks, accidents, violence, harm from use of medicines and addictive substances as well as guidelines for promoting safety in life

Learners' Quality

Grade 3 graduates

- Have knowledge and understanding of human growth and development, factors affecting growth and development, methods of creating relationships in family and in groups of friends

- Have good health habits in eating, rest and sleep, cleanliness of all parts of the body, playing games and doing physical exercises

- Protect themselves from behaviours conducive to using addictive substances, sexual harassment and know how to refuse improper affairs

- Are able to control their own movements in accord with development of each age range; are skilful in basic movements and participate in physical activities; engage in games and activities for physical capacity-strengthening for health with enjoyment and safety

- Are skilful in selecting food for consumption, toys, utensils beneficial to health; able to avoid and protect themselves from accidents

- Are able to conduct themselves properly when faced with emotional and health problems

- Observe rules, orders, agreements, advice and various steps, and willingly cooperate with others until successful completion of tasks

- Observe their own rights and respect those of others in team play

Grade 6 graduates

- Understand relationships and linkages in the functioning of various systems of the body and know how to take care of important parts of such systems

- Understand the nature of changes in various respects—physical, mental, emotional, social, and sexual urge of men and women; when entering the age of puberty and adolescence, able to appropriately adjust and manage themselves

- Understand and appreciate value of having a warm and happy life and family

- Are proud of and appreciate value of their own sex; able to correctly and appropriately observe sexual practices

- Protect and avoid risk factors and risk behaviours detrimental to health or conducive to contracting diseases, accidents, violence, addiction and sexual harassment.

- Skilful in basic movements and self-control in coordinated movement

- Know principles of movement and able to select participation in physical activities, games, folk games, Thai sports and international sports with safety and enjoyment; have sporting spirit by observing rules, regulations, their own rights and duties until successful completion of tasks

- Plan and regularly participate in physical activities and activities for physical capacity-strengthening for health as appropriate and required

- Are able to appropriately manage emotions, stress and health problems

- Are skilful in seeking knowledge, data and information for health-strengthening

Grade 9 graduates

- Understand and recognise the importance of factors affecting growth and development that have influence on health and life during various age ranges
- Understand, accept and are able to adjust themselves to changes in various respects—physical, mental, emotional; sexual feelings; gender equality; create and maintain relationship with others, and make decisions for solving life problems with appropriate methods
- Choose to consume appropriate food in suitable portions beneficial to growth and development in accord with their age
- Are skilful in assessing the influences of sex, friends, family, community and culture on attitudes and values about health and life, and are able to appropriately manage such influences
- Protect themselves from and avoid risk factors or risk behaviours detrimental to health and conducive to contracting diseases, accidents, misuse of medicine, addiction and violence; know how to strengthen safety for themselves, family and community
- Participate in physical, sports and recreational activities as well as activities for physical capacity-strengthening for health by applying principles of mechanical skills with safety and enjoyment, and regularly engage in such activities in accord with their aptitudes and interests
- Show realisation of the relationship between health behaviours, disease prevention, health maintenance, emotion, and stress management; do physical exercises, play sports and enjoy healthy lifestyles
- Realise their own self-worth, potential and independence
- Observe rules, regulations, duties and responsibilities; respect their own rights and those of others; cooperate in sport competitions and systematic teamworking with self-determination and sporting spirit until successful achievement of the goals with delight and enjoyment

Grade 12 graduates

- Through systematic planning, are able to efficiently take care of their health, strengthen health, protect themselves from diseases, and avoid risk factors and risk behaviours detrimental to health and conducive to accidents, misuse of medicine, addiction and violence
- Show love, care, concern and understanding of the influences of family, friends, society and culture on sex behaviours, way of life and healthy lifestyles
- Do physical exercises, play sports, participate in recreational activities, engage in activities for strengthening capacity for health by accurately and regularly applying skills and mechanisms with delight and enjoyment
- Show responsibility; cooperate and observe rules, regulations, rights and safety principles while participating in physical activities, and play sports until successful achievement of their goals and those of their teams
- Show good manners in watching, playing and competing with sporting spirit and practise good manners on all occasions until imbued with good personality.
- Analyse and assess personal health to determine strategies to reduce risks and strengthen and maintain health; disease prevention, and ability to accurately and appropriately manage emotions and stress.
- Apply processes of civil society to strengthen community to enjoy safety and desirable lifestyles

Strand 1: Human Growth and Development

Standard H1.1: Understanding of nature of human growth and development

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<p>1. Explain characteristics and functions of external organs.</p> <p>2. Explain methods of taking care of external organs.</p>	<p>1. Explain characteristics and functions of internal organs.</p> <p>2. Explain methods of taking care of internal organs.</p> <p>3. Explain the nature of human life.</p>	<p>1. Explain characteristics and growth of the human body.</p> <p>2. Compare their growth with standard criteria.</p> <p>3. Specify factors affecting growth.</p>	<p>1. Explain physical and mental growth and development in accord with their age.</p> <p>2. Explain importance of muscles, bones and joints affecting health, growth and development.</p> <p>3. Explain methods of taking care of muscles, bones and joints for efficient functioning.</p>	<p>1. Explain importance of digestive and excretory systems on health, growth and development.</p> <p>2. Explain methods of taking care of digestive and excretory systems for functioning.</p>	<p>1. Explain the importance of reproductive and circulatory systems affecting health, growth and development.</p> <p>2. Explain methods of taking care of reproductive, circulatory and respiratory systems for normal functioning.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Explain the importance of nervous and ductless gland systems affecting health, growth and development of teenagers.</p> <p>2. Explain methods of taking care of nervous and ductless gland systems for normal functioning.</p> <p>3. Analyse conditions of their own physical growth with standard criteria.</p> <p>4. Search for guidelines for self-development to self-development to attain growth in accord with their ages.</p>	<p>1. Explain changes in physical, mental, emotional, social and intellectual respects among teenagers.</p> <p>2. Specify factors affecting growth and development in physical, mental, emotional, social and intellectual respects among teenagers.</p>	<p>1. Compare changes in physical, mental emotional, social and intellectual respects at each stage in life.</p> <p>2. Analyse social influences and expectations on changes among teenagers.</p> <p>3. Analyse advertising media influencing growth and development of teenagers.</p>	<p>1. Explain processes of strengthening and maintaining efficient functioning of various organ systems.</p> <p>2. Plan for health care in accord with conditions of their own growth and development and those of their family members.</p>

Strand 2: Life and Family

Standard H2.1: Understanding and self-appreciation; family; sex education; and life skills

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<p>1. Specify family members and love and bonds among family members.</p> <p>2. Tell what they delight in and are proud of in themselves.</p> <p>3. Tell characteristics of differences between males and females.</p>	<p>1. Specify their roles and duties and those of their family members.</p> <p>2. Tell the importance of friends.</p> <p>3. Specify behaviours appropriate to sex.</p> <p>4. Explain pride in being female or male.</p>	<p>1. Explain the importance and differences of the family on themselves.</p> <p>2. Explain methods of creating relationships in the family and groups of friends.</p> <p>3. Tell methods of avoiding behaviours conducive to sexual harassment.</p>	<p>1. Explain characteristics of friends and of good family members.</p> <p>2. Exhibit behaviours appropriate to their sex in accord with Thai culture.</p> <p>3. Cite examples of methods of refusing harmful and inappropriate actions in sexual matters.</p>	<p>1. Explain sexual changes and conduct themselves appropriately.</p> <p>2. Explain the importance of having a warm family in accord with Thai culture.</p> <p>3. Specify desirable and undesirable behaviours in resolving conflicts in family and groups of friends.</p>	<p>1. Explain the importance of creating and maintaining relationships with others.</p> <p>2. Analyse risk behaviours conducive to sexual intercourse, contracting AIDS and premature pregnancy.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Explain appropriate methods for self-adjustment to physical, mental and emotional changes and sexual development.</p> <p>2. Show skills in refusing for self-protection from sexual harassment.</p>	<p>1. Analyse factors influencing attitudes about sexual matters.</p> <p>2. Analyse problems and effects of having sexual intercourse at school age.</p> <p>3. Explain methods of self-protection and avoid sexually transmitted diseases, AIDS and unwanted pregnancy.</p> <p>4. Explain the importance of gender equality and conduct themselves appropriately.</p>	<p>1. Explain mother-and-child health, family planning and methods for appropriate self-conduct.</p> <p>2. Analyse factors affecting pregnancy.</p> <p>3. Analyse causes and propose guidelines for prevention and resolution of family conflicts.</p>	<p>1. Analyse influences of family, friends, society and culture on sexual behaviour and one's lifestyle.</p> <p>2. Analyse sexual values in accord with Thai and other cultures.</p> <p>3. Select appropriate skills in preventing and reducing conflicts and solving problems concerning sexual matters and family affairs.</p> <p>4. Analyse causes and effects of possible conflicts between students or youths in the community and propose guidelines for problem-solving.</p>

Strand 3: Movement, Physical Exercise, Games, Thai and International Sports

Standard H3.1: Understanding and skills in movement; physical activities; playing games and sports

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<p>1. Move body while standing still, moving and using equipment.</p> <p>2. Play miscellaneous games and participate in physical activities requiring natural movement.</p>	<p>1. Control body movements while standing still, moving and using equipment.</p> <p>2. Play miscellaneous games and participate in physical activities with methods that depend on basic movements while standing still, moving and using equipment.</p>	<p>1. Control body movements in guided directions while standing still, moving and using equipment.</p> <p>2. Move body by using kinesthetic skills in guiding directions for playing miscellaneous games.</p>	<p>1. Can control themselves when using integrated kinesthetic skills while standing still, moving and using equipment.</p> <p>2. Practise free-hand physical exercises in accord with the beats.</p> <p>3. Play imitating games and activities in relays.</p> <p>4. Can play at least one kind of basic sport.</p>	<p>1. Arrange patterns of integrated movements and control themselves when using kinesthetic skills in accord with the patterns prescribed.</p> <p>2. Play games leading to chosen sports and kinesthetic activities in relays.</p> <p>3. Control movements regarding accepting and using forces and balance.</p>	<p>1. Can show kinesthetic skills with others in relays and in integration while standing still, moving and using equipment and movements attuned to songs.</p> <p>2. Classify kinaesthetic principles regarding accepting and using forces and balance of body movements in playing games and sports, and apply results for improving and increasing their practices and those of others.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Increase their own capacities in line with the kinesthetic principles that use mechanical and basic principles conducive to development of skills for playing sports.</p> <p>2. Can play Thai and international sports as individuals and in teams by using basic skills of the sports, one of each kind.</p> <p>3. Participate in at least one recreational activity and apply the knowledge gained for linkage and relationship with other subjects.</p>	<p>1. Apply results of self-conduct regarding mechanical and kinesthetic skills in playing sports from a variety of data sources for conclusion of suitable methods in their own contexts.</p> <p>2. Can play Thai and international sports as individuals and in teams, one of each kind.</p> <p>3. Compare efficiency of patterns of movements affecting playing sports and activities in daily life.</p>	<p>1. Can play Thai and international sports, one of each kind, by using techniques suitable to themselves and to the teams.</p> <p>2. Apply principles, knowledge and kinesthetic skills to physical activities, playing games and sports for health-strengthening on a continuous and systematic basis.</p>	<p>1. Analyse concepts of various patterns of movements in playing sports.</p> <p>2. Use their capacities for increasing team potential bearing in mind the effects on others and on society.</p> <p>3. Can play Thai sports, international sports in singles/doubles and team sports, one of each kind.</p> <p>4. Show creative movements.</p> <p>5. Participate in out-of-school recreational activities, and apply the principles and concepts for improving and developing their own quality of life and society.</p>

Strand 3: Movement, Physical Exercise, Games, Thai and International Sports.

