Grade 8 Syllabus

Science

Content and Learning Outcomes Selected from Grade 7 to be Covered in Grade 8

(28 Periods)

Competency: 1.0. **Explores life and life processes in order to improve the productivity of biological systems.**

Competency: 2.0. **Investigates matter, properties of matter and their interaction to enhance the quality of life.**

Competency: 3.0. **Utilizes various forms of energy, their interaction with matter and energy transformations by maintaining efficiency and effectiveness at an optimum level.**

Competency: 4.0. **Explores nature, properties and processes of earth and space by understanding natural phenomena for intelligent and sustainable utilization.**

Competency level	Content	Outcomes	Periods	Special Notes

3.5 Conducts simple activities to demonstrate the usage of forms of energy.	• Forms of energy
	  • Mechanical
	  • Electrical
	  • Sound
	  • Light
	  • Thermal
	  • Chemical
		Students will be able to;
		1. Give examples of various forms of energy.
		2. List different devices that use various forms of energy.
		3. Demonstrate various forms of energy in usage based on simple activities.
		4. Appreciate the uses of different forms of energy.
			03	• Facilitate to achieve first and second learning outcomes through home-based assignments.
				• Conduct all activities through teacher demonstrations.

4.1 Constructs and uses models to demonstrate the structure of the earth.	• The planet Earth • Structure of the Earth	**Students will be able to;** 1. Describe core, mantle and crust of the earth. 2. Explain modes of movements plates.	03	• Facilitate to achieve learning outcomes through discussions

Competency level	Content	Outcomes	Periods	Special Notes
		3. Demonstrate the structure of the earth's interior using suitable activities. 4. Make models to illustrate the structure of the earth. 5. Conduct simple activities to demonstrate plate tectonics. 6. Accept that the earth's crust is dynamic.		by using models, video clips and teacher demonstrations.
3.6 Demonstrates phenomena related to formation of shadows. **3.7 Conducts simple activities to demonstrate the nature of images formed by mirrors.**	• Light • Formation of shadows • Image forming • Plane mirror • Curved mirror	**Students will be able to;** 1. Describe factors affecting formation of shadows. 2. Describe factors affecting formation of shadows. 3. Describe the nature of images formed in plane mirrors and curved mirrors. 4. State the uses of different types of mirrors. 5. Demonstrate formation of the shadow by an opaque object. 6. Conduct simple activities to observe the nature of images formed in plane mirrors and curved mirrors. 7. Accept that the formation of shadows and images are different phenomena.	04	• Facilitate to achieve learning outcomes through teacher demonstrations and discussions.
1.6 Uses the microscope correctly.	• Some important tools of a biologist • Simple microscope	**Students will be able to;** 1. Identify major parts of simple and compound microscopes. 2. Describe functions of different parts	02	• Give opportunity for all students to observe either plant or animal cell using

Competency level	Content	Outcomes	Periods	Special Notes
	• Compound microscope Magnification and resolution power of a microscope (introduction only)	of a compound microscope. 3. Express the terms magnification and resolution power. 4. Use the microscope correctly 5. Observe plant and animal cells properly under the microscope. 6. Accept that microscope should be handled carefully.		simple or compound microscope. • Facilitate to achieve learning outcomes through discussions by video clips, diagrams and teacher demonstrations.

3.8. Conducts simple experiments related to the generation and propagation of sound.	• Sound
	  • Origin of sound (vibration)
	  • Propagation of sound
	  • Speed
	  • Medium
		Students will be able to;
		1. Express that sound is generated by vibration.
		2. State that a medium is necessary for the propagation of sound.
		3. Explain that the speed of sound is different in different media.
		4. Generate sound by vibrating suitable objects
		5. Design and conduct activities to show the propagation of sound is different in different media.
		6. Accept that sound is generated by vibration.
		7. Accept that the medium affects the speed of sound.
			02	• Facilitate to achieve learning outcomes through teacher demonstrations and discussions.

