

How to Float a Paperclip in Water

This is a great experiment to impress your friends and learn a little bit about surface tension too! All you need is a glass and a paperclip, so let's get started!



What do I need:

- Glass of water
- Paperclip

How do I do it?

STEP 1 - Just prove to yourself what you already know, if you drop a paperclip into a cup of water then it's sure to sink!

STEP 2 - We need to lower the paperclip extremely gently onto the surface of the water. The simplest way to do this is to take another paperclip, extend it out, and then use it as a lever to lower the paperclip that you want to float. (Make sure to fill your glass of water near to the top as that'll make things easier.)

Top Tip: It's always a good idea to wash your hands with water only - not with soap - before you get started. More on why you need to do this in a sec!

STEP 3 - Sit back and relax and enjoy your floating paperclip! When you've finished doing that we'll have a look at what's going on!



What's going on?

You know that as paperclips are made out of metal they're more dense than water, that's why they normally sink. How come this one is floating?

It all has to do with surface tension. It's actually the surface of the water that's holding the paperclip up! We'll prove this next!

More Fun Please - Experiment like a real scientist!

- Let's try an extra experiment to prove it's all about the surface tension. Put a drop of washing up liquid on your finger and dip your finger gently into the water. You'll see the paperclip fall to the bottom of the glass.
- As soon as you touch the water the soap spreads a thin layer right across the surface of the water. This thin soap layer has a much lower surface tension than the water does and it's not enough to hold up the paperclip!