Standard H3.1: Understanding and skills in movement; physical activities; playing games and sports

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	-	-	<p>4. Show mechanical skills in participating in physical activities and playing sports.</p> <p>5. Can play Thai and international sports as individuals and in teams, one of each kind.</p> <p>6. Explain principles and participate in at least one recreational activity.</p>	<p>3. Can play Thai and international sports as individuals and in teams, one of each kind.</p> <p>4. Use mechanical skills for improving and increasing their own capacities and those of others in playing sports.</p> <p>5. Participate in at least one recreational activity, and apply the knowledge or principles obtained as a basis for studying and seeking knowledge about other matters.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	4. Participate in at least one recreational activity and apply the knowledge and principles gained, duly adjusted, to their daily lives on a systematic basis.	3. Participate in at least one recreational activity and apply the principles of knowledge and methodology for multiplying results of learning for the benefit of others.	-

Strand 3: Movement, Physical Exercise, Games, Thai and International Sports

Standard H3.2 : Favour for physical exercise, playing games and sports regularly;
observance of rights, rules and regulations; having sporting spirit;
having true competitive spirit and appreciation of the aesthetics of
sports

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Enjoy doing physical exercise and playing games as advised.	1. Can do physical exercise and play games themselves with enjoyment.	1. Select physical exercises and folk games and play games suitable to their own strengths, weaknesses and limitations.	1. Do physical exercises and play games and sports that they like; able to analyse their own developmental effects by following examples and practices of others.	1. Do physical exercises by following patterns, play games requiring thinking skills and decision-making.	1. Explain the benefits and principles of doing physical exercise for health, physical capacity and personality-strengthening.
2. Observe rules, regulations and agreements in playing games as advised.	2. Observe rules, regulations and agreements in games played in teams.	2. Can observe themselves the rules, regulations and agreements of physical exercises, games and folk games.	2. Observe rules and regulations of basic sports in accord with the respective kinds of sports played.	2. Regularly play their favourite sports by creating a variety of alternatives for their own practice, and have sporting spirit.	2. Play games requiring planning skills, and able to increase skills for physical exercises and movements on a systematic basis.
					3. Play their favourite sports and able to regularly assess their own playing skills.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Explain the importance of doing physical exercise and playing sports until they become a healthy way of life.</p> <p>2. Do physical exercise and choose to participate in sports in accord with their aptitudes and interests to their highest potential, as well as assess their own performance and that of others.</p> <p>3. Observe rules, regulations and agreements stipulated for the sports chosen.</p> <p>4. Plan offensive and defensive strategies for playing the sports chosen and systematically apply them in their playing.</p>	<p>1. Explain causes of changes in physical, mental, emotional, social and intellectual respects resulting from regularly doing physical exercise and playing sports until they become a way of life.</p> <p>2. Choose to participate in doing physical exercises and playing sports in accord with their aptitudes and interests as well as analyse individual differences for providing guidelines for self-development.</p>	<p>1. Have good manners in playing and watching sports with sporting spirit.</p> <p>2. Do physical exercise and play sports regularly and proudly apply the concepts and principles gained from the playing for developing their quality of life.</p> <p>3. Observe rules, regulations and agreements for playing the sports chosen, and apply the concepts gained for developing their quality of life in society.</p>	<p>1. Do physical exercise and play sports suitable to themselves regularly and use their capacities for increasing the potential of the team, decreasing egoism, and bearing in mind the effects on society.</p> <p>2. Explain and observe the rights, rules, regulations and various strategies while playing and competing in sports with others, and apply them for concluding practical guidelines and continuously apply them in daily life.</p> <p>3. Show good manners in watching, playing and competing in sports with sporting spirit and apply them on all occasions resulting in development of good personality.</p>

Strand 3: Movement, Physical Exercise, Games, Thai and International Sports

Standard H3.2 : Favour for physical exercise, playing games and sports with regular practice; observance of rights, rules and regulations; having sporting spirit; having true competitive spirit and appreciation of the aesthetics of sports

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
				3. Observe rules and regulations of playing games and Thai and international sports in accord with the respective kinds of sports played. 4. Observe their own rights, do not infringe on those of others and accept individual differences in playing games and Thai and international sports.	4. Observe rules and regulations of the respective kinds of sports played, bearing in mind their own safety and that of others. 5. Distinguish offensive and defensive strategies and apply teams in playing sports. 6. Play games and sports in unity and have sporting spirit.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>5. Cooperate in playing team sports and in team-working with enjoyment.</p> <p>6. Make a comparative analysis and accept differences between their own methods of playing sports and those of others.</p>	<p>3. Have discipline, observe rules, regulations and agreements in playing the sports chosen.</p> <p>4. Plan offensive and defensive strategies for playing the sports chosen, and apply them for appropriate team play.</p> <p>5. Apply results of performance in playing sports for concluding with determination the methods suitable to themselves.</p>	<p>4. Distinguish offensive and defensive strategies and apply them in playing the sports chosen, and decide to choose methods suitable to the team for application in accord with the situations of play.</p> <p>5. Present results of their own health development from doing physical exercise and playing sports regularly.</p>	<p>4. Participate in physical activities and play sports happily; appreciate the value and aesthetics of sports.</p>

Strand 4: Health Strengthening, Capacities and Disease Prevention

Standard H4.1 : Appreciation and skills in health strengthening; maintaining one's health; disease prevention and strengthening capacity for health

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<p>1. Observe the principles of the National Health Regulations as advised.</p> <p>2. Tell symptoms of their own illness.</p> <p>3. Follow advice when they have symptoms of an illness.</p>	<p>1. Tell characteristics of having good health.</p> <p>2. Choose to take nutritious food.</p> <p>3. Specify utensils and toys detrimental to health.</p> <p>4. Explain symptoms and methods of protection from possible illnesses and injuries.</p> <p>5. Follow advice when they have symptoms of illnesses and injuries.</p>	<p>1. Explain transmission and methods of protection from spreading of diseases.</p> <p>2. Classify the 5 groups of essential nutrients.</p> <p>3. Choose to take a varied diet with all the 5 groups of essential nutrients in appropriate proportion.</p> <p>4. Show correct method of brushing teeth for proper cleaning.</p> <p>5. Can strengthen physical capacities as advised.</p>	<p>1. Explain relationship between the environment and health.</p> <p>2. Explain states of emotions and feelings affecting health.</p> <p>3. Analyse data on labels of food and health products to make consumption choices.</p> <p>4. Test and improve physical capacities from the results of physical fitness testing.</p>	<p>1. Show behaviours that recognise the importance of observing the National Health Regulations.</p> <p>2. Search for data and information for health-strengthening.</p> <p>3. Analyse advertising media to inform decision-making when choosing to buy food and health products with proper reasons.</p>	<p>1. Show behaviours for preventing and solving environmental problems affecting health.</p> <p>2. Analyse effects from spreading of diseases and propose guidelines for preventing important communicable diseases prevalent in Thailand.</p> <p>3. Show behaviours indicating responsibility for health for all.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Choose to consume food suitable to their ages.</p> <p>2. Analyse problems arising from nutritional status affecting health.</p> <p>3. Control their own weight to the norm.</p> <p>4. Strengthen and improve physical capacity from test results.</p>	<p>1. Choose to use health services with proper reasons.</p> <p>2. Analyse effects of technological applications on health.</p> <p>3. Analyse medical advancement affecting health.</p> <p>4. Analyse relationship of the balance between physical and mental health.</p> <p>5. Explain basic characteristics and symptoms of those who have mental health problems.</p> <p>6. Recommend methods of self-conduct for managing emotions and stress.</p>	<p>1. Set menus suitable to various ages, bearing in mind cost-effectiveness and nutritional value.</p> <p>2. Propose guidelines for preventing diseases that are the main causes of illness and death among the Thai people.</p> <p>3. Collect data and propose guidelines for solving health problems in the community.</p> <p>4. Plan and allocate time for doing physical exercise, rest and strengthening physical capacity.</p>	<p>1. Analyse the roles and responsibilities of individuals for health-strengthening and disease prevention in the community.</p> <p>2. Analyse influences of advertising media on health for making choices about consumption.</p> <p>3. Observe consumers' rights.</p> <p>4. Analyse causes and propose guidelines for protection from illnesses and death among the Thai people.</p> <p>5. Plan and implement health development plans for themselves and their families.</p> <p>6. Participate in strengthening and developing community health.</p> <p>7. Devise and follow plans for developing physical and mechanical capacities.</p>

Strand 4: Health Strengthening, Capacities and Disease Prevention

Standard H4.1: Appreciation and skills in health strengthening; maintaining one's health; disease prevention and strengthening capacity for health

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	-	-	<p>4. Observe requirements for self-protection from diseases frequently found in daily life.</p> <p>5. Test and improve physical capacity from results of physical fitness testing.</p>	<p>4. Continuously strengthen and improve physical capacity for health.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	7. Develop their own physical capacities so as to meet the criteria prescribed.	5. Test physical capacity and able to develop in accord with individual differences.	-

Strand 5: Safety in Life

Standard H5.1: Prevention and avoidance of risk factors; behaviours detrimental to health; accidents; use of medicines; addictive substances and violence

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<p>1. Specify harmful things at home and in school, and methods of protection.</p> <p>2. Tell causes and protection from harm resulting from play.</p> <p>3. Express words or gestures for seeking help when there are dangerous incidents at home and in school.</p>	<p>1. Conduct themselves for protection from possible accidents in water and on land.</p> <p>2. Tell names of household medicines and use them as advised.</p> <p>3. Specify the dangers of addictive substances and dangerous substances around them, and methods of protection.</p>	<p>1. Conduct themselves for safety from accidents at home, in school and while travelling.</p> <p>2. Show methods of seeking help from persons and various sources when there are dangerous incidents or accidents.</p> <p>3. Show methods of first aid treatment when injured from play.</p>	<p>1. Explain the importance of the use of medicines and proper methods for using medicines.</p> <p>2. Show methods of first aid treatment when harmed by misuse of medicines, chemicals, insect and animal bites, and injuries from playing sports.</p>	<p>1. Analyse the factors influencing the use of addictive substances.</p> <p>2. Analyse effects of the use of medicines and addictive substances on the body, mind, emotions, society and the intellect.</p> <p>3. Conduct themselves for safety from misuse of medicines and to avoid addictive substances.</p>	<p>1. Analyse effects of violence from natural disasters on the body, mind and society.</p> <p>2. Specify self-conduct for safety from natural disasters.</p> <p>3. Analyse causes of addiction to drugs and persuade others to avoid the use of drugs.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Show methods of first aid treatment and safe transfer of patients.</p> <p>2. Tell characteristics and symptoms of drug addiction and protection from drug addiction.</p> <p>3. Explain the relationship of using drugs with contracting disease and accidents.</p> <p>4. Show methods of persuading others to lessen, abandon and stop using drugs by applying various skills.</p>	<p>1. Specify methods, factors and sources of assistance and rehabilitation for drug addicts.</p> <p>2. Explain methods of avoiding risk behaviours and risk situations.</p> <p>3. Apply life skills for self-protection and avoid emergent situations conducive to dangers.</p>	<p>1. Analyse risk factors and risk behaviours affecting health and methods of protection.</p> <p>2. Avoid resorting to use of violence and persuade friends to avoid resorting to use of violence for problem-solving.</p> <p>3. Analyse influence of the media on behaviours related to health or violence.</p> <p>4. Analyse the effect of consuming alcoholic drinks on health and causing of accidents.</p> <p>5. Show proper resuscitation methods.</p>	<p>1. Participate in protection from risks of using medicines, addictive substances and violence for their own health, family and society.</p> <p>2. Analyse effects from possession, use and sale of addictive substances.</p> <p>3. Analyse factors affecting health and violence of the Thai people and propose guidelines for protection.</p> <p>4. Plan and set guidelines for decreasing accidents and strengthening safety in the community.</p> <p>5. Participate in strengthening safety in the community.</p> <p>6. Apply problem-solving skills in situations of risk to health and violence.</p> <p>7. Show proper resuscitation methods.</p>

Strand 5: Safety in Life

Standard H5.1 : Prevention and avoidance of risk factors; behaviours detrimental to health; accidents; use of medicines; addictive substances and violence

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	4. Observe the symbols or warning signs for harmful objects or places. 5. Explain causes and dangers of fires, and explain methods for fire protection as well as show fire escape routes.	-	3. Analyse the damage of cigarette smoking and alcoholic drinks on health and analyse methods of protection.	4. Analyse the influence of media on health behaviours. 5. Conduct themselves for protection from harm from playing sports.	-

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	-	-	-

Learning Area of Arts

Why it is necessary to learn arts

The learning area of arts helps to develop creativity in learners, who will have artistic imagination, appreciate beauty, have aesthetics and worthiness, which affect the quality of human lives. Artistic activities help to develop learners in various respects— physical, mental, intellectual, emotional and social, as well as lead to environmental development. Artistic activities strengthen self-confidence in learners, thus providing a foundation for future education or livelihood.