Competency level	Content	Outcomes	Periods	Special Notes

1.7. Explores levels of organization of life.
 	
1.8 Explores structural and functional relationships related to the human digestive system and the respiratory system.
	• Levels of organization
	  • Cell
	  • Tissue
	  • Organ
	  • System
	  • Organism
	• Digestive system
	• Respiratory system
		Students will be able to;
		1. State that there is a hierarchy in the organization up to the organism level.
		2. Observe organisms using specimens to identify different levels of organization.
		3. Explain the structure of the human digestive system using diagrams.
		4. Explain the structure of the human respiratory system using diagrams.
		5. Construct models to demonstrate the human digestive and respiratory systems
		6. Appreciate the complexity of organization of the living world.
			02	• Facilitate to achieve 5th learning outcomes through home-based assignments.
				• Facilitate to achieve learning outcomes through discussions by using models, video clips and teacher demonstrations.

4.2 Shows knowledge on the atmosphere.	• Atmosphere
	  • Layers of atmosphere
	  • Air and its composition
		Students will be able to;
		1. Describe the variation of pressure and temperature qualitatively across the layers of the atmosphere.
		2. State the composition of the air in the troposphere (lower atmosphere).
		3. Illustrate layers of the atmosphere and their properties using diagrams
		4. Realize the importance of atmosphere for the existence of life on the earth.
			02	• Facilitate to achieve learning outcomes through discussions by using models, video clips, diagrams and teacher demonstrations.

Competency level	Content	Outcomes	Periods	Special Notes

3.9 Uses thermometer correctly.	• Heat and temperature
	  • Measuring temperature
	  • Thermometer and units of temperature
		Students will be able to;
		1. State that there are different types of thermometers based on the liquid (thermometric substance) used in the scale.
		2. Express the units of temperature as degree Celsius, degree Fahrenheit and Kelvin.
		3. Express the terms 'boiling point' and 'melting point'
		4. State that human body temperature is constant (37 ^{0}C) and clinical thermometer could be used to diagnose feverish conditions
			02	

4.3 Conducts simple activities to investigate structure and components of soil.	• Soil
	  • Types
	  • Composition of soil
	  • Soil air, soil water, soil organisms, decaying matters
	  • Soil erosion
		Students will be able to;
		1. Name soil types.
		2. Compare and contrast different soil types.
		3. State the composition of soil.
		4. Describe constituents of soil and their functions.
		5. Make a model of a soil profile
		6. Conduct simple activities to show the presence of air, water, organisms and decaying matter in soil
		7. Conduct simple activities to observe
			03	• Facilitate to achieve 5th, 6th, 7th and 8th learning outcomes through home-based assignments.
				• Facilitate to achieve learning outcomes through discussions by using models, video clips, diagrams and

Competency level	Content	Outcomes	Periods	Special Notes
		constituents of different types of soil 8. Conduct simple activities to illustrate soil erosion 9. Collect articles and pictures regarding soil composition and erosion		teacher demonstrations.
4.4Exhibits knowledge onthe importance of minerals and rocks as natural resources.	• Rocks and minerals • Characteristics • Types of rocks and minerals • Weathering of rocks • Rock cycle	**Students will be able to;** 1. State characteristics of rocks and minerals. 2. Differentiate between rocks and minerals. 3. Explain mechanisms of weathering of rocks. 4. Explain rock cycle. 5. Illustrate rock cycle with diagrams/ photographs 6. Realize the importance of rocks and minerals as natural resources. 7. Accept that rocks and minerals are limited and should be used sustainably.	03	• Facilitate to achieve 5th learning outcome through home-based assignments. • Facilitate to achieve learning outcomes through discussions by using models, video clips, diagrams and teacher demonstrations.
4.5 Takes necessary action to use sources of energy sustainably.	• Energy sources • Renewable • Non-renewable	**Students will be able to;** 1. Describe the terms 'renewable sources of energy' and 'non-renewable sources of energy'. 2. Give examples for renewable and non-renewable sources of energy. 3. Accepts the importance of sustainable use of sources of energy.	02	• Facilitate to achieve learning outcomes through discussions by using video clips and diagrams.

