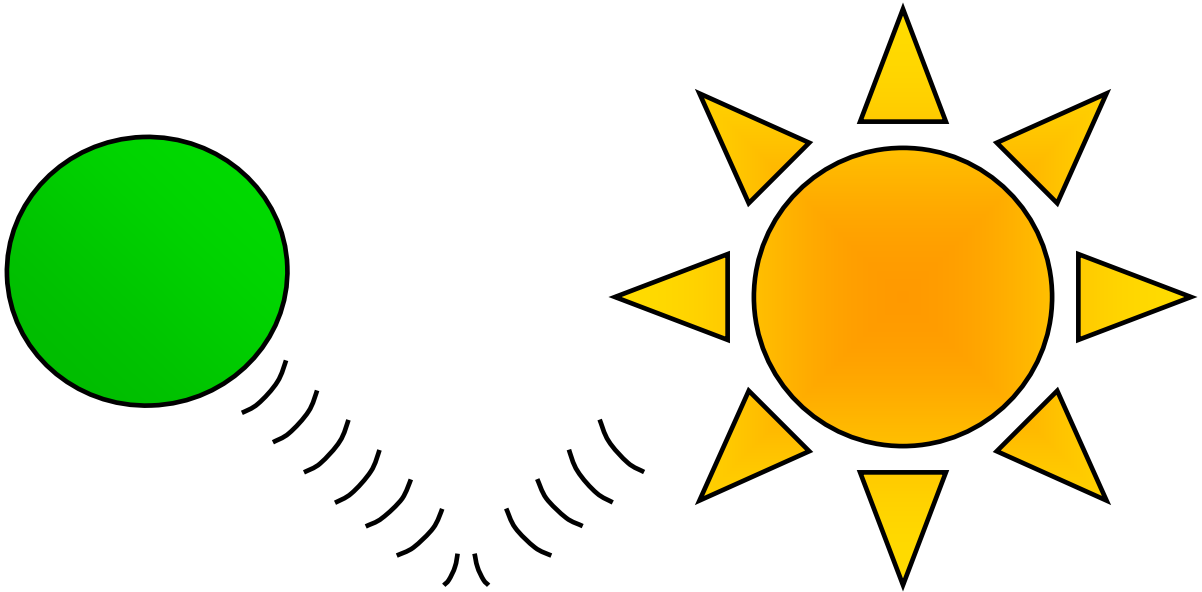


Explore@Bristol

Energy ▶▶ Trail

Energy comes in a lot of different forms. Use this trail to take a trip around **Explore@Bristol**. Find out about the different types of energy, how to change them, and how much energy you have.



Name _____ Date _____

✓ Tick box



Write or Draw



Discuss

Explore Map

Follow the trail around these exhibitions within **Explore**.
These are the exhibits you'll need to find on your journey.



