

Bridge Over Untroubled Water!

There's a touch of magic to this science experiment (and a very cheesy name!). How to get the water from one glass to the other, without touching it? Use science, of course!

What do I need:

- Two glasses
- Toilet roll
- Food colouring (optional)

How do I do it?

STEP 1 - I love to start this experiment by asking: "how can you get the water from one glass to the other - without touching either glass?"

STEP 2 - Here's the 'trick'. Tear off roughly a one metre long strip of toilet roll then fold and roll it until you get a sausage shape, as shown over the page.

STEP 3 - Carefully put it into the glasses as shown. You didn't touch the glasses so this counts!

STEP 4 - Watch as the water slowly rises up and swaps between the glasses! This will take a little while so don't sit and watch the whole thing! (The food colouring is just so you can see what's happening and so it looks extra awesome!)

What's going on?

If you've been paying close attention (you have, right!) you'll have noticed that only around half the water has made it across! When you put the toilet paper in the water it started to absorb the water. The absorption ('sucking up') of the toilet roll was stronger than gravity so slowly the water gets pulled up the toilet roll until it gets to the top. From that point on, gravity is helping out and pulls the water down and into the other glass.

So how come all the water doesn't make it across? Well, once there is some water in the previously empty cup the same thing can happen in reverse! That water could be absorbed back to the other side so when there's an equal amount of water in each cup we say that it's reached 'equilibrium'!

More Fun Please - Experiment like a real scientist!

- What difference does adding no food colouring make? Why?
- How tall a glass would this work on? Give it a go!

