Carr Head Primary School – Knowledge Organiser

Science	Properties & Changes of Materials	Year 5	Autumn

Key Knowledge

Some changes are **reversible** (can be changed back) whilst others are **irreversible** (cannot be reversed).

A new material is always formed after an irreversible change

A **mixture** is created when two or more materials are combined and can be **separated** using methods such as **sieving,**

Sometimes when a **solid (solute)** is mixed with a **liquid (solvent)** it will dissolve to form a **solution.**

The solid seems to disappear in the solution.

A **soluble** material can dissolve however an **insoluble** material cannot dissolve.

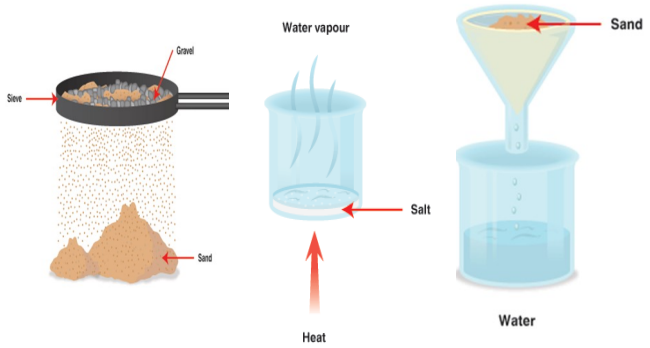
More will dissolve in a hot liquid rather than a cold liquid.

When no more solid can dissolve, the solution becomes **satu-**

Sieving is a mixture of different solid particles can be separated using a sieve.

Filtering is where an insoluble solid can be separated from a liquid when passed through a filter. The liquid can pass through the filter whilst the solid particles are trapped in the

Evaporating is when salt is mixed with water, it forms a solution. The salt seems to disappear in the water. If the solution is boiled, the solid can be recovered. The water will evaporate



Know how to…

Working Scientically

- Compare & group together everyday materials
- Know some materials will dissolve in liquid to form a solution, and describe how to recover a substance
- Decide how mixtures might be separated, including filtering, sieving and evaporating
- Demonstrate that dissolving, mixing & changes of state are reversible changes

Key Vocabulary

Soluble	Solids that will dissolve in a liquid are described as soluble.
Insoluble	Solids that won't dissolve are insoluble.
Electrical conductors	These materials allow electricity to pass through them e.g. copper inside electrical wires
Electrical insulators	These materials do not allow electricity to pass through them e.g. the plastic coating on electrical wires.
Thermal conductors	Materials allow heat to pass through them e.g. a metal saucepan.
Thermal insulators	Materials do not allow heat to pass through them e.g. a wooden spoon.
Change of state	When a material changes from being a solid to a liquid, a liquid to a gas, a gas to a liquid or a liquid to a solid. These are reversible changes
dissolve	When a solid becomes incorporated into a liquid to form a solution
evaporation	When a liquid turns into a gas. When this happens to a solution, the solid is left behind
filter	Any of several types of equipment or devices for removing solids from liquids or gases e.g. cloth, filter paper and sand.
mixture	A substance made by mixing other substances together which can be separated by filtration.
sieve	A tool used for separating solids from liquids or larger pieces of something from smaller pieces
rusting	The corrosion of the metal iron when it comes into contact with water and oxygen, it is an example of an irreversible change.
Solution	A liquid mixture where a solid has dissolved into a liquid.
Saturated solution	A solution that is full of a dissolved substance and cannot dissolve any more.
Reversible changes	A change in materials that can be reversed. For example; water can be frozen and change to ice. By heating the ice, this change can be reversed and you can return the ice to its original liquid form of water
Irreversible changes	When a chemical reaction occurs between substances that have been mixed together e.g. bicarbonate of soda and vinegar or burning a material. These changes cannot be undone as another chemical substance has been produced during the