Sixth Grade Curriculum Pacing Guide

Cross-cutting Concepts: Patterns; Cause and Effect; Systems and System Models; Stability and Change

Climate and Weather

7 Week Instructional Segment

Anchoring Phenomenon	Standard	Instructional Segment	Disciplinary Core Ideas	Science and Engineering Practices	Instructional Notes
Weather Forecasting What to Wear and Drink: Weather Patterns and Climatic Regions Picture of a tornado	**S6E3** a, b, c, d **S6E4** a, b, c, d, e	**Water Water Everywhere** and **Sun and Water: How do they affect Earth?**	From A Framework for K-12 Science Education: ***By the end of grade 8*** **ESS2.C: The Role of Water in Earth's Surface Processes** • Water continually cycles among land, ocean, and atmosphere via transpiration, evaporation, condensation and crystallization, and precipitation as well as downhill flows on land. • The complex patterns of the changes and the movement of water in the atmosphere, determined by winds, landforms, and ocean temperatures and currents, are major determinants of local weather patterns. • Global movements of water and its changes in form are propelled by sunlight and gravity. • Variations in density due to variations in temperature and salinity drive a global pattern of interconnected ocean currents.	● Asking questions and defining problems ● Planning and carrying out investigations ● Analyzing and interpreting data ● Developing and using models ● Constructing explanations ● Obtaining, evaluating and communicating information	By the end of this unit, students are using the following language in their speaking and writing during EXPLAIN or ELABORATE: ● Weather ● Hydrologic cycle ● Climate ● Ocean ● Atmosphere ● Latitude ● Longitude ● Oceanic patterns ● Atmospheric patterns ● Radiation ● Greenhouse effect

			ESS2.D: Weather and Climate • Weather and climate are influenced by interactions involving sunlight, the ocean, the atmosphere, ice, landforms and living things. • Latitude, altitude, local and regional geography can all affect oceanic and atmospheric flow patterns. • Weather can be predicted only probabilistically. • Oceans exert a major influence on weather and climate by absorbing energy from the sun, releasing it over time, and globally redistributing it through ocean currents • Greenhouse gases in the atmosphere absorb and retain the energy radiated from land and ocean surfaces, thereby regulating Earth's average surface temperature and keeping it habitable. **ESS3.B: Natural Hazards** • Some natural hazards, such as volcanic eruptions and severe weather, are preceded by phenomena that allow for reliable predictions. However, mapping the history of natural hazards in a region, combined with an understanding of related geological forces can help forecast the locations and likelihoods of future events		

This instructional segment will connect to Instructional Segment: Weathering and Erosion: What's Happening to the Earth?