

Weather Patterns

Strand	Earth Patterns, Cycles, and Changes
Topic	Investigating weather patterns
Primary SOL	K.9 The student will investigate and understand that there are simple repeating patterns in his/her daily life. Key concepts include a) weather observations.
Related SOL	K.1 The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which h) observations are recorded; i) picture graphs are constructed; k) objects are described both pictorially and verbally.

Background Information

One can make simple predictions in weather patterns. On a cloudy, warm day, it may rain. On a cloudy day that is very cold, it may snow. On a clear day, there most likely will be no rain or snow. Studying the weather is a good way to learn about observations and patterns and to help us prepare for upcoming days based on the weather predictions. Weather happens daily and can be easily seen and recorded. There are lots of daily and seasonal patterns that occur in weather. These patterns help us make predictions about weather trends and occurrences.

Materials

- A window or door to open daily
- Weather graph
- Outside thermometer
- A large paper thermometer for demonstration, color-coded for hot, warm, cool, cold, and freezing
- Weather maps (from newspaper or Internet)
- A weather bear with different kinds of clothing appropriate for different kinds of weather

Vocabulary

observe, weather, sunny, rainy, cloudy, snowy, windy, warm, hot, cool, cold, predict, chart, graph

Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

During daily calendar or class meeting time:

1. Appoint a “weather person” who looks out a window or goes outside to collect daily observations and then tells the class about the:
 - Sky—sunny, mostly sunny, partly cloudy, cloudy
 - Precipitation—dry, rain, snow, hail, sleet
 - Temperature—hot, warm, cool, cold, freezing

2. The calendar helper or the weather person may record this information. Some possible ideas:
 - Use a square sticky note to indicate each day’s precipitation with a drawing or with words. Place these squares on a chart in the appropriate columns. After a few weeks, have students read this chart like a bar graph. They should easily see what type of precipitation has occurred most and what type has occurred the least over a period of time.
 - Record temperature by moving the indicator on a large paper thermometer to indicate the day’s color-coded temperature—in the red area for a hot day, in the dark blue area for a freezing day, etc.
 - Make a monthly temperature graph by putting a sticky dot on the graph each day to show the day’s color-coded temperature. This enables an end-of-the-month look at the temperature trends.
3. Have students look at the weather and temperature graphs and talk about some of the patterns we see in weather. Help students see that when the sun is out, the temperature is usually higher or warmer; when it is cloudy, the temperature is usually lower or cooler. Discuss connections between rain, snow, and temperature.
4. Ask students how they know what to wear each day. Parents, TV, radio, observation, and newspaper are a few possibilities. Another way is to read the weather map in the newspaper. Pass out several maps to small groups. Have students take a few minutes to look these over and prepare to share what they see and understand. Listen for the weather words that students use when talking about the weather maps.
5. Have the weather person or calendar helper put the appropriate clothes on the weather bear each day.
6. Talk about how we might use weather forecasts and weather maps to plan future activities. Ask the weather person or calendar helper to use the day’s weather and a weather map to predict what the weather might be tomorrow. Record his/her ideas, and ask for the reasons he/she made the predictions.

Assessment

- **Journal/Writing Prompt**
 - Predict by drawing pictures, what you think the weather might be tomorrow and explain why the prediction was made.
- **Other**
 - Have students fold a piece of paper into six sections. Then have the students list six types of weather (one per section) and draw a picture for each. Draw and label in each box a type of weather we have in Virginia.

Extensions and Connections (for all students)

- Discuss weather safety and what students should and should not do during a thunderstorm or a tornado. Practice a tornado drill with the class.
- Discuss protecting skin with clothing and/or sunscreen when it is sunny outside.

Strategies for Differentiation

- Provide visual picture symbols for the Journal/Writing Prompt.

- Support observations and predictions with visual picture symbols and/or real photographs of weather conditions.
- Watch an age-appropriate video on weather.
- Go outside with students to observe and experience weather conditions. Record student observations by marking a visual representation of weather choices on a clipboard.
- Pair students to complete a picture sorting of clothes worn in hot/cold weather.
- Create a three-column classroom display of students' predictions of tomorrow's weather, digital photos of actual weather conditions, and space to record with words and thumbs up/down to confirm/reject prediction. Color-code the three columns for clarity.
- Create a class book of the weather vocabulary words and pictures to match the words.
- Sing a song with students that is related to weather (Examples: "Rain, Rain, Go Away," "Mr. Golden Sun," "You Are My Sunshine").
- Pair students to be the weather team to record daily observations of weather conditions by marking a visual checklist of weather choices.