Dharmapala College. Pannipitiya

GRADE 6 SCIENCE SYLLABUSES

1st term							
Unit	**Competency**		**Competency Levels**	**Time**	**Scheduled date**	**Date of Completion**	**Remarks**
1.0	**Observes the environment as a scientist.**	1.1	Observes components of the environment. • Scientific observations • Sense organs that assist observations • Instruments required to obtain observations • Components of the environment • Things • Events				
		1.2	Observes to identify things in the environment. • Natural/artificial • Living/non-living • Material/non-material (energy)				
		1.3	Observes to identify phenomena in the environment. • Kinds of phenomena • Recurrent/non-recurrent • Autogenic/non-autogenic • Related to biotic environment/related to abiotic environment				
2.0	**Examines components in the environment quantitatively.** .	2.1	Uses measurements of length to describe objects in the environment • Length as a basic physical quantity • Units and sub-units of measuring length • Arbitrary • Standard • Instruments and strategies of measuring length				

		2.2	Uses measurements of mass to describe materials in the environment where appropriate.
			• Mass as a basic physical quantity
			• Units and sub-units of measuring mass
			  • Arbitrary
			  • Standard
			• Instruments and strategies of measuring mass				

		2.3	Uses measurements of time to describe phenomena in the environment where appropriate.
			• Time as a basic physical quantity
			• Units and sub-units of measuring time
			  • Arbitrary
			  • Standard
			• Instruments and strategies of measuring time				

		2.4	Uses measurements of temperature to describe phenomena in the environment appropriately.
			• Temperature as a basic physical quantity
			• Standard units of measuring temperature
			• Instruments and strategies of measuring temperature
			• Temperature measurements related to environment
			  • Change of state
			  • Body temperatures of animals and plants				

3.0	**Investigates animal diversity.**	3.1	Investigates similarities and dissimilarities among organisms. • Need to identify diversity among organisms • Characteristics common to organisms • Characteristics common to plants • Characteristics common to animals • Differences between plants and animals				

		3.2	Investigates animal diversity in relation to the environment they live in.
			• Types of animals according to the environment they live in
			  • Aquatic
			  • Terrestrial
			  • Tree living(arboreal)
			  • Soil
			• Animal diversity based on the environment they live in				

		3.3	Investigates animal diversity in relation to their external characteristics.
			• External characteristics that favour diversity among animals.
			  • Colour
			  • Shape
			  • Symmetry
			  • Appendages
			• Animal diversity based on external characteristics				

		3.4	Investigates animal diversity in relation to their type of food.
			• Groups of animals in relation to their type of food
			  • Herbivore
			  • Carnivore
			  • Omnivore
			• Animal diversity based on the type of food				

		3.5	Investigates animal diversity in relation to locomotion
			• Animal groups based on locomotion
			  • Locomotion possible
			  • Locomotion not possible (sedentary)
			• Methods of locomotion among animals
			  • Flying
			  • Creeping
			  • Walking
			  • Swimming
			• Animal diversity based on methods of locomotion				

		3.6	Classifies animals using suitable criteria and methods
			• Criteria for classification
			  • External features
			  • Environment they live
			  • Type of locomotion
			  • Nature of feeding
			• Clasification based on dichotomous key				

2nd term							
Unit	**Competency**		**Competency Levels**	**Time**	**Scheduled date**	**Date of Comple**	**Remarks**

4.0	**Investigates plant diversity.**	4.1	Investigates plant diversity in relation to morphological features
			• Morphological features in plants
			  • Stems
			  • Roots
			  • Leaves
			  • Flowers
			  • Fruits
			  • Seeds
			• Plant diversity based on morphological features				

		4.2	Investigates plant diversity in relation to habitat
			• Types of plants in relation to habitat
			  • Mangroves
			  • Hydrophytes
			  • Sea shore
			  • Xerophytes
			  • Epiphytes
			• Plant diversity based on habitat				

		4.3	Classifies plants using suitable criteria and methods
			• Criteria for classification
			  •morphological features
			  •habitat
			• Classification based on dichotomous key				

5.0	**Makes investigations to identify the nature of the earth and space.**	5.1	Investigates phenomena in relation to motion of the sun and the moon. • Concept of apparent motion • Apparent motion of the sun and related phenomena • Apparent motion of the moon and related phenomena • Lunar phases • Solar eclipse and lunar eclipse				

		5.2	Investigates to identify the structure of the earth
			• Basic components of the earth
			  • Hydrosphere
			  • Atmosphere
			  • Lithosphere
			• Distribution and characteristics of the components				

