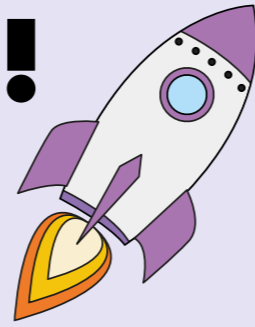


WE HAVE LIFT-OFF!



The space race began with rockets, and they're still essential for blasting off into orbit. Make your own and launch it into the air!

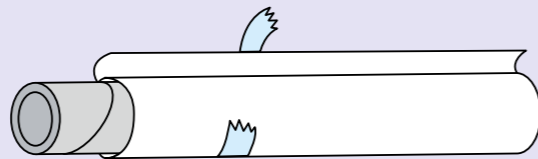


WHAT YOU NEED

- A strong narrow cardboard tube from a roll of foil or clingfilm
- White card
- Sticky tape (invisible if possible)
- A ruler
- A compass
- Scissors
- Marker pens
- Other decorations such as stickers or foil
- A large empty plastic fizzy drink bottle
- At least 45 cm of plastic tubing, about 2.5 cm wide
- Duct tape or other strong tape

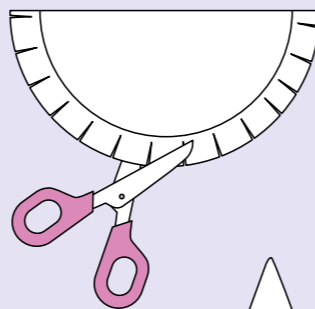
You can buy plastic tubing at a DIY or hardware store – or use a piece of old garden hose.

- 1** Roll a piece of white card around your cardboard tube to make a cylinder and tape it together. It should fit closely around the tube, but be loose enough to slide off easily.

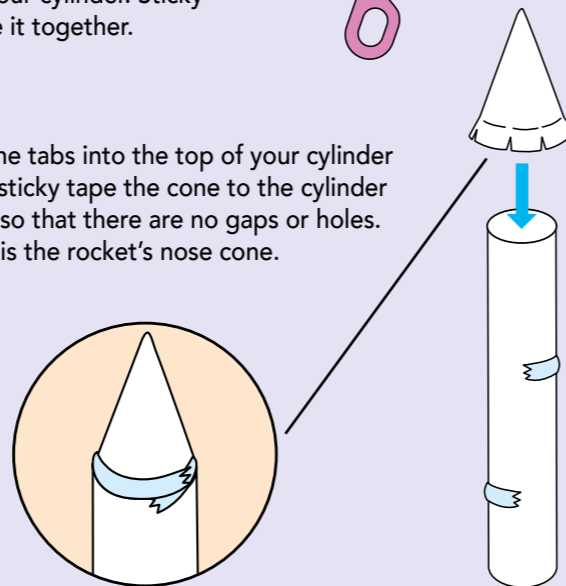


- 2** On a new piece of card, use the ruler to set your compass to draw a circle 11 cm across (5.5 cm radius). Then draw a second circle inside the first one, 10 cm across (5 cm radius). Cut out the outer circle.

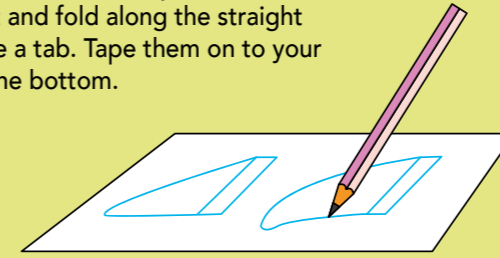
- 3** Cut the circle in half and make cuts around the edge up to the outline of the inner circle. Curve it around to make a cone. Make sure the base is the same width as your cylinder. Sticky tape it together.



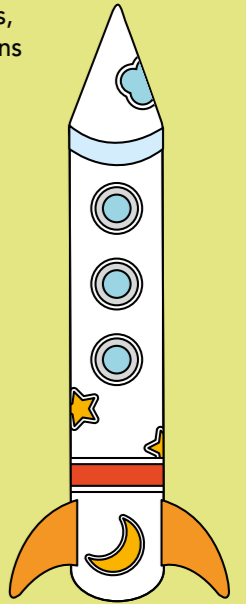
- 4** Fit the tabs into the top of your cylinder and sticky tape the cone to the cylinder well so that there are no gaps or holes. This is the rocket's nose cone.



- 5** Draw three rocket fins on a piece of card. Cut them out and fold along the straight edge to make a tab. Tape them on to your rocket near the bottom.



- 6** Add windows, stripes, logos, lettering or other decorations to your rocket. (You could look at pictures of real rockets for inspiration.)



- 7** Line up the plastic tubing with the neck of the bottle and fix them together firmly with duct tape. Don't leave any gaps. Attach the other end of the tubing to the cardboard tube in the same way.

- 8** Fit your rocket on to the cardboard tube and point it upwards. It's best to do this outdoors. Make sure you aim away from people and animals. Now, stamp on the bottle to make the rocket fly!

TIP

Make sure you only hold the tube, not the rocket itself, when launching.

TIP

If the bottle gets squashed, blow into the tube to inflate it again.

THE SCIENCE BIT!

This rocket works using air pressure. When you squeeze the bottle, you suddenly squash the air inside. It gets pushed along the tube and against the top of the rocket, forcing it upwards.

TAKE IT FURTHER ...

Make a target to fire your rocket at, such as a picture of the Moon or a planet stuck on to a wall.