

Magic Cups Student Worksheet

What you need

- Two Chairs
- Strong String
- Ruler
- Scissors
- Two mugs

What to do

Place chairs back to back 1 metre apart.

Tie string (about 2m) from the top of one chair to the top of the other.

Measure and cut two pieces of string 50 cm long and tie mug to the end of each string.

Tie the free ends of the string to the string between the chairs, letting the mugs hang 40 cm apart from each other and equidistant from the chairs. Move the chairs so that the centre of the horizontal string sags about 10cm below the spot where the string is tied to the chair backs.

Start one of the mugs swinging at right angles to the horizontal string like a pendulum.

Describe what happens?

Can you attempt to explain why this happens?

Draw a diagram of the Chairs and Mugs



What Safety Advice would you give for this experiment?

If you were to repeat this experiment what might you change? (a variable)

Magic Cups For Teachers

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Once the children have established their experiment now its time to turn it into a *magic show*.

They need to tell their audience to watch closely. Insist that by using your hypnotic energy, you will make the first cup stop swinging and the second cup will start swinging. Wiggle your fingers towards the cups. The first cup slows down until it stops completely while the second cup begins swinging. A moment later, wiggle your finger towards the cup again. The second cup will stop swinging and the first one wil bebin swinging again.

Why it works.

Pendulums attached to a central line transfer energy back and forth between themselves through the connecting lines.

This is a Terrific example of a Transfer of energy

