
TEKS 1.8 Earth and space. The student knows that the natural world includes the air around us and objects in the sky. The student is expected to:

- (A) record weather information, including relative temperature, such as hot or cold, clear or cloudy, calm or windy, and rainy or icy;
(D) demonstrate that air is all around us and observe that wind is moving air.
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Background Knowledge

Weather is the condition of the atmosphere at present. Weather is how the sky looks and how it feels outside at any given time. Changes in weather can be recorded by observing changes in the sky, our surroundings, and how we feel. Weather conditions can be described as cloudy, sunny, rainy, icy, or windy.

Air is a mixture of gases that surrounds Earth, where all weather takes place. Air is all around us and cannot be seen, but the effects of moving air can be felt as wind. Wind is air in motion.

Weather affects our everyday lives from how we feel, to what we wear and what we do.

Essential Questions

What words can we use to describe different kinds of weather?

(Hot, cold, clear, cloudy, calm, rainy, windy, icy)

How can we show that air is all around us?

(With bubbles, leaves, balloons, windsocks)

What is wind?

(Moving air)

What should be part of a weather report?

(Relative temperature such as hot, warm or cold, clear or cloudy, calm or windy, rainy, dry, or icy.)

A Bubbly Time!

Objective:

To show that air takes up space and is around us even if we cannot see it.

Materials:

Bubble wands
Liquid soap solution (1 part soap and 2 parts water)
Bowls
Science journal
Pencil
Safety goggles

Safety:

Remind students to stay in sight of you at all times. Discuss with students the importance of wearing safety goggles during this investigation to prevent the soap solution from getting into their eyes, the importance of washing their hands after the investigation and what to do if the soap solutions accidentally gets into their eyes. Emphasize the importance of conducting safe practices to keep themselves and others safe.

How to Conduct:

- A. Provide each student with a bubble wand and some liquid soap in a bowl. Take students outside for this investigation. Remind students to stay in sight of you at all times. Discuss with students the importance of wearing safety goggles during this investigation, including what to do if the soap solutions accidentally gets into their eyes. Have students dip the wand into the solution in the bowl. Have students blow gently on the soap film in the wand.

Ask:

- What is inside the soap bubbles you just created? (Air)
- How do you know that the bubble is filled with air? (Because the soap is puffed out in the shape of a bubble, otherwise it would be flat.)
- Can you think of a different way to fill a soap bubble with air? (Children can wave the wand back and forth through the air in front of them, reinforcing that air is all around us even though we don't see it.)
- Why are the bubbles moving? (The wind, we are blowing on them.)
- How do you take the air out of the bubble? (Children demonstrate popping bubbles.)
- Make sure students rinse and dry the bowls and wands and wash their hands after handling the soap solution.

- B. Write a reflection in science journal describing the activity. Sketch bubbles and label where the air is located.

The Unwettable Towel

Objective:

To show that air takes up space and is around us even if we cannot see it.

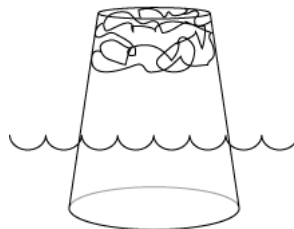
Materials:

Large, clear tub or bowl of water
Paper towel
Clear cup
Classroom

How to Conduct:

- Ask a student to feel the paper towel and describe how it feels. (Focus on the fact that the paper towel is dry.)
- Wad the paper towel into a ball and squash it into the bottom of the clear plastic cup.
- Ask the students to predict what will happen to the paper towel if you turn the cup upside down and force it under the water. Count how many students predict the paper towel will remain dry and how many predict it will get wet.
- Turn the cup upside down, making sure the paper towel stays in place.
- Submerge the cup in the large clear tub or bowl of water.
- Remove the cup, but keep it upside down.
- Ask a student to reach in and pull out the paper towel.
- Ask the student whether the towel is wet or dry.
- Discuss how it is possible for the towel to still be dry.
- Ask what else was in the cup besides the paper towel. Lead the students to answer that air was also in the cup and prevented the water from coming inside the cup.
- Emphasize that air is matter and it takes up space in the cup, in the room and around the Earth.

If students have already performed the Bubbly Time Activity, they will have prior knowledge that air takes up space inside the soap bubbles.



Dressing Up For The Weather

Objectives:

To encourage discussion on dressing right for the weather.

To record weather conditions and use descriptions of the weather to determine how to dress based on the weather.

Materials:

Stuffed animal

Different clothes for the stuffed animal to wear.

How to Conduct:

- A. Provide and introduce the stuffed animal with the clothes to the students.
Ask:
 - Before you choose your clothes each day, what do you need to know? (What the weather is going to be?)
 - How can we find out what the weather will be so we know what to wear? (Watch or read the weather news, observe weather, know what season it is.)
 - What is another name for “weather person”? (Meteorologist)

- B. Make a student the meteorologist for the day. He or she will announce the weather conditions (The relative temperature and weather conditions such as cloudy, rainy, sunny, cool, hot) each morning to the class. **Students should not go outside unsupervised to check conditions.** Weather.com is a good source for current weather conditions.

- C. After the weather report, encourage students to come to an agreement about which clothes the stuffed animal should wear based on the weather report. An option is to choose a costume director of the day, who will orally explain the choices made based on the weather report. (E.g., The animal will wear boots because it is rainy.)