

MINISTRY OF EDUCATION

SECONDARY ENGAGEMENT PROGRAMME

GRADE 11

CHEMISTRY

WEEK 8

LESSON 1 - WORKSHEET

Circle the correct answer

1. Which products are formed when a carboxylic acid reacts with a metal?
 - A. Salt + carbon dioxide
 - B. Salt + carbon dioxide + water
 - C. Salt + water
 - D. Salt + hydrogen

2. Which products are formed when a carboxylic acid reacts with a carbonate?
 - A. Salt + carbon dioxide
 - B. Salt + carbon dioxide + water
 - C. Salt + water
 - D. Salt + hydrogen

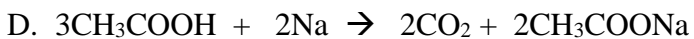
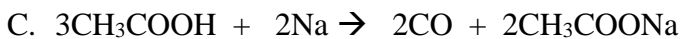
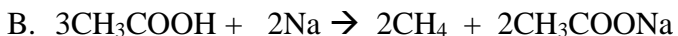
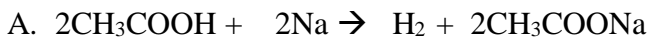
3. Which type of organic compound reacts with carboxylic acids to form an ester?
- A. Alkene
 - B. Alkane
 - C. Alcohol
 - D. Aldehyde
4. What products are formed when a carboxylic acid reacts with an alkali?
- A. Salt + carbon dioxide
 - B. Salt + carbon dioxide + water
 - C. Salt + water
 - D. Salt + hydrogen
5. Ethanoic acid can undergo a reversible reaction with ethanol to form ethyl acetate and water. Which is the reaction type?
- A. Neutralization reaction
 - B. Esterification
 - C. Combustion
 - D. REDOX

An experiment was carried out by dropping a piece of sodium metal into a beaker containing ethanoic acid.

6. What is the gas evolved from this reaction?
- A. Carbon dioxide
 - B. Methane gas
 - C. Hydrogen
 - D. Carbon monoxide
7. What is the name of the sodium compound formed in the reaction?
- A. Sodium ethanoate
 - B. Sodium hydroxide
 - C. Sodium carbonate

D. Sodium ethanoic

8. Which of the following represents the balanced equation for this reaction?



9. Which of the following are reactions of ethanoic acid?

I It forms a salt with aqueous sodium hydroxide.

II It liberates carbon dioxide from a carbonate.

III It liberates hydrogen on contact with a strongly electropositive metal.

A. I and II only

B. I and III only

C. II and III only

D. I, II and III

10. When ethanoic acid reacts which hydrogen atom is replaced?

A. one attached to a carbon atom

B. one attached to an oxygen atom

C. all hydrogen atoms

D. none

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WORKSHEET - ANSWERS

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1. Which products are formed when a carboxylic acid reacts with a metal?
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 - B. Salt + carbon dioxide + water
 - C. Salt + water
 - D. **Salt + hydrogen**
2. Which products are formed when a carboxylic acid reacts with a carbonate?
 - A. Salt + carbon dioxide
 - B. **Salt + carbon dioxide + water**
 - C. Salt + water
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 - B. Sodium hydroxide
 - C. Sodium carbonate
 - D. Sodium ethanoic
8. Which of the following represents the balanced equation for this reaction?
- A. $2\text{CH}_3\text{COOH} + 2\text{Na} \rightarrow \text{H}_2 + 2\text{CH}_3\text{COONa}$**
 - B. $3\text{CH}_3\text{COOH} + 2\text{Na} \rightarrow 2\text{CH}_4 + 2\text{CH}_3\text{COONa}$
 - C. $3\text{CH}_3\text{COOH} + 2\text{Na} \rightarrow 2\text{CO} + 2\text{CH}_3\text{COONa}$
 - D. $3\text{CH}_3\text{COOH} + 2\text{Na} \rightarrow 2\text{CO}_2 + 2\text{CH}_3\text{COONa}$

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