

# Answers to Student Book Questions

Name: \_\_\_\_\_

Grade 8 ( )

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## Questions pages 136-137

1. Name one of the new products formed when acids and alkalis mix.

**Water and salt**

2. Describe what combines from each of the acid and the alkali to form water.

**Hydrogen from acid and hydroxide from alkali**

3. Suggest the pH of pure water. **7**

4. Write the general equation for neutralization.

**Acid + Alkali**  $\longrightarrow$  **Salt + Water**

5. Name the product of neutralization that:

**a-** is always the same: **water**

**b-** depends on the acid and the alkali used: **salt**

6. Describe the two new products that are formed when hydrochloric acid is mixed with sodium hydroxide.

**NaCl and H<sub>2</sub>O (Sodium chloride and water)**

7. **Not included.**

8. **Not included.**

9. **Not included.**

### Questions pages 138-139

1. Describe four uses of sodium chloride.

**Flavouring food / preserving food/ treating icy roads / producing chlorine**

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2. List three other examples of salts and describe their uses.

**Magnesium chloride: in cement / iron sulphate: killing moss / Calcium sulphate: plaster of Paris**

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3. Write a definition of a salt.

**The product of a neutralisation reaction.**

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4. Suggest what is the first part of the name of the salt will be if the alkali used is calcium carbonate. **Calcium**

5. Predict the name of the salt formed in a neutralization reaction between hydrochloric acid and sodium hydroxide.

**Sodium chloride**

6. Write an equation for the reaction between hydrochloric acid and magnesium hydroxide.



7. Explain the difference between a base and an alkali.

**An alkali is a base that dissolves in water; both neutralise and acid to produce salt and water.**

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8. Explain why copper oxide is a base, whereas sodium hydroxide is an alkali.

**Copper oxide doesn't dissolve in water, but sodium hydroxide dissolves in water and they both neutralise an acid.**

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9. Write an equation for the reaction between an acid and a base. Compare this with the reaction of an acid and an alkali.

**Acid + Base  $\longrightarrow$  salt + water; the products of the reactions are the same.**

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### Questions pages 140-141

1. Describe some of the observations that tell us that a chemical reaction is taking place.  
**Bubbles of gas are formed/ Change of temperature / Change of colour / Change in mass.**
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2. Describe two signs that the reaction between an acid and a metal is a chemical reaction.  
**Bubbles of gas / change in temperature**
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3. Explain why bubbles are produced during reactions.  
**Because a gas is produced**
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#### **4. Not included.**

5. Write an equation for the reaction between hydrochloric acid and magnesium metal.  
**HCl + Mg  $\longrightarrow$  MgCl<sub>2</sub> + H<sup>+</sup>**
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6. Explain why we should not put a flame near a large amount of hydrogen gas.

**Hydrogen burns in air, so a large amount of hydrogen gas could cause an explosion.**

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