

Occupations and Technology

Why it is necessary to learn occupations and technology

The learning area of occupations and technology contributes to the development of learners in acquiring knowledge and understanding the basic skills essential to their lives. Learners will thus be alert to the changes and able to apply the knowledge about living, occupations and technology into their work with creativity and competitiveness in Thai society and the world community. Learners will be able to see the prospects for their future careers, love working and have a favourable attitude towards work, as well as lead a happy life in the 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 the knowledge, the capacity and the 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 the guidance of the principles of sufficiency economy; intent not to destroy the environment; emphasis on the actual practice until the attainment of the confidence and the pride in their accomplishments in order to discover their own capacities, aptitudes and interests
- **Design and Technology:** creative development of human capacities by applying the knowledge with technological processes to create objects, utensils and methodologies, or to increase efficiency in life
- **Information and Communication Technology (ICT):** process of information technologies; communication; the search for data; application of data and information; solution of problems or creation of work; values and effects of ICT
- **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 values of honest occupations; and ability to see the prospects for future careers

Learners' Quality

Grade 3 graduates

- Understand the working methods to help themselves, their families and the public; use the materials and the equipment correctly as required for the type of work; have skills in the processes of work; be enthusiastic, punctual, economic, care for safety, clean and careful in working and have the awareness to protect the environment
- Understand the benefits of the objects and the utensils in daily life; solve problems and respond to needs through creative thinking; be skilful in making simple toys and utensils by applying the technological processes, i.e., identify problems or needs, collect data, design by conveying ideas through a two-dimensional sketch, construct and evaluate; choose the materials and the instruments appropriate for application; choose to use objects and utensils creatively in daily life, and recycle the objects and the utensils
- Understand and be skilful in searching for data at all stages, presenting the data in various forms and applying the methods of ICT maintenance

Grade 6 graduates

- Understand and improve the steps of working; have skills in management, teamworking and systematic working, and have creative thinking; be diligent, patient, responsible and honest in working; have the manners and the awareness to consume water and electricity economically and cost-effectively
- Understand the meaning and the evolution of technology and the elements of the technological system; have ideas for solving problems or responding to diverse needs; apply the knowledge and the skills into making objects and utensils safely according to their interests i.e., identify the problems or the needs, collect the data, design by conveying ideas through a three-dimensional sketch or a mind map, take action and evaluate; choose to apply technologies creatively, and manage the technologies through transformation and recycling
- Understand the basic principles of problems-solving; be skilful in utilising computers to search for data, store the data, prepare graphics, document and present the data, and work with awareness and responsibility
- Know and understand about occupations as well as have the knowledge, the capacity and morality related to those occupations

Grade 9 graduates

- Understand the efficient work processes; apply group processes in work; be skilful in seeking knowledge, solving problems and management; have the characteristics of hard working 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 the technological processes and levels; have creativity in problem-solving or responding to the needs; make objects and utensils or use the methodology according to the technological processes by conveying ideas through an image, leading to creating work or the models of the ideas and reporting results; choose to apply the technologies creatively to life, society and the environment and manage the technologies through reducing use of resources or choose to apply the technologies without the negative effects on the environment

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

- Understand the guidelines for choosing occupations, having favourable attitudes and recognise the importance of livelihood, methods of seeking employment and necessary qualifications for employment; analyse the 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 the methods of working for their livelihoods; establish achievements through creative thinking; be 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 the relationship between technology and other disciplines; analyse technological systems; have creativity in problem-solving or responding to the needs; make and develop objects and utensils through safe technological processes by using software to design or present the accomplishments; analyse and choose to apply the technologies appropriate to daily life, society and the environment, and manage the technologies through the clean technologies methods

- Understand the components of the information systems, the components and the principles of functioning of computers, systems of data communication for computer networks, the characteristics of computers and connecting accessories, and be 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 to present achievements and use computers to create work or projects

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

Strand 1: Living and Family

Standard OT1.1: Understanding of the concept of the work; possessing creativity and skills in various respect-work processes, management, problem-solving, teamwork and investigation for seeking knowledge, morality, diligence, and awareness of the need to economise on the consumption of energy, resources and the environment for living and for family

Grade-level Indicators

Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
<ol style="list-style-type: none"> 1. Tell the methods of working for self-gratification. 2. Use simple materials, instruments and equipment in working safely. 3. Work for self-gratification with enthusiasm and punctuality. 	<ol style="list-style-type: none"> 1. Tell the methods and the benefits of working for self-gratification 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. 	<ol style="list-style-type: none"> 1. Tell the methods and the benefits of working to help themselves, their families and the public. 2. Use the 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. 	<ol style="list-style-type: none"> 1. Explain the reasons for working to reach the goals. 2. Work in stages to reach the goals with diligence, patience, responsibility and honesty. 3. Conduct themselves with good manners when working. 4. Economically and cost-effectively consume energy and resources when working. 	<ol style="list-style-type: none"> 1. Explain the reasons for working correctly at each stage required by the work process. 2. Apply the management skills in the 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 consumption of energy and resources. 	<ol style="list-style-type: none"> 1. Discuss the guidelines to work and improve each stage of the work. 2. Apply the management and teamwork skills. 3. Conduct themselves with good manners when working with family members and others.

