

Weather 6
2017 Science P.L.U.S. Institute
 Roper Mountain Science Center
 Greenville, South Carolina

Academic

Course

Description:

Hands-on, inquiry-based activities emphasizing science process skills will provide the vehicles for studying concepts that correlate to the South Carolina Science Academic Standards for sixth grade earth science. Course topics are designed to enhance the middle school teacher's earth science knowledge base and provide appropriate lessons for the 6th grade science classroom. Activities are aimed at developing awareness in students of the basic processes of weather and climate. Field studies extend the classroom into the outdoor habitats represented at Roper Mountain Science Center. Participants receive a significant quantity of science materials for performing the activities in their classrooms.

	Topics	Activities or Assignments	Correlation to SC Science Academic Standards
Monday	-Weather Notebook - Climate 6	- Greenhouse Effect Lab - Winds and Ocean Map - Climate Questions	6.E.2A.2 Critically analyze scientific arguments based on evidence for and against how different phenomena (natural and human induced) may contribute to the composition of Earth's atmosphere. 6.E.2B.3 Develop and use models to represent how solar energy and convection impact Earth's weather patterns and climate conditions (including global winds, the jet stream, and ocean currents).
Tuesday	-Atmospheric Layers, Density, Air Pressure	- Atmospheric Layers Foldable - Layers Floor Layout - Pressure Activities	6.E.2A.1 Develop and use models to exemplify the properties of the atmosphere (including the gases, temperature and pressure differences, and altitude changes) and the relative scale in relation to the size of Earth. 6.E.2B.1 Analyze and interpret data from weather conditions (including wind speed and direction, air temperature, humidity, cloud types, and air pressure), weather maps, satellites, and radar to predict local weather patterns and conditions.
Wednesday	-Climate and Heat Transfer	- Land v. Water Lab - Effects of Solar Radiation - UV bead activity - Heat Convection Lab	6.E.2B.2 Develop and use models to explain how relationships between the movement and interactions of air masses, high and low pressure systems, and frontal boundaries result in weather conditions and storms (including thunderstorms, hurricanes and tornadoes). 6.E.2B.3 Develop and use models to represent how solar energy and convection impact Earth's weather patterns and climate conditions (including global winds, the jet stream, and ocean currents).

			6.E.2B.4 Construct explanations for how climate is determined in an area (including latitude, elevation, shape of the land, distance from water, global winds, and ocean currents).
Thursday	-Weather Breakout Gaming	<ul style="list-style-type: none"> - Complete a team-based breakout game - Review BreakoutEDU and the sandbox - Plan a new game - Weather Tools 	<p>ISTE 5- Computational Thinking ISTE 3- Knowledge Construction 6.E.2A.1, 6.E.2B.1, 2 6.E.2B.1 Analyze and interpret data from weather conditions (including wind speed and direction, air temperature, humidity, cloud types, and air pressure), weather maps, satellites, and radar to predict local weather patterns and conditions.</p>
Friday	<ul style="list-style-type: none"> - Weather Tools and Predictions - Clouds -End Cap 	<ul style="list-style-type: none"> - Water Cycle Project - Clouds - End Cap 	<p>6.E.2A.3 Construct explanations of the processes involved in the cycling of water through Earth’s systems (including transpiration, evaporation, condensation and crystallization, precipitation, and downhill flow of water on land). 6.E.2B.1 Analyze and interpret data from weather conditions (including wind speed and direction, air temperature, humidity, cloud types, and air pressure), weather maps, satellites, and radar to predict local weather patterns and conditions.</p>