

Float or Sink?

Just because two things are the same shape and size, doesn't mean they'll behave in the same way. Let's find out more with a bit of scientific investigation.

What you'll need

- A tank, trough or large bowl full of water
- A variety of objects to test, gathered from around your home, ideally of a similar size and shape. Include a satsuma (or similar) and some plasticine if possible



What to do

1. Gather your kit and fill the bowl with water
2. Make a guess - take a good look at your objects and decide if you think they'll float or sink and put them into two piles according to your decision. In science, this is called a hypothesis.
3. Time to test your hypothesis! Carefully lower each object into your bowl of water, one at a time to see if it floats or sinks. Were you correct? Or were there some surprises? Is there anything you can do to change an object's properties? If an object floats - how can you make it sink?
4. If you have satsuma in your collection, try peeling it and see if that makes a difference.
5. If you have a ball of modelling clay in your collection, see if changing the shape will help it to float. Think about objects that you know float and what they look like.



Whether an object sinks or floats depends on something called density. If the particles, or molecules, the object is made of are very tightly packed, the object is more dense than an object of the same shape and size but with loosely packed particles. If a dense object is more dense than the liquid it is placed into, it will sink, but in the same liquid a less dense object will float.

Of the objects you tested, which were more dense than the water and which were less dense?