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Using weather to teach graphing.

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From the text: By observing and collecting data on natural scientific phenomena, students can know the sources of their data, discuss them in relation to real contexts, craft a device to measure the scientific phenomena, and create graphs using graph paper and technology for further discussion. In this article, I describe the following activities for grade 4 science lessons that are merged with mathematics, engineering, and technology. Through these activities, students can (1) clearly understand precipitation, temperature, clouds, wind, and how they affect weather; and (2) make evidence-based claims using their own observations, charts, and graphs. The entire unit consisted of four lessons. The first lesson covered the concept of precipitation and types of precipitation (e.g., rain, snow, hail, and sleet) along with the concept of temperature and how to measure Celsius or Fahrenheit degrees using a thermometer. This lesson was taught through observation, pictures, and activity sheets. The second lesson covered the concept of wind. Students learned how to measure wind direction and strength by making their own wind vane. The third lesson covered the definition and types of clouds. After recording their weather components, students tackled the fourth lesson: (1) Creating graphs to show one weather element during a two-week time period, using both graph paper and technology; (2) Discussing patterns they found within one or across several weather components; (3) Making claims about future weather on the basis of their data.

Classification: M52 K42 D82

Keywords: primary education; iSTEM; student activities; teaching units; grade 4; natural sciences; weather data; graphical representations; bar graphs; line graphs; paper-and pencil method; dynamic data software; TinkerPlots; prognoses; weather forecasts

<http://www.nctm.org/Publications/teaching-children-mathematics/2014/Vol21/Issue4/Using-Weather-to-Teach-Graphing/>