Unit Planner: Unit 4: Earth Systems
Science 5

Monday, August 1, 2020

*Archdiocesan Essential Curriculum > 2020-2021 > Grade 5 > Science > Science 5 (**BP**) > Week 21 - Week 27

Unit 4: Earth Systems

Stage 1: Desired Results

General Information

This unit will cover the following information:

Earth's Material and Systems

- Earth's major systems are the geosphere/lithosphere (solid and molten rock, soil, and sediments), the hydrosphere (solid and liquid), the atmosphere (gas), and the biosphere (living things, including humans).
- These systems interact in multiple ways to affect Earth's surface materials and processes.
- Winds and clouds in the atmosphere interact with the landforms to determine patterns of weather.

The Roles of Water in Earth's Surface Processes

- Nearly all of Earth's available water is in the ocean.
- Most fresh water is in glaciers or ground water.
- Only a tiny fraction of fresh water is in streams, lakes, wetlands, and the atmosphere.

Essential Question(s)

- How does the interaction of Earth's systems and human activities affect each other?
- How do Earth's systems interact with each other? How do the properties and movements of water shape Earth's surface and affect its systems?
- Where do human activities harm and help Earth's systems?

Enduring Understandings and Knowledge

Students will know:

- the interactions between Earth's different spheres and their energy flow.
- the ratios of various water resources that cover the Earth.
- how to assess different types of pollution.
- how humans can impact conservation on a personal, local, national, and global level.

Skills

Students will be able to:

- Describe Earth's spheres.
- Compare salt water to fresh water.
- Draw conclusions between the interactions of spheres and their flow of energy.
- Assess types of pollution.
- Investigate ways that regulations contribute to conservation efforts.
- Identify how erosion and deposition shape the Earth.
- Identify alternative forms of energy.

Connections to Catholic Identity / Other Subjects

Religion

- Care for God's Creation

Vocabulary

- geosphere
- atmosphere
- hydrosphere
- biosphere

- God as Creator wants us to enjoy all of His creation. As God's children we have the responsibility to care for all of God's creation and are called to be stewards of the Earth. We must protect the local and global environments through moral and ethical choices.
- In this unit, the study of human effects on earth systems should include an analysis of human impact on ecosystems and a call to action of how we can be stewards of God's creation by improving the environment, both locally and globally.
- Will discuss how scientific contributions help to serve humanity and the world that God created.

Social Studies

- landforms, geography, impact of humans on ecosystems throughout the world

- landform
- crust
- earthquake
- erosion
- deposition
- glacier
- sediment
- floodplain
- water cycle
- evaporation
- condensation
- precipitation
- reservoir
- aquifer
- smog
- ozone
- fossil fuel
- nonrenewable resource
- renewable resource
- alternative energy sources

Standards & Frameworks Addressed

NGSS: Science Performance Expectations (2013)

NGSS: Grade 5

5.Earth's Systems

Performance Expectations

5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

5-ESS2-2. Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.

5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

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Teaching Ideas/Resources

- *Content Area Expert Resources*