Grade-level Indicators			Interval Indicators
Grade 7	Grade 8	Grade 9	Grades 10-12
<ol style="list-style-type: none"> 1. Analyse the stages of work as required by the work process. 2. Apply the group processes in working with sacrifice. 3. Make decisions with proper reasons in solving the work problems. 	<ol style="list-style-type: none"> 1. Apply the skills in seeking knowledge for work development. 2. Apply the skills for problem-solving processes when working. 3. Be aware of hard working and economically and cost-effectively consume resources when working. 	<ol style="list-style-type: none"> 1. Discuss about the efficient stages of working. 2. Apply the skills for team working with morality. 3. Discuss about the work by applying the management skills for economising on the energy, the resources and the environment. 	<ol style="list-style-type: none"> 1. Explain the methods of working for a living. 2. Establish the achievements through creative thinking and have teamwork skills. 3. Have the management skills for work. 4. Have the skills for problem-solving processes. 5. Have the skills for seeking knowledge for a living. 6. Have the morality and the desired characteristics when working. 7. Cost-effectively and sustainably consume energy and resources in working for conservation of the environment.

Strand 2: Design and Technology

Standard OT2.1: Understanding of the technology and technological processes; designing and making objects, utensils or the methodologies through the creative technological processes; selective utilization of the technologies beneficial to one's life, society and the environment; participation in sustainable technological management

Grade-level Indicators

Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	<ol style="list-style-type: none"> 1. Tell the benefits of objects and utensils used in daily life. 2. Make simple toys and utensils by identifying problems or needs, collecting information, designing by conveying the ideas through a two-dimensional sketch, making and evaluating. 	<ol style="list-style-type: none"> 1. Make simple toys and utensils by identifying problems or needs, collecting information, designing by transforming ideas into a two-dimensional sketch, making and evaluating. 2. Select objects and utensils for creative use in daily life. 3. Recycle the objects and the utensils. 	-	<ol style="list-style-type: none"> 1. Explain the meaning and the evolution of technology. 2. Safely make objects and utensils of interest by identifying problems or needs, collecting information, selecting the methods of design by conveying the ideas through a three-dimensional sketch, making and evaluating. 3. Apply the knowledge and the skills into making objects and utensils. 	<ol style="list-style-type: none"> 1. Explain the components of the technological system. 2. Safely make objects and utensils of interest by identifying problems or needs, collecting information, selecting the methods of design by transforming the ideas into a three-dimensional sketch or a mind map, making and evaluating.

Grade-level Indicators			Interval Indicators
Grade 7	Grade 8	Grade 9	Grades 10-12
-	<ol style="list-style-type: none"> 1. Explain the technological process. 2. Safely make objects and utensils or the methodologies through the technological process by conveying the ideas through a three-dimensional sketch or a projected picture, leading to making the models of objects and utensils, or conveying the concepts of the methodology through the models, and reporting on the results of presenting the methodology. 	<ol style="list-style-type: none"> 1. Explain technological levels. 2. Safely make objects and utensils or the methodologies through the technological process; design by conveying the ideas through a projected picture, leading to making the models of objects and utensils, or conveying the concepts of the methodology through the models, and reporting on the results of presenting the methodology. 	<ol style="list-style-type: none"> 1. Explain and link the relationship between the technology and the other disciplines. 2. Analyse the technological system. 3. Safely make objects and utensils or the methodologies in accord with the technological process by conveying the ideas through an image and models, leading to making things or conveying the concepts of the methodology through the models, and reporting on the results by using or presenting the 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 OT2.1: Understanding of the technology and technological processes; designing and making objects, utensils or the methodologies through the creative technological processes; selective utilization of the technologies beneficial to one's life, society and the environment; participation in sustainable technological management

Grade-level Indicators

Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
	<p>3. Apply the knowledge of appropriate utilization of utensils and equipment into making simple toys and utensils.</p> <p>4. Have at least one creative feature in solving the problems or responding to needs.</p>			<p>4. Have at least two creative features in solving the problems or responding to the needs.</p> <p>5. Choose the technologies to use in daily life for the benefits of life and the society and reuse the objects and the utensils.</p>	<p>3. Apply the knowledge and the skills into making the objects and the utensils.</p>

Grade-level Indicators			Interval Indicators
Grade 7	Grade 8	Grade 9	Grades 10-12
	<p>3. Have creativity in problem-solving or responding to the needs in their own production.</p> <p>4. Apply the technologies into life, the society and the environment, and reduce the consumption of resources or choose to use the technologies without the negative effects on the environment.</p>		<p>5. Apply the technologies suitable to daily life for the benefit of life, the society and the environment, and sustainably manage the technologies through the methodology of clean technologies.</p>

