

Chapter 3: Air

Invisible air pressure

Ratings

MESS  DANGER  DIFFICULTY 

Theme

Christians believe that God is invisible – but that doesn't mean he isn't there

Equipment needed

Paddling pool or large tray; plastic jug; water; fairly rigid plastic cups; waterproof card; lots of spare towels

Before you begin

If you can't find any waterproof card, you can make your own by covering ordinary card in sticky tape. It's best to do this activity while standing in a paddling pool, but if you have older children, a large tray works just as well.

Experimental method

Explain that you are going to demonstrate a strange effect. Take a plastic cup half-full of water, then hold a watertight piece of card to cover the top. Turn it over, still holding the card on the cup... and then take your hand away. The card should remain there, holding in the water. Discuss what might be happening here.

Set people the challenge of trying this out for themselves with different types of card and cup – are some better than others, and why? Toddlers and infants will be especially fascinated by this phenomenon – and, by the end, probably extremely wet.

Big thinking

Explain that air pressure is an invisible force pushing into all of us, and that it is pushing up into the card with greater force than the mass of the water being pulled down by gravity. (Without the air pressure, our bodies would explode – which is why space explorers wear pressurised suits.) The card provides the air with something rigid to push against. Without it, the water drops.

Big questions

How can we know if something is there, when we can't see it?

Air pressure is invisible until we see it in action. Similarly, God is invisible, but he still changes people's lives every day. Jesus came to show us what God was like, as a human being. God is much more than a 'force' – he cares deeply about us.

Bible links include: Paul's speech in Athens (Acts 17:23), John 1:18, John 5:37, Colossians 1:15.