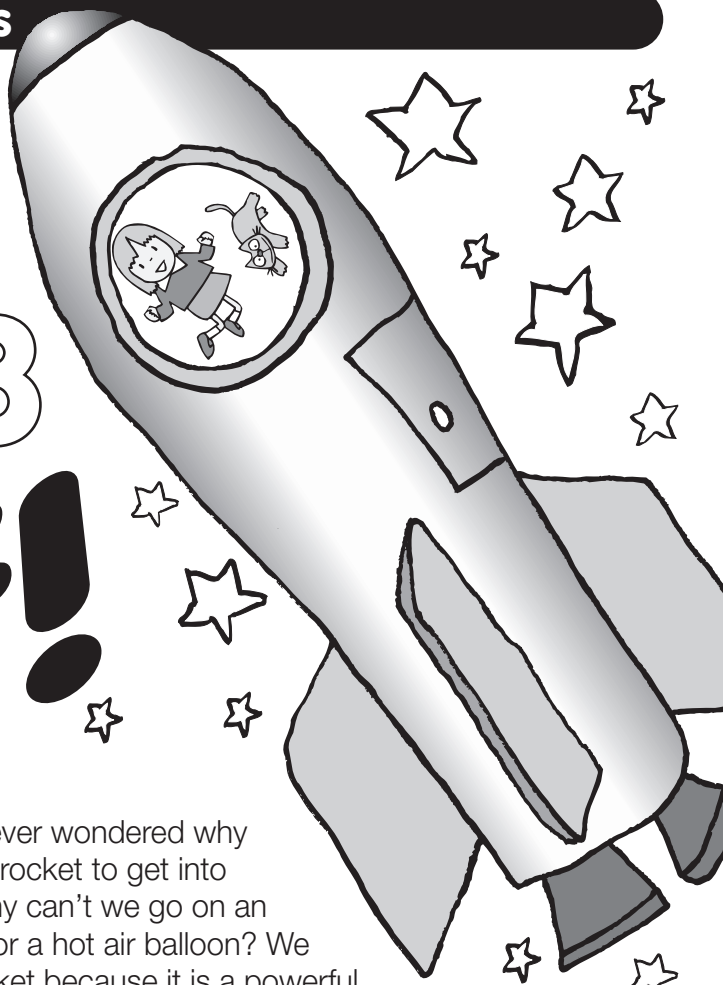


# EUREKA!

The Museum for Children

## Discovery 8

For 7 year olds and under



# 3,2,1 Blast off!

### The balloon test

Ask an adult to help you blow up a balloon.

**Let it go carefully and watch what happens!**

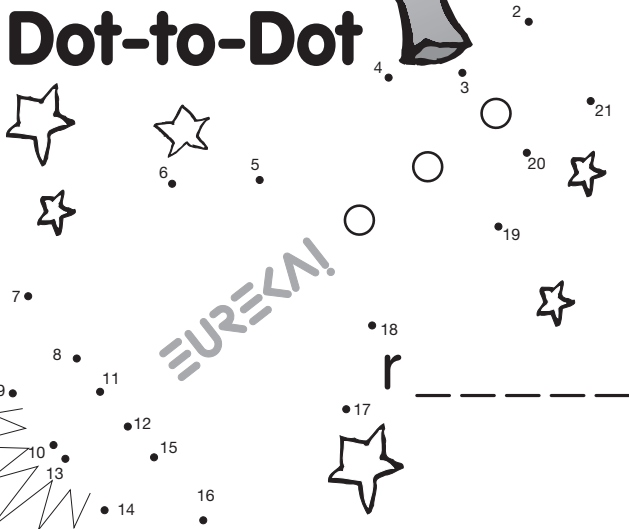
A balloon is like a rocket because when the air escapes from one end, it gives the balloon the energy to move forward at a great speed!

Have you ever wondered why we need a rocket to get into space? Why can't we go on an aeroplane or a hot air balloon? We need a rocket because it is a powerful and fast machine, which can travel high enough to escape the force of the earth's gravity. This is a force which keeps things on earth, which is why we don't float off into space!

### How does a rocket work?

A rocket holds Gas. When the gas is lit it gives the rocket the energy to move forward. The gas escapes through the bottom of the rocket.

