

SCIENCE SHOW OFFS

PAPER CLIPS ON WATER

RESOURCES NEEDED

- **Paper clips**
Plastic covered ones work best.
- **Bowl**
Big bowls will float lots of clips.
- **Water**



EXPERIMENT

SET-UP

- Clear a table, or a flat surface outside, and place a bowl of water and the paper clips on it.

STEP 1

- Gently place the paper clip on the water, and watch as the paper clip stays floating!

STEP 2

- Gently push the paper clip into the water to show that it can also sink.



DISPOSAL AND CLEAN UP

- All materials from this Science Show Off can be reused so keep them in a box for later – except the water!

RISK MANAGEMENT

RISK

Water spilling.

MANAGING THE RISK

Have a towel ready for water spills.

SCIENCE EXPLAINED

There is a lot more going on with water than you know! Made of two hydrogen atoms and one oxygen atom (H₂O), water molecules have a slightly negative charge on one side and a slightly positive charge on the other. This means that water molecules next to each other are attracted. It's like they are gently holding hands!

At the top of water, this produces something called surface tension, and this tension prevents the paper clip from sinking. With just a little bit of force (like pushing the paper clip with your finger), you can overcome this surface tension and the paper clip will sink. So it is not a very strong force, but it is an important one.

REAL WORLD EXAMPLES

Some insects have evolved to take advantage of surface tension, and can use it to walk across water!

PARENTAL GUIDANCE

Science Show Offs should take place with appropriate adult supervision.

COMPETITION

To enter the Science Show Offs Competition, go to;
otagomuseum.nz/scienceshowoffs