

Catching the Wind - What is Wind?

Grade Level: 2

Essential Question

- What evidence shows that air has mass and volume?

Standard

- SC.2.E.7.4 - Investigate that air is all around us and that moving air is wind.

Student Objective

- Investigate and prove that air is all around us, has mass and takes up space.

Materials

- Cloud Chart:
<http://www.srh.noaa.gov/jetstream/downloads/cloudchart.pdf>
- Cloud Journal Activity Sheet
- Pencil/Marker

Key Terms

- Air
- Mass
- Volume

Engage

Ask the students to listen to a poem by James Reeves. Based on the poem students are asked to infer what the poem is about. Ask students to provide evidence from the poem of their inference.

Poem:

I can get through a doorway without any key,
And strip the leaves from the great oak tree.
I can drive storm-clouds and shake tall towers,

Or steal through a garden and not wake the flowers.
Seas I can move and ships I can sink;

I can carry a house-top or the scent of a pink.

When I am angry I can rave and riot; And when I am spent,
I lie quiet as quiet.

Explore: What is air?

Guided Inquiry - The air around us: Ask students to think about what we need to live? Possible answers may include food, water, shelter. Ask: do we need air to live? We need air to live and breath.

Inquiry questions:

- What is air?
- How do we know it is there?

Options for student investigations:

Student investigation #1: Can we prove that air is all around us? Give each student a balloon. Ask them to blow it up. What is the balloon filled with? Now ask students to let go of their balloon. Air is now coming out of the balloon.

Student investigation #2: Give each student a glass of water and a straw. Ask them to blow through the straw into the water. Once completed ask them:

- What did you observe about the water when you blew through the straw?
- What was being blown through the straw?
- What was happening to the water when you were blowing through the straw?

Explain

“Air the Facts”:

- Our atmosphere is made up of air.
- Air is a mixture of gases.
- These gases are a form of matter. Matter is something that has mass and takes up space (volume).

- Unlike a solid or a liquid, air is invisible.

Investigation Questions:

- So how can we prove that air is matter?
- How can we prove that air has mass and takes up space (volume)?

Extend

Experiment Options: The Following labs can be found under “experiments” on your WeatherSTEM domain page.

- Does air take up space (volume)?
- Does air have mass?