

## Owl Science Knowledge Organiser Term 3

### Amazing Changes



#### Key Objectives

- 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.
- Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
- Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
- Identify scientific evidence that has been used to support or refute ideas or arguments.

#### Key Vocabulary

Irreversible	One that cannot be undone.
Reversible	One that can be undone.
Reaction	A process where one or more chemicals are converted into different chemicals.
Material	The substance something is made from.
Acid	An acid is a chemical that tastes sour, feels sharp, and has a pH below 7 on the pH scale.
Burning	A specific type of chemical change, particularly in fuels.
Rust	A reddish- or yellowish-brown flaking coating that forms on the surface of iron when exposed to air and moisture.

#### Sticky Knowledge

1. That irreversible changes produce new substances. Although no matter is lost or destroyed, some may become gas and float away. This sort of change is usually permanent and very difficult to reverse.
2. Reversible (physical) changes do not produce a new substance or change the amount of a substance. Reversible changes include liquid water to ice to liquid water
3. Burning is a chemical reaction, a chemical change, a new material is formed and burning is not reversible. For burning to take place there must be three things: fuel, oxygen and a high enough temperature. This is called the 'fire triangle'.
4. Rust is produced in a chemical reaction between iron, oxygen (dissolved in water) and is an example of oxidation.