SUBJECT:

UNIT: Year 8: Types of reactions

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While you were away.

Lesson one: Chemical and physical changes

1. Give an example of a chemical change
2. Give an example of a physical change

Lesson two: Skills

1. What apparatus allow us to measure change in temperature?
2. How do you calculate change in temperature?

Lesson three: Thermal decomposition

1. What happens during thermal decomposition?
2. What is another word for thermal

Lesson four: Combustion

1. What does a fuel burn in during combustion
2. What gas is produced during complete combustion?

SUBJECT: Science

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Key Vocabulary

Physical change

Chemical change

Combustion

Thermal decomposition

Displacement

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

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.

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.

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. $2Mg + O_2 \rightarrow 2MgO$
Mass 1g + 1g = 2g

Ambitious Vocabulary

Reaction

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

Reactivity series of metals:
Potassium
Sodium
Calcium
Magnesium
carbon
Zinc
Iron
Tin
Copper
Silver
Gold
Platinum

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.