



Surface Tension and Bubbles

EQUIPMENT	Empty butter cartons, Needle or pins, Tissue paper, Water, A glass, Small coins, Washing-up liquid, Drinking straw – one per child, Thin wire such as florist's wire, Newspaper
PREPARATION	Collection of materials
BACKGROUND INFORMATION	A glass or carton of water contains millions of tiny particles of water, which are pulling towards each other. This has the effect of a kind of invisible skin on the surface of water. This is called the surface tension. A small thing like a pin or a needle can actually sit on top of the water, even though they are actually heavier than water. Washing-up liquid weakens this skin so the bubbles become larger when washing-up liquid is added to water.
SKILLS	Investigating and experimenting
ACTIVITY	<p>Three activities all connected with the surface tension of water:</p> <ol style="list-style-type: none">1. Floating a pin or needle on the surface of water2. Sliding coins carefully down the side of a full glass of water and watching the water surface bulge at the top3. Blowing bubbles in a carton of water and noting the size of the bubbles. Then adding some washing up liquid and again blowing bubbles and noting any difference in size (<i>they are now bigger</i>). <p>Try making different-sized and shaped loops out of thin wire and noting the bubbles formed.</p>
SAFETY	Care with water, wire and needles/pins.



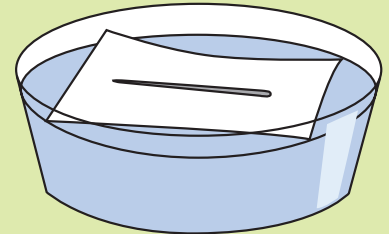
It's a Fact

Very small, light animals such as pond skaters can walk on the water's skin



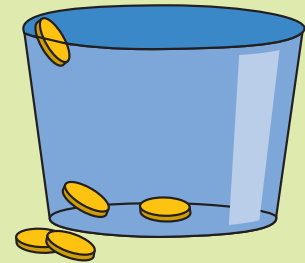
Surface Tension and Bubbles continued

- A**
1. Fill a glass or butter carton with water.
 2. Put the pin or needle on a little piece of tissue paper and lay it carefully on the surface of water. Eventually the tissue will absorb the water and sink. What happens to the pin (or needle)?

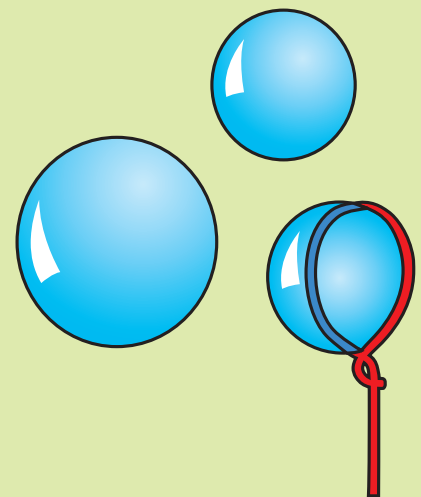


- B**
1. Fill the glass to the brim with water
 2. Gently slide in some coins, one at a time. What happens to the surface of water as you add the coins?

(Use small coins)



- C**
1. Put some water in a butter carton.
 2. With a drinking straw blow bubbles in the water. Note the size of the bubbles
 3. Add a little washing-up liquid to the water. Note the size of the bubbles.
 4. Add some more washing-up liquid. Again note the size of the bubbles.
 5. What effect is the washing-up liquid having on the water?



Poke a dry finger into a large bubble.

What happens?

Now put a finger into the soapy liquid and then poke into a large bubble.

Any difference?