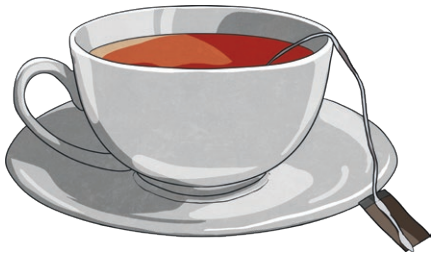
Key Vocabulary Overview	
dissolving	the process by which a solute interacts with a solvent to form a solution
soluble	describes a material that is able to dissolve in a solvent
insoluble	describes a material that is not able to dissolve in a solvent
solute	a material that will dissolve in a solvent
solvent	a material that a soluble substance can dissolve in
solution	a mixture of a solute dissolved in a solvent
substance	a material that something is made of

Dissolving

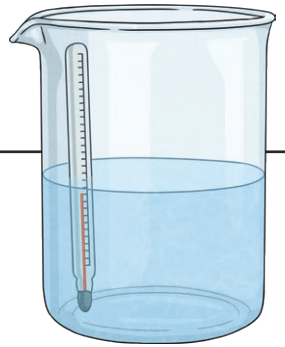
Dissolving is the process by which a **solute** becomes incorporated into a **solvent** to make a **solution**. Sugar (a **solute**) will **dissolve** in tea (a **solvent**). The sugary tea is a **solution** – a mixture of a **solute** **dissolved** in a **solvent**.

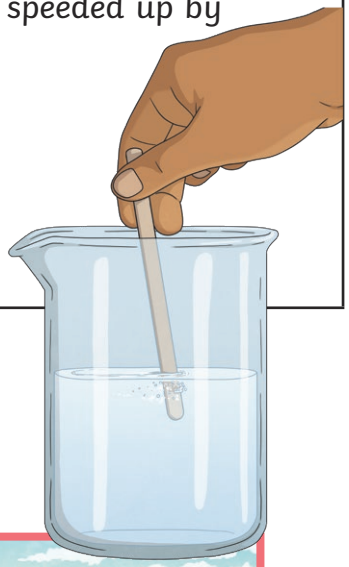


Solvent

A **solvent** is a material that a **soluble** **substance** can **dissolve** in. Water is known as 'the universal **solvent**' because lots of other **substances** can **dissolve** in it.

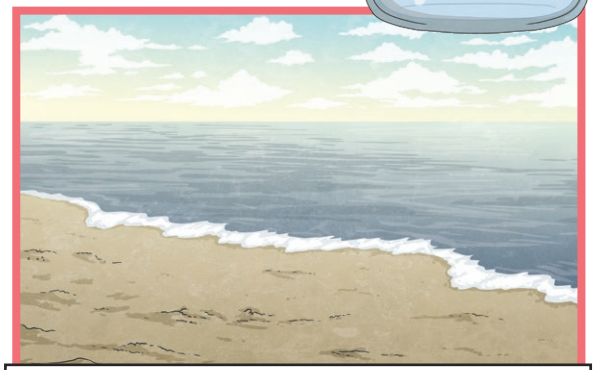
The process of **dissolving** can be speeded up by stirring or **heating** the **solution**.





Solubility

A **substance** that can be **dissolved** in a particular **solvent** is known as a **soluble** **substance**. A **substance** that cannot be **dissolved** in a particular **solvent** is known as an **insoluble** **substance**.



Salt is **soluble** in water but sand is **insoluble** in water.

Key Vocabulary Overview	
sieve	a piece of equipment used to separate large solids from smaller solids or liquids
mixture	a combination of two or more different materials
filtering	the process of separating insoluble solids from liquids using equipment such as filter paper
filter paper	a type of paper that is used to separate mixtures of insoluble solids from liquids
evaporation	when a material changes from a liquid into a gas (a slower process than boiling that only occurs on the top of the liquid and does not produce bubbles)
reverse	to return something to its original state
reversible change	a change to a material or substance that can be undone and the original material can be recovered
irreversible change	a change to a material or substance that cannot be undone; a new material is produced and the original material cannot be recovered

Separating Mixtures

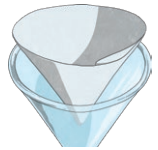
A **mixture** is a combination of two or more materials.

We can use a **sieve** to separate large solids from smaller solids.

We can use **filtering** to separate small, **insoluble** solids from a liquid.

We can use **evaporation** to separate **soluble** materials from liquids.

sieve



filter paper

Reversible and Irreversible Change

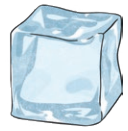
A **reversible change** is a change to a material or **substance** that can be undone. The original material can be recovered. An example of a **reversible change** is when ice melts back into water.

An **irreversible change** cannot be undone. A new material is produced and the original material cannot be recovered. Examples of **irreversible changes** are burning or the reaction between **acids** and certain other materials.

Key Vocabulary Overview	
states of matter	the states that a material can exist in (solid, liquid or gas)
chemical reaction	an interaction between materials that can change their structure, creating one or more new materials
burning	a chemical reaction, which may produce a flame, in which a substance is heated to create a new substance
heating	to raise the temperature of a substance
vinegar	liquid with a sour taste that contains an acid and is often used in cooking and cleaning
bicarbonate of soda	a white, powdery solid, often used in cooking and cleaning
acid	a chemical, often a sour liquid, that can react with and sometimes cause damage to other materials

States of Matter

Substances can exist in different **states of matter**.



solid

liquid

gas

Acid

Acids are **substances** that have a particular set of chemical properties. They are often liquids and usually have a sour taste or smell. They react with certain other materials to form new **substances**.

Chemical Reaction

A **chemical reaction** is an interaction between materials that can change their structure, creating one or more new materials. **Chemical reactions** are usually **irreversible changes**.

Burning is an example of a **chemical reaction**. When paper is **burnt**, ash is produced. The paper cannot be recovered.

When **bicarbonate of soda** and **vinegar** are mixed together, it causes a **chemical reaction** that produces carbon dioxide gas along with other **substances**.