SCIENCE

Structuring Competencies in a Definitive Budget of Work

Grade	**FOUR**			
Science Discpline/ Component	***Force and Motion***			
GradecLevel Standard	At the end of Grade 5, learners can decide whether materials are safe and useful by investigating about some of their properties. They can infer that new materials may form when there are changes in properties due to certain conditions. Learners have developed healthful and hygienic practices related to the reproductive system after describing changes that accompany puberty. They can compare different modes of reproduction among plant and animal groups and conduct an investigation on pollination. They have become aware of the importance of estuaries and intertidal zones and help in their preservation. Learners can describe the movement of objects in terms of distance and time travelled. Learners recognize that different materials react differently with heat, light, and sound. They can relate these abilities of materials to their specific uses. Learners can describe the changes that earth materials undergo. They can make emergency plans with their families in preparation for typhoons. They can observe patterns in the natural events by observing the appearance of the Moon.			
Domain	***Force and Motion***			
Domain Standard	This time, learners begin to accurately measure the amount of change in the movement of an object in terms of its distance travelled and time of travel using appropriate tools.			
Performance Standard	The learners use appropriate measuring tools to measure distance and time and compute for the speed of toy cars in a made-up race.			
Content Standard	The learners demonstrate understanding of motion in terms of distance and time.			
CONTENT	**LEARNING COMPETENCIES**	**CODE**	**NO. OF DAY/S TAUGHT**	**REMARKS**
1. FORCE AND MOTION				

SCIENCE

Structuring Competencies in a Definitive Budget of Work

1.1 Measuring time and distance using standard units	**1. The learners should be able to describe the motion of an object by tracing and measuring its change in position(distance travelled) over a period of time.**	**S5FE-IIIa-1**		
	1.1 Define what motion is	S5FE-IIIa-1.1	1	
	1.2 Identify the different types of motion	S5FE-IIIa-1.2		
	1.3 Realize the importance of reference point in understanding motion	S5FE-IIIa-1.3	1	
	1.4 Distinguish among speed, distance, and time	S5FE-IIIa-1.4		
	1.5 Explain how to get the distance between two objects in motion	S5FE-IIIa-1.5	1	
	1.6 Measure the distance travelled by a cart along a horizontal plane	S5FE-IIIa-1.6		
	1.7 Define what speed is	S5FE-IIIa-1.7	1	
	1.8 Explain how to compute the speed of an object in motion	S5FE-IIIa-1.8	1	
	1.9 Compute for the speed of an object by dividing distance travelled by time	S5FE-IIIa-1.9		
	2. The learners should be able to use appropriate measuring tools and correct standard units.	S5FE-IIIb-2		
	2.1 Identify the appropriate tools in measuring distance, time & speed of an object in motion.	S5FE-IIIb-2.1	1	
	2.2 Identify the standard units in measuring time, distance and speed of an object in motion.	S5FE-IIIb-2.2	1	

	2.3 Explain the use of metric system units in measuring the distance of an object.	S5FE-IIIb-2.3	1	
	2.4 Realize the importance of standard unit of measurement in determining distance	S5FE-IIIb-2.4		
	2.5 Give other standard units in measuring time, distance and speed of objects in motion.	S5FE-IIIb-2.5	1	
	2.6 Use different measuring tools and standard units in measuring distance, time and speed of an object.	S5FE-IIIb-2.6	1	
	Suggested Performance Task: Toy Car Race (Completing a Speed Chart) In this suggested performance task, learners will set-up a race among toy cars and complete a speed chart showing the distance travelled, time, and speed of the toys in the race.		1	
	Summative Assessment on S5FE-IIIa-1 and S5FE-IIIb-2		1	
Domain	This time, learners explore how different objects interact with light, heat, sound, and electricity (e.g., identifying poor and good conductors of electricity using simple circuits). They learn about the relationship between electricity and magnetism by constructing an electromagnet. They also learn about the effects of light, heat, sound, and electricity on people.			
Performance Standard	The learners create a poster that shows uses of different materials that block, absorb, and transmit light.			
Content Standard	1. The learners demonstrate an understanding of how different objects interact with light and sound, heat and electricity. 2. The learners demonstrate an understanding of the effects of heat and electricity, light and sound on people and objects.			

SCIENCE

Structuring Competencies in a Definitive Budget of Work

CONTENT	LEARNING COMPETENCIES	CODE	NO. OF DAY/S TAUGHT	REMARKS
2. ENERGY				
2. Light and Sound, Heat and Electricity	**3. The learners should be able to discuss why some materials are good conductors of heat and electricity.**	S5FE IIIc-3		
2.1 Conductors of heat and electricity	3.1 Identify materials which are good conductors of heat and electricity.	S5FE-IIIc-3.1	1	
	3.2 Enumerate the characteristic of good conductors of heat and electricity.	S5FE-IIIc-3.2	1	
	3.3 Discuss why some materials are good conductors of heat and electricity.	S5FE-IIIc-3.3	1	
	3.4 Illustrate that some materials are good conductors of heat and electricity.	S5FE-IIIc-3.4	1	
	3.5 Explain the effects of heat and electricity on people and objects	S5FE-IIIc-3.5	1	
2.2 Effects of light and sound, heat and electricity	**4. The learners should be able to infer how black and colored objects affect the ability to absorb heat.**	S5FE-IIId-4		
	4.1 Describe the characteristics of black and colored objects in terms of the ability to absorb heat	S5FE-IIId-4.1	1	
	4.2 Classify objects as to black and colored objects	S5FE-IIId-4.2	1	
	4.3 Investigate how black and colored objects affect the ability to absorb heat.	S5FE-IIId-4.3	1	

