CHaOS SCIENCE ROADSHOW

CHaOS@Home Experiment Files

Oil and Pyrex

About CHaOS

Cambridge Hands-On Science - CHaOS for short - is a volunteer led group from the University of Cambridge.

We believe that science is fun and relevant to everyone! CHaOS take our wide range of hands-on science experiments & enthusiastic student demonstrators to venues across the country!

We always love to hear what you think of our experiments - so to get in touch, find even more experiments, and see more of what we do, visit our website!

www.chaosscience.org.uk

Disclaimer
This experiments should only be carried out **under supervision of a responsible adult.**
Teachers should perform a risk assessment before use.

I'm **Boris Bones**, the friendly CHaOS skeleton. I'm going to guide you through this experiment!

Want to perform a **cool science trick?** Why not make a **pyrex bowl disappear** before your very eyes...

YOU'LL NEED

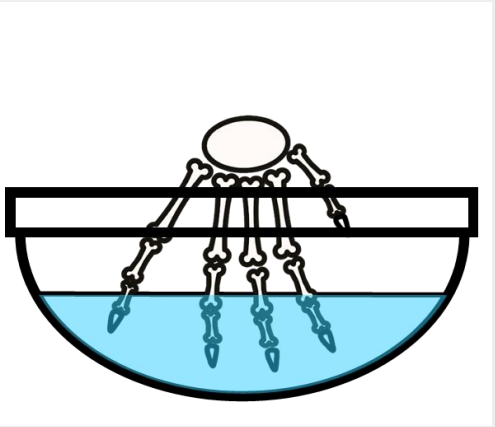
2 *Pyrex* Bowls (one small enough to fit easily inside the other), *Vegetable* Oil, Water, and Some Paper Towels

SAFETY

Vegetable Oil is **slippery if spilt** - mop up any spills with the paper towel.
Broken Pyrex is very **sharp** - if the bowls break, dispose of them **carefully**. If shards are in the oil **carefully pour it away** rather than fishing them out.

Step 1

First, fill the larger bowl with water and dip your hand in. Observe how your hand looks from the top and side. Do the same with the small bowl.



Do your fingers look a different size or bent?

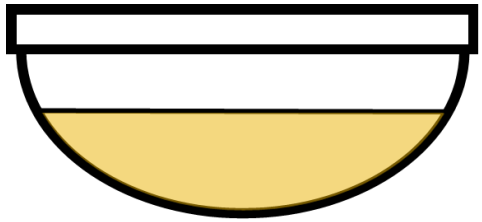
Does your hand appear to line up with your arm?

Is glass special?

Do other things disappear if dunked in oil?

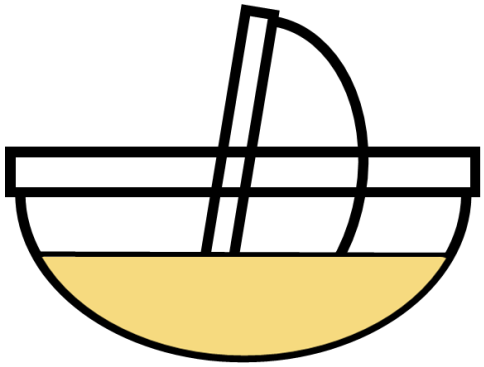
Step 2

Empty the bowl of water and dry the bowls out with a paper towel.
Now add some vegetable oil to the bowl.



Step 3

Take the smaller bowl and carefully dunk it in the larger bowl.
Watch as it disappears!



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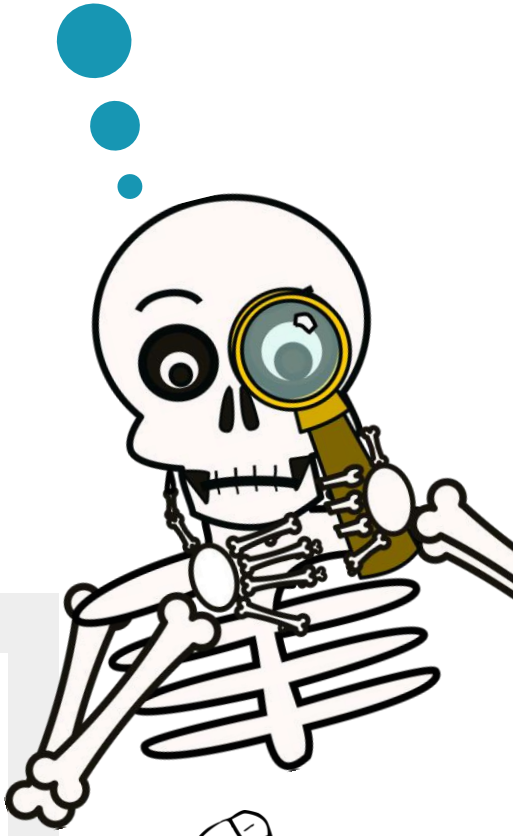
Explanation

You see things around you when light travels from them to your eyes. Light normally travels in straight lines, but when light passes from air into water, glass, or oil, it changes direction because these things are harder for the light to move through. This is called *refraction*. Refraction helps us to see clear things such as glass. It is also why things look funny underwater. When we fill the bowl with water the light bends as it moves between the water and the glass too - because the glass is harder to move through than the water. However, the vegetable oil and the Pyrex glass are just as hard to move through as each other so the light is not bent - this stops refraction letting us see the bowl!

Why not see if you can find some other examples of refraction around the home?



Want more?

Check out more experiments involving light!
Why not try ***"Make Your Own Sunset"***?

Or learn about how humans sense another type of wave - sound - in ***"Hearing High Sounds"***!

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