

# Ashfield Valley Primary School—Year 5 – Science- Knowledge Organiser— What are reversible and irreversible changes?

## Key Vocabulary

Materials	The substance that something is made out of e.g. wood, plastic and metal.
Reversible	When materials are mixed they can be changed back.
Irreversible	When materials are mixed or changed new materials are often made and they cannot be changed back.

## Irreversible changes

Irreversible changes often result in a new product being made from the old materials.

For example:

Burning wood produces ash.

Mixing vinegar and bicarbonate of soda produce a gas.

When we cook food many irreversible changes take place. For example, when we toast bread it goes crispy and brown and this cannot be reversed.

## Key Knowledge

Dissolving and mixing can be reversed by evaporating and filtering e.g salt can be removed from water by evaporating and sand from water by filtering.

Changes in state in water can be reversible e.g. from a solid to a liquid to a gas and back again.

Some changes make new materials such as a gas and when a material is burnt. These cannot be changed back so this is irreversible.

### Burning– Irreversible Reaction

For a material to burn it needs

FUEL

OXYGEN

HEAT.

Ash is produced.



### Mixing bicarbonate of soda and vinegar –irreversible reaction

This produces a gas so a new material is made. This means that it is an irreversible reaction.



### Mixing salt and water – reversible reaction

When salt and water are mixed they make a solution. This can be reversed by letting the water evaporate.



### Mixing sand and water–reversible reaction

When sand and water are mixed they do not mix. The sand can be removed by filtering the sand out from the water.

