

Where Does the Cork Float?

Science IDEAS Project
 Student Activity

Goal:

Use a cork to demonstrate the adhesive and cohesive properties of water in a glass.

Materials:

- Water
- Drinking glass
- Cork
- eyedropper

Procedure:

1. Fill the glass half full with water.
2. From the side of the glass, observe the line made by the top of the water. What do you notice that is unusual about the line?
3. Gently place the cork in the center of the glass. Observe where it floats.
4. Take the cork out and fill the glass to the top with water. Use the eyedropper to get as much water in as you can without it spilling over the sides.
5. Observe the water line from the side of the glass. How is it different from when the glass was half full?
6. Gently place the cork in the middle of the glass. Some water may spill over, but that is OK.
7. Observe where the cork floats to this time.



Journaling Opportunities:

- How were the water lines as seen from the side different when the glass was half full and when the glass was overfull. Draw what it looked like to you.
- Where did the cork float to each time? What caused the cork to float to different places? Draw the cork's position for each part of the activity.
- What might happen if you repeated this experiment with a liquid that had different properties of cohesion and adhesion?

What Happened?

A cork, or other object that is less dense than the medium it is surrounded by, will always float up to the highest point of the medium. In both parts of this experiment, the point to which the cork floats is the highest point of the top of the water.

When the glass is part full, the adhesive force between water and the glass pulls the water a little bit up the sides of the glass. The cork floats to the edge of the water because this is the highest point.

When the glass is a little bit overfilled, the cohesive forces between the water molecules allow the water to “pile up” on top of itself, building the water in the middle of the glass into a mound without spilling over. Thus, the middle of the glass is the highest point, and the cork floats there.