

* **Chemical change**

This is when a chemical reaction has occurred. There is a change in chemical structure. This is because bonds have been broken and new bonds have been made.

**Key Vocabulary**

Physical change

Chemical change

Combustion

Thermal decomposition

Displacement

**How do we know a chemical reaction has happened?**

* Gases given off- see bubbles and hear fizzing
* **Colour** changes,
* **Precipitates**(solids) forming
* **Temperature** changes

**Chemical Equations**

In these, the **reactants** go on the **left-hand side** of an **arrow** and **the products** go on the **right-hand** **side** of the arrow.

**Word equations** are important because they allow us to show the changes that occur in a chemical reaction without using long sentences.

For example, when **iron** metal filings are heated strongly with a yellow powder **sulfur** the reactants glow bright red. The chemical reaction **produces** a black solid compound called **iron sulfide**.

The word equation is:

**iron + sulfur 🠆 iron sulphide**

We can also use symbols from the periodic table to write symbol equations. The word equation above would become:

Fe + S → FeS

**Conservations of mass**

In a chemical reaction the total mass of the reactants will equal the total mass of the products.

Mass of reactants = Mass of products

E.g. 2Mg + O2 🡪 2MgO

**Mass** 1g + 1g = 2g

**Reactivity series of metals:**

Potassium

Sodium

Calcium

Magnesium

carbon

Zinc

Iron

Tin

Copper

*Silver*

*Gold*

*Platinum*

**Physical change**

This is when a material changes between being a solid, liquid or gas. There is no change to the chemical structure. An example is freezing and melting.

**Thermal decomposition**

Thermal means heat. Decomposing is the process of breaking down. Thermal decomposition is a chemical reaction that happens when a compound breaks down when heated.

* Combustion is another name for burning.
* In a combustion reaction, fuel is burned and reacts with oxygen to release energy.

**Chemical reaction**

When reactants react to produce a product. We say a chemical reaction has occur. The reactivity is how well they react.

**Ambitious Vocabulary**

Reaction

**Y8 Types of reaction**

**Science**