

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 Rf 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 Rf value is always between 0 and 1.

☐ True ☐ False

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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.