CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
Grade 10 – Earth and Space **FIRST QUARTER/FIRST GRADING PERIOD**						
1. Plate Tectonics 1.1 Distribution 1.1.1 volcanoes 1.1.2 earthquake epicenters 1.1.3 mountain ranges 1.2 Plate boundaries 1.3 Processes and landforms along plate boundaries 1.4 Internal structure of the Earth 1.5 Mechanism (possible causes of movement) 1.6 Evidence of plate movement	*The learners demonstrate an understanding of*: the relationship among the locations of volcanoes, earthquake epicenters, and mountain ranges	*The learners shall be able to:* 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	*The learners should be able to…* 1. describe the distribution of active volcanoes, earthquake epicenters, and major mountain belts;	**S10ES – Ia-j-36.1**	1. OHSP Integrated Science. Quarter 2. Module 5. 2. EASE Science I. Module 12. 3. Science and Technology I: Integrated Science Textbook. NISMED. 2012. pp. 183-189. 4. Science and Technology I: Integrated Science Textbook for First Year. Villamil, Aurora M., Ed.D. 1998. pp. 170-178. *	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
1. Plate Tectonics 1.1 Distribution 1.1.1 volcanoes 1.1.2 earthquake epicenters 1.1.3 mountain ranges 1.2 Plate boundaries 1.3 Processes and landforms along plate boundaries 1.4 Internal structure of the Earth 1.5 Mechanism (possible causes of movement) 1.6 Evidence of plate movement	*The learners demonstrate an understanding of*: the relationship among the locations of volcanoes, earthquake epicenters, and mountain ranges	*The learners shall be able to:* 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	2. describe the different types of plate boundaries;	**S10ES –Ia-j-36.2**	1. OHSP Integrated Science. Quarter 2. Module 5. Lesson 2. 2. EASE Science I. Module 12. Lesson 4. 3. Science and Technology I: General Science Textbook for First Year. Rabago, Lillia M., Ph.D., et al. 1997. p. 183. * 4. Science and Technology I: Integrated Science Textbook. NISMED. 2012. pp. 180-182. 5. Science and Technology I: Integrated Science Textbook for First Year. Villamil, Aurora M., Ed.D. 1998. pp. 173-174. *	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
1. Plate Tectonics 1.1 Distribution 1.1.1 volcanoes 1.1.2 earthquake epicenters 1.1.3 mountain ranges 1.2 Plate boundaries 1.3 Processes and landforms along plate boundaries 1.4 Internal structure of the Earth 1.5 Mechanism (possible causes of movement) 1.6 Evidence of plate movement	*The learners demonstrate an understanding of*: the relationship among the locations of volcanoes, earthquake epicenters, and mountain ranges	*The learners shall be able to:* 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	3. explain the different processes that occur along the plate boundaries;	**S10ES –Ia-j-36.3**	1. OHSP Integrated Science. Quarter 2. Module 5. Lesson 2. 2. EASE Science I. Module 12. Lesson 4. 3. Science and Technology I: Integrated Science Textbook. NISMED. 2012. pp. 180-182.	
