

Weather Wonders: Exploring Temperature Changes

Objective: Students will be able to observe and describe weather and temperature changes over time.

Assessment:

Students will complete a weather journal for one week, recording daily weather and temperature observations, including drawings and simple sentences to describe what they see.

Key Points:

- Weather can change from day to day and over time.
- Temperature can be measured and described using terms like hot, warm, cool, or cold.
- Different types of weather include sunny, rainy, cloudy, and snowy.
- Weather affects our daily activities and clothing choices.
- We can use charts to compare weather changes over a week.

Opening:

- Begin with a question: "What do you think the weather is like today?"
- Show a short video clip of different weather types (sunny, rainy, snowy).
- Ask students to share their favorite type of weather and why.
- Introduce a weather song to engage students and capture their interest.

Introduction to New Material:

- Present visuals of different weather types and corresponding temperature descriptions.
- Discuss how we can use a thermometer to measure temperature.
- Use a weather chart to demonstrate how to record daily weather observations.
- **Common misconception:** Students may think that weather is always the same and doesn't change. Clarify that weather can be different every day.

Guided Practice:

- Set expectations: Students will work together in pairs to observe the weather outside.
- Use sentence stems: "Today, the weather is _____ and the temperature feels _____."
- Begin with easy questions: "What do you see in the sky?" and progress to harder ones: "How do you think the weather will change tomorrow?"
- Monitor student performance by circulating and listening to discussions, offering support as needed.

Independent Practice:

- Students will complete their own weather journal entry for the day, including a drawing and a sentence describing the weather and temperature.
- Set expectations for quiet work time and encourage them to ask for help if needed.

Closing:

- Gather students and ask them to share one thing they learned about weather today.
- Conduct a quick review using a thumbs up/thumbs down to assess understanding of weather and temperature concepts.

Extension Activity:

- Provide materials for students to create a weather wheel that illustrates different types of weather and their corresponding temperatures.

Homework:

- Ask students to observe the weather at home for one week and draw a picture of what the weather looks like each day, labeling it with a simple sentence.

Standards Addressed:

- Next Generation Science Standards (NGSS) K-ESS2-1: Use and share observations of local weather conditions to describe patterns over time.
- Common Core State Standards (CCSS) ELA-Literacy.W.K.2: Use a combination of drawing, dictating, and writing to compose informative/explanatory texts.

Here are some resources that can enhance your weather lesson for kindergarten students:

Interactive Websites:

- **National Weather Service (NWS):** Offers educational resources and fun facts about weather.
- **NASA's Climate Kids:** Provides interactive games, videos, and activities related to weather and climate.

Books:

- **"The Very Hungry Caterpillar" by Eric Carle:** While primarily about a caterpillar's transformation, it includes elements of weather and seasons.
- **"Cloudy with a Chance of Meatballs" by Judi Barrett:** A fun story that introduces weather concepts in a creative way.

Visual Aids:

- **Weather Charts and Graphs:** Create a simple weather chart where students can place stickers representing daily weather.
- **Flashcards:** Use flashcards with pictures of different weather types and corresponding temperatures.

Videos:

- **PBS Kids Weather Videos:** Short educational videos about weather concepts designed for young learners.
- **YouTube Educational Channels:** Channels like "SciShow Kids" provide engaging content related to weather.

Hands-On Activities:

- **Weather Station Kit:** Use simple tools like thermometers, rain gauges, and anemometers to create a classroom weather station.
- **Art Supplies:** Provide materials for students to create their own weather-themed crafts, such as clouds or suns.

Apps:

- **Weather Radar Apps:** Simple apps that show real-time weather data can help students understand weather patterns visually.

- **Interactive Story Apps:** Look for apps that tell weather-related stories with interactive elements.

Community Resources:

- **Local Weather Stations:** Arrange for a visit or virtual tour of a local weather station to learn about how professionals track weather.
- **Guest Speakers:** Invite a meteorologist or a local farmer to discuss how weather affects their work and daily life.

These resources will help create an engaging and informative lesson on weather and temperature changes for kindergarten students.

Here are some specific activities for kindergarten students to enhance their understanding of weather and temperature changes:

1. Weather Journal

- **Description:** Students will keep a daily weather journal for one week.
- **Materials Needed:** Blank journals or sheets of paper, crayons, and markers.
- **Activity:** Each day, students will draw a picture of the weather and write a simple sentence describing it (e.g., "Today is sunny.").

2. Weather Wheel Craft

- **Description:** Create a weather wheel that illustrates different types of weather.
- **Materials Needed:** Paper plates, markers, scissors, and brads (fasteners).
- **Activity:** Students will decorate each section of the plate with different weather types (sunny, rainy, cloudy, snowy) and use a brad to spin the wheel.

3. Temperature Graphing

- **Description:** Students will track the temperature over a week and create a simple graph.
- **Materials Needed:** Graph paper, colored pencils, and a thermometer (or a simple online weather source for temperature).
- **Activity:** Each day, students will measure the temperature and color in the corresponding box on the graph to visualize changes.

4. Weather Prediction Chart

- **Description:** Students will predict the weather for the following day.
- **Materials Needed:** Chart paper, weather symbols (sun, cloud, rain), and stickers.
- **Activity:** At the end of each day, students will predict what the weather will be like the next day and place a sticker on the chart according to their prediction.

5. Weather Dance

- **Description:** Create a movement activity where students can act out different types of weather.
- **Materials Needed:** Space for movement and music.

- **Activity:** Play different types of music (soft for cloudy, upbeat for sunny, etc.) and have students move according to the weather type. For example, they could sway like trees in the wind or jump like raindrops.

6. Cloud in a Jar Experiment

- **Description:** Demonstrate how clouds form.
- **Materials Needed:** A clear jar, hot water, shaving cream, and food coloring.
- **Activity:** Fill the jar with hot water, top it with shaving cream to represent clouds, and then drop food coloring on top. Watch as the "rain" falls from the "clouds."

7. Weather Bingo

- **Description:** A fun game to reinforce weather vocabulary.
- **Materials Needed:** Bingo cards with weather pictures and tokens.
- **Activity:** Call out weather terms, and students will cover the corresponding pictures on their bingo cards.

8. Nature Walk

- **Description:** Take students on a nature walk to observe weather and its effects on the environment.
- **Materials Needed:** Clipboards and observation sheets.
- **Activity:** Have students observe and record what they see related to weather (e.g., puddles after rain, leaves blowing in the wind) and discuss their findings afterward.

These activities will provide hands-on learning experiences that reinforce the concepts of weather and temperature changes in an engaging way for kindergarten students.