What is learned in arts

The learning area of arts is aimed at developing knowledge and understanding in learners, enabling them to acquire artistic skills and techniques, and to appreciate artistic value. This provides them with opportunities to freely express themselves in various branches of arts. The main contents include:

- **Visual Arts:** knowledge and understanding of composition of art, visual elements; ability to create and present works of visual arts from imagination by being able to use appropriate instruments as well as artistic techniques and methods for efficiently creating works of art; ability to analyse and criticise value of works of visual art; understanding of the relationship between visual arts, history and culture; appreciation of value of works of art representing cultural heritage, local wisdom, Thai and universal wisdom; delight in art and apply in daily life

- **Music:** knowledge and understanding of composition of music; ability to express themselves freely through music, analyse and criticise value of music and convey feelings freely through music; delight in music and apply in daily life; appreciation of the relationship between music, history and culture; appreciation of music representing cultural heritage, local wisdom, Thai and universal wisdom; ability to sing and play various forms of music,

express opinions about musical sounds, express aesthetic feelings about music and understand the relationship between music, tradition, culture and historical events

- **Dramatic Arts:** knowledge and understanding of composition of dramatic arts; ability to creatively express themselves through dramatic arts, use basic vocabulary of dramatic arts, analyse and criticise values of dramatic arts, convey feelings and thoughts freely, create various forms of movement and apply dramatic arts in daily life; understanding of the relationship between dramatic arts, history and culture; appreciation of values of dramatic arts representing cultural heritage, local wisdom, Thai and universal wisdom

Learners' Quality

Grade 3 graduates

- Know and understand about shapes, forms and distinguish visual elements of various things in nature, the environment and works visual art; have basic skills in using materials and instruments in creating paintings in colour by using lines, shapes, forms, colours and surfaces; are able to create collages, sculptures and simple mobiles; convey thoughts and feelings from stories, incidents and real life; create works of arts in accord with their predilection; are able to show reasons and methods for improving their own work

- Know and understand the importance of works of visual art in daily life, sources of works of visual art in the local area as well as know how to use materials, instruments and methods of creating works of visual art in the local area

- Know and understand origins of sound and properties of sound; know and understand roles, functions, meanings and importance of the songs heard around them; are able to recite verses, sing songs, beat time and attune body movements to songs; read, write and use symbols instead of sounds and beat time; express opinions about music and their own singing; participate in musical activities in daily life

- Know and understand unique characteristics of local music; delight in and recognise importance and benefits of music in the lifestyles of the local people

- Create various forms of movement; are able to perform musical callisthenics based on styles of dramatic art; have good manners in viewing performances; know the roles of the performers and the audience; know benefits of performance of dramatic arts in daily life; participate in performances suitable to their age

- Know and understand Thai children's games and local dramatic arts; find delight and pride in folk games; are able to link what they see in folk games with the Thai way of life; are able to tell outstanding features and unique characteristics of Thai dramatic arts as well as importance of the performance of Thai dramatic arts

Grade 6 graduates

- Know and understand utilisation of visual elements, shapes, forms, light and shadow; have basic skills in utilising materials and instruments, conveying thoughts, emotions and feelings; are able to apply principles for arranging size, proportion, balance, weight, light and shadow as well as utilise complementary colours suitable for creating two-dimensional and three-dimensional works of visual art, e.g., works of mixed media, paintings, sculptures and lithographs, as well as able to draw diagrams, plans and illustrations for portraying thoughts and imagination about various incidents, and able to compare differences of materials, instruments and methods between works; understand problems of arranging artistic elements, principles of subtraction and addition in sculptures, conveying meaning of their own works of visual art; know methods of improving their work as well as know and appreciate the value of works of visual art in people's lives in society

- Know and understand the roles of works of visual art reflecting life and society, and the influences of religious belief, faith and culture affecting creation of works of visual art in the area

- Know and understand about musical sounds, singing voices and musical instruments, and their roles and functions; know the up and down movements of melodies, composition of music, musical terms in songs, lines and emotions of the songs heard; sing and play a musical instrument; do simple improvisations; use and maintain musical instruments properly; read and write Thai and international music scores in various forms;

know characteristics of would-be good musicians; express opinions about musical elements; convey feelings of the songs heard; able to use music to accompany activities relating to dramatic arts and story-telling

- Know and understand the relationship between music and way of life, tradition, Thai and other cultures, stories about music in history and the influence of culture on music; appreciate the value of music from different cultures; recognise the importance of conservation

- Know and understand composition of dramatic arts; are able to present laban notations and basic dance vocabulary; create simple movements and performances of dramatic art and theatrical work; convey styles or emotions and are able to design simple costumes or props; understand the relationship between dramatic arts and theatrical work and what they encounter in daily life; express opinions upon viewing performances and describe their own feelings about works of dramatic art

- Know and understand relationship and benefits of dramatic arts and theatrical work; are able to compare various kinds of Thai performances in each local area and things that reflect culture and tradition; appreciate value of conservation and transmission of performances of Thai dramatic art

Grade 9 graduates

- Know and understand about visual elements and principles of design and diverse techniques for creating two-dimensional and three-dimensional works of visual art to communicate meaning and various stories with quality; analyse forms and contents, and evaluate value of their own works of visual art and those of others; are able to choose works of visual art by applying appropriately set criteria; are able to design pictures, symbols and graphics for presenting data; have knowledge and necessary professional skills relevant to works of visual art

- Know and understand changes and development of national and local works of visual arts in different periods; appreciate value of works of visual art that reflect culture and are able to compare works of visual art from various periods and cultures

- Know and understand differences regarding sounds, elements, emotions and feelings of songs from various cultures; are skilful in singing and playing musical instruments, both solo and in orchestra, with emphasis on singing and playing techniques of quality; are skilful in composing simple songs; are able to read and write scores on a scale with basic musical notation; know and understand factors affecting forms of musical works, elements of musical works and those of other branches of arts; express opinions and describe emotions and feelings about songs; are able to present songs of their predilection with proper reasons; are skilful in assessing quality of songs and musical performances; know various professions related to music and roles of music in the entertainment business; understand influence of music on individuals and society

- Know and understand origins, relationships, influences and roles of music of different each cultures in various periods; analyse factors leading to acceptance of musical works

- Know and understand usage of dance vocabulary or theatre vocabulary for interpretation and communication through performance as well as develop forms of performance; are able to apply simple criteria in considering quality of performances; make a comparative criticism of works of dramatic art through application of knowledge of composition of dramatic arts; participate in organising performances; apply concepts of the performances, duly adjusted, to daily life.

- Know and understand types of Thai plays in each period; know and understand factors affecting changes in Thai dramatic arts, folk dramatic arts, Thai plays and folk plays; compare special characteristics of performances of dramatic arts from various cultures, as well as are able to describe and create props and costumes for performance of dramatic arts and plays; understand the importance and roles of dramatic arts and plays in daily life

Grade 12 graduates

- Know and understand about visual elements and principles of design for communicating meaning; are able to use vocabulary of visual arts; explain objectives and contents of works of visual art; have skills and techniques in utilising materials, instruments

and higher processes in creating works of visual art; analyse contents and concepts, techniques and methods of expression of Thai and international artists, as well as apply various technologies for designing and creating works appropriate to occasion and place, as well as express opinions about social situations through caricatures and cartoons, and assess and criticise works of visual arts based on principles of theories of art criticism

- Make a comparative analysis of works of visual art of Eastern and Western styles; understand influences of cultural heritage and international wisdom affecting creation of works of visual art in society

- Know and understand the forms of various types of songs and orchestras, and distinguish the forms of both Thai and international orchestras; understand influence of culture on creating of music; compare emotions and feelings inspired from music of different cultures; read and write Thai and international music scores with various beats and rhythms; are skilful in singing or playing musical instruments, both solo and in orchestra, with emphases on techniques, expression and quality of performance; set criteria for appropriately assessing quality of their own and others' music compositions; are able to apply music to other activities

- Make a comparative analysis of the forms and outstanding characteristics of Thai and international music in various cultures; understand roles of music in reflecting concepts and values of people in society and social status of musicians in various cultures; create guidelines and participate in promoting and conserving music

- Are skilful in performances of diverse forms; have initiative in performances of dramatic arts in duos and in groups; create short plays in the form of their predilection; able to analyse the essence of performances of dramatic arts and plays intended to communicate meaning; analyse influences of costumes, light, colour, sound, scenery, instruments and places affecting performances; criticise performances of dramatic arts and plays; develop and apply assessment criteria for evaluating performances, and are able to analyse gestures and movements of people in daily life and apply them to performances

- Understand evolution of dramatic arts and performance of Thai plays, and roles of important personalities of Thailand's world of dramatic arts and plays in various periods; are able to compare presentations of performances on various occasions, and propose concepts for conservation of Thai dramatic arts

Strand 1: Visual Arts

Standard A1.1: Creation of works of visual art through imagination and creativity; analysis and criticism of value of works of visual art through free expression of feelings and thoughts; appreciation and application in daily life

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<p>1. Discuss forms, characteristics and sizes of man-made products and things around them in nature.</p> <p>2. Tell feelings about nature and their surroundings.</p> <p>3. Have basic skills in using materials and instruments to create works of visual art.</p>	<p>1. Describe forms and shapes found in nature and the environment.</p> <p>2. Specify visual elements in the environment and works of visual art with emphases on lines, colours, forms and shapes.</p>	<p>1. Describe forms and shapes in nature, the environment and works of visual art.</p> <p>2. Specify materials and instruments utilised in creating the works when viewing works of visual art.</p> <p>3. Distinguish visual elements of various things in nature, the environment and works of visual art with emphases on lines, colours, forms, shapes and surfaces.</p>	<p>1. Compare characteristics of forms and shapes in nature, the environment and works of visual art.</p> <p>2. Discuss influences of warm hues and cool hues on human emotions.</p> <p>3. Distinguish visual elements of various things in nature, the environment and works of visual art with emphases on lines, colours, forms, shapes, surfaces and blank space.</p>	<p>1. Describe the rhythms and positions of various things seen in the environment and works of visual art.</p> <p>2. Compare differences between works of visual art created with different materials, instruments and methods.</p> <p>3. Paint pictures by applying techniques of light and shadow, weight and hues.</p>	<p>1. Specify complementary colours and discuss the use of complementary colours to convey thoughts and feelings.</p> <p>2. Explain principles of arranging size, proportion and balance in creating works of visual art.</p> <p>3. Create works of visual art with two dimensions to three dimensions by applying principles of light and shadow and weight.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Describe differences and similarities of works of visual art and the environment by applying knowledge of visual elements.</p> <p>2. Specify and describe principles of designing works of visual art with emphases on unity, harmony and balance.</p> <p>3. Paint landscapes showing short and long distances in three dimensions.</p> <p>4. Collect sculptures or works of mixed media to create three-dimensional stories with emphases on unity, harmony and conveying stories about the works.</p>	<p>1. Discuss visual elements regarding forms and concepts of the works of visual art chosen.</p> <p>2. Describe differences and similarities of forms and methods of utilising materials and instruments in particular artists' works of art.</p> <p>3. Paint pictures with diverse techniques to communicate meaning and various stories.</p> <p>4. Set evaluation criteria and criticise works of visual art.</p> <p>5. Apply results of such criticism for improving and developing the works.</p>	<p>1. Describe the environment and works of arts chosen by applying knowledge of visual elements and principles of design.</p> <p>2. Specify and describe techniques and methods of artists in creating works of visual art.</p> <p>3. Analyse and describe methods of using visual elements and principles of design in creating their own works of visual art of quality.</p>	<p>1. Analyse application of visual elements and principles of design in communicating meaning through various forms.</p> <p>2. Describe objectives and contents of works of visual art by using visual arts vocabulary.</p> <p>3. Analyse choice of materials, instruments and techniques of artists in expressing themselves through visual arts.</p> <p>4. Have skills and techniques to utilise materials, instruments and higher processes for creating works of visual art.</p> <p>5. Create works of visual art using various technologies with emphases on principles of design and arranging artistic elements.</p>

Strand 1: Visual Arts

Standard A1.1: Creation of works of visual art through imagination and creativity; analysis and criticism of value of works of visual art through free expression of feelings and thoughts; appreciation and application in daily life

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
4. Create works of visual art by experimenting with the use of colours through simple techniques. 5. Paint landscapes from their own feelings.	3. Create various works of visual art by using visual elements with emphases on lines and forms. 4. Have basic skills in using materials and instruments to create three-dimensional works of visual art.	4. Paint pictures of objects around them. 5. Have basic skills in utilising materials and instruments to create sculptures. 6. Draw pictures to convey thoughts and feelings from incidents in real life by using forms, shapes, colours and surfaces. 7. Describe reasons and methods for creating works of visual art with emphases on techniques, materials and instruments.	4. Have basic skills in utilising materials and instruments to create sculptures. 5. Have basic skills in utilising materials and instruments to create paintings. 6. Describe characteristics of the paintings with emphases on arranging distance, depth, weight and light and shadow in the paintings.	4. Create sculptures from plasticine or clay with emphasis on conveying imagination. 5. Create lithographs with emphasis on arranging positions of various objects in the pictures.	4. Create sculptures by applying principles of addition and subtraction. 5. Create works of visual art by applying principles of forms and blank space. 6. Create works of visual art by using complementary colours, and principles of arranging size, proportion and balance.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>5. Design pictures, symbols or other graphics to present thoughts and data.</p> <p>6. Evaluate works of visual art and describe methods of improving their own and others' works by using prescribed criteria.</p>	<p>6. Draw pictures showing personality and characteristics of the characters.</p> <p>7. Describe methods of utilising works of visual art in advertisement to entice and present examples to illustrate.</p>	<p>4. Be skilful in creating at least 3 kinds of works of visual art.</p> <p>5. Be skilful in integrating various materials to create works of visual art by applying principles of design.</p> <p>6. Create both two-dimensional and three-dimensional works of art to convey experience and imagination.</p> <p>7. Create works of visual art to communicate meaning through stories by applying visual elements and principles of design.</p>	<p>6. Design works of visual art appropriate to the occasion and place.</p> <p>7. Analyse and explain objectives of the artists in choosing materials, instruments, techniques and contents to create works of visual art.</p> <p>8. Evaluate and criticise works of visual art by applying art criticism theory.</p> <p>9. Classify works of visual art to reflect their own development and progress.</p> <p>10. Create Thai and international works of visual art by studying concepts and methods used by artists they admire.</p> <p>11. Paint pictures in the form of caricatures or cartoons to express opinions about the present situation in society.</p>