			4. describe the internal structure of the Earth;	**S10ES –Ia-j-36.4**	1. EASE Science I. Module 12. Lesson 1. 2. BEAM 6. Unit 5. 10 The Structure of Earth's Interior. 2008. 3. MISOSA 6. Module 25. 4. Science and Technology I: Integrated Science Textbook for First Year. Villamil, Aurora M,	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
1. Plate Tectonics 1.1 Distribution 1.1.1 volcanoes 1.1.2 earthquake epicenters 1.1.3 mountain ranges 1.2 Plate boundaries 1.3 Processes and landforms along plate boundaries 1.4 Internal structure of the Earth 1.5 Mechanism (possible causes of movement) 1.6 Evidence of plate movement	*The learners demonstrate an understanding of*: the relationship among the locations of volcanoes, earthquake epicenters, and mountain ranges	*The learners shall be able to:* 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	4. describe the internal structure of the Earth;	**S10ES –Ia-j-36.4**	Ed.D. 1998. pp. 157-159. 5. Science and Technology I: Integrated Science Textbook. NISMED. 2012. pp. 175-176. 6. Science and Technology I: General Science Textbook for First Year. Rabago, Lilia M, Ph.D., et al. 1997. pp. 180-182. *	
			5. describe the possible causes of plate movement; and	**S10ES –Ia-j-36.5**	1. EASE Science I. Module 12. Lesson 4. 2. OHSP Integrated Science. Quarter 2. Module 5. Lesson 2. 3. MISOSA 6. Module 26. 4. Science and Technology I: Integrated Science	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
1. Plate Tectonics 1.1 Distribution 1.1.1 volcanoes 1.1.2 earthquake epicenters 1.1.3 mountain ranges 1.2 Plate boundaries 1.3 Processes and landforms along plate boundaries 1.4 Internal structure of the Earth 1.5 Mechanism (possible causes of movement) 1.6 Evidence of plate movement	*The learners demonstrate an understanding of*: the relationship among the locations of volcanoes, earthquake epicenters, and mountain ranges	*The learners shall be able to:* 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	5. describe the possible causes of plate movement; and	**S10ES –Ia-j-36.5**	Textbook for First Year. Villamil, Aurora M., Ed.D. 1998 pp. 170-174. * 5. Science and Technology I: Integrated Science Textbook. NISMED. 2012. pp. 181-182. 6. Science and Technology I: General Science Textbook for First Year. Rabago, Lilia M, Ph.D., et al. 1997. pp.185-190. *	
			6. enumerate the lines of evidence that support plate movement	**S9ES –Ia-j-36.6**	1. OHSP Integrated Science. Quarter 2. Module 5. Lesson 1. 2. Science and Technology I: Integrated Science	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
1. Plate Tectonics 1.1 Distribution 1.1.1 volcanoes 1.1.2 earthquake epicenters 1.1.3 mountain ranges 1.2 Plate boundaries 1.3 Processes and landforms along plate boundaries 1.4 Internal structure of the Earth 1.5 Mechanism (possible causes of movement) 1.6 Evidence of plate movement	*The learners demonstrate an understanding of*: the relationship among the locations of volcanoes, earthquake epicenters, and mountain ranges	*The learners shall be able to:* 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	7. enumerate the lines of evidence that support plate movement	**S9ES –Ia-j-36.6**	Textbook for First Year. Villamil, Aurora M., Ed.D. 1998. pp. 172-174. * 3. Science and Technology I: General Science Textbook for First Year. Rabago, Lilia M., Ph.D., et al. 1997. p. 188. *	
Grade 10 – Force, Motion and, Energy **SECOND QUARTER/SECOND GRADING PERIOD**						
1. Electromagnetic Spectrum	*The learners demonstrate an understanding of:* the different regions of the electromagnetic spectrum		*The learners should be able to…* 1. compare the relative wavelengths of different forms of electromagnetic waves;	**S10FE-IIa-b-47**	1. BEAM IV. Unit 6. 16 Radio Communications. 1 Our World of Waves. Electromagnetic Waves and Communication. October 2008. pp. 25-39.	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
1. Electromagnetic Spectrum	*The learners demonstrate an understanding of:* the different regions of the electromagnetic spectrum		1. compare the relative wavelengths of different forms of electromagnetic waves;	**S10FE-IIa-b-47**	2. EASE Physics. Module 17. Lesson 1. 3. Science and Technology IV: Physics Textbook for Fourth Year. Rabago, Lilia M., Ph.D., et al. 2001. pp. 267-271. * 4. Science and Technology IV: Physics Textbook. NISMED. 2012. pp. 393-394.	
			2. cite examples of practical applications of the different regions of EM waves, such as the use of radio waves in telecommunications;	**S10FE-IIc-d-48**	1. BEAM IV. Unit 6. 16 Radio Communications. 1 Our World of Waves. Electromagnetic Wave and Communication. October 2008. pp. 25-39. 2. EASE Physics. Module 17. Lesson 2. 3. Science and	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
1. Electromagnetic Spectrum	*The learners demonstrate an understanding of:* the different regions of the electromagnetic spectrum		2. cite examples of practical applications of the different regions of EM waves, such as the use of radio waves in telecommunications;	**S10FE-IIc-d-48**	Technology IV: Physics Textbook for Fourth Year. Rabago, Lilia M., Ph.D., et al. 2001. pp. 271-284. * 4. Science and Technology IV: Physics Textbook. NISMED. 2012. pp. 394-405.	
