

AQA A-Level Practical Endorsement – CHEMISTRY

Required activity	Apparatus and technique reference
1 Make up a volumetric solution and carry out a simple acid–base titration	a, d, e, f, k
2 Measurement of an enthalpy change	a, d, k
3 Investigation of how the rate of a reaction changes with temperature	a, b, k
4 Carry out simple test-tube reactions to identify: <ul style="list-style-type: none"> • cations – Group 2, NH_4^+ • anions – Group 7 (halide ions), OH^-, CO_3^{2-}, SO_4^{2-} 	d, k
5 Distillation of a product from a reaction	b, d, k
6 Tests for alcohol, aldehyde, alkene and carboxylic acid	b, d, k
7 Measuring the rate of reaction: <ul style="list-style-type: none"> • by an initial rate method • by a continuous monitoring method 	a, k, l a, k, l
8 Measuring the EMF of an electrochemical cell	j, k
9 Investigate how pH changes when a weak acid reacts with a strong base and when a strong acid reacts with a weak base	a, c, d, k
10 Preparation of: <ul style="list-style-type: none"> • a pure organic solid and test of its purity • a pure organic liquid 	a, b, d, g, h, k b, d, g, k
11 Carry out simple test-tube reactions to identify transition metal ions in aqueous solution	b, d, k
12 Separation of species by thin-layer chromatography	i, k

8.4.2 Criteria for the assessment of practical competency in A-level Biology, Chemistry and Physics

Competency	Practical mastery
	<p>In order to be awarded a Pass a Learner must, by the end of the practical science assessment, consistently and routinely meet the criteria in respect of each competency listed below. A Learner may demonstrate the competencies in any practical activity undertaken as part of that assessment throughout the course of study.</p> <p>Learners may undertake practical activities in groups. However, the evidence generated by each Learner must demonstrate that he or she independently meets the criteria outlined below in respect of each competency. Such evidence:</p> <p>(a) will comprise both the Learner's performance during each practical activity and his or her contemporaneous record of the work that he or she has undertaken during that activity, and</p> <p>(b) must include evidence of independent application of investigative approaches and methods to practical work.</p>
1. Follows written procedures	(a) Correctly follows written instructions to carry out the experimental techniques or procedures.
2. Applies investigative approaches and methods when using instruments and equipment	<p>(a) Correctly uses appropriate instrumentation, apparatus and materials (including ICT) to carry out investigative activities, experimental techniques and procedures with minimal assistance or prompting.</p> <p>(b) Carries out techniques or procedures methodically, in sequence and in combination, identifying practical issues and making adjustments where necessary.</p> <p>(c) Identifies and controls significant quantitative variables where applicable, and plans approaches to take account of variables that cannot readily be controlled.</p> <p>(d) Selects appropriate equipment and measurement strategies in order to ensure suitably accurate results.</p>
3. Safely uses a range of practical equipment and materials	<p>(a) Identifies hazards and assesses risks associated with those hazards, making safety adjustments as necessary, when carrying out experimental techniques and procedures in the lab or field.</p> <p>(b) Uses appropriate safety equipment and approaches to minimise risks with minimal prompting.</p>
4. Makes and records observations	<p>(a) Makes accurate observations relevant to the experimental or investigative procedure.</p> <p>(b) Obtains accurate, precise and sufficient data for experimental and investigative procedures and records this methodically using appropriate units and conventions.</p>
Competency	Practical mastery
5. Researches, references and reports	<p>(a) Uses appropriate software and/or tools to process data, carry out research and report findings.</p> <p>(b) Cites sources of information demonstrating that research has taken place, supporting planning and conclusions.</p>