

# Knowledge Organiser Science Year 5 Autumn

## Properties and changes



St Elizabeth's Catholic Primary School  
"Love one another as I have loved you"

### Prior knowledge



#### Year 4

- Some materials change states.

#### Year 5

- Define 'mixture' and name some common examples.
- Define 'sieving' and explain how it separates mixtures.
- Define 'filtering' and explain how it separates mixtures.
- Define the terms 'solution' and 'dissolve' and name some common examples of solutions.
- Recall factors that affect the time taken to dissolve.
- Describe effect of temperature on time to dissolve.
- Define the term 'evaporating', and explain how it separates solutions.
- Identify when to use sieving, filtering and evaporating.

### British Values



- Mutual respect.
- Democracy.

### Scientific skills developed in this topic



- To evaluate the hardness test to determine the degree of trust in the results.
- To plan and draw a table of results.
- To write a detailed, organised method which is easy to follow.
- To write a prediction using prior knowledge of the states of matter.
- To analyse observations about rusting and use them to support a conclusion.
- To measure the circumference of a balloon accurately.

### Key words



**Burning:** An irreversible change in which a material burns to make new products.

**Dissolve:** When a substance spreads evenly throughout a liquid.

**Change of state:** When a material changes from one state of matter (solid, liquid, gas) to another, often due to a change in temperature.

**Circumference:** The distance around the edge or boundary of a circle.

**Condensing:** The process of a gas changing into a liquid.

**Conductor:** A material that lets heat and electrical charge pass through quickly and easily.

**Electrical conductivity:** A measure of how quickly electrical charge passes through a material.

**Evaporating:** The process of a liquid changing into a gas.

**Freezing:** The process of a liquid changing into a solid.

**Hard:** A material that is not easily scratched or dented.

**Hardness:** A measure of how easily dented or scratched a material is.

**Insulator:** A material that does not let heat and electrical charge pass through quickly and easily.

**Irreversible change:** When a change to a material cannot be undone and a new material is made.

**Light intensity:** The amount or strength of light.

**Light meter:** A device that measures light intensity using Lux as the unit of measure.

**Melting:** The process of a solid changing into a liquid.

**Opaque:** A material that blocks or absorbs all light, so objects on the other side can not be seen.

**Property:** Anything that describes a material or substance (e.g. hard, flexible, red, stretchy, opaque).

**Mixture:** When two or more substances are mixed together.

**Reversible change:** When a change to a material can be undone to get the original material back.

**Rust:** A new reddish-brown material made when iron irreversibly changes.

**Rusting:** An irreversible change that happens to iron when exposed to water and air (oxygen).

**Soft:** A material that is easily scratched or dented.

**States of matter:** The forms matter can take: solid, liquid and gas.

**Thermal conductivity:** A measure of how quickly and easily heat passes through a material.

**Translucent:** A material that allows some light to pass through, causing objects to appear fuzzy.

**Transparent:** A material that allows light to pass through, so objects are clearly visible through it.

**Transparency:** A measure of how much light can pass through a material.

**Trustworthy:** Results that are reproducible, as variables were controlled and results were accurate.

### Knowledge and skills covered



- Children will determine the hardness of materials and link this to their uses.
- Children will determine the transparency of different materials and link this to their uses.
- Children will determine the conductivity of different materials and link this to their uses.
- Children will demonstrate reversible changes.
- Children will demonstrate irreversible changes (burning & rusting).
- Children will demonstrate irreversible changes (mixing).