			3. explain the effects of EM radiation on living things and the environment;	**S10FE-IIe-f-49**	1. EASE Physics. Module 5. 2. Science and Technology IV: Physics Textbook for Fourth Year. Rabago, Lilia M., Ph.D., et al. 2001. pp. 268-271. *	
2. Light 2.1 Reflection of Light in Mirrors 2.2 Refraction of Light in Lenses	the images formed by the different types of mirrors and lenses		4. predict the qualitative characteristics (orientation, type, and magnification) of images formed by plane and curved mirrors and lenses;	**S10FE-IIg-50**	1. EASE Physics. Module 3. Lessons 3 and 4. 2. BEAM IV. Unit 2. 2 Optical Instruments. Bouncing Light. August	1. Basics Lens Set 2. Mirror Set 3. Student Optical Bench Set

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
2. Light 2.1 Reflection of Light in Mirrors 2.2 Refraction of Light in Lenses	*The learners demonstrate an understanding of:* the images formed by the different types of mirrors and lenses		4. predict the qualitative characteristics (orientation, type, and magnification) of images formed by plane and curved mirrors and lenses;	**S10FE-IIg-50**	2009. 3. Science and Technology IV: Physics Textbook for Fourth Year. Rabago, Lilia M., Ph.D., et al. 2001. pp. 238-240. * 4. Science and Technology IV: Physics Textbook. NISMED. 2012. pp. 38-46.	
			5. apply ray diagramming techniques in describing the characteristics and positions of images formed by lenses;	**S10FE-IIg-51**	1. BEAM IV. Unit 2. 2 Optical Instruments. Bouncing Light. August 2009. 2. EASE Physics. Module 4. Lesson 2. 3. Science and Technology IV: Physics Textbook for Fourth Year. Rabago, Lilia M., Ph.D., et al. 2001. pp. 246-248. *	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
2. Light 2.1 Reflection of Light in Mirrors 2.2 Refraction of Light in Lenses	*The learners demonstrate an understanding of:* the images formed by the different types of mirrors and lenses		5. apply ray diagramming techniques in describing the characteristics and positions of images formed by lenses;	**S10FE-IIg-51**	4. Science and Technology IV: Physics Textbook. NISMED. 2012. pp. 62-65.	
			6. identify ways in which the properties of mirrors and lenses determine their use in optical instruments (e.g., cameras and binoculars);	**S10FE-IIh-52**	1. EASE Physics. Module 4. Lesson 2. 2. Science and Technology IV: Physics Textbook for Fourth Year. Rabago, Lilia M., Ph.D., et al. 2001. pp. 246-254. * 3. Science and Technology IV: Physics Textbook. NISMED. 2012. pp. 73-79.	
3. Electricity and Magnetism 3.1 Electromagnetic effects	the relationship between electricity and magnetism in electric motors and generators		7. demonstrate the generation of electricity by movement of a magnet through a coil; and	**S10FE-IIi-53**	1. BEAM IV. Unit 4. 9 Electrical Energy Generation. Electrical Energy UP. Student Activity 4.	1. DC Ammeter 2. DC Voltmeter 3. Dry Cell Size D, 1.5 volts 4. Dry Cell, 9 volts 5. Dry Cell Holder Size D (1 set=

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
3. Electricity and Magnetism 3.1 Electromagnetic effects	*The learners demonstrate an understanding of:* the relationship between electricity and magnetism in electric motors and generators		7. demonstrate the generation of electricity by movement of a magnet through a coil; and	**S10FE-IIi-53**	September 2008. 2. EASE Physics. Module 8. Activity 3.2. 3. Science and Technology IV: Physics Textbook for Fourth Year. Rabago, Lilia M., Ph.D., et al. 2001. pp. 326-328. * 4. Science and Technology IV: Physics Textbook. NISMED. 2012. pp. 197-199.	4 pcs) 6. Galvanometer 7. Miniature Light Bulb (1 set = 3 pcs) 8. Miniature Light Bulb Base (1set = 3 pcs) 9. Motor Generator Model 10. Set of Coils 11. Set of Connectors (1 set = 3- red, 3- black, 2- white, 2- blue) 12. Switches, Knife Type 13. Variable Power Supply, AC-DC
			8. explain the operation of a simple electric motor and generator.	**S10FE-IIj-54**	1. EASE Physics. Module 8. pp. 18-19. 2. NSTIC Science Manual. Physics Activity Sheets 413 M. pp. 39-42.	Advanced Electromagnetism Kit

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
3. Electricity and Magnetism 3.1 Electromagnetic effects	*The learners demonstrate an understanding of:* the relationship between electricity and magnetism in electric motors and generators		8. explain the operation of a simple electric motor and generator.	**S10FE-IIj-54**	3. BEAM IV. Unit 4. 9 Electrical Energy Generation. Electrical Energy UP. Student Activities 10 and 11. 4. Science and Technology IV: Physics Textbook for Fourth Year. Rabago, Lilia M., Ph.D., et al. 2001. pp. 328-332. * 5. Science and Technology IV: Physics Textbook. NISMED. 2012. pp. 202-210.	
