

12. Experimental techniques and chemical analysis Starter Quiz · 课前小测

IGCSE Chemistry

Name: _____ Score: _____

1. The independent variable is the one that you:

- ☐ deliberately change
- ☐ measure
- ☐ keep the same
- ☐ ignore

2. In a titration, the piece of apparatus that delivers an exact, measured volume is the:

- ☐ burette
- ☐ beaker
- ☐ test tube
- ☐ thermometer

3. Chromatography separates a mixture because its components:

- ☐ travel at different speeds as the solvent moves
- ☐ all move at the same speed
- ☐ react with the paper
- ☐ evaporate equally

4. Filtration is used to separate:

- ☐ an insoluble solid from a liquid
- ☐ two liquids
- ☐ a dissolved solid
- ☐ two gases

5. A sodium ion gives which flame colour?

- ☐ yellow
- ☐ lilac
- ☐ red
- ☐ blue-green

6. How many moles are in 20 cm³ of acid of concentration 0.5 mol/dm³? (moles = conc × volume in dm³)

7. A spot moves 3 cm; the solvent moves 6 cm. What is the R_f value?

8. Repeating measurements and averaging improves reliability.

- ☐ True ☐ False

9. If 0.01 mol of alkali is in 25 cm³, what is its concentration (mol/dm³)?

10. An R_f value is always between 0 and 1.

- ☐ True ☐ False

IGCSE Chemistry

1. **deliberately change**

You change the independent variable.

2. **burette**

The burette delivers a precise, variable volume.

3. **travel at different speeds as the solvent moves**

Different speeds separate the substances.

4. **an insoluble solid from a liquid**

Filtration removes insoluble solids.

5. **yellow**

Sodium burns with a yellow flame.

6. **0.01**

$0.5 \times (20 \div 1000) = 0.01 \text{ mol}$.

7. **0.5**

$R_f = 3 \div 6 = 0.5$.

8. **True**

Repeats reduce the effect of random error.

9. **0.4**

$0.01 \div (25 \div 1000) = 0.4 \text{ mol/dm}^3$.

10. **True**

The spot cannot move further than the solvent.