Content and Learning Outcomes Selected from Grade 08 to be Covered in Grade 8

(72 Periods)

Competency	Competency level	Content	Learning Outcomes	Time	Remarks
1.0 Explores life and life processes in order to improve productivity of biological systems.	1.1 Explore the importance of microorganism	• Importance of microorganisms • Impacts of micro-organisms	**Students should be able to:** 1. conduct simple activities to show that there are living organisms which cannot be seen with the naked eye. 2. design and conduct group activities to investigate the effects of microorganisms on food. 3. explore instances where microorganisms change the properties of some substances. 4. collect and present information about importance of micro-organisms. 5. state the importance of microorganisms. 6. accept that some of the microorganisms are beneficial and some others are harmful.	03	• Facilitate the achievement of first and second outcomes through teacher demonstrations, third outcome through a discussion using diagrams or videos and fourth outcome through a home-based assignment.

Competency	Competency level	Content	Learning Outcomes	Time	Remarks

	1.2 Examine the external features of animal groups.	• Classification of animals
		  • Major groups of invertebrates
		  • Major groups of vertebrates
			Students should be able to:
			1. state a few examples and collect some possible specimens for invertebrate groups (coelenterates, annelids, mollusks and arthropods)
			2. state a few examples and collect some possible specimens for vertebrate groups (pisces/fishes, amphibians, reptiles, aves/birds and mammals)
			3. classify given invertebrates into major groups using external features
			4. classify given vertebrates into major groups using external features
			5. appreciate the diversity of invertebrates and vertebrates
				03	• Facilitate the achievement of outcomes through discussions by using live specimens, diagrams and videos.

Competency	Competency level	Content	Outcomes	Time	Remarks

	1.3 Describe basic functions of plants.	• Basic functions of parts of a plant
		  • Basic functions of plant leaves
		  • Other functions of plant leaves
		  • Diversity of plant leaves
		  • Basic functions of the plant stem
		  • Other functions of the plant stem
		  • Diversity of the plant stem
		  • Basic functions of plant roots
		  • Other functions of plant roots
		  • Diversity of plant roots
			Students should be able to:
			1. explore and draw the major parts of a plant
			2. describe the basic functions of major parts of a plant
			3. explain the adaptations of plants that lead to diversity
			4. investigate the environment with a view to relating the adaptations of major parts of plants to their specific functions
			5. collect and draw plant specimens with the specific adaptations in leaves, stems or roots
			6. prepare a collection of plant specimens and preserve them with relevant information
			7. appreciate the diversity among different parts of a plant
			8. accept that the exploration of environment should be carried out with minimum damage to the environment
				03	• Instruct students to explore the diversity of plant leaves, stems and roots as a home-based assignment prior to start the lesson

Competency	Competency level	Content	Outcomes	Time	Remarks

	1.4 Explore the human excretory system.	• Excretory organs and excretory products of humans
		  • Kidneys- Urine
		  • Lungs- Carbon dioxide
		  • Skin- Sweat
		• Parts of the urinary system
		• Kidney
		  • Structure
		  • Location
			Students should be able to:
			1. state what excretion is
			2. name excretory organs and excretory products of the human
			3. draw and label the major parts of the human urinary system
			4. describe the structure and location of the kidney
			5. state the causes and prevention measures for kidney damage
			6. accept the importance of maintaining a healthy life style for a proper functioning of the excretory system
				02	• Facilitate the achievement of outcomes through discussions by using models, diagrams and Gurugedara lessons.

	1.5 Explore the human nervous system.	• Human nervous system
		  • Nervous coordination
		  • Major parts of the central nervous system
		  • Peripheral nervous system
			Students should be able to:
			1. discuss what nervous coordination is
			2. identify the major parts of the human central nervous system
			3. state how central nervous system is protected
			4. state what peripheral nervous system is
			5. accept the importance of taking necessary protective measures in day-to-day activities to protect the nervous system as it is can be easily damaged.
				02	• Facilitate the achievement of outcomes through discussions by using models, diagrams and Gurugedara lessons.