Grade 10 – Living Things and Their Environment **THIRD QUARTER/THIRD GRADING PERIOD**						
1. Coordinated Functions of the Reproductive, Endocrine, and Nervous Systems	*The learners demonstrate an understanding of:* 1. organisms as having feedback mechanisms, which		*The learners should be able to…* 1. describe the parts of the reproductive system and their functions;	**S10LT-IIIa-33**	1. APEX Biology. Unit 5. Lesson 5. 2. MISOSA 5. Module 1. 3. MISOSA 5. Module 2.	Human torso model

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
	are coordinated by the nervous and endocrine systems 2. how these feedback mechanisms help the organism maintain homeostasis to reproduce and survive		2. explain the role of hormones involved in the female and male reproductive systems;	**S10LT-IIIb-34**	4. BEAM 5. Unit 1. 1 The Human Reproductive System. DLP 1. 5. EASE Biology. 6. Module 13. Lessons 1 and 2. 7. BEAM 5. Unit 1. 1 The Human Reproductive System. Human Reproductive System. March 2008. pp. 17-22. 8. Science for Daily Use 5. Tan, Conchita T. 2012. pp. 2-5. * 9. Science and Technology II: Biology Textbook. NISMED. 2012. pp. 157-158. 10. Science and Technology II: Biology Textbook. NISMED.	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
1. Coordinated Functions of the Reproductive, Endocrine, and Nervous Systems	*The learners demonstrate an understanding of:* 1. organisms as having feedback mechanisms, which are coordinated by the nervous and endocrine systems 2. how these feedback mechanisms help the organism maintain homeostasis to reproduce and survive		2. explain the role of hormones involved in the female and male reproductive systems;	**S10LT-IIIb-34**	2004. pp. 157-158.	
					11. NFE. Ang Reproductive System. 2001. pp. 7-10 12. EASE Biology. Module 13. Lesson 1. 13. BEAM 5. Unit 1. 1 The Human Reproductive System. Human Reproductive System. March 2008. pp. 28-32. 14. APEX Biology. Unit 5. pp. 58-61. 15. EASE Biology. Module 9. p. 29. 16. Science and Tehnology	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
1. Coordinated Functions of the Reproductive, Endocrine, and Nervous Systems	*The learners demonstrate an understanding of:* 1. organisms as having feedback mechanisms, which are coordinated by the nervous and endocrine systems 2. how these feedback mechanisms help the organism maintain homeostasis to reproduce and survive		2. explain the role of hormones involved in the female and male reproductive systems;		II: Biology Textbook. NISMED. 2012. pp. 158-159. 17. Science and Technology II: Biology Textbook. NISMED. 2004. pp. 158-159. 18. NFE. Ang Reproductive System. 2001. pp. 8 and 10.	
			3. describe the feedback mechanisms involved in regulating processes in the female reproductive system (e.g., menstrual cycle);	**S10LT-IIIc-35**	1. APEX Biology. Unit 5. pp. 60-61. 2. BEAM 5. Unit 1. 1 The Human Reproductive System. DLP 4. 3. EASE Biology. Module 13. pp. 7-10. 4. Science for Daily Use 5. Tan, Conchita. 2012. pp.	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
1. Coordinated Functions of the Reproductive, Endocrine, and Nervous Systems	*The learners demonstrate an understanding of:* 1. organisms as having feedback mechanisms, which are coordinated by the nervous and endocrine systems 2. how these feedback mechanisms help the organism maintain homeostasis to reproduce and survive				15-17. * 5. NFE. Ang Reproductive System. 2001. pp. 11-12.	
