



Department of Education



SCIENCE

Grade Level: Grade 3
Subject: Science

Quarter	Content Standard	Performance Standard	Most Essential Learning Competencies	Duration	K to 12 CG Code
	<i>The learners demonstrate understanding of...</i>	<i>The learners should be able to...</i>			
1st	ways of sorting materials and describing them as solid, liquid or gas based on observable properties	group common objects found at home and in school according to solids, liquids and gas	Classify objects and materials as solid, liquid, and gas based on some observable characteristics;	Week 1-2	
			Describe changes in materials based on the effect of temperature: 1 solid to liquid 2 liquid to solid 3 liquid to gas 4 solid to gas	Week 3-5	S3MT-Ih-j-4
2nd	parts, and functions of the sense organs of the human body;	practice healthful habits in taking care of the sense organs;	Describe the functions of the sense organs of the human body	Week 1	S3LT-IIa-b-1
	parts and functions of animals and importance to humans	enumerate ways of grouping animals based on their structure and importance	Describe animals in their immediate surroundings	Week 2	S3LT-IIc-d-3
			Identify the external parts and functions of animals	Week 2	S3LT-IIc-d-4
			Classify animals according to body parts and use	Week 3	S3LT-IIc-d-5

			State the importance of animals to humans	Week 3	S3LT-IIc-d-6
	external parts of plants and their functions, and importance to humans	demonstrate the proper ways of handling plants	Describe the parts of different kinds of plants	Week 4	S3LT-IIe-f-8
			State the importance of plants to humans	Week 4	S3LT-IIe-f-9
	characteristics of living and nonliving things	illustrates the difference between living and non-living things	Compare living with nonliving things	Week 5	S3LT-IIe-f-11
			Identify observable characteristics that are passed on from parents to offspring (e.g., humans, animals, plants)	Week 5	S3LT-IIg-h13
	basic needs of plants, animals and humans	list down activities which they can perform at home, in school, or in their neighborhood to keep the environment clean	Identify the basic needs of humans, plants and animals such as air, food, water, and shelter	Week 6	S3LT-III-j-14
			Explain how living things depend on the environment to meet their basic needs	Week 6	S3LT-III-j-15
			Recognize that there is a need to protect and conserve the environment	Week 7	S3LT-III-j-16
3rd	motion of objects	observe, describe, and investigate the position and movement of things around them	Describe the position of a person or an object in relation to a reference point such as chair, door, another person	Week 1-3	S3FE-IIIa-b-1

	sources and uses of light, sound, heat and electricity	apply the knowledge of the sources and uses of light, sound, heat, and electricity	Describe the different uses of light, sound, heat and electricity in everyday life	Week 4-5	
4th	people, animals, plants, lakes, rivers, streams, hills, mountains, and other landforms, and their importance	express their concerns about their surroundings through teacher-guided and self – directed activities	Relate the importance of surroundings to people and other living things	Week 1-2	S3ES-IVc-d-2
	types and effects of weather as they relate to daily activities, health and safety	express ideas about safety measures during different weather conditions creatively (through artwork, poem, song)	Describe the changes in the weather over a period of time	Week 3-4	S3ES-IVe-f-3
			Enumerate and practice safety and precautionary measures in dealing with different types of weather	Week 5	S3ES-IVg-h-5
	natural objects in the sky affect one’s daily activities	list down activities which affect their daily activities	Describe the natural objects that are found in the sky during daytime and nighttime	Week 6	S3ES-IVg-h-6

Grade Level: Grade 4
Subject: Science

Quarter	Content Standard	Performance Standard	Most Essential Learning Competencies	Duration	K to 12 CG Code
	<i>The learners demonstrate understanding of...</i>	<i>The learners should be able to...</i>			
1st	grouping different materials based on their properties	Recognize and practice proper handling of products	Classify materials based on the ability to absorb water, float, sink, undergo decay;	Week 1	S4MT-la-1
	changes that materials undergo when exposed to certain conditions.	evaluate whether changes in materials are useful or harmful to one's environment	Describe changes in solid materials when they are bent, pressed, hammered, or cut;	Week 2 - 3	S4MT-le-f-5
			Describe changes in properties of materials when exposed to certain conditions such as temperature or when mixed with other materials	Week 4 - 5	S4MT-ig-h-6
			Identify changes in materials whether useful or harmful to one's environment.	Week 6- 7	S4MT-li-j-7

