

MILWAUKEE WATERS INVESTIGATION

Activity #3 – The World Around You Survey

Weather and Observational Survey

Purpose: This activity, conducted on your playground or schoolyard, is an important place-based lesson to connect students to their community and local landscape and environment. David Sobel, author of [“Place-based Learning: Connecting Classroom and Community”](#), suggests that this approach to education increases academic achievement, helps students develop stronger ties to their community, enhances students’ appreciation for the natural world, and creates a heightened commitment to serving as active, contributing citizens.



Students will embrace their inner scientists by conducting a survey to investigate the current weather conditions and then explore the details of the environment around them and record their observations. Students will also learn that surveys are important tools for architects, engineers, building contractors, naturalists, landscapers and many more fields to understand how our actions affect the environment. Properly and completely documenting details is an important step to compare data taken at a different time or a different location.

Topics Reviewed: Weather, weather apps, weather monitoring (temperature, wind speed, humidity precipitation and cloud cover), observational surveys, data collection and recording,

Grade Levels: 4th – 12th grades

Activities:

1. Weather Monitoring

Discussion: [Learning about the weather](#) (NOAA website) informs us of the outside conditions that can affect our everyday lives. Weather also plays an important role in water quality measurements and differs throughout the day and with every season. Additionally, the weather in our area is impacted by the vast waters of the Great Lakes. [The Great Lakes](#)

[modify](#) (DNR EEK website) local weather and climate because water temperatures change more slowly than land temperatures. Therefore, lake waters gain heat in summer and release heat during cooler months. This results in cooler springs, warmer falls, delayed frosts and lake-effect snow near any of the shores on the Great Lakes.

ACTIVITY STEPS:

Supplies needed: Smartphone or tablet for weather app, [survey sheets](#), and enough clipboards and pencils for the number of groups of 4-5 students. You can also contact the University of Wisconsin Extension's [Digital Observation Technology Skills - DOTS Kits](#) that provides digital tools to observe and test weather.

Classroom:

- Break students into groups of about 4 students. Have students pick and record a name for their group.
- Assign a data recorder to document survey responses and a media pro to take pictures and videos of the activity.
- If interested, show students a short video on [weather](#) (Way Cool Science) (16 min.).
- Connect students to a weather app like Accuweather, The Weather Channel or WeatherBug and show them how they can find real-time weather measurements for their area. Have student groups record the weather, date and time on the [survey](#).

2. Observational Survey - Classroom

Discussion: Did you know that there are many different types of jobs that depend on observing and recording the environment around us? Before an architect designs a building, they need to observe the location and all the features of the landscape and how it interacts with the community and wildlife. They also need to know the effects of weather and what the soil and bedrock is made of. A design is then sent to contractors who do their own survey to see if they can get permits from the city to build the building. Bird watchers and naturalists also rely on surveys to determine the amount and types of birds or other species that are present to determine how they can keep birds and wildlife safe.

Review the survey with students and ask, "Can you think of other jobs that might depend on surveys?"

Outside Activity:

- Break students into groups of about 4 students. Have students pick and record a name for their group.
 - Assign a data recorder to document survey responses and a media pro to take pictures and videos of the activity.
 - Have each group find a different and specific area to observe their surroundings and complete the survey.
 - Each group should do the activity for about 20 minutes.
 - After the survey, discuss the students' results and thoughts on the activity. What surprised them? What questions do they have?
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Other Resources and Bibliography:

1. University of Wisconsin Extension's [Digital Observation Technology Skills - DOTS Kits: Lessons](#)
2. David Sobel's: ["Place-based Learning: Connecting Classroom and Community"](#),
3. US EPA's [Stream Habitat Assessment](#)
4. WI DNR - [Environmental Education for Kids \(EEK\)](#)
5. WI DNR EEK - [Great Lakes Influence on Weather](#)

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Student Naturalists: Please complete the survey questions below.

School:_____ Grade:_____ Group Name:_____

How many in your group?_____ Date & Time: _____

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WEATHER: Record the weather information below from a weather app.

Temperature: _____ Wind Direction & Speed:_____ Wind Gusts: _____

Humidity: _____ Cloud Coverage: Circle 1: None Few Partly (50%) Cloudy (100%)

Precipitation? Circle 1: None Rain Snow

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SITE SURVEY:

Find a location to gather your group sitting or standing. Look around you. Take a deep breath, close your eyes for a minute and **turn on** your 5 senses: sight, sound, smell, taste and touch. Slowly take 3 breaths and open your eyes and look around.

Answer these questions:

- What do you see?

- What do you hear?

- What do you smell?

- Do you taste anything when you take a deep breath? (Do not taste items you see)

- What is the surface like of the area around you? Soft sand or grass, hard cement or asphalt, or uneven rocks or ground? What else?

- Do you see any trees or bushes? Are there many or just a few?

- Do you see any birds? What are they or what do they look like?

- Do you see any other animals? What are they or what do they look like?

- Is the area clean? Is there any trash present?

- What could we do to make this place better?

- What do you feel about this place? Write down **one word** that each person in your group feels. If there are 4 in your group there should be 4 different words.

Thank you for observing and connecting to your community!