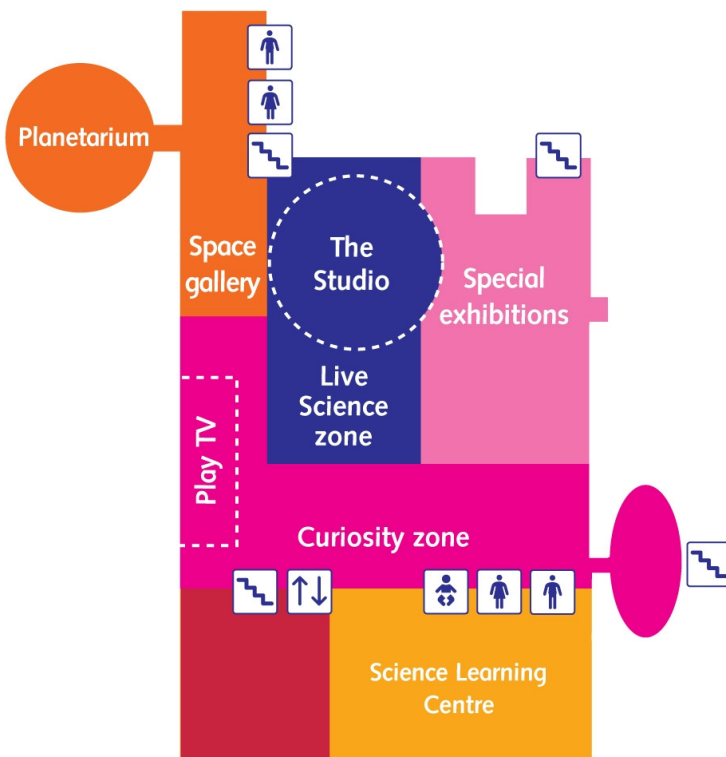
Ground Floor

Your amazing brain

- Heart spurt

Move it

- Hot air balloon



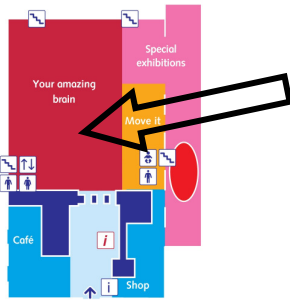
First Floor

Curiosity zone

- Lightning spark

Space gallery

- Your thermal image
- Freeze-dried food



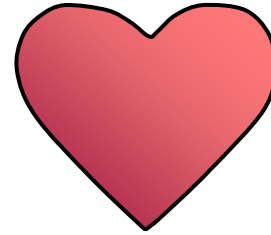
Go to **Your amazing brain** (Ground Floor)

1

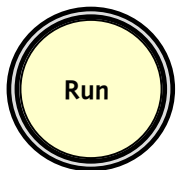
Heart spurt

*Your heart beats on average between 60 and 90 times every minute.
Squeeze the bulb in time with the heart beat.*

Press the **Rest** button and squeeze the bulb in time with the heart beat for 20 seconds.



Look carefully. What happens inside the tubes when you squeeze the bulb in time with the beat?



Now press the **Walk** button and squeeze the bulb in time with the beat for 20 seconds.

Then try the **Run** button and squeeze the bulb with the beat for 20 seconds.



Complete these sentences.

It is _____ to pump the bulb when the heart is at rest compared to when walking.

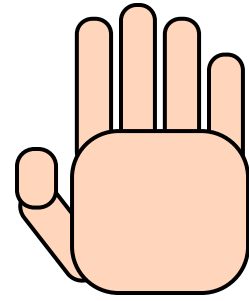
When a person runs their heart beats _____ than when they are walking.

easier harder faster slower



Do you think the muscles in your hands are stronger or weaker than your heart muscles? Discuss with your group why you think this.







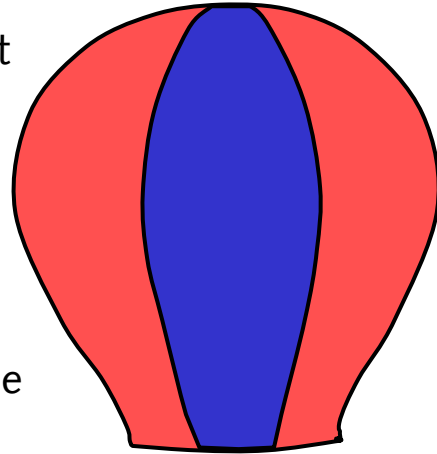
Go to **Move it**
(ground floor)

2

Hot air balloon

Use heat energy to make the hot air balloon move.

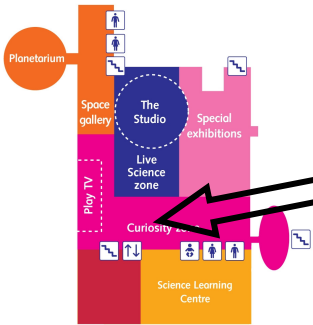
Press and hold the red button to heat the air inside the balloon. Wait until the temperature reaches 90°C and then press the green button to release the balloon.



Why does the balloon go up? Tick the sentence you think is the correct explanation.

- The balloon is attached to elastic on the ceiling.
- A fan blows the balloon up.
- Hot air inside the balloon is lighter than the rest of the air in the room.
- A rope pulls the balloon up.

If you release the balloon at 70°C instead of 90°C what happens? Why do you think this happens?

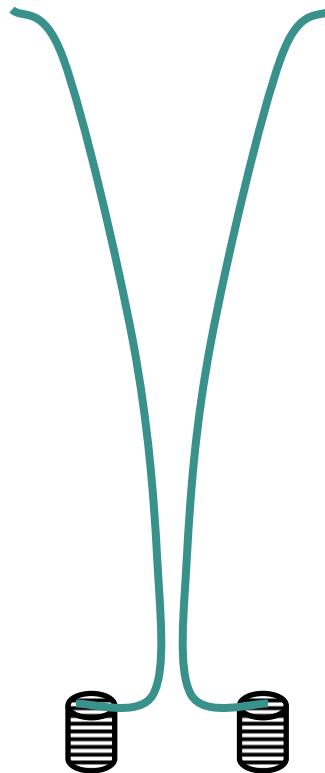


Go to **Curiosity zone**
(First Floor)

3 Lightning spark

Lightning is a natural form of electricity. Press and hold the button to make a lightning bolt.

