

3. Stoichiometry

Starter Quiz · 课前小测

IGCSE Chemistry

Name: _____ Score: _____

1. How many hydrogen atoms are in one molecule of H_2O ?

2. A balanced equation must have the same number of each atom on both sides because:

☐ atoms are not created or destroyed

☐ atoms disappear

☐ mass is lost

☐ energy is created

3. Using $\text{Ar}(\text{H})=1$ and $\text{Ar}(\text{O})=16$, what is the M_r of water (H_2O)?

4. How many moles are in 36 g of water ($M_r = 18$)?

5. What volume (dm^3) does 3 moles of a gas occupy at rtp ($1 \text{ mole} = 24 \text{ dm}^3$)?

6. How many moles are in 4 g of hydrogen gas ($M_r = 2$)?

7. To balance an equation you change the:

☐ big numbers in front of formulae

☐ subscripts inside formulae

☐ names of the elements

☐ arrow direction

8. In $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$, the mole ratio of H_2 to H_2O is:

☐ 2 : 2 (i.e. 1 : 1)

☐ 1 : 2

☐ 2 : 1

☐ 1 : 0

9. Atoms combine in fixed ratios because of their:

☐ combining power (valency)

☐ colour

☐ temperature

☐ mass number

10. In an equation, the substances on the left of the arrow are the:

☐ reactants

☐ products

☐ catalysts

☐ solvents

IGCSE Chemistry1. **2**

The subscript 2 means two hydrogen atoms.

2. **atoms are not created or destroyed**

Conservation of mass: atoms are only rearranged.

3. **18**

$$(2 \times 1) + 16 = 18.$$

4. **2**

$$\text{moles} = 36 \div 18 = 2.$$

5. **72**

$$\text{volume} = 3 \times 24 = 72 \text{ dm}^3.$$

6. **2**

$$\text{moles} = 4 \div 2 = 2.$$

7. **big numbers in front of formulae**

Only coefficients may be changed, not subscripts.

8. **2 : 2 (i.e. 1 : 1)**

2 moles of H_2 give 2 moles of water.

9. **combining power (valency)**

Valency sets how many bonds an atom forms.

10. **reactants**

Reactants $\rightarrow$ products.