2nd	how the major internal organs such as the brain, heart, lungs, liver, stomach, intestines, kidneys, bones, and muscles keep the body healthy	construct a prototype model of organism that has body parts which can survive in a given environment	Describe the main function of the major organs	Week 1	S4LT-IIa-b-1
			Communicate that the major organs work together to make the body function properly	Week 1	S4LT-IIa-b-2
	animals have body parts that make them adapt to land or		Infer that body structures help animals adapt and survive in their particular habitat	Week 2	S4LT-IIa-b-4
	plants have body parts that make them adapt to land or water		Identify the specialized structures of terrestrial and aquatic plants	Week 3	S4LT-IIe-f-9
	different organisms go through life cycle which can be affected by their environment		Compare the stages in the life cycle of organisms	Week 4	S4LT-IIg-h-13
	beneficial and harmful interactions occur among living things and their environment as		Describe the effect of the environment on the life cycle of organisms	Week 5	S4LT-IIg-h-14
		Describe some types of beneficial and harmful interactions among living things	Week 6		

	they obtain basic needs		Describe the effects of interactions among organism in their environment	Week 7	S4LT-III-j-18
3rd	force that can change the shape, size or movement of objects.		Explain the effects of force when applied to an object	Week 1-2	S4FE-IIIa-1
			Characterize magnetic force	Week 3	S4FE-III d-e-3
	how light, heat and sound travel using various objects	demonstrate conceptual understanding of properties/characteristics of light, heat and sound	Describe how light, sound and heat travel	Week 4-5	S4FE-III f-g-4
			Investigate properties and characteristics of light and sound	Week 6-7	S4FE-III h-5
4th	the different types of soil		Compare and contrast the characteristics of different types of soil	Week 1	S4ES-IVa-1
	the different sources of water suitable for human consumption		Explain the use of water from different sources in the context of daily activities	Week 2	S4ES-IVb-2
			Trace and describe the importance of the water cycle	Week 3	
	components of weather using simple instruments	practice precautionary measures in planning activities	Use weather instruments and describe the different weather components in a weather chart	Week 4	
			Identify safety precautions during different weather conditions	Week 5	S4ES-IVg-8

	the Sun as the main source of heat and light on Earth		Describe the changes in the position and length of shadows in the surroundings as the position of the Sun changes	Week 6	S4ES-IVh-9
			Describe the effects of the Sun to human activities	Week 6	

Grade Level: Grade 5
Subject: Science

Quarter	Content Standard	Performance Standard	Most Essential Learning Competencies	Duration	K to 12 CG Code
	<i>The learners demonstrate understanding of...</i>	<i>The learners should be able to...</i>			
1st	properties of materials to determine whether they are useful or harmful	uses local, recyclable solid and/or liquid materials in making useful products	Use the properties of materials whether they are useful or harmful	Week 1-2	S5MT-1a-b-1
	materials undergo changes due to		Investigate changes that happen in materials under the following conditions:	Week 3-4	

	oxygen and heat		1 presence or lack of oxygen 2 application of heat		S5MT-Ic-d-2
			Design a product out of local, recyclable solid and/or liquid materials in making useful products.	Week 5-6	S5MT-Ih-i-4
2nd	how the parts of the human reproductive system work	Practice proper hygiene to care of the reproductive organs	Describe the parts of the reproductive system and their functions	Week 1	S5LT-IIa-1
			Explain the menstrual cycle	Week 2	S5LT-IIc-3
	how animals reproduce	create a hypothetical community to show how organisms interact	Describe the different modes of reproduction in animals such as butterflies, mosquitoes, frogs, cats and dogs	Week 3	S5LT-IIe-5