Competency	Competency level	Content	Outcomes	Time	Remarks
	1.6 Examine the structural and functional relationship of the human skin	• Basic structure of the human skin • Basic functions of the skin	**Students should be able to:** 1. explain major functions of the human skin 2. draw an outline diagram of the human skin and label the major parts 3. collect information on some treatment done on the skin and their effects 4. accept the importance of maintaining healthy skin 5. accept the need for avoidance of unnecessary treatments on the skin	02	

	1.7 Investigates some plant processes that ensure the survival of plants and protection of the environment	• Mechanisms involved in the transport of materials in plants
		  • Osmosis
		  • Diffusion
		• Some processes involved in plants
		  • Transportation
		  • Transport of water
		  • Transport of minerals
		  • Transport of food
			Students should be able to:
			1. conduct simple activities to demonstrate diffusion and osmosis
			2. describe diffusion and osmosis as major modes of transportation in plants
			3. conduct simple activities to show the transportation of water
			4. state appropriate examples for transport of soluble minerals and food substances by plants through their transport system
				05	• Facilitate the achievement of first, third and sixth outcomes through teacher demonstrations.

Competency	Competency level	Content	Outcomes	Time	Remarks

		• Transpiration
		  • Process
		  • Adaptations of plants to reduce transpiration
		  • Importance of transpiration
		• Guttation
		• Photosynthesis
		  • Raw materials
		  • Products
		  • Importance of photosynthesis
			5. accept the importance of material transportation for the survival of plants
			6. design and conduct suitable activities to show transpiration in plants
			7. investigate and report the adaptations of plants for minimizing transpiration with suitable examples
			8. accept the importance of transpiration distinguish between guttation and transpiration
			9. distinguish between guttation and transpiration
			10. conduct simple experiments to show the main product and by-product of photosynthesis
			11. illustrate photosynthesis using a word equation.
			12. collect and compile a report on global importance of photosynthesis
			13. accept the importance of photosynthesis for the survival of the living world		

Competency	Competency level	Content	Outcomes	Time	Remarks

	1.8 Observe and understand the life cycle of an organism.	• Life cycle of an organism
		  • Plant
		  • Animal
		• Different types of life cycles
		  • Life cycles with metamorphism
		  • Life cycles without metamorphism
		• Economical value of life cycles
			Students should be able to:
			1. diagrammatically illustrate that every living being has a life span which is completed with a life cycle
			2. illustrate and compare life cycles of the human and the butterfly
			3. describe the term metamorphism
			4. give examples for life cycles with metamorphism (frog) and life cycles without metamorphism
			5. differentiate complete and incomplete metamorphism
			6. give examples for complete and incomplete metamorphism
			7. illustrate life cycle of a flowering plant diagrammatically
			8. identify the stages of life cycles of pests with the view to controlling them successfully.
			9. accept that the stages of life cycles can be used to control pests effectively
			10. accept the importance of protecting the sensitive stages of life cycles to conserve biodiversity
				04	• Facilitate the achievement of learning outcomes through discussions by using diagrams, Gurugerdara lessons and video clips.

Competency	Competency level	Content	Learning Outcomes	Time	Remarks
	1.9 Use the knowledge of food preservation as well as processing techniques in purchasing the food item.	• Preserved food • Processed food	**Students should be able to:** 1. describe what food preservation is 2. explain the necessity of food preservation 3. give example for preserved and non-preserved foods 4. give example for processed foods 5. list out various traditional and modern technological methods of food preservation 6. explain the principles behind food preservation 7. preserve available food items 8. list out the benefits and drawbacks of processed foods and preserved foods 9. accept the importance of analyzing the information printed on processed food packs before purchasing	03	• Direct students to complete proposed food preservation activities to be done in the classroom as home-based assignments.

