Science Focus: Use of everyday materials Properties of materials	Year Group: 2	Autumn Term

Key Knowledge:

Overview

- **Materials** are what objects are made from.
- Some **materials** are **natural** and some are **man-made.**
- Everything is made up of **materials.**
- **Materials** have different **properties.** Some may be soft, strong, or bendy.
- Some **materials** can change shape by **twisting**, **bending**, **squashing** or **stretching**.

What are some properties of materials?

Wood

hard stiff strong opaque

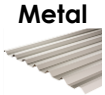
Glass

waterproof transparent hard smooth

Plastic

waterproof strong shiny

Metal



Hard strong shiny

Paper

lightweight flexible

Cardboard

strong light stiff

Fabric

soft flexible warm absorbent

Rubber

hardwearing elastic flexible strong

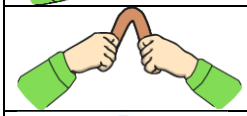
Possible Experiments:

- Go on a material hunt. Which materials can you find?
- Can you compare the use of everyday materials around the school?
- Investigate which everyday objects can change shape.

Key Vocabulary:

absorbent	Material that soaks up liquid easily.
bend	Change the shape of an object by grabbing both ends and bringing the ends inwards together to make it curved.
elastic	a rubber material that stretches when you pull it and returns to its original size and shape when you let it go
flexible	Bends easily without breaking.
lightweight	Thin and not heavy.
man-made	Things created by people.
materials	Materials are what objects are made from.
natural	Things that exist in nature that are not made by people.
opaque	You cannot see through it.
properties	What a material is like and how it behaves e.g. soft, stretchy, bendy.
purpose	The reason for which it is made or done.
squash	Change the shape of an object by crushing it, so that it becomes flat, soft or out of shape.
stiff	Firm or does not bend easily.
stretch	Change the shape of an object by making it longer or wider.
suitability	Having the properties which are right for a specific purpose.
transparent	You can see through it.
twist	Change the shape of an object by turning it.
various	Lots of different kinds.
waterproof	Does not let water pass through it.

Diagrams and Symbols:

	Squashing
	Bending
	Twisting
	Stretching

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Knowledge itself is power

Science Focus: **Use of everyday materials** Uses of materials depending on their properties	Year Group: 2	Autumn Term

Key Knowledge:

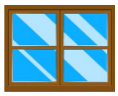
Overview

- **Materials** can be used for different purposes depending on their **properties**.
- Some objects can be made from **various materials.** For example, spoons can be made from metal, plastic or wood.
- New **materials** have been made by some inventors and engineers.

What can common materials be used for?

- **Wood** can be used for doors and floors because it is strong.

- **Glass** can be used for windows and glasses because it is **transparent**.



- **Plastic** can be used for pens and rulers because it can easily be cut into a straight line.

- **Metal** can be used for cars and coins because it is strong.
- **Paper** can be used for books and wrapping paper because it is **lightweight**.

- **Cardboard** can be used for folders and birthday cards because it is firm.

- **Fabric** can be used to make clothes because it is soft.

- **Rubber** can be used for tyres because it is **flexible**.

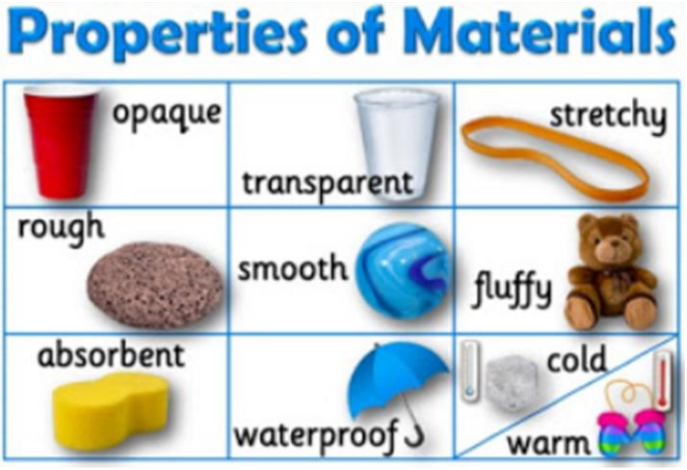
Who developed new materials?

John Dunlop
invented the air-filled rubber tyre.

Charles Macintosh
invented the first **waterproof** fabric.

John McAdam
invented roads with a smooth, hard surface. His new process was named 'macadamisation'.

Diagrams and Symbols:



Possible Experiments:

- Find as many objects as you can which exist in three or more material forms.
- Investigate which materials are waterproof and which are not.