	how plants reproduce	and reproduce to survive	Describe the reproductive parts in plants and their functions	Week 4	S5LT-IIf-6
			Describe the different modes of reproduction in flowering and non-flowering plants such as moss, fern, mongo and others	Week 5	S5LT-IIg-7
	the interactions for survival among living and non-living things that take place in estuaries and intertidal zones		Discuss the interactions among living things and non-living things in estuaries and intertidal zones	Week 6	S5LT-IIh-8
			Explain the need to protect and conserve estuaries and intertidal zones	Week 7	S5LT-li-j-10
3rd	motion in terms of distance and time		Describe the motion of an object by tracing and measuring its change in position (distance travelled) over a period of time	Week 1	S5FE-IIIa-1
	how different objects interact with light and sound, heat ;		Discuss why some materials are good conductors of heat and electricity	Week 2	S5FE-IIIc-3
	the effects of heat and electricity, light and sound on		Relate the ability of the material to block, absorb or transmit light to its use	Week 3	S5FE-IIIe-5

	people and objects				
	a simple DC circuit and the relationship between electricity and magnetism in electromagnets	propose device using electromagnet that is useful for home school or community	Infer the conditions necessary to make a bulb light up	Week 4	S5FE-III f-6
Determine the effects of changing the number or type of components in a circuit			Week 5	S5FE-III g-7	
Design an experiment to determine the factors that affect the strength of the electromagnet			Week 6	S5FE-III i-j-9	
4th	weathering and soil erosion shape the Earth's surface and affect living things and the environment	participate in projects that reduce soil erosion in the community	Describe how rocks turn into soil	Week 1	S5FE-IV a-1
			Investigate extent of soil erosion in the community and its effects on living things and the environment	Week 2	S5FE-IV b-2
	weather disturbances and their effects on the environment.	prepares individual emergency kit.	Characterize weather disturbances in the Philippines and describe their effects to daily life	Week 3	
	the phases of the Moon and the beliefs and practices	debug local myths and folklore about the Moon and the Stars by presenting	Infer the pattern in the changes in the appearance of the Moon	Week 4	S5FE-IV g-h-7

	associated with it	pieces of evidence to convince the community folks			
	constellations and the information derived from their location in the sky.			Identify star patterns that can be seen at particular times of the year	Week 5

Grade Level: Grade 6
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Quarter	Content Standard	Performance Standard	Most Essential Learning Competencies	Duration	K to 12 CG Code
	<i>The learners demonstrate understanding of...</i>	<i>The learners should be able to...</i>			
1st	different types of mixtures and their characteristics	prepare beneficial and useful mixtures such as drinks, food, and herbal medicines.	Describe the appearance and uses of homogeneous and heterogenous mixtures	Week 1-3	
	different techniques to separate mixtures	separate desired materials from common and local products.	Describe techniques in separating mixtures such as decantation, evaporation, filtering, sieving and using magnet	Week 4-6	
2nd	how the major organs of the human body work together to form organ systems	make a chart showing healthful habits that promote proper functioning of the musculo-skeletal, integumentary, digestive, circulatory, excretory, respiratory, and nervous systems	Explain how the organs of each organ system work together	Week 1-2	S6LT-IIa-b-1
			Explain how the different organ systems work together	Week 3	S6LT-IIc-d-2

	the different characteristics of vertebrates and invertebrates	1. make an inventory of vertebrates and invertebrates that are commonly seen in the community 2. practice ways of caring and protecting animals	Determine the distinguishing characteristics of vertebrates and invertebrates	Week 4-5	S6MT-IIe-f-3
	the interactions for survival among living and non-living things that take place in tropical rainforests, coral reefs, and mangrove swamps	form discussion groups to tackle issues involving protection and conservation of ecosystems that serve as nurseries, breeding places, and habitats for economically important plants and animals	Discuss the interactions among living things and non-living things in tropical rainforests, coral reefs and mangrove swamps	Week 6	S6MT-III-j-5
			Explain the need to protect and conserve tropical rainforests, coral reefs and mangrove swamps	Week 7	S6MT-III-j-6
3rd	gravity and friction affect movement of objects	produce an advertisement demonstrates road safety	Infer how friction and gravity affect movements of different objects	Week 1-2	S6FE-IIIa-c-1
	how energy is transformed in simple machines	create a marketing strategy for a new product on electrical or light efficiency	Demonstrate how sound, heat, light and electricity can be transformed	Week 3-5	S6FE-III d-f-2
			Manipulate simple machines to describe their characteristics and uses	Week 6-7	S6FE-III g-i-3

