Quantitative chemistry

Chemistry Paper 1 | 30 quick questions

GCSE science knowledge recall

Answer online, marked instantly

Name: _____ **Date:** _____ **Score:** _____ **/ 30**

1 No atoms are made or destroyed in a reaction, so the products weigh the same as the reactants. What is this idea called?

2 In a balanced symbol equation, the number of which particles of each element must be the same on both sides of the arrow?

3 What is the symbol for relative formula mass? Give the letters.

4 Relative formula mass is found by adding up the relative _____ masses of all the atoms in the formula. What is the missing word?

5 What is the relative formula mass of water, H_2O? (A_r: H = 1, O = 16)

6 What is the relative formula mass of carbon dioxide, CO_2? (A_r: C = 12, O = 16)

7 What is the relative formula mass of magnesium oxide, MgO? (A_r: Mg = 24, O = 16)

8 Magnesium ribbon is burned in an open crucible on a balance. Does the mass reading increase or decrease?

9 Calcium carbonate is heated strongly in an open tube on a balance. Does the mass reading increase or decrease?

10 Explain why a reaction in an open flask can seem to break the law of conservation of mass.

11 You repeat a measurement three times and add the results together, then divide by three. What is this value called?

12 What is the name for the spread between the smallest and largest of a set of repeat results?

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13 What is the unit of concentration when it is measured as mass per volume? Give it in symbols.

14 How many cm^3 are there in 1 dm^3?

15 Concentration (g/dm^3) = mass of solute ÷ what?

16 What is the name of the unit for amount of substance in chemistry?

Higher

17 What is the value of the Avogadro constant (particles per mole)?

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18 Number of moles = mass in grams ÷ what? Answer in words.

Higher

19 What is the mass of one mole of carbon atoms (A_r = 12)? Include the unit.

Higher

20 How many moles are there in 36 g of water (M_r = 18)?

Higher

21 In $2H_2 + O_2 \rightarrow 2H_2O$, how many moles of water are made from 1 mole of oxygen?

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22 What is the name for the reactant that is completely used up and stops the reaction?

Higher

23 The other reactant has some left over at the end. What word describes it? Answer in one word.

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24 Percentage yield = mass of product actually made ÷ which mass × 100?

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25 Give one reason why the yield of a reaction is often less than 100%.

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26 What is the name for the percentage of the total mass of reactants that ends up in the useful product?

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27 What is the atom economy of a reaction that makes only one product?

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28 What is the unit of concentration when it is measured in moles? Give it in symbols.

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29 What is the name of the technique used to find exactly what volume of an acid reacts with a set volume of an alkali?

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30 What volume does one mole of any gas take up at room temperature and pressure? Give the value in dm^3.

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