

Surface Tension II- Detergent

Apparatus

glass of water, ground pepper (finely ground), detergent, container for used water and container of fresh water if no sink and tap handy.

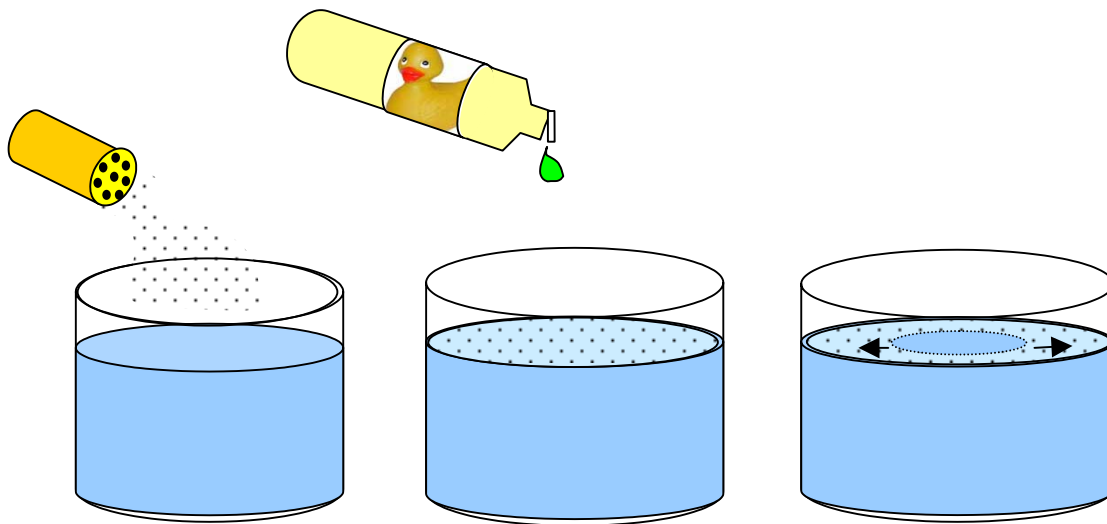
Action

The students sprinkle pepper over the glass of water. They then add a drop of detergent and observe and explain what happens.

The Physics

When the detergent is added the pepper can be seen to move rapidly towards the edges of the glass a moment later.

The motion of the pepper is due to the lowered surface tension with the detergent film. The detergent film is like a stretched membrane which is weak in the middle. When a hole forms it expands and the pepper is moved away from the centre with the retracting film.



Accompanying sheet

Surface Tension II – Detergent

Sprinkle pepper over the water in the glass.

Now add a drop of detergent.

Explain what happens to the pepper.

Clean out the glass and refill it with fresh water for the next group.