

GCSE Chemistry Quiz

Chemical Reactions

A chemical reaction is a process where the molecular structure changes. Chemical reactions are all around us. We can see many reactions such as fireworks and explosions. Many are very useful, such as cooking and combustion. Others are equally vital but are not quite as obvious such as photosynthesis and respiration. Without these reactions there would be no life on earth - in fact there would be no universe as we know it. Everything would be made of elements and nothing would ever change. Not very exciting?!



1. What type of reaction occurs when hydrocarbons burn in an insufficient supply of oxygen?

- Combustion
- Incomplete combustion
- Reduction
- Thermal decomposition

2. What type of reaction occurs at the positive electrode when copper sulphate is electrolysed using copper electrodes?

- Oxidation
- Reduction
- Combustion
- Decomposition

3. What type of reaction does the following word equation describe?

Magnesium + zinc chloride → magnesium chloride + zinc

- Oxidation
- Reduction
- Thermal decomposition
- Displacement

4. What type of reaction occurs when limestone (calcium carbonate) is heated and becomes calcium oxide?

- Oxidation
- Reduction
- Thermal decomposition
- Combustion

**5. What type of reaction is shown by the following word equation?
Hydrochloric acid + sodium hydroxide → sodium chloride + water**

- Decomposition
- Displacement
- Neutralisation
- Combustion

**6. What type of reaction is shown in the symbol equation?
 $\text{Fe}_2\text{O}_3 + 3\text{CO} \rightarrow 2\text{Fe} + 3\text{CO}_2$**

- Oxidation
- Combustion
- Reduction
- Decomposition

7. What reaction is occurring when decane is split into ethene and octane?

- Cracking
- Polymerisation
- Reduction
- Neutralisation

8. What reaction is involved in the hardening of vegetable oils?

- Polymerisation
- Cracking
- Hydrogenation
- Setting

9. What reaction is involved in the production of poly(ester)?

Cracking

Polymerisation

Decomposition

Neutralisation

10. What is the only reaction that removes carbon dioxide from the atmosphere naturally?

Decomposition

Combustion

Respiration

Photosynthesis

GCSE Chemistry Quiz Chemical Reactions

1. What type of reaction occurs when hydrocarbons burn in an insufficient supply of oxygen?

- Combustion
- Incomplete combustion
- Reduction
- Thermal decomposition

As there is not enough oxygen for complete combustion, the process is incomplete

2. What type of reaction occurs at the positive electrode when copper sulphate is electrolysed using copper electrodes?

- Oxidation
- Reduction
- Combustion
- Decomposition

Copper atoms are oxidised to become copper ions which go into solution

3. What type of reaction does the following word equation describe?

Magnesium + zinc chloride → magnesium chloride + zinc

- Oxidation
- Reduction
- Thermal decomposition
- Displacement

Magnesium is more reactive than zinc and so displaces it from a compound

4. What type of reaction occurs when limestone (calcium carbonate) is heated and becomes calcium oxide?

Oxidation

Reduction

Thermal decomposition

Combustion

Thermal = heat, decomposition = break down

5. What type of reaction is shown by the following word equation?

Hydrochloric acid + sodium hydroxide → sodium chloride + water

Decomposition

Displacement

Neutralisation

Combustion

Acid + alkali is a neutralisation reaction

6. What type of reaction is shown in the symbol equation?

$\text{Fe}_2\text{O}_3 + 3\text{CO} \rightarrow 2\text{Fe} + 3\text{CO}_2$

Oxidation

Combustion

Reduction

Decomposition

Oxygen is being removed from the iron oxide

7. What reaction is occurring when decane is split into ethene and octane?

Cracking

Polymerisation

Reduction

Neutralisation

Long chain hydrocarbons are split into short chain hydrocarbons by cracking

8. What reaction is involved in the hardening of vegetable oils?

Polymerisation

Cracking

Hydrogenation

Setting

Hydrogenation involves adding hydrogen to vegetable oils to harden them

9. What reaction is involved in the production of poly(ester)?

Cracking

Polymerisation

Decomposition

Neutralisation

Polymers are formed from many monomers

10. What is the only reaction that removes carbon dioxide from the atmosphere naturally?

Decomposition

Combustion

Respiration

Photosynthesis

All the other reactions here put carbon dioxide into the atmosphere