

AQA A-Level Practical Endorsement – PHYSICS

Required activity	Apparatus and technique reference
1 Investigation into the variation of the frequency of stationary waves on a string with length, tension and mass per unit length of the string.	a, b, c, i
2 Investigation of interference effects to include the Young's slit experiment and interference by a diffraction grating.	a, j
3 Determination of g by a free-fall method	a, c, d, k
4 Determination of the Young modulus by a simple method.	a, c, e
5 Determination of resistivity of a wire using a micrometer, ammeter and voltmeter.	a, b, e, f
6 Investigation of the emf and internal resistance of electric cells and batteries by measuring the variation of the terminal pd of the cell with current in it.	b, f, g
7 Investigation into simple harmonic motion using a mass-spring system and a simple pendulum.	a, b, c, h, i
8 Investigation of Boyle's (constant temperature) law and Charles's (constant pressure) law for a gas.	a
9 Investigation of the charge and discharge of capacitors. Analysis techniques should include log-linear plotting leading to a determination of the time constant RC .	b, f, g, h, k
10 Investigate how the force on a wire varies with flux density, current and length of wire using a top pan balance.	a, b, f
11 Investigate, using a search coil and oscilloscope, the effect on magnetic flux linkage of varying the angle between a search coil and magnetic field direction.	a, b, f, h
12 Investigation of the inverse-square law for gamma radiation.	a, b, k, l

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>