			4. describe how the nervous system coordinates and regulates these feedback mechanisms to maintain homeostasis;	**S10LT-IIIc-36**	1. BEAM 6. Unit 1. 2 The Nervous System. Module 1. September 2008. 2. Science and Technology II: Biology Textbook. NISMED. 2004. pp. 114-117. 3. Science and Technology II: Biology Textbook. NISMED. 2012. pp. 114-117. 4. NFE. The Nervous System. 2001. pp. 3-6.	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
2. Heredity: Inheritance and Variation	*The learners demonstrate an understanding of:* 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		5. explain how protein is made using information from DNA;	**S10LT-IIId-37**	1. APEX. Unit 6. pp. 88-89. 2. EASE Biology. Module 14. p. 24. 3. Sience and Technology II: Biology Textbook. NISMED. 2012. pp. 184-186. 4. Science and Technology II: Biology Textbook. NISMED. 2004. pp. 184-186.	
			6. explain how mutations may cause changes in the structure and function of a protein;	**S10LT-IIIe-38**	1. APEX. Unit 6. p. 88. 2. EASE Biology. Module 15. pp. 14-15. 3. Science and Technology II: Biology Textbook. NISMED. 2012. p. 195. 4. Science and	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
					Technology II: Biology Textbook. NISMED. 2004. p. 195.	
3. Biodiversity and Evolution	*The learners demonstrate an understanding of:* how evolution through natural selection can result in biodiversity	*The learners shall be able to:* write an essay on the importance of adaptation as a mechanism for the survival of a species	7. explain how fossil records, comparative anatomy, and genetic information provide evidence for evolution;	**S10LT-IIIf-39**	1. APEX. Unit 7. Lesson 3. 2. EASE Biology. Module 15. Lesson 2. 3. Science and Technology II: Biology Textbook. NISMED. 2012. pp. 210-218. 4. Science and Technology II: Biology Textbook. NISMED. 2004. pp. 210-218. 5. Science and Technology II: Biology Teacher's Manual for Second Year. Rabago, Lilia M., Ph.D., et al. 1997. pp. 140-144*.	Compound microscope

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
3. Biodiversity and Evolution	*The learners demonstrate an understanding of:* how evolution through natural selection can result in biodiversity	*The learners shall be able to:* write an essay on the importance of adaptation as a mechanism for the survival of a species	8. explain the occurrence of evolution;	**S10LT-IIIg-40**	1. APEX. Unit 7. Lesson 2. 2. EASE Biology. Module 15. 3. Science and Technology II: Biology Textbook. NISMED. 2012. pp. 202-207. 4. Science and Technology II: Biology Textbook. NISMED. 2004. pp. 202-207. 5. Science and Technology II: Biology Teacher's Manual for Second Year. Rabago, Lilia M., Ph.D., et al. 1997. p. 145. *	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
4. Ecosystems 4.1 Flow of Energy and Matter in Ecosystems 4.2 Biodiversity and Stability 4.3 Population Growth and Carrying Capacity	*The learners demonstrate an understanding of:* 1. the influence of biodiversity on the stability of ecosystems 2. an ecosystem as being capable of supporting a limited number of organisms	*The learners shall be able to:* write an essay on the importance of adaptation as a mechanism for the survival of a species	9. explain how species diversity increases the probability of adaptation and survival of organisms in changing environments;	**S10LT-IIIh-41**	1. Science and Technology II: Biology Textbook. NISMED. 2012. pp. 220-224. 2. Science and Technology II: Biology Textbook. NISMED. 2004. pp. 220-224.	
			10. explain the relationship between population growth and carrying capacity; and	**S10LT-IIIi-42**	1. APEX Biology. Unit 5. Lesson 8. 2. BEAM I. 5 Living Things. Module 1. September 2006.	
