

Lesson 4: What is Air Pressure?

Activity 4.1

Purpose

Air pressure is an important factor in what determines if it is pleasant or stormy weather. Today you will rotate through a series of stations to learn about air pressure.

Word Wall Words

Air pressure: _____

Barometer: _____

Your Progress:

- Mastery
- Proficient
- Developing
- Beginning

Station 1: Can air crush a pop can?

At the start of the demonstration what is inside the can? _____

Water is heated. The water vapor takes up (more / less) volume than the water.

What does the water vapor do to the air inside the can? _____

Water vapor is condensed into water. The water takes up (more / less) volume than the water vapor.

Why does the can get crushed? _____

Station 2: Can you pick up the paperclip?

Squeeze the sides of the bottle to control the diving hook. Try to pick up the paperclip at the bottom of the bottle.

Watch what is happening to the water level inside the diver as you squeeze the bottle. How does the pressure inside the bottle affect the pressure inside the diver?

Station 3: Can the air hold up the water?

Fill the cup halfway with water and place the index card or Petri dish over it. Turn the cup upside down over a sink and carefully let go of the card or dish. Draw a diagram to show how you think the card is being held in place:

Station 4: Can we make a cloud in a bottle?

Watch the demonstration. Clouds that are formed present when the air pressure is (low / high).

Do you think clear skies would be associated with higher or low air pressure? Why?

Station 5: Do rising and falling air travel straight?

Flip the bottles over like an hourglass. Give it a brief spin to get the motion started.

What do you see happening to the water as it drains? _____

The top bottle has (higher / lower) pressure than bottom bottle.

As air moves downward or upward do you think it might spin as it moves the way the water does? Why or why not? _____

Station 6: What is a Barometer?

Watch the video and draw a model showing each type of barometer and how they work:

Aneroid Barometer:	Standard Barometer
	