4th	the effects of earthquakes and volcanic eruptions	design an emergency and preparedness plan and kit	Describe the changes on the Earth's surface as a result of earthquakes and volcanic eruptions	Week 1	S6ES-IVa-1
			Enumerate what to do before, during and after earthquake and volcanic eruptions	Week 2	S6ES-IVb-2
			Describe the different seasons in the Philippines	Week 3	S6ES-IVc-3
	weather patterns and seasons in the Philippines:				
	the earth's rotation and revolution		Differentiate between rotation and revolution and describe the effects of the Earth's motions	Week 5-6	
	characteristics of planets in the solar system		Compare the planets of the solar system	Week 7-8	S6ES-IVg-h-6
Construct a model of the solar system showing the relative sizes of the planets and their relative distances from the Sun			Week 8	S6ES-IVi-j-7	

Grade Level: Grade 7
Subject: Science

Quarter	Content Standard	Performance Standard	Most Essential Learning Competencies	Duration	K to 12 CG Code
	<i>The learners demonstrate understanding of...</i>	<i>The learners should be able to...</i>			
1st	scientific ways of acquiring knowledge and solving problems	perform in groups in guided investigations involving community- based problems using locally available materials	Describe the components of a scientific investigation	Week 1	S7MT- la-1
	classifying substances as elements or compounds	make a chart, poster, or multimedia presentation of common elements showing their names, symbols, and uses	Recognize that substances are classified into elements and compounds	Week 2-3	S7MT- lg-h-5
	the properties of substances that distinguish them from mixtures	investigate the properties of mixtures of varying concentrations using available materials in the	Distinguish mixtures from substances based on a set of properties	Week 4-5	S7MT- le-f-4

		community for specific purposes			
	some important properties of solutions	prepare different concentrations of mixtures according to uses and availability of materials	Investigate properties of unsaturated or saturated solutions	Week 6	
			Express concentrations of solutions quantitatively by preparing different concentrations of mixtures according to uses and availability of materials	Week 7	S7MT-Id-3
2nd	the parts and functions of the compound microscope	employ appropriate techniques using the compound microscope to gather data about very small objects	Identify parts of the microscope and their functions	Week 1	S7LT-IIa-1
			Focus specimens using the compound microscope	Week 2	
	the different levels of biological organization		Describe the different levels of biological organization from cell to biosphere	Week 3	S7LT-IIc-3
	the difference between animal and plant cells		Differentiate plant and animal cells according to presence or absence of certain organelles	Week 4	S7LT-IIc-3
			Explain why the cell is considered the basic structural and functional unit of all organisms	Week 4	S7LT-IIe-5
	reproduction being both		Differentiate asexual from sexual reproduction in terms of:	Week 5	S7LT-IIg-7

	asexual or sexual		1 Number of individuals involved; 2 Similarities of offspring to parents		
	organisms interacting with each other and with their environment to survive		Differentiate biotic from abiotic components of an ecosystem	Week 6	S7LT-IIh-9
			Describe the different ecological relationships found in an ecosystem	Week 6	S7LT-IIh-10
			Predict the effect of changes in abiotic factors on the ecosystem	Week 7	S7LT-IIj-12
3rd	motion in one dimension	conduct a forum on mitigation and disaster risk reduction	Describe the motion of an object in terms of distance or displacement, speed or velocity, and acceleration	Week 1-2	S7FE-IIIa-1
			Create and interpret visual representation of the motion of objects such as tape charts and motion graphs	Week 3	S7FE-IIIb-3
	waves as a carriers of energy		Infer that waves carry energy	Week 4	
			Describe the characteristics of sound using the concepts of wavelength, velocity, and amplitude	Week 4	S7LT-III d-7
	the characteristics of light	suggest proper lighting in various activities	Explain color and intensity of light in terms of its wave characteristics	Week 5	

