

AQA, OCR, Edexcel

GCSE Science

GCSE Chemistry

Yield and atom economy of
chemical reactions.

Questions

M M E

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Total Marks: /16

Percentage Yield

Q1: Give three potential reasons, why it is not always possible to obtain the calculated amount of product from a reaction.

1. _____
2. _____
3. _____

(3 marks)

Q2: How is the amount of product produced quantified?

(1 mark)

Q3: Complete the following equation.

$$\%Yield = \text{_____} \times 100$$

(2 marks)

Q4: Calcium oxide is reacted with water to form calcium hydroxide. If the theoretical yield is 3.0g, but only 1.4g is produced. What is the percentage yield?

(2 marks)

Atom Economy

Q5: What is atom economy?

(1 marks)

Q6: Why is it important to look at atom economy?

(2 marks)

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Q7: Complete the equation for how atom economy is calculated.

$$\frac{\text{(Relative formula mass of desired product from equation)}}{\text{Relative formula mass of all products}} \times 100$$

(1 mark)

Using concentrations of solutions in mol/dm³

Q8: If 350g of NaCl is dissolved in water to a final volume of 3dm³. Calculate the concentration of the solution.

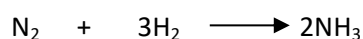
(2 marks)

Use of amount of substance in relation to volume of gases

Q9: Equal amounts of gases in moles occupy the same volume under the same conditions of temperature and pressure. What is the volume of one mole of any gas at room temperature and pressure?

(1 mark)

Q10: Calculate the volume of ammonia that is produced from 300 cm³ of hydrogen.



(1 mark)