

5-14 March
British
Science
Week
2021



British Science Week is a ten-day celebration of science, technology, engineering and maths that will take place between 5-14 March 2021!

Science

Thursday 4th February

The theme for British Science Week 2021 is 'Innovating the Future'. This theme encourages us to think about the incredible inventions that people have made in the past which can inspire young people everywhere to innovate for the future!



Innovating for the future

Which plastic?

Think about the objects you use every day that are made from plastic.

Did you know that there are many different types of plastic, each one useful for different things?



Innovating for the future

Which plastic?

Share with a partner what you know about how plastics are made from materials found in fossil fuels formed millions of years ago from the remains of living things. Plastic is often thrown away after one use and this can have a negative effect on our environment by ending up in landfill sites or as litter pollution.



Watch this video.



Innovating for the future

Which plastic?

Consider the 'sustainability' of plastics; in other words, how often they can be reused and recycled so that we can keep using them for longer.



Learn about sustainability and plastics with Sue Venir.

Watch this video.



Innovating for the future

Which plastic?

Watch the 2-minute video of Eve Davison, an engineer at a car factory in the north-east of England talk about plastics, and introduce today's activity.

<https://www.youtube.com/watch?v=3eD1-iGf-J4>

Eve needs to know which car parts are made from which types of plastic so she can send any waste materials, after production, to the correct recycling centres.



Innovating for the future

Which plastic?

About this activity:

Different types of plastic are used to make many everyday objects but do you know which plastic is which?

We are going to learn how to help the environment as you carry out simple tests and use a chart to identify different plastics for recycling.



Innovating for the future

Which plastic?

You will need:

- Ask an adult to cut out four plastic samples (approximately 6cm by 2cm) and number them 1 to 4 with a permanent marker.

Use the following items:

Sample 1: shower gel bottle.

Sample 2: clear packaging used for greeting card multi-packs or gift sets.

Sample 3: white foam container used for takeaway food

Sample 4: clear fizzy drinks bottle

- 1 litre bowl or container filled with $\frac{1}{2}$ litre of cold water
- Identification chart



Innovating for the future

Which plastic?

Instructions:

1. Half fill your container with water and place sample 1 under the water before letting it go. Do the same for the rest of the samples. Observe and record which plastics float and which sink.
2. Using the same samples (removed from the water) fold each piece of plastic backwards and forwards to see what happens - some plastics snap under pressure; others simply fold into a crease whilst some plastics show a white line called stress whitening.
3. Record your results.

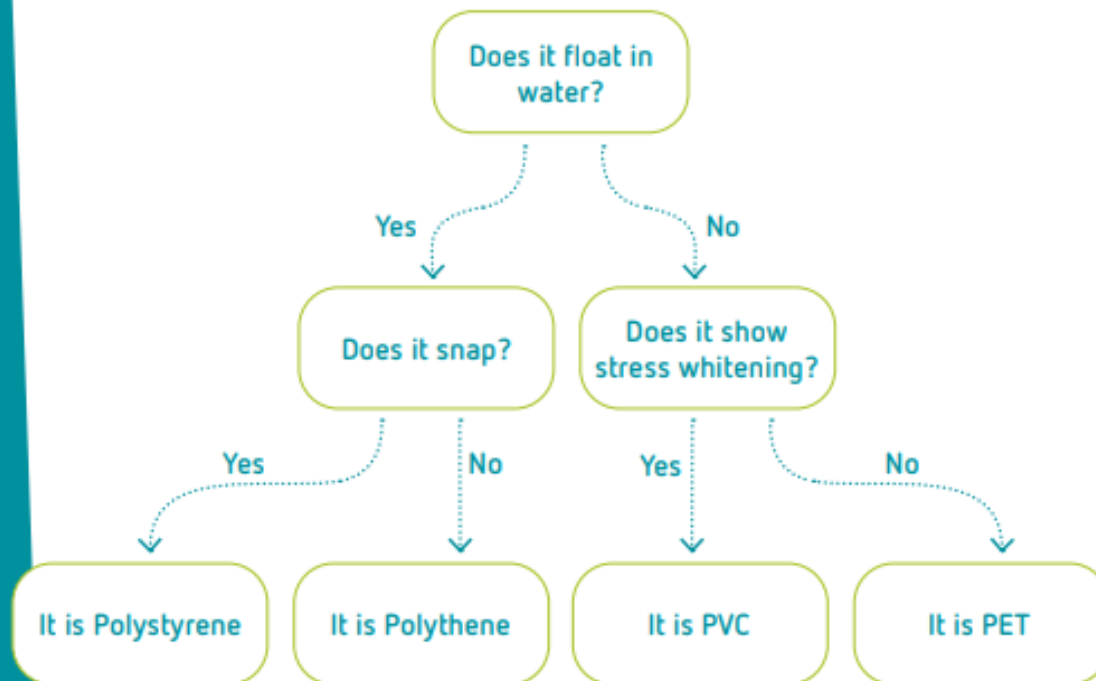
Take extra care during the 'crease test' as small pieces may splinter off the plastic when under stress. You could use safety glasses if you have them or sunglasses to protect your eyes.

Gloves are optional but could prevent cuts from sharp edges.

Which plastic?

Use this classification key to identify which type of plastic is which:

Can you identify and sort four different types of plastic in order to send any waste materials to the correct recycling centres?



Which plastic?

Extension:

Many plastic items that can be recycled have a symbol similar to the one shown here:



Find recycling information on plastic items in your home and research what the letters or numbers might mean. You could also find out which materials and types of plastics can be recycled near to where you live.