	how heat is transferred		Infer the conditions necessary for heat transfer to occur	Week 6	S7LT-IIIh-i-12
	charges and the different charging processes		Describe the different types of charging processes	Week 7	S7LT-IIIj-13
4th	the relation of geographical location of the Philippines to its environment	analyze the advantage of the location of the Philippines in relation to the climate, weather, and seasons	Demonstrate how places on Earth may be located using a coordinate system	Week 1	S7ES-IVa-1
			Cite and explain ways of using Earth's resources sustainably	Week 2	
	Discuss how energy from the Sun interacts with the layers of the atmosphere		Week 3	S7ES-IVd-5	
	Account for the occurrence of land and sea breezes, monsoons, and intertropical convergence zone (ITCZ)		Week 3	S7ES-IVf-7	
	Using models, relate: 1 the tilt of the Earth to the length of daytime 2 the length of daytime to the amount of energy received 3 the position of the Earth in its orbit to the height of the Sun in the sky		Week 4-5	S7ES-IVh-9	
the different phenomena that occur in the atmosphere					
the relationship of the seasons and the position of the Sun in the sky					

			4 the height of the Sun in the sky to the amount of energy received 5 the latitude of an area to the amount of energy the area receives 6 tilt of the Earth and the seasons		
	the occurrence of eclipses		Explain how solar and lunar eclipses occur using models	Week 6	

Grade Level: Grade 8
Subject: Science

Quarter	Content Standard	Performance Standard	Most Essential Learning Competencies	Duration	K to 12 CG Code
	<i>The learners demonstrate understanding of...</i>	<i>The learners should be able to...</i>			
1st	Newton's three laws of motion	develop a written plan and implement a "Newton's Olympics"	Investigate the relationship between the amount of force applied and the mass of the object to the amount of change in the object's motion	Week 1	S8FE-Ia-15
			Infer that when a body exerts a force on another, an equal amount of force is exerted back on it	Week 2	S8FE-Ia-16

	work using constant force, power, gravitational potential energy, kinetic energy, and elastic potential energy		Identify and explain the factors that affect potential and kinetic energy	Week 2-3	
	the propagation of sound through solid, liquid, and gas		Investigates the effect of temperature to the speed of sound	Week 4	
	some properties and characteristics of visible light	discuss phenomena such as blue sky, rainbow, and red sunset using the concept of wavelength and frequency of visible light	Explain the hierarchy of colors in relation to the energy of visible light	Week 4	S8FE-If-27
	heat and temperature, and the effects of heat on the body		Differentiate between heat and temperature at the molecular level	Week 4	S8FE-Ig-29
	current-voltage-resistance relationship, electric power,		Infer the relationship between current and voltage	Week 5-6	
			Explain the advantages and disadvantages of	Week 7	S8FE-li-31

	electric energy, and home circuitry		series and parallel connections in homes		
			Explain the functions of circuit breakers, fuses, earthing, double insulation, and other safety devices in the home	Week 7	S8FE-li-33
2nd	the relationship between faults and earthquakes	1. participate in decision making on where to build structures based on knowledge of the location of active faults in the community 2. make an emergency plan and prepare an emergency kit for use at home and in school	Using models or illustrations, explain how movements along faults generate earthquakes	Week 1	S8ES-IIa-14
			Differentiate the 1 epicenter of an earthquake from its focus; 2 intensity of an earthquake from its magnitude; 3 active and inactive faults	Week 1-2	S8ES-IIa-15
			Explain how earthquake waves provide information about the interior of the earth	Week 3	S8ES-IIc-17
	the formation of typhoons and their movement within the PAR	1. demonstrate precautionary measures before, during, and after a typhoon, including following advisories, storm signals, and calls for evacuation given by	Explain how typhoon develops and how it is affected by landmasses and bodies of water	Week 4-5	
			Trace the path of typhoons that enter the Philippine Area of Responsibility (PAR) using a map and tracking data	Week 5	S8ES-IIf-21

		government agencies in charge 2. participate in activities that lessen the risks brought by typhoons			
	characteristics of comets, meteors, and asteroids	discuss whether or not beliefs and practices about comets and meteors have scientific basis	Compare and contrast comets, meteors, and asteroids	Week 6	S8ES-IIg-22
3rd	the particle nature of matter as basis for explaining properties, physical changes, and structure of substances and mixtures	present how water behaves in its different states within the water cycle	Explain the properties of solids, liquids, and gases based on the particle nature of matter;	Week 1-2	S8MT-IIIa-b-8

