Temperature and Tracking Weather
4th Grade
Kelly Denney, Justin Shearer, Mrs. Berridge, Mrs. Nolan, and Mrs. Skopin

References:

- Curriculum guide

Benchmarks:

SLC/GLI #: ES4, ES5

Objectives:

The objective of this lesson is to teach the students how to describe and track weather by measurable quantities such as temperature, wind speed and direction, cloud conditions, and precipitation. There will be an emphasis on temperature and weather forecasting in this lesson.

Materials:

- Handout about weather symbols and temperature
- Thermometer
- Computer with internet access
- Large graphs on which to monitor the temperature (we laminated our so they can be reused)

Initial Demonstration:

A discussion of temperature and why it's important will be the initial demonstration portion of this lesson. This discussion will be preceded with the students answering two type 1 writing questions about temperature. We will go over how to read a thermometer as well, and discuss the two different temperature scales commonly used to measure temperature: Fahrenheit and Celsius. We will also discuss the importance of keeping conditions stable during an experiment, so that when they're measuring the temperature, they make sure to do it all at the same time every day.

Target Observations:

- There is more than one way to measure temperature.
- They should be able to read a thermometer.
- They should be able to graph temperatures on a line graph as well.

Procedure:

This lesson will be an on going project for several weeks. Students will be graphing local temperature over at least two weeks (potentially longer) on large, class-size temperature graphs. In addition, they will be able to choose as a class two other cities for which to keep track of the temperature, on similar graphs as the one for Columbus. They should take turns marking the date on the x-axis and the corresponding temperature on the y-axis.

Target Observations:

- Students should notice trends in the long-term temperatures, especially since it's autumn and the temperature should slowly be dropping.
- Students should notice that although there are long-term trends, there are also day to day variations that aren't necessarily a trend.

Target Revised Model:

- We can track long-term trends in the temperature by making graphs of what is going on day by day.
- The temperature varies from day to day
- Students should also be able to create, read, and interpret a line graph.

Procedure:

In addition to graphing just the temperature in their three cities, students will also be keeping track of observations of other weather conditions for these three cities on pre-made charts. They should be recording the date, temperature, precipitation, cloud cover, and wind speed and direction. They should actively observe as many of these conditions as they can for Columbus. For the other cities that the class chose, the information should be found on a website. I recommended www.weather.com.

Target Observations:

- They should notice that weather can be described in terms of measurable quantities that they had to record.
- They should be able to track weather and be able to recognize weather symbols commonly used in weather forecasting.

Target Revised Model:

- Weather can be scientifically measured and kept track of through quantities such as the temperature, wind, and precipitation.
- Weather symbols are useful ways to describe the weather without having to write everything out.
- They should be able to read a weather forecast as well.

<u>Summary</u>:

Students learned about measuring temperature and the different scales that are common for measuring temperature. They also learned that temperature is yet another measurable quantity used to describe weather. They graphed temperature for three different cities and discovered long-term trends and short-term variations in the data. Finally, they kept tract of many different weather conditions for their three cities, learning and using weather symbols to do to.