

Primarily Weather

Introduction

Weather is with us every day and provides great opportunities to observe, collect data, and comment on weather events. Weather has natural connections to states of matter, water, seasonal cycles, not to mention basic math and simple graphing. Learning about weather in the primary grades is a building block to studying the more complex interactions which define climate change. Primary grades are also blessed with some literacy connections you can weave into your study of weather.

What do primary students need to know?

According to the NH State Curriculum Frameworks, K-2 students should:

ESS1.1.1 Recognize that weather conditions change frequently, and that weather patterns change over the seasons.

2. Describe and compare weather using observations and measurements of local weather conditions.

ESS2.1.1 Recognize the basic patterns of the Sun, including its appearance during the daytime, and how its position in the sky changes with the seasons.

2.2.1 Recognize that the light and heat the Sun provides to the Earth is necessary for life.

2.4.2 Recognize that as the position of the Sun changes in relation to the Earth it creates shadows of varying length and duration.

There is a natural cross connection with other frameworks:

PS 2.1.1 Describe how the properties of certain materials can change when specific actions are applied to them such as freezing.....

3.1 Explain that the Sun provides the Earth with heat and light.

LS2.1.3 Recognize that some plants and animals go through changes in appearance when the seasons change.

LS4.3.5 Recognize that humans need food, water, air, waste removal and a particular range of temperatures in their environment, just as other animals do.

Science Skills:

- * Observe and explore materials and events using all their senses.
- * Describe, draw, count and/or measure.

- * Record data using various tools (thermometer)
- * Construct and label concrete-object graphs (pictographs, bar graphs, circle graph).
- * Explain that scientists (meteorologists/climatologists) try to learn about the natural world.

Math - many connections!

Getting Started

Simple tools:

- large 'display' thermometer
- accurate 'dial' thermometer – a dual scale with centigrade and Fahrenheit is best
- cloud chart for kids
- precipitation chart – pictographs and amounts
- 'click' anemometer

Activities

Daylight span – making a bar graph for the school year

Temperature scale

Cloud descriptions

Writing/drawing about precipitation

Comfortable/uncomfortable – humidity

Maps showing the Earth – Sun relationship and general Polar/Equatorial differences

Changes – connecting the seasons to changes in plant and animal life

Freeze - thaw

Vocabulary

weather (Gr.1) – daily changes in temperature, wind, and precipitation

climate (Gr.1) – describes what you would expect over time for weather based on where you live (habitat) and seasons

thermometer (K) – measures hot or cold, usually liquids and gases

anemometer (Gr.2) – measures how fast the wind is blowing

meteorologist (Gr.2) – a scientist who studies the weather and climate

atmosphere (Gr.2) – all of the layers of air and water which surround the earth

wind (K) – the Sun heats air and makes it move; we feel that movement as wind

precipitation (Gr.2) – any solids or liquids which fall from the sky

storm – very wild weather, usually when many weather events are happening at the same time

fog – water in the gas state of matter which we can see

rain – water in the liquid state of matter which comes down from clouds

snow – water in the solid state of matter which comes down from clouds in the shape of six sided crystals, usually in winter

hail – water in the solid state of matter which comes down from clouds in the shape of hard balls, usually in the warmer months

thunder – the loud sound which follows a stroke of lightning during a storm

lightning – when moving electricity in clouds creates a very bright flash of light during a storm

seasons (K) – fall, winter, spring, summer

heat vs. light show that heat does not make light, but that light can heat solids/liquids/gases

shadow (K) – dark area when light is blocked

Sun/ Earth/ Moon (K) -

Links

<http://www.lmnts.org/WeatherLitForChildren.pdf>

<http://www.lmnts.org/WeatherLinks.html>

These notes and pdf's of the handouts are available at www.lmnts.org by going to the modules page and clicking on the 'Weather' link, then 'Primarily Weather'.