			Explain physical changes in terms of the arrangement and motion of atoms and molecules;	Week 3-4	S8MT-IIIc-d-9
	the identity of a substance according to its atomic structure		Determine the number of protons, neutrons, and electrons in a particular atom;	Week 5-6	S8MT-IIIe-f-10
	the periodic table of elements as an organizing tool to determine the chemical properties of elements		Use the periodic table to predict the chemical behavior of an element.	Week 7-8	S8MT-IIIi-j-12
4th	1. the digestive system and its interaction with the circulatory, respiratory, and excretory systems in providing the body with	present an analysis of the data gathered on diseases resulting from nutrient deficiency	Explain ingestion, absorption, assimilation, and excretion	Week 1	S8LT-IVa-13

	nutrients for energy 2. diseases that result from nutrient deficiency and ingestion of harmful substances, and their prevention and treatment				
	1. how cells divide to produce new cells 2. meiosis as one of the processes producing genetic variations of the Mendelian Pattern of Inheritance	report on the importance of variation in plant and animal breeding	Compare mitosis and meiosis, and their role in the cell-division cycle	Week 2	S8LT-IVd-16
			Explain the significance of meiosis in maintaining the chromosome number	Week 2	S8LT-IVe-17
			Predict phenotypic expressions of traits following simple patterns of inheritance	Week 3	S8LT-IVf-18
	1. the concept of a species 2. the species as being further classified into a hierarchical taxonomic system	report (e.g., through a travelogue) on the activities that communities engage in to protect and conserve endangered and	Explain the concept of a species	Week 4	S8LT-IVg-19
			Classify organisms using the hierarchical taxonomic system	Week 4	
			Explain the advantage of high biodiversity in maintaining the stability of an ecosystem	Week 5	S8LT-IVh-21

		economically important species			
	the one-way flow of energy and the cycling of materials in an ecosystem	make a poster comparing food choices based on the trophic levels'	Describe the transfer of energy through the trophic levels	Week 5	S8LT-IVi-22
			Analyze the roles of organisms in the cycling of materials	Week 6	S8LT-IVi-23
			Explain how materials cycle in an ecosystem	Week 6	S8LT-IVi-24
			Suggest ways to minimize human impact on the environment	Week 7	S8LT-IVj-25

Grade Level: Grade 9
Subject: Science

Quarter	Content Standard	Performance Standard	Most Essential Learning Competencies	Duration	
	<i>The learners demonstrate understanding of...</i>	<i>The learners should be able to...</i>			
1st	1. how the different structures of the circulatory and respiratory systems work together to transport oxygen-rich blood and nutrients to the different parts of the body 2. the prevention, detection, and treatment of diseases affecting the circulatory and respiratory systems	conduct an information dissemination activity on effective ways of taking care of the respiratory and circulatory systems based on data gathered from the school or local health workers	Explain how the respiratory and circulatory systems work together to transport nutrients, gases, and other molecules to and from the different parts of the body	Week 1-2	S9LT-la-b-26
			Infer how one's lifestyle can affect the functioning of respiratory and circulatory systems	Week 2	S9LT-lc-27