			11. suggest ways to minimize human impact on the environment.	**S10LT-IIIj-43**	1. EASE 1. Module 13. Lesson 4. 2. Science and Technology I: General Science Textbook for First Year. Rabago, Lilia M., Ph.D., et al. 1997. p. 271. *	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
Grade 10 – Matter **FOURTH QUARTER/FOURTH GRADING PERIOD**						
1. Gas Laws 1.1 Kinetic Molecular Theory 1.2 Volume, pressure, and temperature relationship 1.3 Ideal gas law	*The learners demonstrate an understanding of…* how gases behave based on the motion and relative distances between gas particles		*The learners should be able to…* 1. investigate the relationship between: 1.1 volume and pressure at constant temperature of a gas; 1.2 volume and temperature at constant pressure of a gas; 1.3 explains these relationships using the kinetic molecular theory;	**S10MT-IVa-b-21**	1. APEX Chemistry. Unit 2. Chapeter 3. Lessons 5, 6 and 8. 2. EASE Science II. Module 9. 3. Chemistry III Textbook. Mapa, Amelia P., Ph.D., et al. 2001. pp. 244-253. * 4. Science and Technology III: Chemistry Textbook. NISMED. 1997. pp. 68-81. 5. NFE. Gases: Molecules in Motion. 2001. pp. 12-29.	1. Charles Law setup 2. (stand setup assembly, ring with stem, wire gauze, alcohol burner) 3. Erlenmeyer flask, balloon

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
2. Biomolecules 2.1 Elements present in biomolecules 2.2 Carbohydrates, lipids, proteins, and nucleic acids 2.2.1 Food Labels	*The learners demonstrate an understanding of…* the structure of biomolecules, which are made up mostly of a limited number of elements, such as carbon, hydrogen, oxygen, and nitrogen		2. recognize the major categories of biomolecules such as carbohydrates, lipids, proteins, and nucleic acids;	**S10MT-IVc-d-22**	1. EASE Biology. Module 6. Lesson 1. 2. Science and Technology III: Chemistry Textbook. NISMED. 1997. pp. 363-391. 3. Chemistry III Textbook. Mapa, Amelia P., Ph.D., et al. 2001. pp. 373-385. * 4. Science and Technology III: Chemistry Textbook for Third Year. Mapa, Amelia P., Ph.D., et al. 1999. pp. 378-392. *	

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
3. Chemical reactions	*The learners demonstrate an understanding of…* the chemical reactions associated with biological and industrial processes affecting life and the environment	*The learners shall be able to:* using any form of media, present chemical reactions involved in biological and industrial processes affecting life and the environment	3. apply the principles of conservation of mass to chemical reactions; and	**S10MT-IVe-g-23**	1. OHSP. Chemistry Module 13. Lesson 1. 2. EASE Science II. Module 13. Lesson 1. 3. Chemistry III Textbook. Mapa, Amelia P., Ph.D., et al. 2001. pp. 142-144. * 4. Science and Technology III: Chemistry Textbook. NISMED. 1997. pp. 94-95. 5. Science and Technology III: Chemistry Textbook. NISMED. 2012. pp. 78-81. 6. Science and Technology III: Chemistry Textbook for	1. Spatula 2. Triple beam balance

CONTENT	CONTENT STANDARDS	PERFORMANCE STANDARDS	LEARNING COMPETENCY	CODE	LEARNING MATERIALS	SCIENCE EQUIPMENT
3. Chemical reactions	*The learners demonstrate an understanding of…* the chemical reactions associated with biological and industrial processes affecting life and the environment	*The learners shall be able to:* using any form of media, present chemical reactions involved in biological and industrial processes affecting life and the environment	3. apply the principles of conservation of mass to chemical reactions; and	**S10MT-IVe-g-23**	Third Year. Mapa, Amelia P., Ph.D., et al. 1999. pp. 147-149. *	
			4. explain how the factors affecting rates of chemical reactions are applied in food preservation and materials production, control of fire, pollution, and corrosion.	**S10MT-IVh-j-24**	1. OHSP. Chemistry Module 17. Lesson 1. 2. EASE Science II. Module 17. Lesson 1. 3. Chemistry III Textbook. Mapa, Amelia P., Ph.D., et al. 2001. pp. 202-210. * 4. Science and Technology III: Chemistry Textbook. NISMED. 1997. pp. 187-199.	Thermometer, alchohol