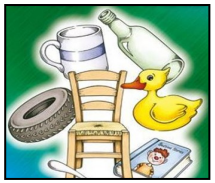
Knowledge Organiser - Year 2 - Science: Uses of everyday materials



Materials are used for different purposes based on their properties. Choosing the correct material for a product is very important.

Key Vocabulary

Absorbent	Able to soak up liquid easily.
Bendy	An object that bends easily into a curved shape, it's soft and flexible.
Dull	A word to describe a material that is not bright or shiny.
Elastic	A rubber or spandex based material that stretches when you pull it and returns to its original size and shape when you let it go.
Flexible	Capable of bending easily without breaking.
Hard	Solid, not easily broken or bent.
Opaque	Not able to be seen through, not transparent.
Properties	The qualities or features that belong to something and make it recognisable.
Purpose	The reason for which it is made or done.
Recyclable	Waste or materials which can be processed and used again.
Rough	Uneven and not smooth.
Shiny	Things that are bright and reflect light due to their smooth surface.
Smooth	No roughness, lumps or holes. Having an even, regular surface.
Soft	Easy to squash or fold, not sharp, rough or bumpy.
Stiff	Does not bend easily. Rigid, hard to move.
Stretchy	Slightly elastic, can be made bigger when pulled.
Translucent	A material which allows some light to pass through but is not clear.
Transparent	Allows light to pass through so that objects behind can be seen.
Waterproof	Does not let water pass through it.

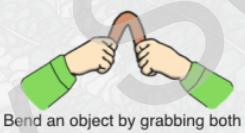
Working Scientifically

Pupils should be given opportunities to compare the uses of everyday materials in and around the school with materials found in other places (at home, the journey to school, on visits, and in stories, rhymes and songs); observing closely, identifying and classifying the uses of different materials, and recording their observations. They should use simple features to compare objects and materials and, with help, decide how to sort and group them and begin to notice patterns and relationships. They should carry out simple tests, record simple data, and talk about what they have found out and how they found it out. With help, they should record and communicate their findings in a range of ways and begin to use simple scientific language.

Key Question: Why should I use this material?

You are going to investigate lots of different materials to see why they are useful. Some materials absorb water and others are waterproof.
What happens when water is placed on these materials. You will need to consider why some properties of materials make them suitable or unsuitable for different uses. Do you want your umbrella to absorb water? Or have a waterproof sponge in the bath?

Scientists who have developed useful new materials based on their properties are called inventors. For example; John Dunlop invented rubber which he first used to make bicycle wheels and then went on to make really bouncy tennis balls! Charles Macintosh experimented with different waterproof materials to make raincoats and John McAdam found a substance made from oil that was really good at covering road surfaces to make them smooth, tarmac!

 Squash an object by pushing both hands together.	 Bend an object by grabbing both ends of the object and bringing the ends inwards together.	 Twist an object by turning your hands in opposite directions.	 Stretch an object by pulling your hands slowly and gently apart.
squashing	**bending**	**twisting**	**stretching**
Pressing, squeezing and crushing so that something becomes flat or changed into a different shape. We might use this when we are baking or using clay.	Changing something that is straight into a curve or at an angle. We might use this when we are bending a wire.	Make into a curled shape by holding and move round in different directions at the same time. We might use this with a piece of paper or material.	Pulling something to make it wider or longer without tearing. We might use this to flatten something out or when making pizza dough.

Once you have found a material that is suitable for the task, the shape of some materials can then be changed when they are stretched, twisted, bent and squashed.

Some materials can be used to make more than one thing; metal can be used to make coins, cans, cars and cutlery.

Some items can be made by more than one material; spoons can be made from metal but also from wood, china, silicon or plastic. It depends on what you want to use them for.

Some materials are recyclable, this means that they are able to be used again if they follow the recycling process.