

## ***What do elementary students need to know about weather? Gr. 3-5***

Weather is all around us every day. It is easy to observe, but harder to understand. Learning about weather helps us plan our time outside, avoid weather emergencies, and understand climate and seasons. Because weather is easy to observe, it is perfect for simple data collection, graphing, and analysis. Weather study can be a good place to begin the understanding of the metric system and many units of scientific measurement.

### *Student questions behind the curriculum:*

- What is weather?
- Why does air move?
- What is a cloud?
- What is air made of?
- What is the difference between weather, seasons, and climate?
- What about (hurricanes, tornadoes, t-storms, etc.)?

#### A. How does weather work?

*Radiation* from the sun

*Convection* – movement of air and water (wind and currents)

What can alter (change) the movement of air and water?

Mountains, shallows, volcanoes, clouds, seasons, humans

#### B. New Hampshire seasonality, climate, and climate change

*Seasons in NH*

Four seasons caused by tilt of the Earth

*Students track temperature, hours of daylight, and precipitation over the course of the year*

*Climate*

Climate in NH is *temperate* with influences from the White Mountains and Gulf of Maine

*Climate change*

Causes:

Human production of greenhouse gases

Changes in solar radiation

Effects

Less snow for winter sports

More storms/more powerful storms

Maples under stress and vulnerable to insects and disease

Termites, Lyme Disease ticks, EEE: moving north

Turkeys and turkey vultures thriving

Evergreens being replaced by deciduous trees

### C. Extreme weather events in New Hampshire history

Highest wind ever recorded on Mt. Washington on April 12<sup>TH</sup>, 1934 – 231mph  
Hurricane of 1938  
Ice storm of 1998  
Floods of 2006 & 2007

Preparing for and understanding extreme weather events

### D. Collecting and sharing weather data

What does a meteorologist do?  
How is weather studied?

*Student tools:*

Thermometer  
Barometer  
Anemometer  
Rain gauge

### F. Using weather information to help you plan outdoor activities

Avoiding hypothermia  
Simple forecasting

### G. Event based weather curriculum (*used 'as it happens'*)

Hurricane tracking  
Nor'easters  
Rain/flooding  
Ice storms  
Tornadoes  
Thunderstorms and lightning

### *Resources*

National Weather Service  
American Meteorological Society  
Mount Washington Observatory