Strand 1: Visual Arts

Standard A1.1: Creation of works of visual art through imagination and creativity; analysis and criticism of value of works of visual art through free expression of feelings and thoughts; appreciation and application in daily life

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	<p>5. Create collages by cutting or tearing paper.</p> <p>6. Draw pictures to convey stories about their own families and those of their neighbours.</p> <p>7. Collect works of visual art and describe what they see, including contents and relevant stories.</p> <p>8. Create works of visual art in the form of mobiles.</p>	<p>8. Specify what is admired and what should be improved in their own works of visual art.</p> <p>9. Specify and classify pictures based on the visual elements highlighted in particular works of visual art.</p> <p>10. Describe characteristics, forms and shapes in the work of designing various objects at home and in school.</p>	<p>7. Paint pictures using warm hues and cool hues to convey feelings and imagination.</p> <p>8. Compare thoughts and feelings conveyed through their own and others' works of visual art.</p> <p>9. Choose to use hues to convey emotions and feelings in creating works of visual art.</p>	<p>6. Specify problems in arranging artistic elements and conveying meaning in their own works of visual arts, and tell methods of improvement.</p> <p>7. Describe benefits and value of works of visual art to human life in society.</p>	<p>7. Create works of visual art in the form of diagrams, plans and illustrations to convey thoughts or stories about various incidents.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	-	<p>8. Analyse and discuss the forms, contents and value of their own works of visual art and those of others or those of artists.</p> <p>9. Create works of visual arts to describe various events by using diverse techniques.</p> <p>10. Specify professions related to works of visual art and skills required to engage in such professions.</p> <p>11. Select works of visual art by applying appropriately prescribed criteria and mount exhibitions.</p>	-

Strand 1: Visual Arts

Standard A1.2: Understanding of relationship between visual arts, history and culture; appreciation for works of visual art that represent cultural heritage, local wisdom, and Thai and universal wisdom

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Specify works of visual art in daily life.	1. Tell the importance of works of visual art seen in daily life. 2. Discuss various types of works of visual art in the local area with emphases on methods of creating the works and the materials and instruments utilised.	1. Tell about sources of works of visual art in the local area. 2. Explain about the materials, instruments and methods of creating works of visual art in the local area.	1. Specify and discuss works of visual art in events and celebrations of local culture. 2. Describe works of visual art from various cultures.	1. Specify and describe characteristics and forms of works of visual art in learning resources or art exhibitions. 2. Discuss works of visual art reflecting culture and wisdom in the local area.	1. Describe the roles of works of visual art reflecting life and society. 2. Discuss the influences of religious beliefs and faiths on works of visual art in the local area. 3. Specify and describe local cultural influences on creation of personal works of visual art.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Specify and describe characteristics and forms of national and local works of visual art from the past to the present.</p> <p>2. Specify and compare works of visual art in various regions of Thailand.</p> <p>3. Compare differences in the objectives in creating works of visual art of Thai and universal cultures.</p>	<p>1. Specify and describe various cultures reflecting works of visual art at present.</p> <p>2. Describe changes in Thai works of visual art in each period with emphases on concepts and contents of the works.</p> <p>3. Compare concepts in designing works of art of Thai and universal cultures.</p>	<p>1. Study and discuss works of visual art reflecting cultural values.</p> <p>2. Compare differences of works of visual art in each period of Thai and universal cultures.</p>	<p>1. Analyse and compare works of visual art in Eastern and Western styles.</p> <p>2. Specify works of visual art of famous artists and describe outcomes of social acceptance.</p> <p>3. Discuss the influences of international cultures on works of visual art in society.</p>

Strand 2: Music

Standard A2.1: Understanding of and capacity for creative self-expression through music; analysis and criticism of value of music; free conveyance of feelings and thoughts about music; appreciation and application in daily life

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<p>1. Know that various things can produce different sounds.</p> <p>2. Tell characteristics of loud and soft sounds and pace of rhythm.</p> <p>3. Recite verses and sing simple songs.</p> <p>4. Participate in musical activities with enjoyment.</p>	<p>1. Distinguish sources of sounds heard.</p> <p>2. Distinguish properties of high-pitched and low-pitched, loud and soft and long and short sounds of music.</p> <p>3. Beat time or move their bodies in attunement to contents of the songs.</p> <p>4. Sing simple songs suitable to their age.</p>	<p>1. Tell the forms and characteristics of the musical instruments seen and heard in daily life.</p> <p>2. Utilize pictures or symbols to represent sounds and beat.</p> <p>3. Tell the roles and functions of the songs heard.</p> <p>4. Sing and play simple music.</p> <p>5. Move their bodies in attunement to emotions of the songs heard.</p>	<p>1. Tell simple lines of music.</p> <p>2. Distinguish types of musical instruments played in the songs heard.</p> <p>3. Specify directions of simple up-and-down movements of the tune, form, beat and tempo of the songs heard.</p> <p>4. Read and write Thai and international music scores.</p> <p>5. Sing songs by using pitches suitable to their age.</p>	<p>1. Specify musical elements of songs utilised to convey emotions.</p> <p>2. Distinguish characteristics of sounds of singing and musical instruments in various types of orchestras.</p> <p>3. Read and write 5 scales of Thai and international music scores.</p> <p>4. Use musical instruments to make rhythm and melody.</p>	<p>1. Describe the songs heard by availing of musical elements and musical vocabulary.</p> <p>2. Distinguish types, roles and functions of Thai musical instruments and from other cultures.</p> <p>3. Read and write Thai and international music scores of simple tunes.</p> <p>4. Utilise musical instruments to accompany improvised singing with simple beats and tunes.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Read, write and sing Thai and international music scores.</p> <p>2. Compare sounds of singing and of musical instruments from a different culture.</p> <p>3. Sing and play musical instruments to accompany singing songs in diverse forms.</p> <p>4. Classify types of Thai orchestras and orchestras from various cultures.</p> <p>5. Express opinions about emotions of songs with different tempos and loudness and softness.</p> <p>6. Compare emotions and feelings when listening to different types of music.</p>	<p>1. Compare utilisation of musical elements from a different culture.</p> <p>2. Read, write and sing Thai and international music scores with notations.</p> <p>3. Specify important factors influencing creation of musical works.</p> <p>4. Sing and play musical instruments solo and in groups.</p> <p>5. Describe emotions of the songs and feelings towards the songs heard.</p> <p>6. Evaluate development of their own musical skills after practice.</p>	<p>1. Compare elements utilised in musical works and in other works of art.</p> <p>2. Sing songs and play music solo and in groups with emphases on techniques of singing, playing, self-expression and sound quality.</p> <p>3. Compare short songs with simple beats.</p> <p>4. Explain reasons for choice of musical elements in creating their own musical works and in works of others.</p> <p>6. Explain about the influence of music on people and society.</p>	<p>1. Compare forms of different types of songs and orchestras.</p> <p>2. Classify into types and forms of orchestras, both Thai and international.</p> <p>3. Explain the reasons for people of different cultures creating different musical works.</p> <p>4. Read and write Thai and international music scores with various tempos.</p> <p>5. Sing or play music solo or in orchestra with emphases on techniques of expression and quality of the performance.</p> <p>6. Create criteria for appropriately evaluating the quality of their own and others' compositions and music performances.</p> <p>7. Compare emotions and feelings roused from musical works of a different culture.</p> <p>8. Apply music to other works.</p>

Strand 2: Music

Standard A2.1: Understanding of and capacity for creative self-expression through music; analysis and criticism of value of music; free conveyance of feelings and thoughts about music; appreciation and application in daily life

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
5. Tell relevance of songs used in daily life.	5. Tell the meaning and importance of songs heard.	6. Express opinions about their own and others' music and singing. 7. Apply music in daily life or other occasions appropriately.	6. Utilise and keep musical instruments correctly and safely. 7. Specify that music can be availed of for communicating stories.	5. Sing Thai or international songs or modern Thai songs suitable to their age. 6. Make simple improvisations by using lines of question-and-answer type. 7. Use music together with activities in expressing themselves from imagination.	5. Describe their feelings towards music. 6. Express opinions about tune, beat, voice harmony and sound quality of the songs heard.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>7. Present examples of the songs they admire and discuss outstanding features that make these songs delightful.</p> <p>8. Use criteria for evaluating the quality of the music or songs heard.</p> <p>9. Play and maintain musical instruments with care and responsibility.</p>	<p>7. Specify various professions connected with music and roles of music in the entertainment business.</p>	<p>7. Present or organise suitable musical performances by integrating with other learning strands in the area of arts.</p>	-

Strand 2: Music

Standard A2.2: Understanding of relationship between music, history and culture; appreciation of musical works that represent cultural heritage, local wisdom, and Thai and universal wisdom

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Tell about local music. 2. Specify what they admire in local music.	1. Tell the relationship of sounds of singing and those of musical instruments in local songs by using simple words. 2. Perform and participate in local musical activities.	1. Specify outstanding characteristics and unique features of local music. 2. Specify the importance and benefits of music to the lives of the local people.	1. Tell the sources and relationships of Thai way of life reflected in local music and songs. 2. Specify the importance of conserving and promoting musical culture.	1. Explain the relationship between music and tradition in various cultures. 2. Explain the value of music from different cultures.	1. Explain the stories of Thai music in history. 2. Distinguish music from different periods. 3. Discuss the influence of culture on local music.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Explain the role, relationship and influence of music on Thai society.</p> <p>2. Specify diversity of musical elements in different cultures.</p>	<p>1. Describe the role and influence of music on the cultures of various countries.</p> <p>2. Describe the influence of culture and historical events on the forms of music in Thailand.</p>	<p>1. Describe the evolution of music in various periods.</p> <p>2. Discuss outstanding characteristics leading to acceptance of the musical works.</p>	<p>1. Analyse the forms of Thai and international music in various periods.</p> <p>2. Analyse the social status of artists in various cultures.</p> <p>3. Compare outstanding musical characteristics in various cultures.</p> <p>4. Explain the role of music in reflecting changes in the concepts and values of people in society.</p> <p>5. Propose guidelines for promoting and conserving music as national heritage.</p>

Strand 3: Dramatic Arts

Standard A3.1: Understanding and creative self-expression through dramatic arts;
analysis and criticism about value of dramatic arts; free expression of
feelings and thoughts; appreciation and application in daily life

