

KS1 Science Challenge

Week 2

Have a go at this experiment at home.

Draw your experiment and label what happened in your exercise book.

Take a photo and send it to us!



Supported by The Royal Air Force (RAF)

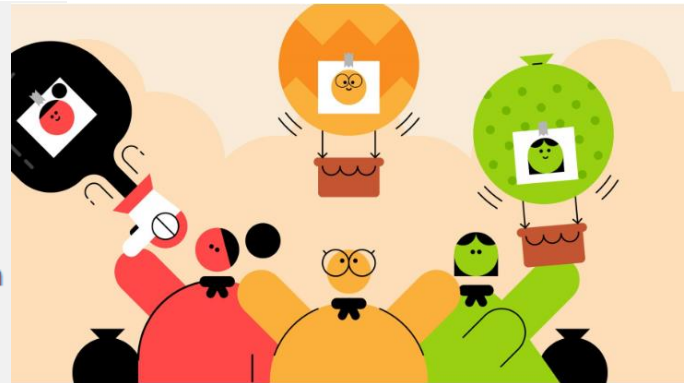
A flair for hot air

Find out how hot air balloons work by crafting your own and watching it fly up, up and away.

<https://www.scouts.org.uk/activities/a-flair-for-hot-air/>

You will need

- Sticky tape
- Cardboard tubes
- Black bin bags (preferably biodegradable)
- Hairdryers (ideally, enough for one for each group)



Prepare the balloons

1. The person leading the activity should split everyone into small groups and assign each one a helper.
2. Each group should have a black bin bag, cardboard tube (such as an empty loo roll) and a hairdryer.
3. One person in each group should take the bin bag and wave it around so it fills with air, then hold it upside down and let go.

The bag should float down to the ground. Each group should talk about what happened and why they think it happened.

Launch the balloons

1. The helpers should tie the bag handles together so that only a small opening remains and tuck the handles inside so they're not loose.
2. Helpers should then slide a cardboard tube into the bag opening.
 - | *This will make it easier to fill the bags with air, and will also reduce the risk of the bags melting.*
3. While the helpers hold the bags, one person from each group should fill them with air, using the hairdryer on the coolest setting. As they fill with warm air, they should tug away and eventually fly.
 - | *The cool setting will still create warm air but won't melt the bags.*
4. The person leading the activity should ask everyone why the bag floated with the warm air but not the cold air.
 - | *Warm air particles are lighter than cold air particles and rise.*
5. Everyone should have a go at either putting air in or holding the bag.
6. The person leading the activity should then gather all the groups together and hold a race to see whose balloon goes the furthest or highest.
 - | *You could mark each balloon with a different sticker so they don't get mixed up.*
7. Everyone should collect their balloons afterwards, so they don't create litter or a hazard to local wildlife.

Reflection

This activity helped everyone to understand how heat helps a hot air balloon rise. Everyone should think about the difference between hot and cold air and the other things they learned during the activity.

How did everyone find the experience of flying the balloons? Was it easy to direct them? How do they think pilots are able to control the direction of hot air balloons? In fact, the only thing pilots can do is steer the balloons up or down according to the of the direction the wind.

Safety

Flammable items

Always take care when using flammable items (especially if you're near fire). Follow the manufacturer's instructions.

Rubbish and recycling

All items should be clean and suitable for this activity.