



## Turning words into equations - easy

1. Hydrogen and oxygen gas are reacted together to make water, write the word equation for this.
2. Chlorine gas is reacted with hydrogen gas and hydrochloric acid is made, write the word equation for this.
3. Magnesium reacts with the oxygen in the air to make magnesium oxide, write the word equation for this.
4. In the Haber process ammonia is made by reacting hydrogen and nitrogen gas from the air together, write the word equation for this.
5. Zinc reacts with oxygen to make zinc oxide, write the word equation for this.
6. Nitrogen and oxygen gas can be reacted together to make nitrogen monoxide, write the word equation for this
7. Potassium and sulfur react together to make potassium sulphide, write the word equation for this
8. Hydrochloric acid is added to a strip of magnesium and a reaction takes place, producing magnesium chloride and hydrogen gas. Write the word equation for this.
9. During a demo in the lab a small piece of sodium is dropped into a tub of water, sodium hydroxide and hydrogen gas are produced. Write the word equation for this.
10. A vial of calcium metal is left open on the side of a lab bench, over time the shiny metal goes dull. The tarnish on the metal is due to the reaction with the calcium metal and the oxygen the air, this has produced the dull looking calcium oxide. Write the word equation for this reaction.
11. Calcium is reacted with hydrochloric acid and a salt (calcium chloride) is produced and bubbles are observed (hydrogen gas). Write the word equation for this reaction.
12. A small piece of silvery sodium is heated and then exposed to a tube of yellow gas (chlorine), a white powder is produced at the end (sodium chloride). Write the word equation for this reaction.
13. The gas responsible for acid rain (sulfur dioxide) can react with oxygen gas to produce sulfur trioxide, write the word equation for this reaction.
14. Potassium hydroxide reacts with magnesium sulfate to make magnesium hydroxide and potassium sulfate. Give the word equation for this reactions.
15. Potassium peroxide and water react together to give hydrogen peroxide and potassium hydroxide, give the word equation for this reaction.



## Turning words into equations - medium

1. Hydrogen and oxygen gas are reacted together to make water, write the balanced symbol equation for this.
2. Chlorine gas is reacted with hydrogen gas and hydrochloric acid is made, write the balanced symbol for this.
3. Magnesium reacts with the oxygen in the air to make magnesium oxide, write the balanced symbol equation for this.
4. In the Haber process ammonia is made by reacting hydrogen and nitrogen gas from the air together, write the balanced symbol equation for this.
5. Zinc reacts with oxygen to make zinc oxide, write the balanced symbol equation for this.
6. Nitrogen and oxygen gas can be reacted together to make nitrogen monoxide, write the balanced symbol equation for this
7. Potassium and sulfur react together to make potassium sulphide ( $K_2S$ ), write the balanced symbol equation for this
8. Hydrochloric acid is added to a strip of magnesium and a reaction takes place, producing magnesium chloride and hydrogen gas. Write the balanced symbol equation for this.
9. During a demo in the lab a small piece of sodium is dropped into a tub of water, sodium hydroxide and hydrogen gas are produced. Write the balanced symbol equation for this.
10. A vial of calcium metal is left open on the side of a lab bench, over time the shiny metal goes dull. The tarnish on the metal is due to the reaction with the calcium metal and the oxygen the air, this has produced the dull looking calcium oxide. Write the balanced symbol equation for this reaction.
11. Calcium is reacted with hydrochloric acid and a salt (calcium chloride) is produced and bubbles are observed (hydrogen gas). Write the balanced symbol equation for this reaction.
12. A small piece of silvery sodium is heated and then exposed to a tube of yellow gas (chlorine), a white powder is produced at the end (sodium chloride). Write the balanced symbol equation for this reaction.
13. The gas responsible for acid rain (sulfur dioxide) can react with oxygen gas to produce sulfur trioxide, write the balanced symbol equation for this reaction.
14. Potassium hydroxide reacts with magnesium sulfate to make magnesium hydroxide and potassium sulfate. Give the balanced symbol equation for this reactions.
15. Potassium peroxide ( $K_2O_2$ ) and water react together to give hydrogen peroxide and potassium hydroxide, give the balanced symbol equation for this reaction.



