

**PACE ACADEMY
EARTH AND LIFE SCIENCE
CURRICULUM GUIDE
S.Y. 2020-2021**

Most Essential Learning Competencies	Science Lesson
FIRST QUARTER	
Recognize the uniqueness of Earth, being the only planet in the solar system with properties necessary to support life.	Lesson 1.1 Life on Earth
Explain that the Earth consists of four subsystems, across whose boundaries matter and energy flow.	Lesson 1.2 Earth's Systems
Identify common rock-forming minerals using their physical and chemical properties.	Lesson 1.3 Rock-forming Minerals
Classify rocks into igneous, sedimentary, and metamorphic	Lesson 1.4 The Rock Cycle
Describe where the Earth's internal heat comes from	
Describe the changes in mineral components and texture of rocks due to changes in pressure and temperature (metamorphism)	
Describe how rocks behave under different types of stress such as compression, pulling apart, and shearing	Lesson 1.5 Exogenic and Endogenic Processes
Explain how the movement of plates leads to the formation of folds and faults	Lesson 1.6 Plate Motion
Describe the different methods *relative and absolute dating) to determine the age of stratified rocks	Lesson 1.7 Absolute Dating
Explain how relative and absolute dating	

were used to determine the subdivisions of geologic time	
Describe how the Earth's history can be interpreted from the geologic time scale	Lesson 1.8 Geologic Time Scale
Describe the various hazards that may happen in the event of earthquakes, volcanic eruptions, and landslides	Lesson 1.9 Natural Processes and Hazards
Using hazard maps, identify areas prone to hazards brought about by earthquakes, volcanic eruptions, and landslides	
Identify human activities that speed up or trigger landslides	
Using hazard maps, identify areas prone to hazards brought about by tropical cyclones, monsoons, floods, or ipo-ipo	Lesson 1.10 Hydrometeorological Phenomena and Hazards
Describe how coastal processes result in coastal erosion, submersion, and saltwater intrusion	
SECOND QUARTER	
Explain the evolving concept of life based on emerging pieces of evidence	Lesson 2.1 The Study of Life
Describe how unifying themes (e.g., structure and function, evolution, and ecosystems) in the study of life show the connections among living things and how they interact with each other and with their environment	Lesson 2.2 Unifying Themes About Life
Describe the different ways of how representative animals reproduce	Lesson 2.3 Animal Reproduction
Describe the general and unique characteristics of the different organ systems in representative animal	Lesson 2.4 Animal's Specialized Structures
Analyze and appreciate functional	Lesson 2.5 Animal's Needs for Survival

relationships of the different organ systems in ensuring animal survival	
Describe the process of genetic engineering	Lesson 2.4 Producing Genetically Modified Organisms
Evaluate the benefits and risks of using GMOs	
Explain how populations of organisms have changed and continue to change over time showing patterns of descent with modification from common ancestors to produce the organismal diversity observed today	Lesson 2.5 Evolution
Describe how the present system of classification of organisms is based on evolutionary relationship	Lesson 2.6 Classification Based on Evolutionary History
Categorize the different biotic potential and environmental resistance (e.g. diseases, availability of food, and predators) that affect population explosion	Lesson 2.7 Living Things and Their Environment

Reference:

Curriculum Implementation and Learning Management Matrix. (2020). Retrieved from <https://depedlps.club/most-essential-learning-competencies-melc-easy-direct-download/>

Olivar, J. T., & Morales-Ramos, A., (2016). *Exploring Life Through Science Series: Earth and Life Science*. Quezon City: Phoenix Publishing House, Inc.

Time Allotment: Two (2) synchronous sessions (40 minutes per session); Five (5) asynchronous sessions (40 minutes per session)

Promotion/Retention:

- Assessments will be categorized as the following with the corresponding weight:
 - Short Quizzes (20%)
 - Written Outputs (35%)
 - Product and Performance Tasks (45%)
- Short Quizzes.** These include summative assessments after every lesson, group of related lessons, or chapter.

- **Written Outputs.** These include concept maps, data recording and analyses, laboratory reports and documentations, reaction/reflection papers, article reviews, and surveys.
- **Product and Performance Tasks.** These include portfolios, investigatory projects, models and diagrams construction, prototype building, research papers, debates, designing and implementation of action plans, designing various models, doing scientific investigations, issue-awareness campaigns, laboratory activity, multimedia presentations, simulation, skills demonstration, and verification experiments.