

# Bomere and the XI Towns Federation Knowledge Organiser—SUBJECT

Topic: Science— Mixtures and Reactions

Class/Year Groups: Stiperstones

Term: Spring

## What you already know?

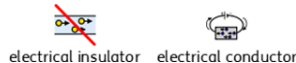
- A variety of everyday materials including wood, plastic, glass, metal, water and rock.
- The physical properties of a variety of everyday materials (including those that are transparent) and to compare and group materials on the basis of these properties
- How materials are suitably used based on their properties.
- How magnets and electrical circuits work.
- Some materials which are magnetic.
- How shapes of solid objects can be changed by squashing, bending, twisting and stretching.
- Materials that are solids, liquids and gases and their particle structure.
- Some materials change state when they are heated or cooled and the temperature at which this happens.
- The roles of melting, evaporation and condensation in the water cycle and the role

## What you will learn:

How to group materials based on their properties using more complex vocabulary.



- What thermal insulators are.
- What electrical insulators and conductors are.



- What dissolving is.



- Materials can be separated after they have been mixed?

## Vocabulary:

**Materials**—The substance that something is made out of, e.g. wood, plastic, metal.

**Solids**— One of the three states of matter. Solid particles are very close together, meaning solids, such as wood and glass, hold their shape.

**Liquids**—This state of matter can flow and take the shape of the container because the particles are more loosely packed than solids and can move around each other. Examples of liquids include water and milk.

**Gases**—One of the three states of matter. Gas particles are further apart than solid or liquid particles and they are free to move around. A gas fills its container, taking both the shape and the volume of the container. Examples of gases are oxygen and helium

**Melting** - The process of heating a solid until it changes into a liquid.

**Freezing**—When a liquid cools and turns into a solid. evaporating When a liquid turns into a gas or vapour.

**Condensing** - When a gas, such as water vapour, cools and turns into a liquid.

**Conductor**—A conductor is a material that heat or electricity can easily travel through. Most metals are both thermal conductors



## National Curriculum Objectives:

- Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.
- Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.
- Demonstrate that dissolving, mixing and changes of state are reversible changes.
- Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.

