Title: Wind Watchers

Grade Level: Kindergarten

Time Frame: 5 class periods, 15 Min. per class.

Focus: Students will understand that weather changes day to day and some changes are more common to their area. Students will learn to become observers of weather. Students will learn to graph wind patterns.

Assessment: Through out the lesson assessment will occur. Students will be assessed on their observations outside and their input in our discussion. Students will be assessed on their completion of their individual wind graphs.

Arizona Academics Standards
Subject : Science
Grade/ Domain : KINDERGARTEN

- **Strand 1:** Inquiry Process
  - **Concept 1:** Observations, Questions, and Hypotheses
    Observe, ask questions, and make predictions.
    - **Performance Objective PO 1 :** Observe common objects using multiple senses
    - **Performance Objective PO 2 :** Ask questions based on experiences with objects, organisms, and events in the environment.
    - **Performance Objective PO 3 :** Predict results of an investigation based on life, physical, and earth and space sciences (e.g., the five senses, changes in weather).
  - **Concept :** Concept 2: Scientific Testing (Investigating and Modeling)
    Participate in planning and conducting investigations, and recording data.
    - **Performance Objective PO 1 :** Demonstrate safe behavior and appropriate procedures (e.g., use of instruments, materials, organisms) in all science inquiry.
    - **Performance Objective PO 2 :** Participate in guided investigations in life, physical, and earth and space sciences
    - **Performance Objective PO 3 :** Perform simple measurements using non-standard units of measure to collect data
  - **Concept :** Concept 3: Analysis and Conclusions
    Organize and analyze data; compare to predictions.
    - **Performance Objective PO 1 :** Organize (e.g., compare, classify, and sequence) objects, organisms, and events according to various characteristics.
    - **Performance Objective PO 1 :** Organize (e.g., compare, classify, and sequence) objects, organisms, and events according to various characteristics.
    - **Performance Objective PO 2 :** Compare objects according to their measurable characteristics (e.g., longer/shorter, lighter/heavier).
  - **Concept :** Concept 4: Communication
    Communicate results of investigations.
    - **Performance Objective PO 1 :** Communicate observations with pictographs, pictures, models, and/or words.

        - **Performance Objective PO 2 :** Communicate with other groups to describe the results of an investigation.
- Strand 6: Earth and Space Science
    - Concept 3: Changes in the Earth and Sky
      Understand characteristics of weather conditions and climate.
        - **Performance Objective PO 2 :** Describe observable changes in weather.
        - **Performance Objective PO 3 :** Give examples of how the weather affects people's daily activities.

Social Studies

- Strand 4: Geography
    - **Concept :** Concept 3: Physical Systems
        - **Performance Objective** Connect with: Science Strand 6 Concept 3: Understand the characteristics of weather and how it affects people's daily activities

MATERIALS/BACKGROUND INFORMATION:

- Butcher paper
- Thermometer
- Compass
- Anemometer
- Computer with internet connection for listening to oral history

This lesson is taught as part of a weather unit. This lesson will be given after an introduction of weather and the different types of weather that occurs. After this lesson is complete students will continue to observe different aspects of weather such as rain.

POSSIBLE PROCEDURES:

Over a week span, students will venture outside and observe the wind with all of their senses. We will then return into the classroom and write down the weather we observed after the week of observation students will construct a graph of the winds activity.

Engage:

1. Have the students listen to the following oral history that describes how people native to their environment would predict the weather due to how the sky, animals, and trees would react. http://hdl.loc.gov/loc.afc/afccmns.018001

2. Take a field trip outside to observe the wind.

Explore:

3. The students will close their eyes, smell, and feel the wind. We will discuss our discoveries as they are occurring. The discovery is open but if students fail to grasp the concept I will begin guiding with questions such as, How does the wind feel? Does it have a smell? Lick your finger and hold it above your head; what does it feel like? What do you think wind effects?
4. We will then use a compass to find the direction of the wind, a thermometer for the temperature, and the anemometer to determine the winds strength.

Explain:

5. We will then come inside and talk about what we discovered about the wind. As the students respond, write down their experiences on the board: Was it powerful or weak; what did our anemometer read? What did our thermometer read; hot or cold? Which way was it blowing; what direction did our compass give? What did it smell like? How did the trees react? The grass?

Elaborate:

6. Model how to create bar graphs: wind direction, temperature, and wind strength.
7. As a class, create symbols to represent the characteristics of the wind for each bar graph.
8. Through out the week, fill out the bar graphs using the characteristics.
9. Ask students to observe the wind in the evening. Did the wind change from earlier in the day?
10. Repeat steps 3-5 daily.
11. On day 5, students will individually graph the wind patterns that they experienced.
12. As an extension, have the students create their own anemometers and use these anemometers for the rest of the observations.

Evaluate: Through out the lesson assessment will occur. Students will be assessed on their observations outside and their input in our discussion. On the third days students will be asked to individually graph the wind patterns that they observed.

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