

**PACE ACADEMY
SCIENCE 8
CURRICULUM GUIDE
S.Y. 2020-2021**

Most Essential Learning Competencies	Science Lesson
FIRST QUARTER (Physics)	
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	Lesson 1.1 Force and Motion Lesson 1.2 Law of Inertia Lesson 1.3 Law of Acceleration
Infer that when a body exerts a force on another, an equal amount of force is exerted back on it	Lesson 1.4 Law of Interaction Lesson 1.5 Friction
Relate the laws of motion to bodies in uniform circular motion	Lesson 1.6 Uniform Circular Motion
Describe how work is related to power and energy	Lesson 1.8 Energy
Identify and explain the factors that affect potential and kinetic energy	Lesson 1.9 Conservation of Mechanical Energy
Investigates the effect of temperature to the speed of sound	Lesson 1.10 Speed of Sound
Explain the hierarchy of colors in relation to the energy of visible light	Lesson 1.11 Dispersion of Light
Differentiate between heat and temperature at the molecular level	Lesson 1.12 Heat
Infer the relationship between current and voltage	Lesson 1.13 Current
Explain the advantages and disadvantages of series and parallel connections in homes	Lesson 1.14 Simple Circuits
Explain the functions of circuit breakers, fuses, earthing, double insulation, and other safety devices in the home	Lesson 1.15 Household Electricity
SECOND QUARTER (Earth Science)	
Using models or illustrations, explain how movements along faults generate earthquakes	Lesson 2.1 Types of Faults
Differentiate the <ul style="list-style-type: none"> • epicenter of an earthquake from its focus; 	Lesson 2.2 Faults and Earthquakes Lesson 2.3 Intensity and Magnitude Lesson 2.4 Active and Inactive Faults

<ul style="list-style-type: none"> intensity of an earthquake from its magnitude; active and inactive faults 	
Explain how earthquake waves provide information about the interior of the earth	Lesson 2.5 Anatomy of an Earthquake
Explain how typhoon develops and how it is affected by landmasses and bodies of water	Lesson 2.6 How Typhoons Develop Lesson 2.7 How Landforms and Bodies of Water Affect Typhoons
Trace the path of typhoons that enter the Philippine Area of Responsibility (PAR) using a map and tracking data	Lesson 2.8 Typhoon Prone in the Philippines
Compare and contrast comets, meteors, and asteroids	Lesson 2.9 Comets, Meteors, and Asteroids

THIRD QUARTER (Chemistry)

Explain the properties of solids, liquids, and gases based on the particle nature of matter	Lesson 3.1 States of Matter
Explain physical changes in terms of the arrangement and motion of atoms and molecules	Lesson 3.2 Physical and Chemical Properties of Matter Lesson 3.3 Pure Substances and Mixtures
Determine the number of protons, neutrons, and electrons in a particular atom	Lesson 3.4 Atomic Structure
Use the periodic table to predict the chemical behavior of an element.	Lesson 3.5 Trends in the Periodic Table
Explain ingestion, absorption, assimilation, and excretion	Lesson 3.6 Digestions in Humans
Compare mitosis and meiosis, and their role in the cell-division cycle	Lesson 3.7 The Cell Cycle Lesson 3.8 Stages of Mitosis Lesson 3.9 Meiosis

FOURTH QUARTER (Biology)

Explain the significance of meiosis in maintaining the chromosome number	Lesson 4.1 Importance of Meiosis
Predict phenotypic expressions of traits following simple patterns of inheritance	Lesson 4.2 Gametes Carry Genes from Parents to Offsprings

Explain the concept of a species	Lesson 4.3 Species
Classify organisms using the hierarchical taxonomic system	Lesson 4.4 The Systems of Classification
Explain the advantage of high biodiversity in maintaining the stability of an ecosystem	Lesson 4.5 Species Diversity
Describe the transfer of energy through the trophic levels	Lesson 4.6 Transformation of Energy
Analyze the roles of organisms in the cycling of materials	Lesson 4.7 Biogeochemical Cycles
Suggest ways to minimize human impact on the environment	Lesson 4.8 Threats to the Ecosystem Lesson 4.9 Saving the Ecosystem

Reference:

Curriculum Implementation and Learning Management Matrix. (2020). Retrieved from <https://depedlps.club/most-essential-learning-competencies-melc-easy-direct-download/>
 Ferriols-Pavico, J. Ma., Morales-Ramos, A., Bayquen, A. V., Silverio, A. A., & Ramos, J. A. (2017). *Exploring Life Through Science Series: The New Grade 8*. (2nd Ed.). Quezon City: Phoenix Publishing House, Inc.

Time Allotment: Three (3) 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.