



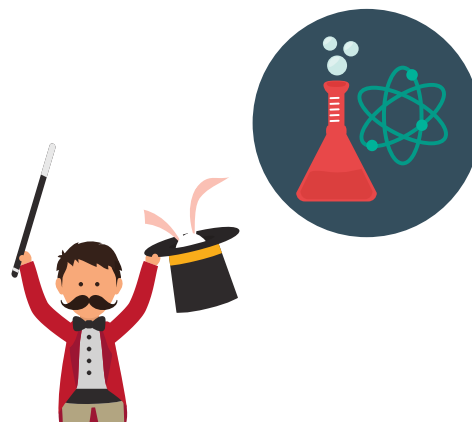
STATIC MAGIC



SCIENCE OR MAGIC?

Have you ever rubbed a balloon on your clothes and found that it stays in place? Or maybe you put it above your head and had a hair raising experience!

Is it magic or is there a scientific reason? What you are experiencing is static electricity!



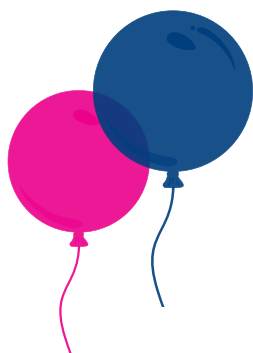
YOUR CHALLENGE

Using a balloon can you make objects from around your home move without touching them using static electricity?

We've suggested some things to try below, but you can experiment with your own objects!

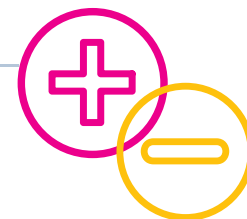
YOU WILL NEED

- Balloon
- Material made from wool, nylon or polyester



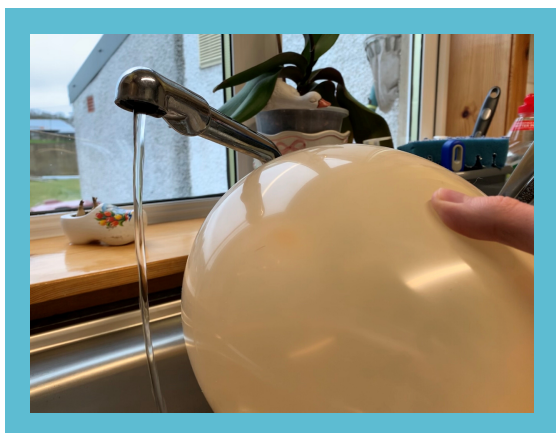
WHAT TO DO

1. Blow up a balloon and tie it.
2. Rub the balloon back and forth quickly on a piece of material such as a t-shirt.
3. Start by holding the balloon above your head and watch what happens to your hair.
4. Next try holding the balloon close to some other objects such as an empty drinks can, running tap water, salt and pepper or a straw.
5. Rub the balloon again and try holding it close to different objects and watch what happens.





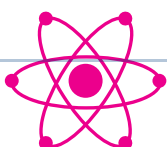
STATIC MAGIC



INVESTIGATE

- Does charging the balloon for longer make a difference?
- What material works best for charging?
- Do you notice a pattern in the type of objects the balloon attracts or repels?
- Does it matter how far away the balloon is from the object?
- Does the size of the object have an effect?

THE SCIENCE



When you rub two objects together, one object will have a positive electrical charge and the other a negative.

Objects with different charges (positive and negative) will attract each other, while objects with similar charges (positive and positive) will repel each other. It's a bit like a magnet! That's why if you hold a charged balloon above your hair it will stand up.

The positive charges in the hair are attracted to the balloon which has a negative charge.



EXPLORE FURTHER

For more resources and videos search for the following:

- STEM Learning: Static Electricity
- TED-Ed Anuradha Bhagwhat
- BBC Bitesize Static Electricity

COMPETITION TIME!

- Complete 4 challenges and submit an entry to our poster competition to be in with a chance of winning an EDT Experience Day at your school.
- For funded schools, you have the opportunity to receive the Industrial Cadets Challenger Award - click [here](#) for full details.
- Share a photo or video of your experiment with us on social media and use the hashtag #STEAMstars