Draw what you can see when you press the button.



What colours can you see in the spark?

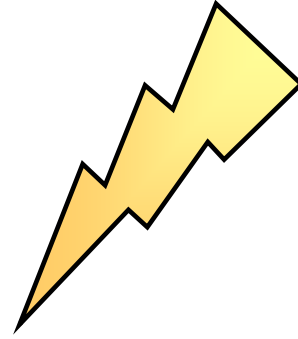
What can you hear?

What are the rods made of?



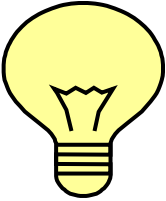
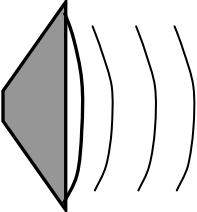
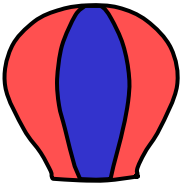
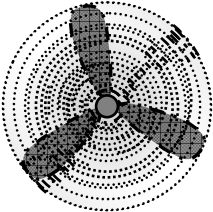
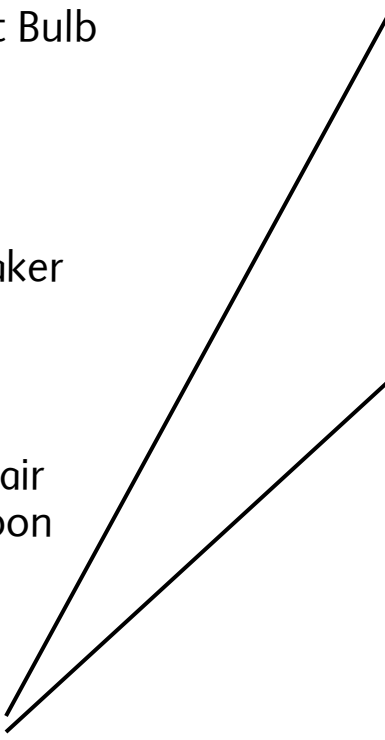
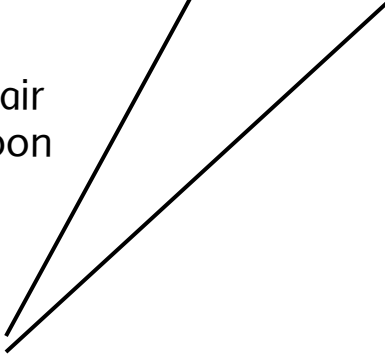
What types of energy does this lightning spark have?

Electricity Movement
 Heat Sound
Chemical energy Light



Here is a list of items that have and use different types of energy.

Draw lines to show which type or types of energy the item uses. The first one has been done for you.

	Light Bulb		
	Speaker		
	Hot air balloon		
	Fan		Movement energy
			Sound energy
			Heat energy
			Electrical energy
			Light energy



Stand back so that you can see your feet on the screen and rub them on the carpet. What colour does the carpet on the screen go?

Now rub your hands together. Can you make them change colour?

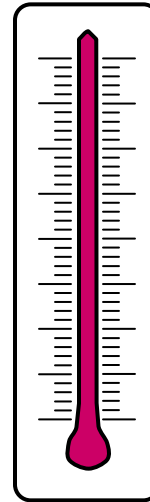


When you rub your hands they

get hotter

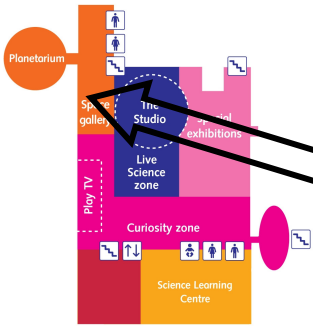
get colder

stay the same temperature.



Can you think of any uses for a camera like this?





Stay in the **Space gallery** (First Floor)

5 **Freeze-dried food**

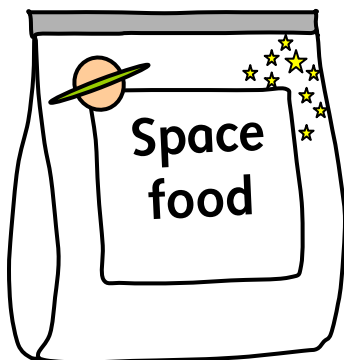
Take a look at some food astronauts eat in space.



Does food taken into space need to be different from food we eat on Earth?



Why do you think the food is dried and all the water in it taken out?



If you were an astronaut what type of food would you take with you into space?