## Turning words into equations - hard

1. Hydrogen and oxygen gas are reacted together to make water, write the balanced symbol equation for this.
2. Chlorine gas is reacted with hydrogen gas and hydrochloric acid is made, write the balanced symbol for this.
3. Magnesium reacts with the oxygen in the air to make magnesium oxide, write the balanced symbol equation for this.
4. In the Haber process ammonia is made by reacting hydrogen and nitrogen gas from the air together, write the balanced symbol equation for this.
5. Zinc reacts with oxygen to make a white powder, write the balanced symbol equation for this.
6. Nitrogen and oxygen gas can be reacted together to make nitrogen monoxide, write the balanced symbol equation for this
7. Potassium and sulfur react together to make potassium sulphide ( $K_2S$ ), write the balanced symbol equation for this
8. Hydrochloric acid is added to a strip of magnesium and a reaction takes place, bubbles are seen. Write the balanced symbol equation for this.
9. During a demo in the lab a small piece of sodium is dropped into a tub of water. Write the balanced symbol equation for this.
10. A vial of calcium metal is left open on the side of a lab bench, over time the shiny metal goes dull. Write the balanced symbol equation for this reaction.
11. Calcium is reacted with hydrochloric acid and a salt is produced and bubbles are observed. Write the balanced symbol equation for this reaction.
12. A small piece of silvery sodium is heated and then exposed to a tube of yellow gas (chlorine), a white powder is produced at the end. Write the balanced symbol equation for this reaction.
13. The gas responsible for acid rain can react with oxygen gas to produce sulfur trioxide, write the balanced symbol equation for this reaction.
14. Potassium hydroxide reacts with magnesium sulfate to make magnesium hydroxide and potassium sulfate. Give the balanced symbol equation for this reactions.
15. Potassium peroxide ( $K_2O_2$ ) and water react together to give hydrogen peroxide and potassium hydroxide, give the balanced symbol equation for this reaction.



## Answers

- Hydrogen + oxygen → water  $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$
- Hydrogen + chlorine → hydrochloric acid  $\text{H}_2 + \text{Cl}_2 \rightarrow 2\text{HCl}$
- Magnesium + oxygen → magnesium oxide  $2\text{Mg} + \text{O}_2 \rightarrow 2\text{MgO}$
- Nitrogen + hydrogen → ammonia  $\text{N}_2 + 3\text{H}_2 \rightarrow 2\text{NH}_3$
- Zinc + oxygen → zinc oxide  $2\text{Zn} + \text{O}_2 \rightarrow 2\text{ZnO}$
- Nitrogen + oxygen → nitrogen oxide  $\text{N}_2 + \text{O}_2 \rightarrow 2\text{NO}$
- Potassium + sulfur → potassium sulphide  $2\text{K} + \text{S} \rightarrow \text{K}_2\text{S}$
- Magnesium + hydrochloric acid → magnesium chloride + hydrogen  
 $\text{Mg} + 2\text{HCl} \rightarrow \text{MgCl}_2 + \text{H}_2$
- Sodium + water → sodium hydroxide + hydrogen  $2\text{Na} + 2\text{H}_2\text{O} \rightarrow 2\text{NaOH} + \text{H}_2$
- Calcium + oxygen → calcium oxide  $2\text{Ca} + \text{O}_2 \rightarrow 2\text{CaO}$
- Calcium + hydrochloric acid → calcium chloride + hydrogen  
 $\text{Ca} + 2\text{HCl} \rightarrow \text{CaCl}_2 + \text{H}_2$
- Sodium + chlorine → sodium chloride  $2\text{Na} + \text{Cl}_2 \rightarrow 2\text{NaCl}$
- Sulfur dioxide + oxygen → sulfur trioxide  $2\text{SO}_2 + \text{O}_2 \rightarrow 2\text{SO}_3$
- Potassium hydroxide + magnesium sulfate → potassium sulfate + magnesium hydroxide  
 $2\text{KOH} + \text{MgSO}_4 \rightarrow \text{Mg}(\text{OH})_2 + \text{K}_2\text{SO}_4$
- Potassium peroxide + water → hydrogen peroxide + potassium hydroxide  
 $\text{K}_2\text{O}_2 + 2\text{H}_2\text{O} \rightarrow \text{H}_2\text{O}_2 + 2\text{KOH}$