

Brunswick School Department  
Science  
Grade 6: Weather and Climate

**Unit Overview**

In this unit, students will study the cycling of water through Earth's systems driven by energy from the sun and the force of gravity. The emphasis is on the ways water changes its state as it moves through the multiple pathways of the hydrologic cycle. Another emphasis is on how weather can be predicted within probabilistic ranges. Examples of the Hydrologic Cycle models can be conceptual or physical.

**Essential Understandings**

- Weather is defined as temperature, pressure, humidity, precipitation, and wind at a fixed location which changes over time.
- Sudden changes in weather can result when different air masses collide.
- Students can examine and interpret examples of data, provided by weather maps, diagrams, and visualizations. or obtained through laboratory experiments (such as with condensation).
- Climate is defined as a description of the long-term patterns of weather in a particular area, such as looking at the 30-year averages of precipitation, temperature, humidity, sunshine, wind velocity in a certain region of the world.
- The Hydrologic Cycle can be described with nine major physical processes which form a continuum of water movement.
- A fundamental characteristic of the Hydrologic Cycle is that it has no beginning and it has no end.
- The Hydrologic Cycle can be studied by starting at any of the following processes: evaporation, condensation, precipitation, interception, infiltration, percolation, transpiration, runoff, and storage.
- Weather and climate are influenced by interactions involving sunlight, the ocean, the atmosphere, ice, landforms, and living things.
- These interactions vary with latitude, altitude, and local and regional geography, all of which can affect oceanic and atmospheric flow patterns.

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**Priority Standards and Performance Indicators**

(as based on Next Generation Science Standards)

**P.S. S-3 Recognize and interpret patterns in the physical and natural world**

a. Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.

**Next Generation Science Standards Addressed in this Unit**

MS-ESS2-5. Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions.

**Examples of Formative / Summative Assessments**

- Rainfall Probe
- Project - a visual explanation of the water cycle and process occurring at each step
- Quizzes
- Exit tickets
- "What Are Clouds Made Of?" Probe

**Sample Texts and Materials/Resources**

- [ScienceSaurus](#) resource or other print resources similar to it
- Internet articles
- [Kids Discover: Weather](#)
- [Kids Discover: Climate](#)
- Interactive web sites for weather and climate information