

# SCIENCE CURRICULUM GUIDE

## 6<sup>th</sup> GRADE

### I THE SCIENTIFIC METHOD

- Understand and use inquiry skills to conduct investigations.
- Use tools and SI units of measure.
- Understand and practice safety procedures for conducting scientific investigations.
- Collect, organize, and interpret the data that result from experiments.
- Analyze experimental data.

### II EARTH SCIENCE

#### Earth's Features

- Describe the layers that make up Earth.
- Explain how to use latitude and longitude.
- Understand the evidence for continental drift and plate tectonics.
- Explain Wegener's theory.
- Explain seafloor spreading.
- Identify types of landforms.
- Describe the processes that form landforms: physical weathering, chemical weathering, erosion, mass wasting, deposition, and glaciers.
- Describes what happens when an earthquake occurs.
- Describe how earthquakes are measured.
- Identify and describe two main types of weathering.
- Summarize how soil is formed and why it is important.
- Distinguish between relative age and absolute age.
- Describe Earth's era and periods.
- Hypothesize the future of Earth's life and geological structures.

#### Earth's Resources

- Identify minerals by their properties.
- Describe the formation of igneous, sedimentary, and metamorphic rock.
- Describe the rock cycle.
- Explain the importance of air.
- Identify the gases that make up the atmosphere.
- Describe the layers of the atmosphere.
- Describe the water cycle.
- Compare renewable and nonrenewable resources.
- Describe how human activities affect the environment.
- Explain how fossil fuels are formed.
- Describe the practices used to conserve Earth's land, water, and air.
- Identify alternative energy sources and methods of reducing pollution from fossil fuels.
- Define and give examples of the 3 R's.

#### Weather and Climate

- Describe what weather is, what it affects, and where it occurs.
- Explain what affects air temperature.

- Describe air pressure, convection cells land breezes, and the Coriolis effect.
- Measure temperature, wind speed, and air pressure.
- Identify types of clouds.
- Explain how clouds form.
- Describe severe weather events.
- Predict weather using isobars, fronts, temperature, and precipitation.
- Interpret weather maps.
- Use technology to study the effects of climate on biomes.

#### Astronomy

- Model some of the ways in which scientists observe the planets.
- Explain the evidence that Earth rotates, and define revolution.
- Describe how the interaction of Earth, the Moon, and the Sun causes lunar phases.
- Describe conditions that produce lunar solar eclipses.
- Demonstrate how to identify a planet by observing its movement against the stars.
- Explain that the solar system consists of many bodies held together by gravity.
- Define properties of stars.
- Compare the evolutionary paths of star types.
- Classify galaxies according to properties.
- Explain the big bang theory and the way in which Earth and its atmosphere were formed.

#### Life Science

- Classify living organisms.
- Explain the scientific system used for classifying organisms.
- Describe the processes of plant reproduction.
- Trace the life cycle of different plants.
- Summarize the characteristics of invertebrates and vertebrates.
- Explain the food web and food chain in an environment.