

AQA Combined Sciences – Required Practicals Student Self-Quiz

This self-quiz combines recall and exam-style questions for each required practical in AQA GCSE Separate Sciences. Use it to test your understanding of methods, variables, and data analysis across Biology, Chemistry and Physics.

Biology

- Microscopy – What is the formula for magnification, and how do you ensure a clear image?
- Osmosis in potatoes – What is the independent variable, and how is osmosis identified?
- Enzymes – Describe how temperature affects enzyme activity and explain why.
- Photosynthesis – How does light intensity affect photosynthesis? State the equation used.
- **Reaction times – What factors can affect human reaction time and how are they controlled?**
- **Field investigations – How is a quadrat used to estimate population size?**
- **Food tests – Which reagents are used to test for starch, sugars, proteins and lipids?**

Chemistry

- Making salts – What steps are taken to produce a pure, dry salt from an acid and an insoluble base?
- Electrolysis – What determines the product formed at each electrode?
- Temperature changes – How do you measure an energy change safely and accurately?
- **Rates of reaction – How could you investigate the effect of concentration on rate?**
- **Chromatography – How do you calculate an R_f value? What affects its accuracy?**
- **Water purification – Which methods remove insoluble solids, salts and bacteria?**

Physics

- Specific heat capacity – How do you calculate specific heat capacity from experimental data?
- Resistance of a wire – How does wire length affect resistance and why?
- I–V characteristics – How does a diode's graph differ from a resistor's?
- Density – How would you find the density of an irregular solid?
- **Force and extension – What is Hooke's Law and when does it stop being valid?**
- **Acceleration – Describe how the trolley practical tests Newton's second law ($F=ma$).**
- **Waves – How do you measure wave speed using a ripple tank?**
- **Radiation and absorption – Which surfaces absorb and emit heat radiation best, and how can this be tested?**