Competency	Competency level	Content	Outcomes	Time	Remarks

2.0 Investigates matter, properties of matter and their interactions to enhance the quality of life.	2.1 Investigates the discontinuous nature of matter.	• Particle/discontinuous nature of matter
		• Physical properties of matter in relation to particle nature (qualitatively)
		  • Shape
		  • Volume
		  • Compressibility
		  • Density
		• Differences in arrangement and differences in movements of particles in the three states of matter
			Students should be able to:
			1. conduct simple activities to show the particulate/ discontinuous nature of solids, liquids and gases
			2. list out examples in support of the discontinuous nature of matter
			3. illustrate diagrammatically the arrangement of particles in the three states of matter
			4. state that the matter is composed of very small particles
			5. explain shape and volume as two physical properties of solids, liquids and gases
			6. explain the terms density and compressibility and introduce them as another two physical properties of matter
			7. compare and contrast solids, liquids and gases with respect to the given physical properties
			8. accept the importance of discontinuous nature of matter in day-to-day life
			9. appreciate the method of logical speculation used by scientists to understand the nature of matter
				04	• Facilitate the achievement of first, fifth and sixth outcomes through teacher demonstrations.

Competency	Competency level	Content	Outcomes	Time	Remarks

	2.2 Investigates how the physical properties of matter should be utilized in day-to-day life.	• Physical properties of matter
		  • Lustre
		  • Colour
		  • Texture
		  • Hardness
		  • Elasticity
		  • Odour
		  • Brittleness
		  • Density
		  • Expansivity
		  • Conductivity (thermal and electrical)
		  • Malleability
		  • Ductility
		  • Sonority
		• Pure substances
		  • Elements
		  • Metals and Nonmetals
		  • Compounds
			Students should be able to
			1. classify the given substances as pure and impure substances
			2. state that the substance which has a constant composition is a pure substance
			3. state that the pure substance that cannot be divided further is an element
			4. state that the pure substance consists of two or more elements is a compound
			5. conduct simple activities to explore physical properties of substance
			6. describe that different substances have different physical properties
			7. conduct simple activities to observe density, melting point and boiling point
			8. design and conduct simple activity to show electrical conductivity of given substances
			9. state that pure substances have constant values for physical properties such as density, melting point and boiling point
			10. classify given pure substances as elements and compounds
			11. classify of given elements as metals and nonmetals based on their physical properties
			12. accept that physical properties of the substances use full in day-to-day activities
				04	• Facilitate the achievement of first, second, third, fourth, seventh, eight and nineth learning outcomes through teacher demonstrations.
					• In exploring physical properties of substances, it is not necessary to conduct activities on texture, hardness, elasticity, brittleness, density, malleability, ductility and sonority.

Competency	Competency level	Content	Outcomes	Time	Remarks

	2.3 Explore the effect of changes in matter occurring in the environment	• Changes in matter
		• Physical changes associated with change of state
		  • Fusion/ Melting
		  • Vaporization
		  • Sublimation
		  • Condensation
		  • Freezing
		• Chemical changes
		  • Evidences for a chemical reaction
		  • Changes in colour
		  • Liberation of a gas
		  • Emission or absorption of heat
		  • Precipitation
		  • Reactants and products
		  • Open and closed systems
		  • Law of conservation of mass
		• Common examples of chemical changes
		  • Combustion
		  • Tarnishing of metals
			Students should be able to
			1. conduct simple activities to demonstrate the changes of matter
			2. state that matter can be changed by transferring energy
			3. categories the given changes depending on the fact composition of substance that remains changed or unchanged
			4. state that a physical change is a one where the composition of a substance remains unchanged
			5. a chemical change always involves formation of new substances with different composition
			6. design and conduct simple activities to demonstrate the physical changes associated with change of state
			7. give evidence for the occurrence of chemical changes by simple activities
			8. identify the reactants and products of a given chemical change
			9. describe an open system and a closed system using simple activities
			10. state the law of conservation of mass using the results of the activities performed
			11. describe combustion as a chemical reaction between a combustible substance and a supporter of combustion
			12. describe fire triangle and requirement of reaching the ignition point for breaking out a fire
			13. design and carry out experiments to demonstrate that carbon dioxide and
				11	• Facilitate the achievement of learning outcomes through teacher demonstrations and discussions.

