

In this unit we will

1. Compare and group everyday materials according to their properties
2. Investigate the separation of materials, including filtration and evaporation
3. Explore how some materials will dissolve and what this means in terms of the particle model
4. Learn that some changes are reversible, while others are irreversible

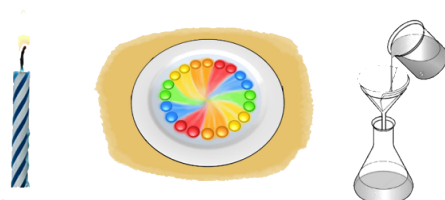
Science Skills that we will develop:

Explaining Science

1. I use complex science words correctly
2. I use a science model to describe and explain
3. I draw & annotate diagrams to help describe/explain

Designing Experiments

1. I use knowledge & understanding to make a hypothesis
2. I plan a reliable fair test
3. I plan to minimise risk & act on safety suggestions
4. I plan to collect repeat readings and calculate the mean



**Properties and
Changes of
Materials**

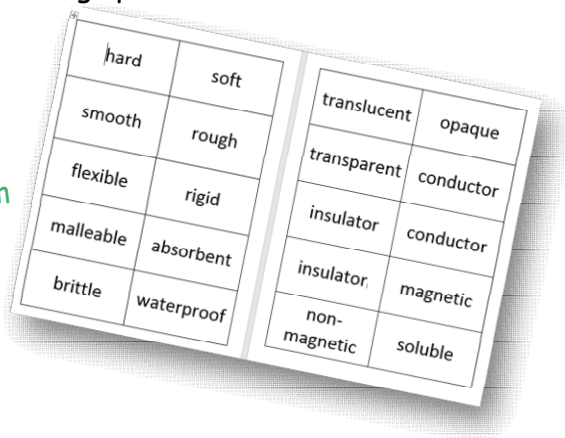
This unit of Science will focus on **Properties of Materials** and how we can change them.

Before we start investigating, we will need to get to grips with some of the scientific language.

In pairs, match up the word cards with their definitions.

Now flip your cards upside down and move them around on your table to mix them up.

Spend a couple of minutes with your partner playing 'Pairs' with the cards - who can match up the most words with their correct definitions?



Work as a class to give the definitions of the words on the next two pages.

Work as a class to give the definitions of the words, *without* looking at yours!

hard

flexible

malleable

smooth

soft

rough

rigid

brittle

absorbent

waterproof

opaque

magnetic

conductor

translucent

soluble

insulator

transparent

non-magnetic

Can you sort your words into pairs or groups that relate to each other?

How many of the words have you used before?

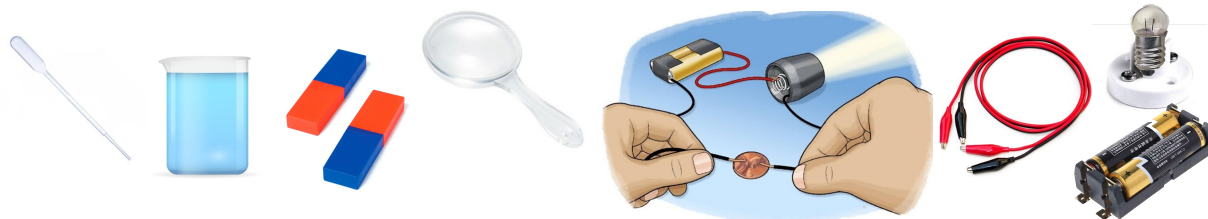
Which ones had you never heard of?



Your challenge during the rest this unit is to use each of the words at least once, in your writing or in conversation: it might be in an English lesson, or in PE, or even in a conversation at home. Make sure you tell your teacher each time you have done this.

Now for some investigation: look carefully at the materials in your tray and think about their **properties** (not what they are, or what they are used for).

You will also be given some equipment to help you investigate the materials.



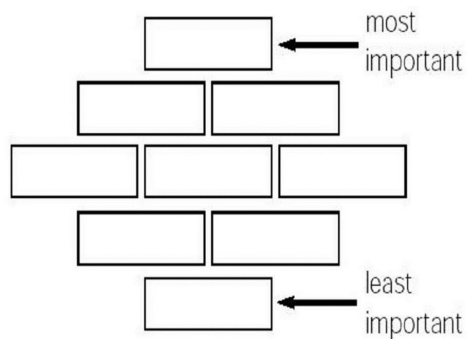
1. Investigate the different properties the materials have - use the equipment to help you, and look through your word cards; how many properties can you identify for each of the materials? E.g. The card is non-magnetic, an electrical insulator, flexible, smooth etc. etc.



2. With your partner, can you connect the materials according to their properties? Share your ideas with the class.
3. Can you connect them according to sustainability (in terms of how environmentally friendly/unfriendly they are)? Give your reasons - are their properties an important factor in your decisions?

4. 'Diamond rank' the materials, according to how important you think they are, like this:

Share your reasons.



L.O. Compare and group everyday materials according to their properties.

Science skills Explaining Science	Me	Teacher
I use simple science words correctly to describe the properties of materials *		
I begin to use some complex science words correctly to describe the properties of materials and can link these to their uses **		
I use complex science words with confidence to describe and explain how the properties of materials relate to their uses***	✓	

Paired writing: work with your partner to write a short paragraph about the object you are given, to describe the properties of the materials it has been made from; try to explain why the materials have been chosen. Are they well-suited to their intended function? Are the materials durable (long-lasting), and why? Remember to use a range of **scientific vocabulary**.

