



WISCONSIN 4-H YOUTH DEVELOPMENT TECHNOLOGY DOTS Handheld Weather Station

Activity Plan

Project Skills or Goals or Objectives: Understand how to use the Kestrel Weather Station, and learn the difference between the terms “weather” and “climate.”

Life Skills: Digital Literacy, STEM, Environmental Awareness

Grade Levels or Audiences:

4th – 12th grade

Time or Length of Experience:

30 minutes

Supplies Needed:
Kestrel weather station
Pencils
Data Log

Sources:
Photo: DOTS participant

Developed by: Justin Hougham and research naturalists



BACKGROUND

Technology has been integrated into education in a variety of ways to deepen learners' educational experiences. Through the Digital Observation Technology Skills (DOTS) program, learners use technology to experience the outdoors and identify elements and processes of the natural world. One of the tools used to make these connections with nature is the Kestrel Weather Station. This tool's purpose is designed to determine the weather by measuring wind chill/speed and temperature.

USING THE KESTREL WEATHER STATION

1. Turn on the Kestrel Weather Station by pressing the power button located in the middle under the screen.
2. The temperature measurement should be in degrees Fahrenheit, if not, press the arrows until a small °F appears.



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LEARNING ACTIVITY

- Chose one or more locations to monitor with the Kestrel Weather Station (or, if preferred, allow the students to choose).
- Split class into work groups and go over instructions for using Kestrel Weather Station.
- Hand out data log and allow students to practice by making recordings indoors, along with making hypothesis.
- Take students to designated spot(s) and have them record the information gathered by the Kestrel Weather Station.
- Have them experiment ways to get different readings (ex. Holding the tool up high vs down low to record wind).
- Repeat step 5 daily for a month (or longer) and have students analyze and discuss the data (ex. Trends they might see)

REFLECT AND APPLY

Questions to ask include:

1. What changes did you notice in your data over time?
2. Why do you think these changes occurred?
3. What other questions did you think of when using this tool?
4. What careers could use this tool?
5. How do you explain the difference between weather and climate?

ENHANCE AND SIMPLIFY

To further understand the concept of climate, think about how different climate types can be categorized, and the descriptive words that characterize the temperature and moisture levels in these areas.

For example:

- Polar – very cold and dry
- Continental – cold and humid
- Arid – desert-like, dry
- Tropical – hot and humid
- Mild – warm and humid
- Mountainous – altitude affects climate

Data Log

Date	Time	Temperature (F)	Wind Speed (mph)



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