	4.4 Describe how colors affect the heat absorption of an object.	S5FE-IIId-4.4	1	
	4.5 Infer how black and colored objects effect the ability to absorb heat.	S5FE-IIId-4.5	1	
	5. The learners should be able to relate the ability of the material to block, absorb, or transmit light to its use.	S5FE-IIIe-5		
	5.1 Identify the materials that can block, absorb or transmit light.	S5FE-IIIe-5.1	1	
	5.2 Understand importance of light and how it helps us in our daily lives.	S5FE-IIIe-5.2		
	5.3 Explain the effects of light on people and objects	S5FE-IIIe-5.3	1	
	5.4 Identify the materials that can block, absorb or transmit sound.	S5FE-IIIe-5.4		
	5.5 Explain the effects of sound on people and objects	S5FE-IIIe-5.5	1	
	Suggested Performance Task: Poster-Making In this suggested performance task, learners will create a poster that shows how materials that block, absorb, or transmit light are used.		1	
	Summative Assessment on S5FE-IIIc-3, S5FE-IIId-4, and S5FE-IIIe-5		**1**	
Domain	This time, learners explore how different objects interact with light, heat, sound, and electricity (e.g., identifying poor and good conductors of electricity using simple circuits). They learn about the relationship between electricity and magnetism by constructing an electromagnet. They also learn about the effects of light, heat, sound, and electricity on people.			

SCIENCE

Structuring Competencies in a Definitive Budget of Work

Domain Standard	The learners should be able to design/construct a tool or device using electromagnet that is useful for home, school, or community.			
Content Standard	The learners demonstrate an understanding of a simple DC circuit and the relationship between electricity and magnetism in electromagnets.			
CONTENT	**LEARNING COMPETENCIES**	**CODE**	**NO. OF DAY/S TAUGHT**	**REMARKS**
3. ELECTRICITY AND MAGNETISM **3.1. Circuits**	**6. The learners should be able to infer the conditions necessary to make a bulb light up.**	S5FE-IIIf-6		
	6.1 Perform an experiment on electric circuit using a bulb , cell, switch, connecting wire, alligator clips	S5FE-IIIf-6.1	1	
	6.2 Identify the parts of electric circuit	S5FE-IIIf-6.2	1	
	6.3 Describe an electric circuit	S5FE-IIIf-6.3	1	
	6.4 Infer conditions necessary to make a bulb light up	S5FE-IIIf-6.4	1	
	6.5 Trace electrical circuits at home, in school and the community	S5FE-IIIf-6.5	1	
	7. The learners should be able to determine the effects of changing the number or type of components in a circuit.	S5FE-IIIg-7		
	7.1 Identify common electrical symbols	S5FE-IIIg-7.1	1	
	7.2 Draw a simple circuit diagram using common electrical symbols	S5FE-IIIg-7.2		

	7.3 Differentiate complete from incomplete circuit and open from a closed circuit	S5FE-IIIg-7.3	1	
	7.4 Differentiate between a series circuit and a parallel circuit	S5FE-IIIg-7.4	1	
	7.5 Discuss the advantages and disadvantages of series and parallel circuits	S5FE-IIIg-7.5		
	8. The learners should be able to infer that electricity can be used to produce magnets.	S5FE-IIIh-8		
	8.1 Investigate how magnets interact with other magnets and metallic objects	S5FE-IIIh-8.1	1	
	8.2 Describe the relationship between electricity and magnetism	S5FE-IIIh-8.2		
	8.3 Describe an electromagnet	S5FE-IIIh-8.3	1	
	8.4 Infer that electricity can be used to produce magnets	S5FE-IIIh-8.4		
	Summative Assessment for S5FE-IIIf-6, S5FE-IIIg-7, and S5FE-IIIh-8		1	
3.2. Electromagnets	**9. The learners should be able to design an experiment to determine the factors that affect the strength of the electromagnet**	S5FE-IIIi-j-9		
	9.1 Identify the kind of materials that make up an electromagnet	S5FE-IIIi-j-9.1	1	
	9.2 Investigate how the no. of coils affect the strength of an electromagnet	S5FE-IIIi-j-9.2		

	9.3 Explain the effect of the no. of coil to the strength of an electromagnet	S5FE-IIIi-j-9.3		
	9.4 Investigate how the kind of material used as core affects the strength of an electromagnet	S5FE-IIIi-j-9.4	1	
	9.5 Explain the effect of the kind of material used as core in the strength of an electromagnet	S5FE-IIIi-j-9.5		
	9.6 Investigate how the no. of cells affect the strength of an electromagnet	S5FE-IIIi-j-9.6	1	
	9.7 Explain how the no. of cells affect the strength of an electromagnet	S5FE-IIIi-j-9.7		
	9.8 Design an experiment to determine the factors that affect the strength of an electromagnet	S5FE-IIIi-j-9.8		
	Suggested Performance Task: Hypothetical Product Design and Presentation In this suggested performance task, learners will design/construct a device/product that utilizes an electromagnet that can be used in the home, school, or community.		2	
	Third Quarter Summative Test		**2**	
		TOTAL	**45**	