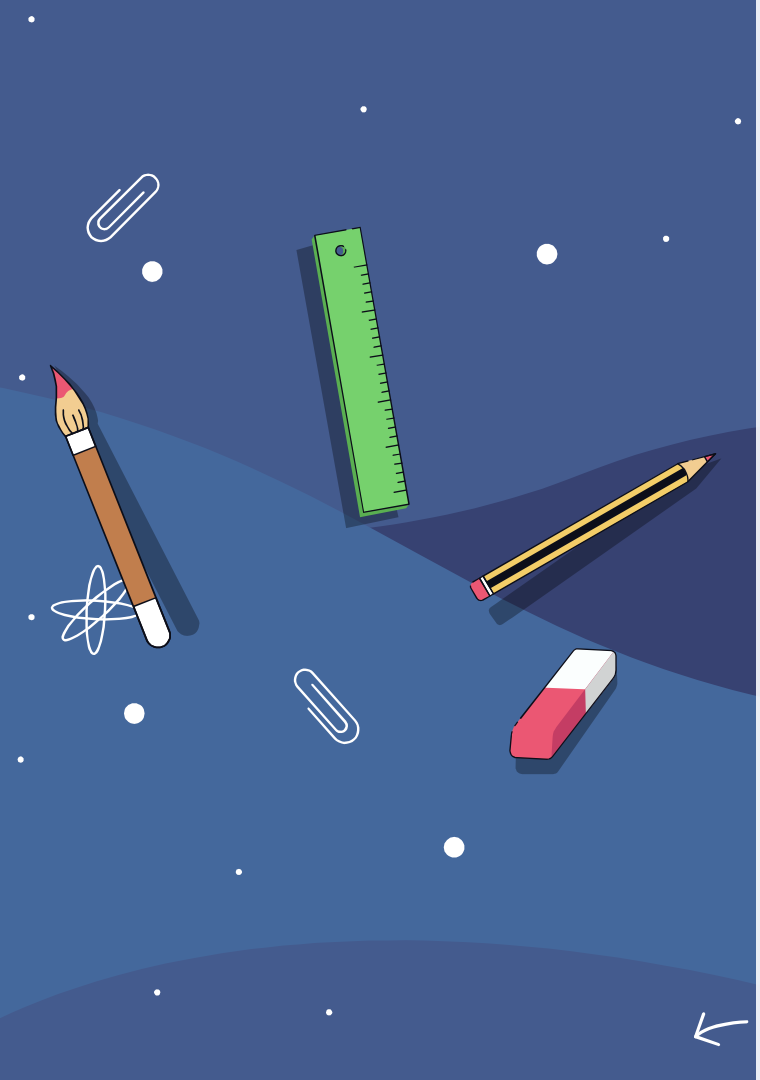


LO: The materials challenge

Success Criteria:

- I can describe the properties of different materials
- I can compare and group everyday materials based on their properties.

Task one:

1. Look around your house and find **five objects made of different materials**.
2. **Draw a table** to help you describe each object.
3. The next few slides contain examples of a table and vocabulary cards to help you.

Example table:

Object	**Material**	**Properties:**	**Description:**
Saucepan	Metal	• Rigid • Strong • Shiny • Conductor of heat • Conductor of electricity	Metal is a suitable materials for a saucepan because it is a good conductor of heat (heat can travel around the saucepan and warm the food). Metal is also strong, which means that the saucepan will not break easily.

Vocabulary cards:

hard
not easily broken or pierced

A hard diamond.

squashy
easily crushed or squeezed

The play dough is squashy.

smooth
an even and regular surface

Some smooth pebbles.

rigid
unable to be bent or forced out of shape

Stone is rigid.

transparent
can be seen through

This glass is transparent.

soft
not firm to the touch

The kitten has soft fur.

absorbent
able to soak up liquid

The sponge is absorbent.

bumpy
uneven, raised patches

This shell is bumpy.

opaque
cannot be seen through

She is hidden by the opaque screen.

flexible
able to bend

A flexible spring.

rough
uneven, irregular surface

The log has rough bark.

waterproof
repels water and liquids

A waterproof coat.

dull
lacking shine or brightness

The moth's wings are dull.

brittle
hard, but may break easily

The glass is brittle.

translucent
allowing some light to pass through

The screen is translucent.

elastic
springs back once stretched

An elastic band.

shiny
reflects light, smooth surface

A shiny silver spoon.

conductor
lets heat, electricity or sound to pass through it

Some metals are conductors of electricity.

electrical insulator
does not let electricty pass through it

Rubber is an electrical insulator.

electrical conductor
lets electricity pass through it

Metal is an electrical conductor

thermal insulator
does not let heat pass through it

Oven gloves are a thermal insulator

thermal conductor
lets heat pass through it

a radiator is a thermal conductor

Task two:

Explain why the following materials were selected to make the following items.

- Try to give more than one reason.
- The words below may help you:

Rigid, flexible, impermeable, durable, smooth, warm, insulator, grip, soft, hard, transparent, opaque, light, tough.

Glass for windows

Rubber for soles

Wool for a jumper

Plastic for a socket

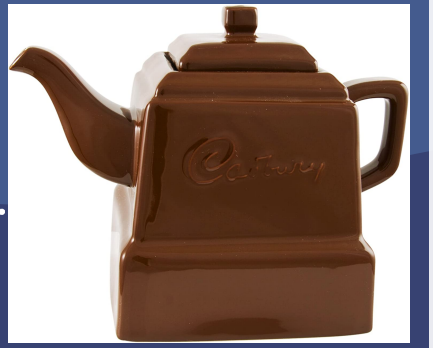
Leather for boxing gloves

Cotton for a towel

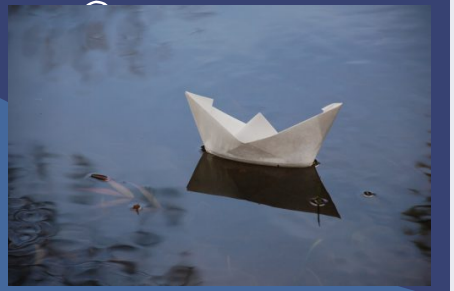
Rubber for a hot water bottle

Wood for a chair

Chocolate teapot



Paper boat



Bread shoes

Task three:

Look at the following pictures.

- Explain why the object is **not made of a suitable material**.
- Think about the **properties of the material** and the **purpose of the object**.

Extension:

What material would be best to make each object with? Why?

Extension:

Can you group materials in your home based on these different properties:

Conductor (Heat/electricity travels through the object)	**Insulator** (Heat/electricity does not travel through the object)
Transparent (Light passes through the object/ can see through the object)	**Opaque** (Light does not pass through the object/cannot see throughF)
Flammable (It can be set fire to)	**Non-flammable** (Cannot be set fire to)