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Imitate movements. 2. Show simple gestures to communicate meanings instead of words. 3. Tell what they like from viewing or participating in performances.	1. Move while remaining in the same place and while moving about. 2. Show movements that freely reflect their own emotions. 3. Show gestures to communicate meanings instead of words. 4. Creatively perform calisthenics. 5. Specify manners in viewing performances.	1. Create various forms of movement in short situations. 2. Show musical calisthenics based on forms of dramatic arts. 3. Compare the roles and duties of performers and audiences. 4. Participate in activities of performances suitable to their age. 5. Tell the benefits of dramatic arts in daily life.	1. Specify basic skills in dramatic arts and theatrical work that are applied to communicate meanings and emotions. 2. Use laba notation and dance vocabulary or simple theatre vocabulary in conveying stories. 3. Show movements in various beats based on their own thoughts. 4. Show performances of dramatic arts in duos or in groups.	1. Describe elements of dramatic arts. 2. Show gestures in attunement to songs or stories based on their own thoughts. 3. Perform dramatic arts with emphasis on application of laba notation and dance vocabulary in communicating meaning and in self-expression. 4. Participate in groups writing story lines or short plays.	1. Create movements and performances with emphasis on conveying styles or emotions. 2. Design simple costumes or props. 3. Show simple dramatic arts and theatrical work. 4. Describe their own creative feelings for dramatic arts and theatrical work. 5. Express opinions in viewing performances.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Explain the influences of famous performers who entice emotions or thoughts from the audience.</p> <p>2. Use dance vocabulary or theatre vocabulary in performances.</p> <p>3. Perform dramatic arts and theatrical work in simple forms.</p> <p>4. Use collective skills in the process of producing performances.</p> <p>5. Apply the simple criteria prescribed in considering quality of the performances viewed, with emphasis on the use of sounds, gestures and movement.</p>	<p>1. Explain the integration of other branches of arts with performance.</p> <p>2. Create performances by using elements of dramatic arts and theatrical work.</p> <p>3. Analyse their own and others' performances by using appropriate dance vocabulary or theatre vocabulary.</p> <p>4. Propose opinions for improving performances.</p> <p>5. Link the learning between dramatic arts and theatrical work with other learning areas.</p>	<p>1. Specify the structure of plays by using theatre vocabulary.</p> <p>2. Use appropriate dance vocabulary or theatre vocabulary to compare people's gestures made in daily life and those in performances.</p> <p>3. Have thinking skills in developing forms of performance.</p> <p>4. Have skills in interpreting and communicating through performances.</p> <p>5. Make a comparative criticism of different works of dramatic art by applying knowledge of elements of dramatic arts.</p>	<p>1. Have skills in various forms of performance.</p> <p>2. Create short plays in the form of their predilection.</p> <p>3. Use initiative in performances of dramatic art in duos and in groups.</p> <p>4. Criticise performances based on principles of dramatic arts and theatrical work.</p> <p>5. Analyse the essence of performances of dramatic art and theatrical work intended to communicate meaning.</p> <p>6. Describe and analyse the influences of costumes, lights, colours, sounds, props and sets affecting performances.</p>

Strand 3: Dramatic Arts

Standard A3.1: Understanding and creative self-expression through dramatic arts;
analysis and criticism about value of dramatic arts; free expression of
feelings and thoughts; appreciation and application in daily life

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	-	5. Tell what they admire in a performance with emphasis on the main points of the story and outstanding features of the characters.	5. Compare different shows of dramatic art performances. 6. Tell the benefits obtained from viewing performances.	6. Explain the relationship between dramatic arts and theatrical work in what they encounter in daily life.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	-	<p>6. Participate in organising performances, taking various roles and functions.</p> <p>7. Present concepts from the contents of performances that could be adjusted for application in daily life.</p>	<p>7. Develop and apply evaluation criteria in assessing performances.</p> <p>8. Analyse people's gestures and movements in daily life and apply them to performances.</p>

Strand 3: Dramatic Arts

Standard A3.2: Understanding of relationship between dramatic arts, history and culture; appreciation of the value of dramatic arts that represent cultural heritage, local wisdom and Thai and universal wisdom

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Specify and play Thai children's games. 2. Tell what they like in performances of Thai dramatic arts.	1. Specify and play folk games. 2. Link what they see in folk games with what they see in the lifestyle of Thai people. 3. Specify what they admire and are proud of in folk games.	1. Tell about the performances of dramatic arts that they have viewed in the local area. 2. Specify outstanding characteristics and unique features of performances of dramatic arts. 3. Explain the importance of performances of dramatic arts.	1. Explain the history of dramatic arts or simple shows or performances. 2. Compare performances of dramatic arts with those from other cultures. 3. Explain the importance of paying respect in learning and performing dramatic arts. 4. Specify the reasons for conserving and transmitting performances of dramatic arts.	1. Compare various types of Thai performances in the local area. 2. Specify or perform dramatic arts and folk dramatic arts reflecting culture and tradition.	1. Explain about things that are important to performances of dramatic arts and theatrical work. 2. Specify the benefits obtained from performances or viewing performances of dramatic arts and plays.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Specify factors affecting changes in dramatic arts, folk dramatic arts and Thai and folk theatrical work.</p> <p>2. Describe types of Thai plays in various periods.</p>	<p>1. Compare special characteristics of performances of dramatic arts from various cultures.</p> <p>2. Specify or perform dramatic arts, folk dramatic arts, Thai and folk plays or other forms of entertainment favoured in the past.</p> <p>3. Explain the influences of culture on the content of plays.</p>	<p>1. Design and create instruments and costumes for performing dramatic arts and plays from various cultures.</p> <p>2. Explain the importance and roles of dramatic arts and theatrical work in daily life.</p> <p>3. Express opinions about conservation.</p>	<p>1. Compare presentation of performances on various occasions.</p> <p>2. Discuss the roles of important personalities in the world of dramatic arts and theatrical work in Thailand during the various periods.</p> <p>3. Describe the evolution of Thai dramatic arts and theatrical work from the past to the present.</p> <p>4. Present concepts for conserving Thai dramatic arts.</p>

Learning Area of Occupations and Technology

Why it is necessary to learn occupations and technology

The learning area of occupations and technology contributes to development of learners in acquiring knowledge and understanding basic skills essential to their lives. Learners will thus be alert to changes and able to apply knowledge about living, occupations and technology to their work with creativity and competitiveness in Thai society and the world community. Learners will be able to see prospects for their future careers, love working and have a favourable attitude towards work, as well as lead a happy life in society, based on the principles of sufficiency.

What is learned in occupations and technology

The learning area of occupations and technology is aimed at learners' holistic development with a view to enabling them to acquire knowledge, capacity and essential skills required for work. Learners will thus efficiently see the prospects of their future careers and further education. The main contents include:

- **Life and Family:** work in daily life; ability to help themselves, their families and society under guidance of the principles of sufficiency economy; intent not to destroy the environment; emphasis on actual practice until attainment of confidence and pride in their accomplishments in order to discover their own capacities, aptitudes and interests
- **Design and Technology:** creative development of human capacities by applying knowledge with technological processes to create objects, utensils and methodologies, or to increase efficiency in life.
- **Information and Communication Technologies (ICTs):** process of information technologies; communication; the search for data; application of data and information; solution of problems or creation of work; value and effects of ICTs
- **Occupations:** skills essential to learners' occupations; recognition of the importance of morality, ethics and favourable attitude towards occupations; ability to use

technologies appropriately; appreciation of value of honest occupations; and ability to see prospects for future careers

Learners' Quality

Grade 3 graduates

- Understand working methods to help themselves, their families and the public; use materials, instruments and equipment correctly as required for the type of work; have skills in processes of work; have skills in characteristics and habits of work that show enthusiasm, punctuality, economy, care for safety, cleanliness and carefulness, and have awareness of the need to protect the environment

- Understand the benefits of objects and utensils in daily life; have ideas for solving problems and responding to needs through creative thinking; are skilful in making simple toys and utensils by applying technological processes, i.e., identify problems or needs, collect data, design by conveying ideas through a two-dimensional sketch, construct and evaluate; choose materials and instruments appropriate for application; choose to use objects and utensils creatively in daily life, and manage objects and utensils through recycling

- Understand and are skilful in searching for data at all stages, presenting data in various forms and applying methods of care and maintenance of ICTs

Grade 6 graduates

- Understand working and improve each step of working; have skills in management, teamworking and systematic working, and have creative thinking; have characteristics and habits of work that show diligence, patience, responsibility and honesty; have manners and an awareness of the need to use water and electricity economically and cost-effectively

- Understand meaning and evolution of technology and elements of the technological system; have ideas for solving problems or responding to diverse needs; apply knowledge and skills in constructing work pieces to make objects and utensils safely

according to their interests by using technological processes, i.e., identify problems or needs, collect data, design by conveying ideas through a three-dimensional sketch or mind map, construct and evaluate; choose to apply technologies creatively in daily life for life and society, and manage technologies through transformation and recycling

- Understand basic principles of problems-solving; are skilful in utilising computers to search for data, store data, prepare graphics, document and present data, and construct work pieces with awareness and responsibility

- Know and understand about occupations as well as have knowledge, capacity and morality related to occupations

Grade 9 graduates

- Understand efficient work processes; apply group processes in work; are skilful in seeking knowledge, solving problems and management; have characteristics and habits of work that show sacrifice and morality; make correct decisions with proper reasoning and have an awareness of economical and cost effective use of energy, resources and the environment

- Understand technological processes and levels; have creativity in problem-solving or responding to needs; construct objects and utensils accurately and safely or use methodology according to the technological processes by conveying ideas through an image, leading to constructing work pieces or models of the ideas and reporting results; choose to apply technologies creatively to life, society and the environment and manage technologies through reducing use of resources or choose to apply technologies without negative effects on the environment

- Understand basic principles of communicating data, computer networks, and principles and methods of solving problems or implementing projects through ICT processes; skilful in searching for and communicating data through computer networks in a moral and ethical manner, and use of computers for solving problems and constructing applications of ICTs for presentation of accomplished tasks

- Understand guidelines for choosing occupations, having favourable attitudes and

recognise the importance of livelihood, methods of seeking employment and necessary qualifications for employment; analyse guidelines for entering employment; have basic skills required for occupations of interest, and evaluate livelihood alternatives in accord with knowledge, aptitudes and interests

Grade 12 graduates

- Understand methods of working for their livelihoods; create achievements through creative thinking; are skilful in teamworking, management, problem-solving and seeking knowledge; work morally and have an awareness of cost-effective and sustainable use of energy and resources

- Understand relationship between technology and other disciplines; analyse technological systems; have creativity in problem-solving or responding to needs; construct and develop objects and utensils or methodologies through safe technological processes by using software for designing or presenting accomplishments; analyse and choose to apply technologies appropriate to daily life creatively for the benefit of life, society and the environment, and manage technologies through methodology of clean technologies

- Understand components of information systems, components and principles of functioning of computers, systems of data communication for computer networks, characteristics of computers and connecting accessories, and are skilful in using computers to solve problems; write programming languages; develop computer programs; use hardware and software; communicate and search for data on the Internet; use computers to process data to serve as information for decision-making; use ICT for presenting achievements and use computers to create work pieces or projects

- Understand guidelines for entering employment, and choice and application of technologies appropriate to occupations; have experiences in occupations for which they have aptitudes and interests, and have desirable characteristics for the occupations

Strand 1: Living and Family

Standard O1.1: Understanding of concept of work; endowment with creativity and skills for various aspects and work processes, management, teamwork, investigation for seeking knowledge, morality, diligence, and awareness of the need to economise on the use of energy and the environment for one's life and for family

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Tell methods of working for self-help. 2. Use simple materials, instruments and equipment in working safely. 3. Work for self-help with enthusiasm and punctuality.	1. Tell methods and benefits of working to help themselves and their families. 2. Economically use materials, instruments and equipment suitable to the type of work. 3. Work safely to help themselves and their families.	1. Tell methods and benefits of working to help themselves, their families and the public. 2. Use materials, instruments and equipment as required for various types of work. 3. Work in stages as required by the work process, paying attention to cleanliness, carefulness and conservation of the environment.	1. Explain the reasons for working to reach goals. 2. Work in stages to reach goals with diligence, patience, responsibility and honesty. 3. Conduct themselves with good manners when working. 4. Economically and cost-effectively use and energy and resources in working.	1. Explain the reasons for working correctly at each stage required by the work process. 2. Apply management skills in systemic, refined and creative work. 3. Conduct themselves with good manners when working with family members. 4. Have an awareness of the economical and cost-effective use of energy and resources.	1. Discuss the guidelines for working and improving each stage of work. 2. Apply management and teamwork skills. 3. Conduct themselves with good manners when working with family members and others.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Analyse stages of work as required by the work process.</p> <p>2. Apply group processes in working with sacrifice.</p> <p>3. Make decisions with proper reasons in solving work problems.</p>	<p>1. Apply skills in seeking knowledge for work development.</p> <p>2. Apply skills for problem-solving processes when working.</p> <p>3. Have awareness and economically and cost- effectively use resources when working.</p>	<p>1. Discuss efficient stages of working.</p> <p>2. Apply skills for team working with morality.</p> <p>3. Discuss work by applying management skills for economising on energy, resources and the environment.</p>	<p>1. Explain methods of working for a living.</p> <p>2. Create achievements through creative thinking and have teamwork skills.</p> <p>3. Have management skills for work.</p> <p>4. Have skills for problem-solving processes.</p> <p>5. Have skills for seeking knowledge for a living.</p> <p>6. Have morality and desirable characteristics and habits when working.</p> <p>7. Cost-effectively and sustainably use energy and resources in working for conservation of the environment.</p>

Strand 2: Design and Technology

Standard O2.1: Understanding of technology and technological processes; design and creation of objects and utensils or methodologies through creative technological processes; selective utilisation of technologies beneficial to one's life, society and the environment, and participation in sustainable technological management

