Train like Tim Peake

Prepare for space by testing your reaction speed and learning about neutral buoyancy, the perfect activities for a night away

DID YOU KNOW?
The space station completes 15.5 orbits a day meaning that Tim could experience a sunrise or sunset every 92 minutes*

WOGGLEBOX

Zuzanna says
'I love this – it gives young people an idea of what they can be when they're older. It might even inspire someone to become an astronaut!'

*Sciencekids.co.nz

Activity

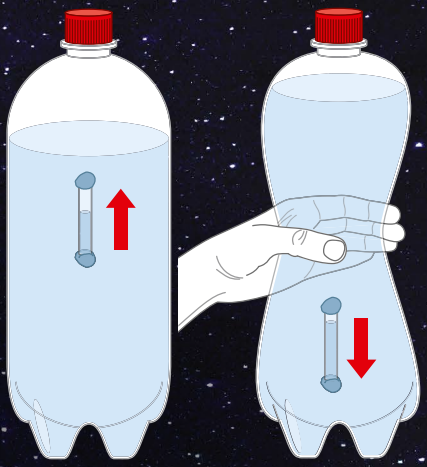
Make a Cartesian diver

This experiment recreates the effects of the Neutral Buoyancy Lab, where Tim Peake experienced conditions similar to the weightlessness of space as part of his training.

Suitable for all
TIME: **30 minutes**

You will need:
- A drinking straw
- Scissors
- Blu-Tack
- A 2-litre plastic bottle
- Water

1 To make your Cartesian diver, cut your straw to 4cm and use small pieces of the Blu-Tack to seal each end. Drop your diver into a glass of water; it should slowly rise to the top. If it sinks, remove some of the Blu-Tack; if it rises too quickly, add a little more.



2 Half-fill the bottle with water. Drop your diver in and fill it all the way to the very top with water. Put the cap on tightly.

3 Squeeze the sides of the bottle and your diver will sink; release the sides and your diver will float back up to the top. By squeezing the bottle, the air inside the straw is squeezed and the diver becomes less buoyant, which causes it to sink. Release the pressure and the air pocket can expand to become more buoyant.

BADGE

The UK Space Agency partners the Scout Astronautics Activity Badge.

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OUTCOMES

Your Group will gain insight into how much training is involved in becoming an astronaut and just how many challenges they face in space.

MORE INFORMATION

Visit **scouts.org.uk/ukspaceagency** to download the Mission X Activity Sheet where Scouts can train to experience the challenges faced by astronauts like Tim Peake.

Activity

Test your reaction speed

Astronauts spend hours practising their hand-eye reaction time to ensure they can deal with problems in space as quickly as possible.

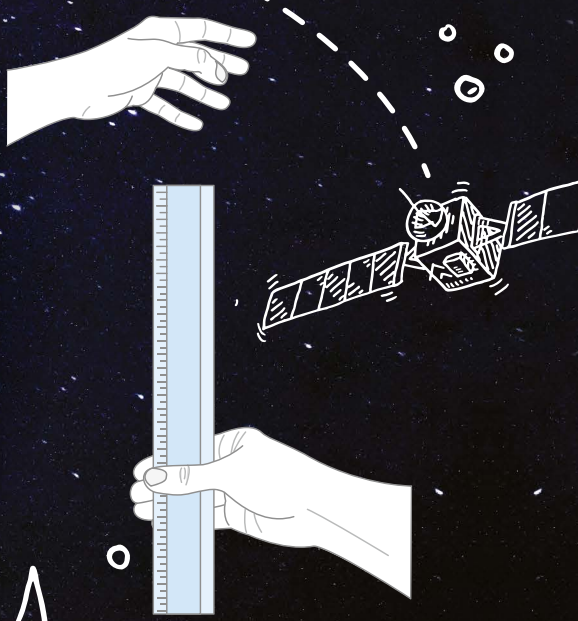
Suitable for all
TIME: **20 minutes**

You will need:
- Rulers (enough for one per pair)
- Squashy balls

1 Divide your Group into pairs. Give one person in each pair a ruler and ask them to hold it between the outstretched index finger and thumb of the other person. Make sure the top of the thumb is level with the zero centimetre line on the ruler.

2 Without warning, they should release the ruler. When the other person catches it, determine the distance between the bottom of the ruler and the top of their thumb.

3 See if they their reaction times are improved by squeezing a ball 20 times. Next, swap over so the dropper is the catcher.



Tim Peake: Getty Images