

Grade 2

Week 1

THE UPSIDE-DOWN TRICK

Did you know?? Air takes up space even though we do not see it! Can air keep a piece of paper dry in water? Can air keep water in a glass that is upside down?

MATERIALS:

- Clear drinking glass
- piece of paper or paper towel
- Thin piece of cardboard or index card (to cover top of glass)
- Bucket or tub taller than the glass

PROCEDURE:

- Activity 1:
1. Fill the bucket with water.
 2. Wad paper into the bottom of the glass.
 3. Turn the glass upside down. (If the paper drops down, make the wad a little looser.)
 4. Push the glass straight into the bucket. Wait a few seconds and then lift out the glass. (Be sure to hold the glass vertically. Don't tilt it.)
 5. Remove the paper. Was it dry? Why?

Activity 2:

Now test to see if air can keep water in!

1. Fill the glass 3/4 full of water.
2. Place a thin piece of cardboard over the top of the glass. (An index card will also work.)
3. Gently press the cardboard to the rim of the glass and turn the glass upside down. (Hold the glass over a sink or bucket in case the card isn't secure.)
4. Now take your hand off the cardboard. What happens?

Why It Works: Activity one: Air and water can't take up the same space at the same time. The water cannot move into the area that is occupied by the air. The tissue is in the space where the air is. Activity two: The air pressure is greater pushing on the outside of the cardboard than the pressure inside the cup so the water doesn't come out.