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	<p>1. Tell the benefits of objects and utensils for use in daily life.</p> <p>2. Construct simple toys and utensils by identifying problems or needs, collecting data, designing by conveying ideas through a two-dimensional sketch, constructing and evaluating.</p>	<p>1. Make simple toys and utensils by identifying problems or needs, collecting data, designing by transforming ideas into a two-dimensional sketch, constructing and evaluating.</p> <p>2. Select objects and utensils for creative use in daily life.</p> <p>3. Manage objects and utensils by recycling.</p>	-	<p>1. Explain the meaning and evolution of technology.</p> <p>2. Safely make objects and utensils of interest by identifying problems or needs, collecting data, selecting method of design by conveying ideas through a three-dimensional sketch, constructing and evaluating.</p> <p>3. Apply knowledge and skills for constructing work pieces in making objects and utensils.</p>	<p>1. Explain components of the technological system.</p> <p>2. Safely construct objects and utensils of interest by identifying problems or needs, collecting data, selecting method of design by transforming the ideas into a three-dimensional sketch or a mind map, constructing and evaluating.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	<ol style="list-style-type: none"> 1. Explain the technological process. 2. Safely construct objects and utensils or methodologies through the technological process by conveying ideas through a three-dimensional sketch or a projected picture, leading to constructing models of objects and utensils, or conveying concepts of the methodology through models, and reporting on results of presenting the methodology. 	<ol style="list-style-type: none"> 1. Explain technological levels. 2. Safely construct objects and utensils or methodologies through the technological process; design by conveying ideas through a projected picture, leading to constructing models of objects and utensils, or conveying concepts of the methodology through models, and reporting on results of presenting the methodology. 	<ol style="list-style-type: none"> 1. Explain and link relationship between technology and other disciplines. 2. Analyse the technological system. 3. Safely construct objects and utensils or methodologies in accord with the technological process by conveying ideas through an image and models, leading to constructing work pieces or conveying concepts of the methodology through models, and reporting on results by using or presenting achievements. 4. Have creativity in problem-solving or responding to needs for their own products or development of others' products.

Strand 2: Design and Technology

Standard O2.1: Understanding of technology and technological processes; design and creation of objects and utensils or methodologies through creative technological processes; selective utilisation of technologies beneficial to one's life, society and the environment; and participation in sustainable technological management

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	<p>3. Apply knowledge about appropriate utilisation of utensils and equipment to make simple toys and utensils.</p> <p>4. Have at least one feature of creativity in problem-solving or responding to needs.</p>	-	-	<p>3. Apply knowledge and skills for constructing work pieces when making objects and utensils.</p> <p>4. Have at least two features of creativity for problems-solving or responding to needs.</p> <p>5. Select creative use of technologies in daily life for benefit of life and society, and manage objects and utensils through transformation and reuse.</p>	<p>3. Apply knowledge and skills for constructing work pieces when making objects and utensils.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
	<p>3. Have creativity in problem-solving or responding to needs in their own production.</p> <p>4. Choose to creatively apply technologies to life, society and the environment, and manage technologies through reducing use of resources or choosing to use technologies without negative effects on the environment.</p>		<p>5. Analyse and choose to creatively apply technologies suitable to daily life for the benefit of life, society and the environment, and sustainably manage technologies through methodology of clean technologies.</p>

Strand 3: Information and Communication Technology

Standard O3.1: Understanding, appreciation, and efficient, effective and ethical use of information technology processes in searching for data, communicating, problem-solving, working and livelihood

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<p>1. Tell the data of interest and sources of data around them.</p> <p>2. Tell the benefits of information technology instruments.</p>	<p>1. Tell the benefits of data and collect data of interest from various reliable sources of data.</p> <p>2. Tell the benefits of and conserve sources of data.</p> <p>3. Tell the names and functions of basic instruments forming major components of a computer.</p>	<p>1. Search for data in stages and present the data in various forms.</p> <p>2. Tell methods of caring for and maintaining information technology instruments.</p>	<p>1. Tell the names and functions of information technology instruments.</p> <p>2. Tell basic principles of function of a computer.</p> <p>3. Tell the benefits and harms of using computers for work.</p> <p>4. Use computers' functioning systems for work.</p> <p>5. Create images or work pieces from imagination responsibly by using graphics programmes.</p>	<p>1. Search for and collect data of interest for useful purposes from various reliable sources of data as targeted.</p> <p>2. Create documentati on for use in daily life with responsi- bility.</p>	<p>1. Tell basic principles of problem-solving.</p> <p>2. Use computers to search for data.</p> <p>3. Store useful data in various forms.</p> <p>4. Present data in appropriate forms by choosing applied software.</p> <p>5. Use computers to facilitate creation of work pieces from imagination or work performed in daily life with awareness and responsibility.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Explain principles of function, roles and benefits of a computer.</p> <p>2. Discuss main characteristics and effects of information technologies.</p> <p>3. Process data so as to serve as information.</p>	<p>1. Explain basic principles of communicating data and computer networks.</p> <p>2. Explain principles and methods of problem-solving through information technology processes.</p> <p>3. Search for data and communicate through computer networks morally and ethically.</p> <p>4. Use software for work.</p>	<p>1. Explain principles of implementing a project requiring application of information technologies.</p> <p>2. Write basic programming languages.</p> <p>3. Use information technologies in forms appropriate to the type of work.</p> <p>4. Use computers to facilitate creation of work pieces from imagination or work performed in daily life in accord with the principles of project implementation with awareness and responsibility.</p>	<p>1. Explain composition of the information system.</p> <p>2. Explain components and principles of function of a computer.</p> <p>3. Explain the data communication system for computer networks.</p> <p>4. Tell characteristics of a computer and connecting accessories.</p> <p>5. Efficiently solve problems through information technology processes.</p> <p>6. Write programming languages.</p> <p>7. Develop computer projects.</p> <p>8. Use hardware and software appropriate to various tasks.</p> <p>9. Communicate and search for data through the Internet.</p> <p>10. Use computers in processing data to serve as information for decision-making.</p> <p>11. Use information technologies to present achievements in appropriate forms as targeted.</p> <p>12. Use computers to facilitate creation of work pieces or projects with awareness and responsibility.</p> <p>13. Tell recommended instructions for users of information technologies.</p>

Strand 4: Occupation

Standard O4.1: Understanding and acquisition of necessary skills and experiences; proper perception of future career; technological application for occupational development; endowment with morality and favourable attitude towards occupations

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
			1. Explain the meaning and importance of occupations.	1. Collect data about various occupations in the community. 2. Specify differences between occupations.	1. Explore themselves to plan to choose occupations. 2. Specify knowledge, capacities and morality relevant to occupations of interest.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Explain the guidelines for choosing occupations.</p> <p>2. Have favourable attitude towards livelihood.</p> <p>3. Recognise the importance of generating occupations.</p>	<p>1. Explain strengthening of occupational skills.</p> <p>2. Specify self-preparation for entering employment.</p> <p>3. Have basic skills required for taking up occupations of interest.</p>	<p>1. Explain searching for employment through diverse methods.</p> <p>2. Analyse the guidelines for entering employment.</p> <p>3. Evaluate alternatives for taking up occupations in keeping with their knowledge, attitudes and interests.</p>	<p>1. Discuss guidelines for taking up occupations of interest.</p> <p>2. Choose and apply technologies appropriate to the occupations.</p> <p>3. Have experience in occupations in which they have aptitude and interest.</p> <p>4. Have desirable characteristics for occupations.</p>

Learning Area of Foreign Languages

Why it is necessary to learn foreign languages

In the present global society, learning foreign languages is very important and essential to daily life, as foreign languages serve as an important tool for communication, education, seeking knowledge, livelihood and creating understanding of cultures and visions of the world community. Foreign languages enable learners to be aware of diversity of cultures and viewpoints in the world community, conducive to friendship and cooperation with various countries. They contribute to learners' development by giving learners better understanding of themselves and others. The learners are thus able to learn and understand differences of languages and cultures, customs and traditions, thinking, society, economy, politics and administration. They will be able to use foreign languages for communication as well as for easier and wider access to bodies of knowledge, and will have vision in leading their lives.

The foreign language constituting basic learning content that is prescribed for the entire basic education core curriculum is English, while for other foreign languages, e.g., French, German, Chinese, Japanese, Arabic, Pali and languages of neighbouring countries, it is left to the discretion of educational institutions to prepare courses and provide learning management as appropriate.

What is learned in foreign languages

The learning area for foreign languages is aimed at enabling learners to acquire a favourable attitude towards foreign languages, the ability to use foreign languages for communicating in various situations, seeking knowledge, engaging in a livelihood and pursuing further education at higher levels. Learners will thus have knowledge and understanding of stories and cultural diversity of the world community, and will be able to creatively convey Thai concepts and culture to the global society. The main contents include:

- **Language for Communication:** use of foreign languages for listening, speaking, reading and writing, exchanging data and information, expressing feelings and opinions,

interpreting, presenting data, concepts and views on various matters, and creating interpersonal relationships appropriately

- **Language and Culture:** use of foreign languages harmonious with culture of native speakers; relationships, similarities and differences between languages and cultures of native speakers; languages and cultures of native speakers and Thai culture; and appropriate application

- **Language and Relationship with Other Learning Areas:** use of foreign languages to link knowledge with other learning areas, forming the basis for further development, seeking knowledge and broadening learners' world views

- **Language and relationship with Community and the World:** use of foreign languages in various situations, both in the classroom and the outside community and the global society, forming a basic tool for further education, livelihood and exchange of learning with the global society

Learners' Quality

Grade 3 graduates

- Act in compliance with the orders and requests heard; pronounce the alphabet, words, groups of words, simple sentences and simple chants by observing the principles of pronunciation; accurately tell the meanings of the word and groups of words heard; answer questions from listening to or reading sentences, dialogues or simple tales

- Engage in interpersonal communication using short and simple words by following the models heard; use simple orders and requests; tell their needs in simple words; request and give data about themselves and their friends; tell their own feelings about various objects around them or various activities by following the models heard

- Verbally provide data about themselves and matters around them; categorise words according to the types of persons, animals and objects about which they have heard or read

- Speak and make accompanying gestures by observing social manners/culture of native speakers; tell the names and simple terms about festivals/important days/celebrations and lifestyles of native speakers; participate in language and cultural activities suitable to their age levels

- Tell differences concerning sounds of the alphabet, words, groups of words and simple sentences in foreign languages and those in Thai language

- Tell the terms related to other learning areas

- Listen/speak in simple situations in the classroom

- Use foreign languages to collect relevant terms around them

- Are skilful in using foreign languages (with emphasis on listening and speaking) to communicate about themselves, their families, schools, the surrounding environment, foods, beverages and free time and recreation with a vocabulary of around 300-450 words (concrete words)

- Use one-word sentences and simple sentences in conversations as required for situations in daily life

Grade 6 graduates

- Act in compliance with the orders, requests and instructions that they have heard and read; accurately read aloud sentences, texts, tales and short verses by observing the principles of reading; choose/specify the sentences and text corresponding to the meanings of symbols or signs read; tell the main idea and answer questions after listening to and reading dialogues, simple tales and stories

- Speak/write in an exchange in interpersonal communication; use orders and requests and give instructions; speak/write to express needs; ask for help; accept and refuse to give help in simple situations; speak and write to ask for and give data about themselves, friends, families and matters around them; speak/write to express their feelings about various matters and activities around them, as well as provide brief justifications

- Speak/write to give data about themselves, friends and the surrounding environment; draw pictures, plans, charts and tables to show the various data that they have heard and read; speak/write to show opinions about various matters around them

- Use words, tone of voice, gestures and manners politely and appropriately by observing social manners and culture of native speakers; give data about the festivals/important days/celebrations/lifestyles of native speakers; participate in language and cultural activities in accordance with their interests

- Tell similarities/differences between the pronunciation of various kinds of sentences, use of punctuation marks and word order regarding structures of sentences in foreign languages and in Thai language; compare the similarities/differences between the festivals, celebrations and traditions of native speakers and those of Thais

- Search for and collect the terms related to other learning areas from learning sources and present them through speaking/writing

- Use languages to communicate various situations in the classroom and in school

- Use foreign languages in searching for and collecting various data

- Are skilful in using foreign languages (with emphasis on listening, speaking, reading and writing) to communicate about themselves, their families, schools, the environment, foods, beverages, free time and recreation, health and welfare, selling and buying, and climate with vocabulary of around 1,050-1,200 words (concrete and abstract words)

- Use simple and compound sentences to communicate meanings in various contexts

Grade 9 graduates

- Act in compliance with requests, instructions, clarifications and explanations that they have heard or read; accurately read aloud texts, news, advertisements, tales and short verses by observing the principles of reading; specify/write various forms of non-text information related to sentences and texts that they have heard and read; choose and specify the topics, main ideas and supporting details, and express opinions about what they have

heard or read from various types of media, as well as provide justifications and examples for illustration