		• Corrosion • Rusting of iron • Prevention of rusting of iron • Neutralization	water are produced during combustion 14. distinguish complete and incomplete combustion 15. name the zones of the flames of a candle and the Bunsen burner 16. state that tarnishing of metals and rusting of iron are chemical changes 17. conduct simple experiments to demonstrate the requirements for rusting of iron 18. state methods that can be used to prevent rusting of iron 19. take precautions to retard rusting of iron objects used in day today life 20. accept that rusting of iron is an enormous economical damage and taking preventive measures is very important 21. state that acids are neutralized by bases and vice versa 22. demonstrate neutralization reactions using a suitable indicator 23. give examples for the adoption of neutralization principles in day-to-day life 24. classify the changes occurring in day-to-day life as physical changes and chemical changes		

Competency	Competency level	Content	Outcomes	Time	Remarks

3.0. Utilizes various forms of energy, their interaction with matter and energy transformations by maintaining efficiency and effectiveness at an optimum level.	3.1 Develop awareness on generation of sound.
	
	3.2 Construct simple instruments to generate sound and make necessary changes to produce required sound
		• Generation of sound
		• Generation of sound by the vibration of:
		  • Strings and rods
		  • Diaphragms
		  • Air columns
			Students should be able to:
			1. identify three types of sources of sound by playing simple sound generating instruments
			2. give examples for the instruments that produce sound by vibrating strings or rods, diaphragms and air columns
			3. explain that all natural and artificial sounds are generated by vibration of strings or rods, diaphragms and air columns
			4. conduct a simple activity to show all vibrations do not produce sound that can be heard by human
			5. identify variation of sound according to the change in length of a prong of tuning forks
			6. explain the difference between noise and musical sounds
			7. appreciate the use of music to improve quality of life
				03	• Sixth and seventh learning outcomes of the original syllabus were removed.
					• Facilitate the achievement of learning outcomes through teacher demonstrations and discussions.

Competency	Competency level	Content	Outcomes	Time	Remarks

	3.3 Gains experiences on productive uses of magnets	• Magnets
		  • Permanent magnets
		  • Magnetic poles
		  • Field patterns of bar magnets
		• Applications of permanent magnets
		• Earth magnetism and compass
			Students should be able to
			1. use different methods to demonstrate the magnetic field around a bar magnet
			2. describe that the region around a magnet where it has a magnetic effect as the magnetic field
			3. explain what earth magnetism is
			4. explain compass as the equipment which can be used to find the direction of magnetic fields
			5. state that there is a difference between magnetic North and geographical North
			6. conduct simple activities to make permanent magnets by stroking and electrical methods
			7. explain that permanent magnets are made of materials which retain magnetic properties for a long time
			8. state that steel is suitable to make permanent magnets and soft iron is suitable for temporary magnets
			9. use and keep magnets in a proper manner
			10. give examples for applications of permanent magnets
				04	• First, fourth and seventh learning outcomes of the original syllabus were removed.
					• Facilitate the achievement of learning outcomes through teacher demonstrations and discussions.

Competency	Competency level	Content	Outcomes	Time	Remarks
	3.4 Develop awareness of basic quantities related to current electricity and measure those quantities using relevant instruments	• Quantities related to current electricity and measuring those quantities • Voltage • Electric current • Resistance	**Students should be able to:** 1. explain electric potential with suitable examples 2. explain voltage as a potential difference 3. state the unit of voltage as 'volt' (V) 4. measure the voltage between two given points in a circuit using a voltmeter correctly 5. describe that flow of current is from higher potential to the lower potential 6. state that the direction of current is from the positive terminal to the negative terminal 7. state the unit of electric current as the 'ampere' (A) 8. measure the value of current passing a given point of a circuit using an ammeter correctly 9. explain resistance as a property which opposes the passage of an electric current through a conductor 10. express the unit of resistance as 'ohm' (Ω) 11. accept of the importance of measuring electrical quantities correctly	03	• As students have already taken measurements using voltmeter and ammeter, facilitate the achievement of learning outcomes through teacher demonstrations and discussions.

