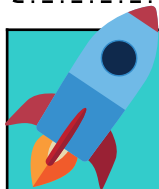


Natural resources which are used in every day life include: water, air, trees and plants, and cotton.

## Knowledge Organiser Properties of Materials

Some insulating materials found in our houses include fibre glass loft insulation, cavity wall filler and double-glazed windows.



### ROCKET WORDS

Learn these words and their definitions.

Key Word	Definition
comparative test	Undertaking a test with a controlled variable to help answer questions.
elasticity	The ability of a material to resume its normal shape after being stretched or compressed.
plasticity	The ability for a material to be easily shaped or moulded.
crude oil	A natural oil formed by carbon deposits and organic materials.
perforate	To pierce or puncture something.
extraction	To remove something from its natural setting.
thermal conductivity	The ability of a material or substance to conduct or transfer heat.
inexhaustible	Something unable to be used completely because there's too much of it to be all used up.



### Ways to test materials

#### Hardness

How resistant a material is to scratching and pressure.  
*Hard materials: hardwood, metal, plastics*



#### Strength

The amount of force needed to break a material.  
*Strong materials: many metals and woods.*



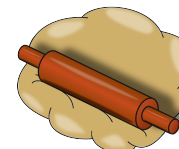
#### Elasticity

Ability of a material to turn to its original shape after the force is removed  
*Elastic materials: rubber bands, metal coil springs*



#### Plasticity

Ability to retain the new shape when the force is removed.  
*Example materials: plasticine, clay.*



#### Absorbency

Ability of a material to soak up liquid.  
*Absorbent materials: sponge, cotton wool, towel.*



#### Waterproof

Resistant and repellent to a liquid  
*Waterproof materials: Many rubbers and plastics*



### Lesson Sequence

1

Learn how to compare and group everyday materials

2

Compare the properties and uses of different materials

3

Make the perfect sandcastle

4

Explore materials which can be derived from crude oil; explain the importance or carbon compounds in our lives.

5

Explore extracting useful substances from natural resources

6

Explore the thermal conductivity of materials to improve energy efficiency in buildings or other systems.

#### crude oil

Formed by the heating and compression of organic materials (plants, animals) over millions of years - such as algae or zooplankton.

Extracted by oil companies by drilling into the seabed and brining it up through intense pressure, and stored in containers.

Used to help make many plastic products and everyday items, meaning it is useful. However, can also be bad for environment.



Building a **perfect** sandcastle...