- Converse and write for an exchange of data about themselves, various matters around them, situations and news of interest to society, and communicate such data continuously and appropriately; use appropriate requests, clarifications and explanations and give suitable instructions; speak and write to show needs; offer and provide assistance; accept and refuse to give help; speak and write appropriately to ask for and give data, describe, explain, compare and express opinions about what they have heard or read; speak and write to describe their own feelings and opinions about various matters, activities, experiences and news/incidents, as well as to provide appropriate justifications

- Speak and write to describe themselves, experiences, news/incidents/various issues of interest to society; speak and write to summarise the main idea/theme or topic identified from the analysis of matters/news/incidents/situations of interest; speak and write to express opinions about activities, experiences and incidents, as well as provide justifications

- Choose appropriate language, tone of voice, gestures and manners by observing social manners and culture of native speakers; explain about the lifestyles, customs and traditions of native speakers; participate in/organise language and cultural activities in accordance with their interests

- Compare and explain similarities and differences between pronunciation of various kinds of sentences and word orders regarding structures of sentences in foreign languages and in Thai language; compare and explain the similarities and differences between the lifestyles and culture of native speakers and those of Thais and apply them appropriately

- Search for, collect and summarise data/information related to other learning areas from learning sources, and present them through speaking and writing

- Use language for communication in real situations/simulated situations in the classroom, school, community and society

- Use foreign languages in searching/conducting research, collecting and drawing conclusions about knowledge/various data sources from the media and various learning sources for further study and livelihood; disseminate/convey to the public data and news about the school, community and local area in foreign languages

- Are skilful in the use of foreign languages (with emphasis on listening, speaking, reading and writing) to communicate about themselves, their families, schools, the environment, foods, beverages, free time and recreation, health and welfare, buying and selling, climate, education and occupations, travel for tourism, provision of services, places, language and science and technology with a vocabulary of around 2,100-2,250 words (words of higher abstract quality)

- Use compound and complex sentences to communicate meanings in various contexts for both formal and informal conversations

Grade 12 graduates

- Observe instructions in manuals for various types of work, clarifications, explanations and descriptions that they have heard and read; accurately read aloud texts, news, announcements, advertisements, poems and skits by observing principles of reading; explain and write sentences and texts related to various forms of non-text information that they have heard or read; identify the main idea, analyse the essence, conclude, interpret and express opinions from listening and reading feature articles and materials for entertainment purpose, as well as provide justifications and examples for illustration

- Converse and write to exchange data about themselves, various matters around them, experiences, situations, news/incidents, issues of interest and communicate them continuously and appropriately; choose and use requests, clarifications, explanations and give instructions; speak and write to show needs; offer and provide assistance; speak and write appropriately to ask for and give data, describe, explain, compare and express opinions about matters/issues/news/incidents about which they have heard and read; speak and write to describe their own feelings and express opinions about various matters, activities, experiences and news/incidents with proper reasoning

- Speak and write to present data about themselves/experiences/news/incidents, matters and various issues of interest; speak and write about the main idea and theme identified from analysis of matters, activities, news, incidents and situations in accordance with their interests; speak and write to express opinions about activities, experiences and incidents in the local area, society and the world, as well as provide justifications and examples for illustration

- Choose the language, tone of voice, gestures and manners appropriate to the level of the persons, time, occasions and places by observing social manners and culture of native speakers; explain/discuss about lifestyles, thoughts, beliefs and origins of customs and traditions of native speakers; participate in, advise and organise language and cultural activities appropriately

- Explain/compare differences between structures of sentences, texts, idioms, sayings, proverbs and poems in foreign languages and Thai language; analyse/discuss similarities and differences between the lifestyles, beliefs and culture of native speakers and those of Thais, and apply them with proper reasoning

- Conduct research/search for, make records, conclude and express opinions about the data related to the learning areas from various sources, and present them through speaking and writing

- Use language for communication in real situations/simulated situations in the classroom, school, community and society

- Use foreign languages in searching for/conducting research, collecting, analysing and summarising knowledge/various data from the media and various learning sources for further study and livelihood; disseminate/convey to the public data and news about the school, community and local area/nation in foreign languages

- Are skilful in the use of foreign languages (with emphases on listening, speaking, reading and writing) to communicate about themselves, their families, schools, the environment, foods, beverages, interpersonal relationships, free time and recreation, health and welfare, selling and buying, climate, education and occupations, travel for tourism,

provision of services, places, language and science and technology with a vocabulary of around 3,600-3,750 words (words with different levels of usage)

- Use compound and complex sentences to communicate meanings in various contexts for both formal and informal conversations

Strand 1: Language for Communication

Standard F1.1: Understanding of and capacity to interpret what has been heard and read from various types of media, and ability to express opinions with proper reasoning

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<p>1. Act in compliance with simple orders heard.</p> <p>2. Specify the alphabet and sounds; accurately pronounce and spell simple words by observing principles of reading.</p> <p>3. Choose the pictures corresponding to the meanings of words and groups of words heard.</p> <p>4. Answer questions from listening to matters around them.</p>	<p>1. Act in compliance with orders and simple requests heard.</p> <p>2. Specify the alphabet and sounds; pronounce and spell words; accurately read simple sentences by observing the principles of reading.</p> <p>3. Choose the pictures corresponding to the meanings of words, groups of words and sentences heard.</p>	<p>1. Act in compliance with orders and requests heard or read.</p> <p>2. Pronounce and spell words; accurately read aloud groups of words, sentences and simple chants by observing the principles of reading.</p> <p>3. Choose/ specify the images or symbols corresponding to the meanings of groups of words and sentences heard.</p>	<p>1. Act in compliance with orders, requests and simple instructions heard or read.</p> <p>2. Pronounce and spell words; accurately read aloud groups of words, sentences, simple texts and chants by observing the principles of reading.</p> <p>3. Choose/ specify the pictures or symbols or signs corresponding to the meanings of sentences and short texts heard or read.</p>	<p>1. Act in compliance with orders, requests and simple instructions heard and read.</p> <p>2. Accurately read aloud sentences, texts and short poems by observing the principles of reading.</p> <p>3. Specify/draw the symbols or signs corresponding to the meanings of sentences and short texts heard or read.</p>	<p>1. Act in compliance with orders, requests and instructions heard and read.</p> <p>2. Accurately read aloud texts, tales and short poems by observing the principles of reading.</p> <p>3. Choose/specify the sentences or short texts corresponding to the meanings of symbols or signs read.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Act in compliance with orders requests, instructions and simple explanations heard and read.</p> <p>2. Accurately read aloud texts, tales and short poems by observing the principles of reading.</p> <p>3. Choose/specify the sentences and texts related to non-text information read.</p> <p>4. Specify the topic and main idea and answer questions from listening to and reading dialogues, tales and short stories.</p>	<p>1. Act in compliance with requests, instructions, clarifications and simple explanations heard and read.</p> <p>2. Accurately read aloud texts, news, advertisements and short poems by observing the principles of reading.</p> <p>3. Specify/write sentences and texts related to various forms of non-text information read.</p> <p>4. Choose the topic and main idea, tell supporting details and express opinions about what has been heard and read, as well as provide justifications and simple examples for illustration.</p>	<p>1. Act in compliance with requests, instructions, clarifications and explanations heard and read.</p> <p>2. Accurately read aloud texts, news, advertisements and short poems by observing the principles of reading.</p> <p>3. Specify and write various forms of non-text information related to sentences and texts heard or read.</p>	<p>1. Observe instructions in manuals for various types of work, clarifications, explanations and descriptions heard and read.</p> <p>2. Accurately read aloud texts, news, advertisements, poems and skits by observing the principles of reading.</p> <p>3. Explain and write sentences and texts related to various forms of non-text information, as well as specify and write various forms of non-text information related to sentences and texts heard or read.</p>

Strand 1: Language for Communication

Standard F1.1: Understanding of and capacity for interpreting what has been heard and read from various types of media and ability to express opinions with proper reasoning

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
	4. Answer questions from listening to sentences, dialogues or simple tales with illustrations.	4. Answer questions from listening to or reading sentences, dialogues or simple tales.	4. Answer questions from listening to and reading sentences, dialogues and simple tales.	4. Tell the main points and answer questions from listening to and reading dialogues and simple tales or short texts.	4. Tell the main idea and answer questions from listening to and reading dialogues, simple tales and stories.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
-	-	4. Choose/specify the topic, main idea and supporting details and express opinions about what has been heard and read from various types of media, as well as provide justifications and examples for illustration.	4. Identify the main idea, analyse the essence, interpret and express opinions from listening to and reading feature articles and entertainment articles, as well as provide justifications and examples for illustration.

Strand 1: Language for Communication

Standard F1.2: Endowment with language communication skills for exchange of data and information; efficient expression of feelings and opinions

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<p>1. Speak in an exchange with short and simple words in interpersonal communication by following the models heard.</p> <p>2. Use simple orders by following the models heard.</p> <p>3. Express their own simple needs by following the models heard.</p> <p>4. Speak to ask for and give simple data about themselves by following the models heard.</p>	<p>1. Speak in an exchange with short and simple words in interpersonal communication by following the models heard.</p> <p>2. Use orders and simple requests by following the models heard.</p> <p>3. Express their own simple needs by following the models heard.</p> <p>4. Speak to ask for and give simple data about themselves by following the models heard.</p>	<p>1. Speak in an exchange with short and simple words in interpersonal communication by following the models heard.</p> <p>2. Use orders and simple requests by following the models heard.</p> <p>3. Express their own simple needs by following the models heard.</p> <p>4. Speak to ask for and give simple data about themselves and their friends by following the models heard.</p>	<p>1. Speak/write in an exchange in interpersonal communication.</p> <p>2. Use orders, requests and simple requests for permission.</p> <p>3. Speak/write to express their own needs and to ask for help in simple situations.</p> <p>4. Speak/write to ask for and give data about themselves, their friends and families.</p>	<p>1. Speak/write in an exchange in interpersonal communication.</p> <p>2. Use orders and requests for permission and give simple instructions.</p> <p>3. Speak/write to express needs, ask for help and agree and refuse to give help in simple situations.</p> <p>4. Speak/write to ask for and give data about themselves, their friends, families and matters around them.</p>	<p>1. Speak/write in an exchange in interpersonal communication.</p> <p>2. Use orders requests and give instructions.</p> <p>3. Speak/write to express needs, ask for help and agree and refuse to give help in simple situations.</p> <p>4. Speak and write to ask for and give data about themselves, their friends, families and matters around them.</p>

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Converse to exchange data about themselves, various activities and situations in daily life.</p> <p>2. Use requests and give instructions and clarifications according to the situation.</p> <p>3. Speak and write appropriately to express needs, ask for help and agree and refuse to give help in various situations.</p> <p>4. Speak and write appropriately to ask for and give data and express opinions about what has been heard or read.</p>	<p>1. Converse appropriately to exchange data about themselves, various matters around them and various situations in daily life.</p> <p>2. Use orders and give instructions, clarifications and explanations according to the situation.</p> <p>3. Speak and write appropriately to express needs, offer help and agree and refuse to give help in various situations.</p> <p>4. Speak and write appropriately to ask for and give data, describe and express opinions about what has been heard or read.</p>	<p>1. Converse and write to exchange data about themselves, various matters around them, situations, news and matters of interest to society, and communicate the data continuously and appropriately.</p> <p>2. Use requests appropriately and give instructions, clarifications and explanations.</p> <p>3. Speak and write appropriately to express needs, offer help and agree and refuse to give help in various situations.</p> <p>4. Speak and write appropriately to ask for and give data, explain, compare and express opinions about what has been heard or read.</p>	<p>1. Converse and write to exchange data about themselves and various matters around them, experiences, situations, news/incidents and issues of interest to society, and communicate the data continuously and appropriately.</p> <p>2. Choose and use requests and give instructions, clarifications and explanations fluently.</p> <p>3. Speak and write to express needs and offer, accept and refuse to give help in simulated or real situations.</p> <p>4. Speak and write appropriately to ask for and give data, describe, explain, compare and express opinions about matters/ issues/news and situations heard and read.</p>

Strand 1: Language for Communication

Standard F1.2: Endowment with language communication skills for exchange of data and information; efficient expression of feelings and opinions

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	5. Tell their own feelings about various objects around them or various activities by following the models heard.	5. Speak to express their own feelings about various matters around them and various activities by following the models heard.	5. Speak/write to express their own feelings about various matters around them and various activities, as well as provide brief justifications.	5. Speak/write to express their own feelings about various matters around them and various activities, as well as provide brief justifications.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
5. Speak and write to express their own feelings and opinions about various matters around them, various activities, as well as provide brief justifications appropriately.	5. Speak and write to express their own feelings and opinions about various matters around them, various activities, as well as provide brief justifications appropriately.	5. Speak and write to describe their own feelings and opinions about various matters, activities, experiences and news/incidents, as well as provide justifications appropriately.	5. Speak and write to describe their own feelings and opinions about various matters, activities, experiences and news/incidents with proper reasoning.