		5.3	Investigates to identify the nature of hydrosphere
			• Criteria that describe hydrosphere
			• Physical states of water
			• Sources of water
			  • Marine (ocean/sea/lagoon)
			  • Fresh water (rain/rivers/springs /tanks/lakes/reservoirs /ponds / ground water / glaziers)
			• Modes of precipitation
			• Rain
			• Mist
			• Dew
			• Sleet
			• Frost
			• Snow				

		5.4	Investigates the existence of hydrosphere
			• Hydrological cycle
			  • Stages (ground water, surface water, water within organisms, water vapour, clouds)
			• Processes
			  • Evaporation and transpiration
			  • Condensation
			  • Absorption
			  • Run off and infiltration				

		5.5	Investigates the contribution of water for the existence of organisms. • Amount of water in plants and its function • Amount of water in animals and its function • Soil water and its function • Atmospheric water vapour and its function				

		5.6	Investigates the utilization of water in diverse fields and the consequent impact on water resources.
			• Various fields where water is utilized
			  • Agriculture
			  • Industries
			  • Transportation
			  • Recreation/sports
			  • Domestic
			• Impact on the water resource due to human activities
			  • Favourable impacts
			  • Unfavourable impacts
			• Strategies for the prevention of water pollution				

		5.7	Manages domestic water consumption. • Per capita water consumption • Domestic water consumption • Instances of waste of domestic water • Instances of pollution of domestic water • Techniques of domestic water conservation				

3rd term							
Unit	**Competency**		**Competency Levels**	**Time**	**Scheduled date**	**Date of Completion**	**Remarks**

6.0	**Investigates properties interactions, and uses of matter.**	6.1	Classifies matter in relation to their physical properties.
			• Properties of matter
			  • Colour
			  • Texture
			  • Lustre
			  • Hardness
			  • Brittleness
			  • Flexibility
			  • Elasticity
			  • Plasticity
			  • Transparency
			  • Conduction of heat
			  • Conduction of electricity
			  • Magnetic properties
			• Criteria for classification
			  • Conductor of heat/insulator of heat
			  • Conductor of electricity/insulator of electricity
			  • Transparence/translucence/opaque
			  • Ductility/malleability/ brittleness
			  • Elasticity/plasticity				

		6.2	Selects appropriate materials for various purposes.
			• Type of material for the purpose
			  • Building materials
			  • Materials in producing textile
			  • Materials in making tools/appliances
			  • Packing materials
			  • Materials in making jewellary/ornaments
			  • Materials in making pots and pans				

		6.3	Investigates the changes of properties of matter
			• Factors that affect the change of properties of matter
			  • Physical factors
			  • Chemical factors
			  • Biotic factors
			• Instances where properties of matter change
			  • Change of state
			  • Tarnishing of metals
			  • Decaying of organic matter
			  • Weathering of rocks				

		6.4	Conducts experiments to investigate the factors that affect rusting of iron.
			• Essential factors
			  • Water/water vapour
			  • Air				

		6.5	Investigates the factors that affect the rate of rusting. • Effect of alkali, acids and salts				

		6.6	Takes measures to control rusting.
			• Techniques of control
			  • Application of paint
			  • Immersing in oil and grease coating
			  • Coating with other metals				

7.0	**Uses concepts, principles, and theories related to energy, work and force effectively.**	7.1	Uses force in day to day life pursuits.
			• Concept of force
			  • Pull
			  • Push
			• Instances where force is applied
			  • to make a stationary object to move
			  • to stop movement of an object
			  • to change the direction of a moving object
			  • to change the speed of an object
			  • to change the shape of an object				

		7.2	Uses energy to meet human needs. • Sources of energy • Sun • Wind • Fuel • Nuclear energy • Potential energy of water • Electro-chemical cells • Instances where energy sources are being used.				
		7.3	Investigates energy transformations • Energy transformation • Kinetic energy to electrical energy • Electrical energy to kinetic energy • Electrical energy to thermal energy • Chemical energy to electrical energy • Chemical energy to thermal energy • Electrical energy to light energy • Light energy to electrical energy				
		7.4	Constructs simple conversions instruments using energy conversions. • Simple instruments based on energy				
8.0	**Exhibits preparedness for the management of natural disasters and related risk situations.**	8.1	Investigates natural disasters that Sri Lanka is subjected to and the related scientific back ground. • Natural disasters faced by Sri Lanka • Floods • Droughts • Land slides • Cyclones • Thunderbolts • Tsunami • Scientific basis of natural disasters				
		8.2	Makes contributions as a scientist to minimize the effect of natural disasters. • Simple instruments to detect weather changes • Forecasting with regard to weather data				