Competency	Competency level	Content	Outcomes	Time	Remarks

	3.5 Uses simple electrical appliances productivity in day-to-day activities.	• Connection of cells and bulbs
		  • Series
		  • Parallel
		• Simple electrical circuit
		  • Torch
		  • Light decorations
		• Safety and economic uses of electrical appliances at home environment
		• Current controlling components
		  • Switches
		  • Fixed resistors
		  • Variable resistors
		  • Rheostat
		  • Light dependent resistor (LDR)
			Students should be able to:
			1. construct simple electrical circuits in series and in parallel using the given circuit diagrams
			2. explain the observations on the circuits in series and in parallel
			3. draw the circuit diagram of a torch
			4. state that a bulb lights up only when the circuit is completed
			5. build suitable light decoration circuits according to given situations
			6. use circuit assembling tools effectively
			7. use current controlling components to control the current in a circuit appropriately
			8. list out safety measures to be taken when using electrical appliances in the home
			9. collect information on the electrical appliances used at home and select more effective and efficient appliances
				05	• Facilitate the achievement of first four learning outcomes through teacher demonstrations and the last one through home-based assignment
					• Competency level 3.6 was completely removed.

Competency	Competency level	Content	Outcomes	Time	Remarks

4.0. Explores nature, properties and processes of earth and space by understanding natural phenomena for intelligent and sustainable utilization	4.1 Inquire in to information on the solar planetary system, space and space exploration.
	
	4.2. Develop skills to demonstrate the solar planetary system and some important phenomena related to it
		• Sun, Earth and moon
		• Rotation and revolution of the Earth
		  • Seasons
		• Phases of moon
		• Eclipses
		  • Lunar eclipse
		  • Solar eclipse
		• Solar planetary system
		• Constellations
		  • Constellations in the zodiac
		  • Other constellations
		• Space exploration
		• Artificial satellites
			Student should be able to:
			1. construct various models to demonstrate the rotation and revolution of the Earth and the moon
			2. use models to describe the occurrence of seasons
			3. illustrate phases of moon diagrammatically
			4. use models to demonstrate lunar a solar eclipse
			5. describe occurrence of lunar and solar eclipses using ray diagrams
			6. construct various models to illustrate the solar planetary system
			7. identify major constellations and name important stars belongings to some constellations
			8. identify planets and stars by observing, night sky
			9. state that selected twelve constellations in the path of the apparent motion of earth is termed the zodiac
			10. present information related to space exploration and artificial satellites using attractive ways
			11. accept the importance of artificial satellites in communication systems
			12. accept that all space exploration activities should be aimed at the wellbeing of humankind
				11	• Facilitate the achievement of first, fourth and sixth learning outcomes through home-based assignments.
					• Facilitate the achievement the other learning outcomes through discussions by using diagrams, models and teacher demonstrations

Competency	Competency level	Content	Outcomes	Time	Remarks

	4.3. Investigates the scientific basis of climatic changes related to natural disasters.	• Scientific basis of
		  • Drought
		  • Flood
		  • Landslide
		  • Lightning
			Students should be able to;
			1. describe the causes for natural disasters (i.e. drought, flood, landslide and lightning)
			2. accept the importance of taking precautions to minimize damages caused by natural disasters
			3. appreciate the importance of communication to minimize damages caused by natural disasters
				03	• Second learning outcome of the original syllabus was removed.
					• Facilitate the achievement the learning outcomes through discussions by using diagrams and video clips.