	<p>1. how genetic information is organized in genes on chromosomes</p> <p>2. the different patterns of inheritance</p>		<p>Explain the different patterns of non-Mendelian inheritance</p>	<p>Week 3-4</p>	<p>S9LT-ld-29</p>
	<p>how changes in the environment may affect species extinction</p>	<p>make a multimedia presentation of a timeline of extinction of representative microorganisms, plants, and animals</p>	<p>Relate species extinction to the failure of populations of organisms to adapt to abrupt changes in the environment</p>	<p>Week 5</p>	<p>S9LT-le-f-30</p>
	<p>1. the structure and function of plant parts and organelles involved in photosynthesis</p> <p>2. the structure and function of mitochondrion as the main organelle involved in respiration</p>	<p>design and conduct an investigation to provide evidence that plants can manufacture their own food</p>	<p>Differentiate basic features and importance of photosynthesis and respiration</p>	<p>Week 6-7</p>	<p>S9LT-lg-j-31</p>
<p>2nd</p>	<p>1. the development of atomic models that led</p>		<p>Explain how the Quantum Mechanical Model of the atom describes the energies and positions of the electrons</p>	<p>Week 1</p>	

	to the description of the behavior of electrons within atoms 2. how atoms combine with other atoms by transferring or by sharing electrons 3. forces that hold metals together		Recognize different types of compounds (ionic or covalent) based on their properties such as melting point, hardness, polarity, and electrical and thermal conductivity;	Week 2	S9MT-IIb-14
			Explain how ions are formed;	Week 3	S9MT-IIe-f-16
	the type of bonds that carbon forms that result in the diversity of carbon compounds		Explain how the structure of the carbon atom affects the type of bonds it forms;	Week 4-5	S9MT-IIg-17
			Recognize the general classes and uses of organic compounds;	Week 6	S9MT-IIh-18
	the unit, mole , that quantitatively measures the number of very small particles of matter	analyze the percentage composition of different brands of two food products and decide on the products' appropriate percentage composition	Use the mole concept to express mass of substances; and	Week 7	S9MT-IIi-19
			Determine the percentage composition of a compound given its chemical formula and vice versa.	Week 8	S9MT-IIj-20

3rd	volcanoes found in the Philippines		Describe the different types of volcanoes and volcanic eruption	Week 1	
			Explain what happens when volcanoes erupt	Week 2	S9ES - IIIb-28
			Illustrate how energy from volcanoes may be tapped for human use	Week 3-4	S9ES – IIIc-d-29
	factors that affect climate, and the effects of changing climate and how to adapt accordingly	participate in activities that reduce risks and lessen effects of climate change	Explain how different factors affect the climate of an area	Week 5-6	S9ES-IIIe-30
			Describe certain climatic phenomena that occur on a global level	Week 6-7	S9ES-IIIf-31
	the relationship between the visible constellations in the sky and Earth's position along its orbit	discuss whether or not popular beliefs and practices with regard to constellations and astrology have scientific basis	Show which constellations may be observed at different times of the year using models	Week 8-9	S9ES-IIIj-35
4th	projectile motion, impulse and momentum, and conservation of	propose ways to enhance sports related to projectile motion	Describe the horizontal and vertical motions of a projectile	Week 1	S9FE-IVa-34
			Investigate the relationship between the angle of release and the height and range of the projectile	Week 1-2	S9FE-IVa-35

	linear momentum		Relate impulse and momentum to collision of objects (e.g., vehicular collision)	Week 3	S9FE-IVb-36
			Infer that the total momentum before and after collision is equal	Week 3	S9FE-IVb-37
	conservation of mechanical energy	create a device that shows conservation of mechanical energy	Perform activities to demonstrate conservation of mechanical energy	Week 4	S9FE-IVd-40
	the relationship among heat, work, and efficiency	analyze how power plants generate and transmit electrical energy	Construct a model to demonstrate that heat can do work	Week 5	S9FE-IVe-42
			Explain how heat transfer and energy transformation make heat engines work	Week 6	S9FE-IVg-45
	generation, transmission, and distribution of electrical energy from power plants (hydroelectric, geothermal, wind, nuclear) to home		Explain how electrical energy is generated, transmitted, and distributed	Week 6-7	S9FE-IVh-j-46

