

PROPERTIES OF MATERIALS



Everything around us is made from different materials.

- To choose the right materials we need to know how they will behave if they are used in a certain way.
- We need to know what the **properties of the material** are.
- For example if you need to make a container to store water, you would need to use a material that is waterproof and that is strong enough to hold water but also light enough to carry it around.

Plastic is light and waterproof. It is also strong enough to hold water.



Paper does not have suitable properties for making containers that store water



MATERIALS ALL
HAVE
DIFFERENT
PROPERTIES.



1. HARD or SOFT



HARD

SOFT

WOOD
METAL
PLASTIC
STONE
CERAMIC
GLASS



RUBBER
WOOL
COTTON
LEATHER
FABRIC



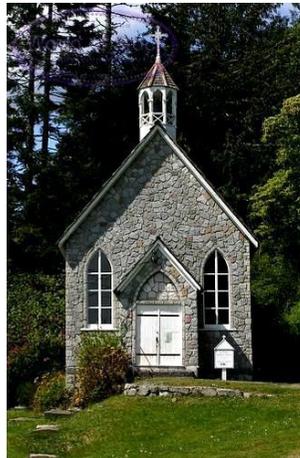
2. STIFF OR FLEXIBLE

Sometimes we need materials that are **flexible** because they can bend without breaking e.g. a hosepipe. A **stiff** material is needed if something should not bend like the handle of a spade.



STRONG OR WEAK LIGHT OR HEAVY

How **strong** or **weak** a material may be can also help to see if it is the right material to use when we make something. For example, stone is very strong material, It can however be difficult to work with as it is very heavy. Plastic is **light** but it can also be very **strong**.



WATERPROOF or ABSORBENT

Some materials can **absorb** or take in liquids like water. Many fabrics are **absorbent**. Other materials are **waterproof** which means they can keep water out.



Depending on the article you want to make, you will decide what material to use based on its properties and the art



Is it hard or soft?

Stiff or Flexible?

Strong or weak?

Light or heavy?

Waterproof or absorbent?