Strand 3: Information and Communication Technology (ICT)

Standard OT3.1: Understanding, appreciation and efficient, effective and ethical application of information technology 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
<ol style="list-style-type: none"> 1. Tell the information of interest and the sources of information around them. 2. Tell the benefits of information technology instruments. 	<ol style="list-style-type: none"> 1. Tell the benefits of information and collect the information of interest from the various reliable sources. 2. Tell the benefits of and conserve the sources of information. 3. Tell the names and the functions of the basic instruments forming the major components of a computer. 	<ol style="list-style-type: none"> 1. Search for the information in stages and present it in various forms. 2. Tell the methods of caring for and maintaining the information technology instruments. 	<ol style="list-style-type: none"> 1. Tell the names and the functions of the information technology instruments. 2. Tell the basic principles of the function of a computer. 3. Tell the advantages and the disadvantages of operating the computers. 4. Use the computers' functioning systems for work. 5. Create images or work from imagination with responsibility by using graphics programmes. 	<ol style="list-style-type: none"> 1. Search for and collect the information of interest and of useful purposes from the various reliable sources. 2. Create documentary work for use in daily life with responsibility. 	<ol style="list-style-type: none"> 1. Tell the basic principles of problem-solving. 2. Use a computer to search for information. 3. Store useful information in various forms. 4. Present the information in appropriate forms by choosing applied software. 5. Use a computer to facilitate creation of work pieces from imagination or from work performed in daily life with awareness and responsibility.

Grade-level Indicators			Interval Indicators
Grade 7	Grade 8	Grade 9	Grades 10-12
<ol style="list-style-type: none"> 1. Explain the principles of function, the roles and the benefits of a computer. 2. Discuss about the main characteristics and the effects of information technologies. 3. Process the data so as to serve as information. 	<ol style="list-style-type: none"> 1. Explain the basic principles of the communicating information and the computer networks. 2. Explain the principles and the methods of problem-solving through the information technology processes. 3. Search for information and communicate through the computer networks morally and ethically. 4. Use software for work. 	<ol style="list-style-type: none"> 1. Explain the principles of implementing a project requiring the application of information technologies. 2. Write the basic programming languages. 3. Use the information technologies in forms appropriate to the type of work. 4. Use the computers to facilitate creation of work from imagination or from work performed in daily life in accord with the principles of project implementation with awareness and responsibility. 	<ol style="list-style-type: none"> 1. Explain the composition of the information system. 2. Explain the components and the principles of the function of a computer. 3. Explain the information communication system for computer networks. 4. Tell the characteristics of a computer and the connecting accessories. 5. Efficiently solve problems through the information technology processes. 6. Write programming languages. 7. Develop computer projects. 8. Use hardware and software appropriate to various tasks. 9. Communicate and search for information through the Internet. 10. Use the computers in processing data to serve as information for decision-making. 11. Use the information technologies to present the achievements in appropriate forms as targeted.

Strand 3: Information and Communication Technology (ICT)

Standard OT3.1: Understanding, appreciation and efficient, effective and ethical application of information technology 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

Grade-level Indicators			Interval Indicators
Grade 7	Grade 8	Grade 9	Grades 10-12
			<p>12. Use the computers to facilitate creation of work or projects with the awareness and the responsibility.</p> <p>13. Tell the recommended instructions for the information technologies users.</p>

Strand 4: Occupations

Standard OT4.1: Understanding and acquiring the necessary skills and experiences; proper perception of future career; the technological application for occupational development; possessing morality and favourable attitude towards careers

Grade-level Indicators

Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
-	-	-	1. Explain the meaning and the importance of the occupations.	1. Collect information of various occupations in the community. 2. Specify the differences of various occupations.	1. Explore the hidden possibilities that lie with themselves to plan for future occupations. 2. Specify the knowledge, the capacities and the morality relevant to the occupations of interest.

Grade-level Indicators			Interval Indicators
Grade 7	Grade 8	Grade 9	Grades 10-12
<ol style="list-style-type: none"> 1. Explain the guidelines for choosing the occupations. 2. Have favourable attitude towards livelihood. 3. Recognise the importance of generating the occupations. 	<ol style="list-style-type: none"> 1. Explain how to strengthen occupational skills. 2. Specify self-preparation for entering the employment field. 3. Have the basic skills required for taking up occupations of interest. 	<ol style="list-style-type: none"> 1. Explain how to search for the employment through diverse methods. 2. Analyse the guidelines for entering the employment field. 3. Evaluate alternatives for taking up occupations according to their knowledge, attitudes and interests. 	<ol style="list-style-type: none"> 1. Discuss about the guidelines for taking up the occupations of interest. 2. Choose and apply technologies appropriate to the occupations. 3. Have experiences in the occupations they have aptitude and interest. 4. Have the desired characteristics for the occupations.