Grade Level: Grade 10

Subject: Science

Quarter	Content Standard	Performance Standard	Most Essential Learning Competencies	Duration	K to 12 CG Code
	<i>The learners demonstrate understanding of...</i>	<i>The learners should be able to...</i>			
1st	the relationship among the locations of volcanoes, earthquake epicenters, and mountain ranges	1. demonstrate ways to ensure disaster preparedness during earthquakes, tsunamis, and volcanic eruptions 2. suggest ways by which he/she can contribute to government efforts in reducing damage due to earthquakes, tsunamis, and volcanic eruptions	Describe and relate the distribution of active volcanoes, earthquake epicenters, and major mountain belts to Plate Tectonic Theory	Week 1-3	
			Describe the different types of plate boundaries	Week 4	S10ES – la-j-36.2
			Explain the different processes that occur along the plate boundaries	Week 5-6	S10ES – la-j-36.3
			Describe the possible causes of plate movement	Week 7	S10ES – la-j-36.5
			Enumerate the lines of evidence that support plate movement	Week 8	S9ES – la-j-36.6
2nd	the different regions of the electromagnetic spectrum		Compare the relative wavelengths of different forms of electromagnetic waves	Week 1-2	S10FE-lla-b-47

			Cite examples of practical applications of the different regions of EM waves, such as the use of radio waves in telecommunications	Week 3-4	S10FE-IIc-d-48
			Explain the effects of EM radiation on living things and the environment	Week 5	S10FE-IIe-f-49
	the images formed by the different types of mirrors and lenses		Predict the qualitative characteristics (orientation, type, and magnification) of images formed by plane and curved mirrors and lenses	Week 6-7	S10FE-IIg-50
			Identify ways in which the properties of mirrors and lenses determine their use in optical instruments (e.g., cameras and binoculars)	Week 8	S10FE-IIh-52
	the relationship between electricity and magnetism in electric motors and generators		Explain the operation of a simple electric motor and generator	Week 9	S10FE-IIj-54
3rd	1. organisms as having feedback mechanisms, which are coordinated by the nervous and		Explain the role of hormones involved in the female and male reproductive systems	Week 1	S10LT-IIIb-34
			Describe the feedback mechanisms involved in	Week 2	S10LT-IIIc-35

	endocrine systems 2. how these feedback mechanisms help the organism maintain homeostasis to reproduce and survive		regulating processes in the female reproductive system (e.g., menstrual cycle)		
			Describe how the nervous system coordinates and regulates these feedback mechanisms to maintain homeostasis	Week 3	S10LT-IIIc-36
	1. the information stored in DNA as being used to make proteins 2. how changes in a DNA molecule may cause changes in its product 3. mutations that occur in sex cells as being heritable		Explain how protein is made using information from DNA	Week 4	S10LT-IIIId-37
			Explain how mutations may cause changes in the structure and function of a protein	Week 4	S10LT-IIIE-38
	how evolution through natural selection can result in biodiversity	write an essay on the importance of adaptation as a mechanism for the survival of a species	Explain how fossil records, comparative anatomy, and genetic information provide evidence for evolution	Week 5	S10LT-IIIf-39
			Explain the occurrence of evolution	Week 6	S10LT-IIIg-40

	1. the influence of biodiversity on the stability of ecosystems 2. an ecosystem as being capable of supporting a limited number of organisms		Explain how species diversity increases the probability of adaptation and survival of organisms in changing environments	Week 7	S10LT-IIIh-41
			Explain the relationship between population growth and carrying capacity	Week 7	S10LT-IIIi-42
4th	how gases behave based on the motion and relative distances between gas particles		Investigate the relationship between: 1 volume and pressure at constant temperature of a gas 2 volume and temperature at constant pressure of a gas 3 explains these relationships using the kinetic molecular theory	Week 1-2	S9MT-IIj-20
	the structure of biomolecules, which are made up mostly of a limited number of elements, such as carbon, hydrogen, oxygen, and nitrogen		Recognize the major categories of biomolecules such as carbohydrates, lipids, proteins, and nucleic acids	Week 3-4	S10MT-IVc-d-22

	the chemical reactions associated with biological and industrial processes affecting life and the environment	using any form of media, present chemical reactions involved in biological and industrial processes affecting life and the environment	Apply the principles of conservation of mass to chemical reactions	Week 5-6	S10MT-IVe-g-23
			Explain how the factors affecting rates of chemical reactions are applied in food preservation and materials production, control of fire, pollution, and corrosion	Week 7-8	S10MT-IVh-j-24