

UPPER KEY STAGE TWO

Science, Technology, Engineering and Maths

Lesson two

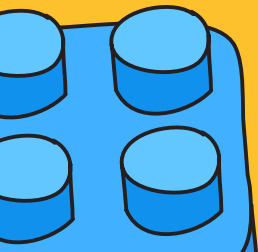
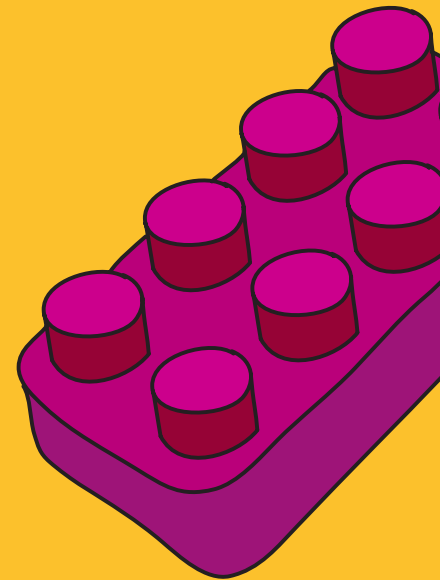
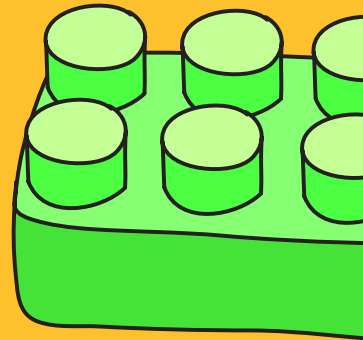
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Learning objective

To consider why **reducing, reusing and recycling materials** is good for the environment

To understand how the **different properties of materials and science** help when sorting materials at a recycling facility



What materials have you thrown away today?

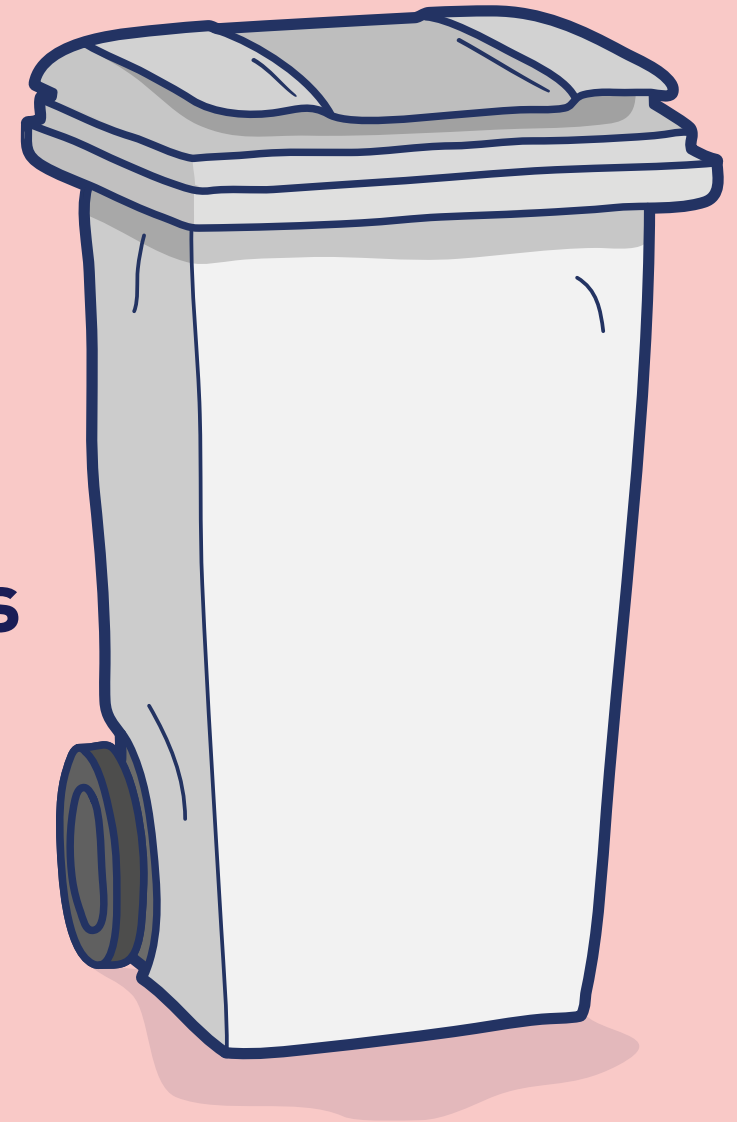


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Activity one

In an average household bin,
you will find:

- ▶ 35% food waste
- ▶ 23% recyclable materials
- ▶ 42% non-recyclable materials



Reduce

What could we change to reduce the waste from this lunch box?

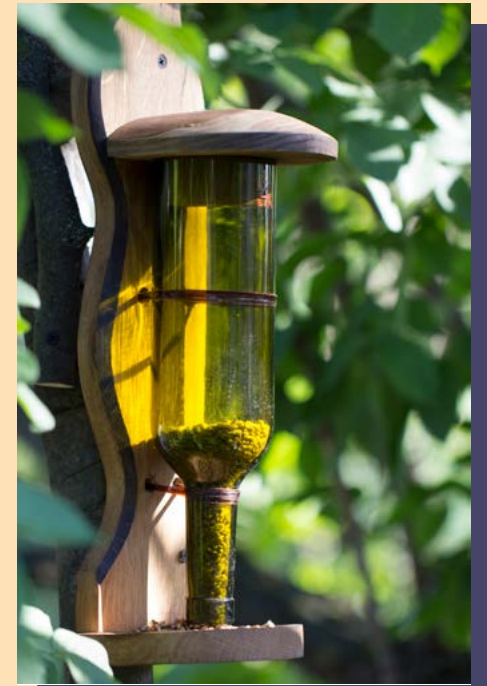


Reuse

What **objects** have been used?



What **materials** can you spot?



Could they have been **recycled**?



Why is recycling so important?



Why is recycling so important?



**Glass can be recycled
over and over again**

Why is recycling so important?



Recycling one tonne of steel saves 80% of the CO₂ emissions produced when making it from raw materials

Why is recycling so important?



Recycling one plastic bottle can save enough energy to power a TV for six hours

Why is recycling so important?



70% less energy is needed to recycle paper, compared to making it from raw materials

Recycling magic



youtu.be/qdXdSjf4oJ4

Recycling

What do you think could be made from these recyclable objects?



Recycling

What do you think could be made from these recyclable objects?



Properties of materials

Let's see how science is used to separate materials at a materials recycling facility



youtu.be/fgfTQfKRVPY

Watch carefully, what do you think the optical sorters are checking for?

Activity two

In pairs, find **one object** in the classroom that fits each of these **categories**

1. Materials could be reduced
2. Materials could be reused
3. Materials could be recycled

Object	Materials and their properties	Could the materials used be reduced? How?	Could the object be reused? How?	Could the object be recycled?

What have we learnt about materials today?

Reducing, reusing and recycling materials are ways of helping the environment

The properties of materials help to separate the different materials at a materials recycling facility

What have we learnt about materials today?

**Less energy is used to make a new object
when made from recycled material**

**Recycling more and making objects
from recycled materials reduces the
amount of carbon dioxide we release
into the environment**