Strand 1: Language for Communication

Standard F1.3: Ability to present data, information, concepts and views about various matters through speaking and writing

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Speak to give data about themselves and matters around them.	1. Speak to give data about themselves and matters around them.	1. Speak to give data about themselves and matters around them. 2. Categorise words into groups according to the types of persons, animals and objects based on what they have heard or read.	1. Speak/write to give data about themselves and matters around them. 2. Speak/draw pictures to show relationships of various objects around them according to what they have heard or read. 3. Speak to express simple opinions about matters around them.	1. Speak/write to give data about themselves and matters around them. 2. Draw pictures, plans and charts to show various data heard or read. 3. Speak/write to express opinions about various matters around them.	1. Speak/write to give data about themselves, their friends and the environment around them. 2. Draw pictures, plans, charts and tables to show various data heard or read. 3. Speak/write to express opinions about various matters around them.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Speak and write to describe themselves, their daily routines, experiences and the environment around them.</p> <p>2. Speak/ write to summarise the main idea/theme identified from analysis of matters/incidents of interest to society.</p> <p>3. Speak/write to express opinions about activities or various matters around them as well as provide brief justifications.</p>	<p>1. Speak and write to describe themselves, their daily routines, experiences and news/incidents of interest to society.</p> <p>2. Speak and write to summarise the main idea, theme and topic identified from analysis of matters/news/incidents of interest to society.</p> <p>3. Speak and write to express opinions about activities or various matters around them and experiences, as well as provide brief justifications.</p>	<p>1. Speak and write to describe themselves, experiences/ matters/ various issues of interest to society.</p> <p>2. Speak and write to summarise the main idea/theme and topic identified from analysis of matters/news/incidents/situations of interest to society.</p> <p>3. Speak and write to express opinions about activities, experiences and incidents, as well as provide justifications.</p>	<p>1. Speak and write to present data themselves/experiences, news/incidents, matters and various issues of interest to society.</p> <p>2. Speak and write to summarise the main idea/theme identified from analysis of matters, activities, news, incidents and situations in accordance with their interests.</p> <p>3. Speak and write to express opinions about activities, experiences and incidents in the local area, society and the world, as well as provide justifications and examples for illustration.</p>

Strand 2: Language and Culture

Standard F2.1: Appreciation of the relationship between language and culture of native speakers and capacity for use of language appropriate to occasions and places

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Speak and make accompanying gestures in accordance with the culture of native speakers.	1. Speak and make accompanying gestures in accordance with the culture of native speakers.	1. Speak and make accompanying gestures in accordance with social manners/ culture of native speakers.	1. Speak and politely make accompanying gestures in accordance with social manners and culture of native speakers.	1. Use words, tone of voice and polite gestures in accordance with social manners and culture of native speakers.	1. Use words, tone of voice, gestures and manners politely and appropriately by observing the social manners and culture of native speakers.
2. Tell the names and vocabulary of native speakers' important festivals.	2. Tell the names and vocabulary of native speakers' important festivals.	2. Tell the names and simple vocabulary about the festivals/ important	2. Answer questions about festivals/ important days/ celebrations and simple lifestyles of native speakers.	2. Answer questions/ tell the importance of festivals/ important days/ celebrations and simple lifestyles of native speakers.	2. Give data about the festivals/ important days/ celebrations/ lifestyles of native speakers.
3. Participate in language and cultural activities appropriate to their age levels.	3. Participate in language and cultural activities appropriate to their age levels.	3. Participate in language and cultural activities appropriate to their age levels.	3. Participate in language and cultural activities appropriate to their age levels.	3. Participate in language and cultural activities in accordance with their interests.	3. Participate in language and cultural activities in accordance with their interests.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Use language, tone of voice, gestures and manners politely and appropriately by observing social manners and culture of native speakers.</p> <p>2. Describe the festivals, important days, lifestyles and traditions of native speakers.</p> <p>3. Participate in language and cultural activities in accordance with their interests.</p>	<p>1. Use language, tone of voice, gestures and manners appropriate to various persons and occasions by observing social manners of native speakers.</p> <p>2. Describe the festivals, important days, lifestyles and traditions of native speakers.</p> <p>3. Participate in language and cultural activities in accordance with their interests.</p>	<p>1. Choose the language, tone of voice, gestures and manners appropriate to various persons and occasions in accordance with the social manners and culture of native speakers.</p> <p>2. Describe the lifestyles, customs and traditions of native speakers.</p> <p>3. Participate in/organise language and cultural activities in accordance with their interests.</p>	<p>1. Choose the language, tone of voice, gestures and manners appropriate to various persons, occasions and places by observing social manners and culture of native speakers.</p> <p>2. Explain/discuss the lifestyles, thoughts, beliefs and origins of customs and traditions of native speakers.</p> <p>3. Participate in, give advice and organise language and cultural activities appropriately.</p>

Strand 2: Language and Culture

Standard F2.2: Appreciation of similarities and differences between language and culture of native and Thai speakers, and capacity for accurate and appropriate use of language

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Specify the alphabet and sounds of the alphabet of foreign languages and Thai language.	1. Specify the alphabet and sounds of the alphabet of foreign languages and Thai language.	1. Tell differences of the sounds of the alphabet, words, groups of words and simple sentences in foreign languages and Thai language.	1. Tell differences of the sounds of the alphabet, words, groups of words, sentences and texts in foreign languages and Thai language. 2. Tell the similarities/ differences between the festivals and celebrations in the culture of native speakers and those in Thailand.	1. Tell similarities/ differences between pronunciation of various kinds of sentences, use of punctuation marks and word order in accordance with structures of sentences in foreign languages and Thai language. 2. Tell the similarities/ differences between the festivals and celebrations of native speakers and those of Thais.	1. Tell similarities/ differences between pronunciation of various kinds of sentences, use of punctuation marks and word order in accordance with structures of sentences in foreign languages and Thai language. 2. Compare the differences/similarities between the festivals, celebrations and traditions of native speakers and those of Thais.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
<p>1. Tell differences and similarities between pronunciation of various kinds of sentences, use of punctuation marks and word order in accordance with the structures of sentences in foreign languages and Thai language.</p> <p>2. Compare similarities and differences between the festivals, celebrations, important days and lifestyles of native speakers and those of Thais.</p>	<p>1. Compare and explain similarities and differences between pronunciation of various kinds of sentences and word order in accordance with structures of sentences in foreign languages and Thai language.</p> <p>2. Compare and explain similarities and difference between the lifestyles and culture of native speakers and those of Thais.</p>	<p>1. Compare and explain similarities and differences between pronunciation of various kinds of sentences in accordance with structures of sentences in foreign languages and Thai language.</p> <p>2. Compare and explain similarities and differences between the lifestyles and culture of native speakers and those of Thais, and apply them appropriately.</p>	<p>1. Explain/compare differences between the structures of sentences, texts, idioms, sayings, proverbs and poems in foreign languages and Thai language.</p> <p>2. Analyse/discuss similarities and differences between the lifestyles, beliefs and culture of native speakers and those of Thais, and apply them appropriately.</p>

Strand 3: Language and Relationship with Other Learning Areas

Standard F3.1: Usage of foreign languages to link knowledge with other learning areas, as foundation for further development and to seek knowledge and widen one's world view

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Tell the terms related to other learning areas.	1. Tell the terms related to other learning areas.	1. Tell the terms related to other learning areas.	1. Search for and collect the terms related to other learning areas, and present them through speaking/writing.	1. Search for and collect the terms related to other learning areas, and present them through speaking/writing.	1. Search for and collect the terms related to other learning areas from learning sources, and present them through speaking/writing.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Search for, collect and summarise the data/facts related to other learning areas from learning sources, and present them through speaking/writing.	1. Search for, collect and summarise the data/facts related to other learning areas from learning sources, and present them through speaking/writing.	1. Search for, collect and summarise the data/facts related to other learning areas from learning sources, and present them through speaking/writing.	1. Research/search for, make records, summarise and express opinions about the data related to other learning areas, and present them through speaking and writing.

Strand 4: Language and Relationship with Community and the World

Standard F4.1: Ability to use foreign languages in various situations in school, community and society

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Listen/speak in simple situations in the classroom.	1. Listen/speak in simple situations in the classroom.	1. Listen/speak in simple situations in the classroom.	1. Listen and speak in situations in the classroom and in school.	1. Listen, speak and read/write in various situations in the classroom and in school.	1. Use language for communication in various situations in the classroom and in school.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Use language for communication in real situations/ simulated situations in the classroom and in school.	1. Use language for communication in real situations/ simulated situations in the classroom, school and community.	1. Use language for communication in real situations/simulated situations in the classroom, school, community and society.	1. Use language for communication in real situations/simulated situations in the classroom, school, community and society.

Strand 4: Language and Relationship with Community and the World

Standard F4.2: Usage of foreign languages as basic tools for further education, livelihood and exchange of learning with the world community

Grade level indicators					
Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
1. Use foreign languages to collect relevant terms around them.	1. Use foreign languages to collect relevant terms around them.	1. Use foreign languages to collect relevant terms around them.	1. Use foreign languages to search for and collect various data.	1. Use foreign languages to search for collect various data.	1. Use foreign languages to search for and collect various data.

Grade level indicators			Key stage indicators
Grade 7	Grade 8	Grade 9	Grade 10-12
1. Use foreign languages in conducting research for knowledge/ various data from the media and different learning sources for further education and livelihood.	1. Use foreign languages in conducting research, collecting and summarising knowledge/various data from the media and different learning sources for further education and livelihood. 2. Disseminate/convey to the public data and news about the school in foreign languages.	1. Use foreign languages in conducting research, collecting and summarising knowledge and various data from the media and different learning sources for further education and livelihood. 2. Disseminate/convey to the public data and news about the school, community and the local area in foreign languages.	1. Use foreign languages in conducting research, collecting, analysing and summarising knowledge/various data from the media and different learning sources for further education and livelihood. 2. Disseminate/convey to the public data and news about the school, community and the local area/the nation in foreign languages.

References

- Ministry of Education. (2001). **Basic Education Curriculum 2001**. Bangkok: Kurusapa Ladprao Publishing.
- National Economic and Social Development Board. (2006). **The tenth National Economic and Social Development Plan**.
- Office of the Education Council. (2004). **Strategic Recommendations for Education Reform**. Bangkok: Century Co. Ltd.
- Office of the Prime Minister, Office of the National Education Council. (1999). **National Education Act 1999**. Bangkok: Printing Press of the Express Transportation Organization of Thailand (E.T.O.).
- Bureau of Inspection and Evaluation. (2005). **Follow-up on the Problems and Difficulties Encountered in the Application of the Basic Education Curriculum 2001**. Memo No. MOE 0207/2692 dated September 19, 2005.
- Bureau of Academic Affairs and Educational Standards. (2003 a.). **Summarzied Outcomes of the Meeting to Analyze the Basic Education Curriculum**. October 27-28, 2003, Trang Hotel, Bangkok. (Xeroxed copy).
- Bureau of Academic Affairs and Educational Standards. (2003 b.). **Summary of the View from the Meeting to Discuss the Five Points of the Basic Education Curriculum**. November 2003. (Xeroxed copy).
- Bureau of Academic Affairs and Educational Standards. (2005 a.). **Research Report on Application of the Basic Education Curriculum from Teachers' Points of View**. Bangkok: Printing Press of the Express Transportation Organization of Thailand (E.T.O.).
- Bureau of Academic Affairs and Educational Standards. (2005b.) **Report on the Experimental Research Project on Standards-based Process of Curriculum Construction by Educational Institutions**. Bangkok: Printing Press of the Express Transportation Organization of Thailand (E.T.O.).
- Suvimol Wongvanich and Nonglak Wiratchai. (2004). **Evaluation of the Learning Reform In Accordance With the National Education Act 1999: Multiple Case Studies**. Paper for an academic meeting on research on learning reform, organised by the Office of the Education Council, Ministry of Education, July 19-20, 2004.

Kittisunthorn, C., (2003). **Standards-based curriculum: The first experience of Thai teachers.**

Doctoral Dissertation, Jamia Islamia University, Delhi, India.

Nutravong, R., (2002). **School-based curriculum decision-making: A study of the Thailand reform experiment.** Doctoral Dissertation, Indiana University, Bloomington, U.S.A.