

# Science Knowledge Organiser

Year 2

Summer (i)

## What material couldn't we live without?

**Portable Knowledge** - Some materials are malleable and can be reversibly changed; Objects can be made out of different materials but some materials are more suitable than others.

Recall how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

Can we change the shape of different Materials?



| object                                                                                                     | stretch | twist | bend | squash |
|------------------------------------------------------------------------------------------------------------|---------|-------|------|--------|
| stone<br>                  |         |       |      |        |
| playdough<br>               |         |       |      |        |
| eraser<br>                 |         |       |      |        |
| sponge ball<br>          |         |       |      |        |
| elastic band<br>         |         |       |      |        |
| elastic band<br>ball<br> |         |       |      |        |
| golf ball<br>             |         |       |      |        |
| drinking straw<br>       |         |       |      |        |
| wood<br>                |         |       |      |        |

To know and discuss the uses of different everyday materials; To know that some materials are used for more than one thing.

|                                                                                                          |                                                                                                          |
|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| <p><b>Wood</b></p>     | <p><b>Metal</b></p>   |
| <p><b>Plastic</b></p>  | <p><b>Fabric</b></p>  |
| <p><b>Glass</b></p>   | <p><b>Paper</b></p>  |
| <p><b>Rock</b></p>   |                                                                                                          |

### Core vocabulary

**Friction** - a force that acts between two objects that are in contact with each other

**Malleable** - something you can change the shape of without breaking

**Reversible change** - when a material that has been altered can revert to its original state

## To compare how things move on different surfaces

Friction is a force between two different surfaces that slide against each other.

The smoother the surface, the less friction there is.

The rougher the surface, the more friction there is.

Have you ever played with a toy car which you pull back and then let go? Using one of these cars is a good way to explore friction on different surfaces.

Which of these surfaces would cause a **lot of friction** for a toy car and which would cause **little friction**?

 sandpaper  
  bubble wrap  
  shiny wooden floor



ice



carpet



Lots of friction

Little friction

To know how objects can be made out of more than one material.

THIS IS MADE OF PLASTIC AND METAL

THIS IS MADE OF PLASTIC AND GLASS

THIS IS MADE OF FABRIC AND WOOD

| Fabric                                                                                          | Metal | Rubber | Wood |
|-------------------------------------------------------------------------------------------------|-------|--------|------|
| <p>Handlebar is made of _____</p> <p>Deck is made of _____</p> <p>The tyre is made of _____</p> |       |        |      |
| <p>Leg is made of _____</p> <p>Seat is made of _____</p>                                        |       |        |      |

To know what recycling is and give examples of what materials can be recycled

Recycling is when rubbish is made into something new. The great thing is that lots of our rubbish, rather than going to landfill, can be recycled.

|                     |                     |                   |
|---------------------|---------------------|-------------------|
| <br>general waste   | <br>mixed recycling | <br>cans          |
| <br>plastic bottles | <br>cans bottles    | <br>food waste    |
| <br>paper           | <br>glass           | <br>dry recycling |



To suggest the material we could not live without

We could not live without wood because it gives us...

We could not live without glass because it gives us...

We could not live without fabric because it gives us...

We could not live without plastic because it gives us...

Grouping Materials

**fabric**

These objects are made of fabric.

They are ALL made from PLASTIC