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. |

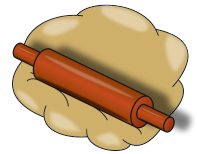
## Ways to test materials

**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

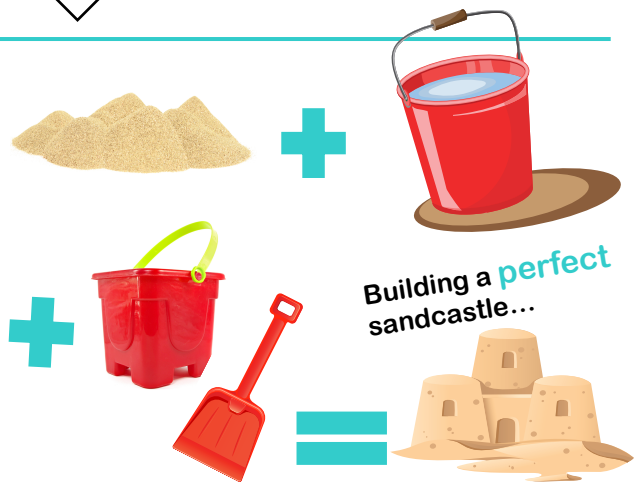
1. Describe the properties of different materials
2. Compare the uses of materials based on their properties
3. Explore extracting useful substance from natural resources
4. Explore the thermal conductivity of materials to improve energy efficiency
5. Explore the work of Spencer Silver and Ruth Benerito
6. Understand the mixture needed to make the perfect sandcastle

## 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.

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