

**SCIENCE CURRICULUM SUMMARY**

The purpose of the Science Curriculum Summary is to present an overview of the Earth Science I curriculum. Parents are the intended audience of the Science Curriculum Summary.

**Unifying Themes**

- Discriminate between Earth’s systems and subsystems.
- Interpret models to predict and understand Earth’s systems.
- Utilize patterns to predict and analyze Earth processes.
- Identify changes in patterns to interpret natural and man-made systems.
- Apply scale as a way of relating concepts of some measure.

**Inquiry and Design**

- Apply knowledge and understanding about the nature of scientific and technological knowledge as it pertains to Earth systems.
- Apply qualitative and quantitative data in the development and analysis of laboratory investigations.
- Apply inquiry-based strategies to classroom experiences.
- Implement a scientific process to solve problems and communicate results to an audience.

**Lithosphere**

- Recognize and interpret landforms and contour lines on a topographical map.
- Observe and describe mineral and rock properties for the purpose of identification.
- Discuss Earth’s crustal movement relating to plate tectonics and continental drifting.
- Identify process of ocean basin formation and seafloor changes as related to Earth’s crustal movements.
- Explain and evaluate factors affecting the availability, location, extraction, and use of natural resources and their local/global impacts.
- **(H)** *Discuss the concept of dating Earth’s materials using techniques and methods such as radioactive dating, core sampling, and/or relative dating.*
- **(H)** *Discuss the evolution of geology as a science (Neptunism, Catastrophism, Uniformitarianism).*

**Atmosphere**

- Interpret the role of energy in the atmosphere.
- Explain how unequal heating of the air, ocean, and land produces wind and ocean currents, and other atmospheric phenomena.
- Demonstrate the ability to utilize weather station models and symbols to predict weather.
- Illustrate the Earth's convection currents and explain their role in creating different climatic regions.
- **(H)** Calculate latent heat, relative humidity, dewpoint and lifting condensation levels.

**Cosmosphere**

- Identify and delineate between various elements that make up the universe.
- Discuss historical interpretations of the universe.
- Identify and explain tools of modern astronomy.
- Identify the origin of and progressive changes in stars.
- Compare the various theories that may explain the origin/ fate of our universe.
- **(H)** Discuss the origin of Astronomy (Copernicus to Newton).
- **(H)** Analyze the mathematical size, scale and measuring methods for distances within the cosmos (parallax, Doppler principle, etc.).

**Hydrosphere**

- Describe how water flow shapes the land.
- Explain factors that affect water quality and flow through a water system.
- Compare sources of potable water and assess factors that affect availability.