

# An Orange life jacket

Which easy peeler will float – a heavier whole one or a lighter peeled one? The answer may surprise you.

## What you need

- Tall glass
- Water
- Easy peeler or other citrus fruit

## How does it work?

Why does the heavier easy peeler (with its peel on) float, while the lighter peeled one sinks? To float on the water's surface an object must push away a mass (weight) of liquid that is greater than its own mass. This is how heavier-than-water objects such as boats can float. The heavier unskinned easy peeler floats because its skin is porous – filled with small pockets of air – and acts just like a life jacket. With the peel removed, the citrus fruit no longer pushes away a mass of water equal to its own weight, and so it sinks.

## EUREKA!

The ancient Greek scientist Archimedes discovered the principle of flotation while in the bath. He saw the water level rise when he got in.



**1** Fill a tall glass with water, then put an easy peeler into the glass. The fruit should float in the water.



**2** Remove the fruit from the water and peel it. Leave the skin to one side.



**3** Pop the fruit without the peel back into the water and watch as it sinks to the bottom.