### Dot-to-Dot



### Where does the energy come from to make these machines work?

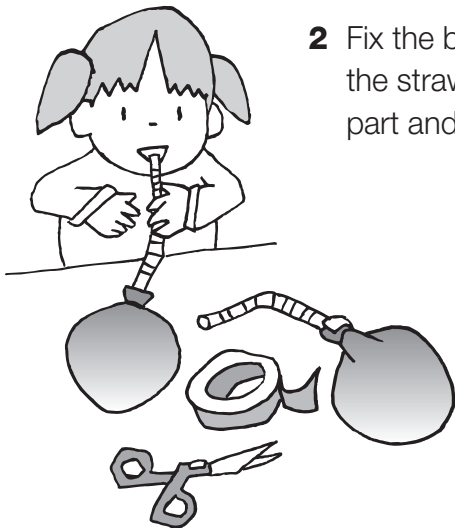
Write your answer from the following list:  
**battery, mains electricity, hand**

Washing Machine		<input type="text"/>
Calculator		<input type="text"/>
Clock		<input type="text"/>
Lamp		<input type="text"/>
Torch		<input type="text"/>
Pencil Sharpener		<input type="text"/>

Note: Ask an adult to help you

## What you need to do:

- 1 Ask an adult to make two small holes in one end of the tray, large enough for the straws to fit through.



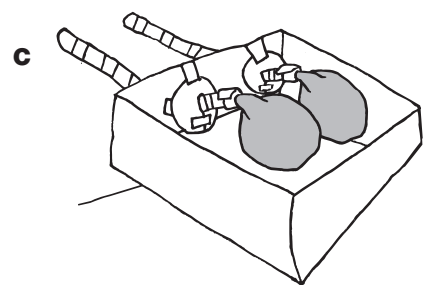
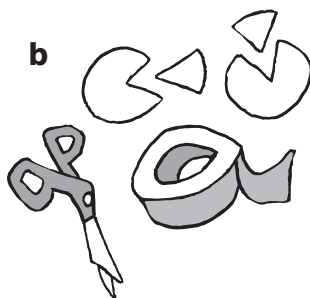
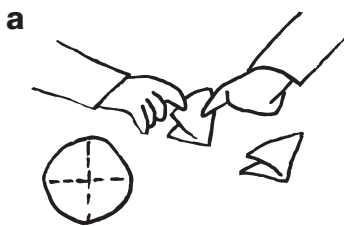
- 2 Fix the balloons on the end of the straws nearest the bendy part and seal with tape.



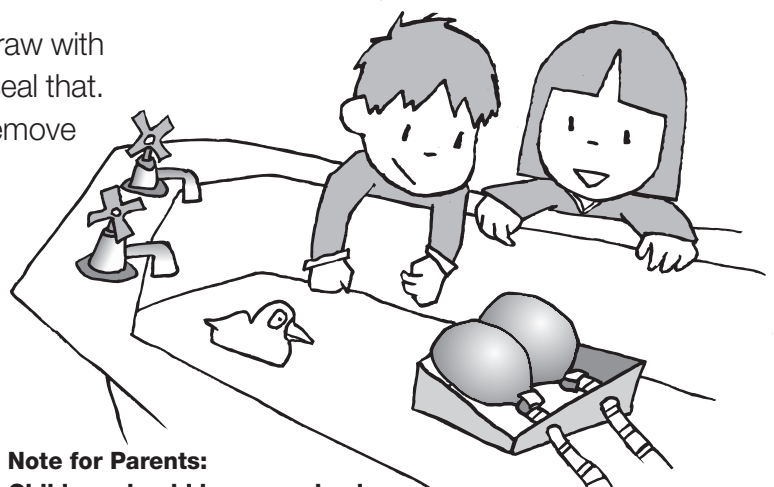
- 3 Test that the join is airtight by blowing up the balloons through the straws. This will soften the balloons for later.

- 4 Next, slide the straws through the holes so that the balloons are resting in the tray.

- 5 Ask an adult to help you to make the funnels to hold the balloons steady in the boat. Draw around the jam jar lid on the paper to make two circles. Carefully cut them out as shown and tape them around the straws to make funnels. Tape them to the side of the tray to keep them in place.



- 6 Blow up one balloon and seal the end of the straw with Blu-tack. Then blow up the other balloon and seal that. Lower the boat into shallow bath water and remove the Blu-tack so that the boat can set off.



**Note for Parents:**  
Children should be supervised when interacting with water.

## Why it works:

Air stored in the balloon rushes out through the straws and the boat is pushed forward, in the same way that rockets are pushed forward by the escaping gases.

**Links with Technology/Science Curriculum**

**You will need:**  
Small plastic or polystyrene tray  
2 bendy straws  
2 balloons  
Masking tape  
Blu-tack  
Sheet of paper  
Pencil  
Jam jar lid  
Scissors