

# Physics B (Advancing Physics)

## OCR Advanced GCE H559 Unit G496 (a) Practical Investigation Coursework Assessment Form

<b>Examination session</b>	June	<b>Year</b>	2	0		
----------------------------	------	-------------	---	---	--	--

<b>Centre name</b>	
--------------------	--

<b>Centre number</b>					
----------------------	--	--	--	--	--

<b>Candidate name</b>		<b>Candidate number</b>				
-----------------------	--	-------------------------	--	--	--	--

A copy of this sheet must be attached to each candidate's work as a record of the assessment. The full criteria on which the assessment should be based can be found in the Teacher Support: Coursework Guidance.

### INSTRUCTIONS FOR COMPLETION

- 1 Each of these forms should be completed for each candidate for each of parts (a) and (b) of this unit.
- 2 Please ensure that the appropriate boxes at the top of the forms are completed.
- 3 Enter the mark awarded for each coursework task in the appropriate box.
- 4 Add the marks for all the coursework tasks together to give a total out of 20.
- 5 Sign and date the forms.

	<b>5</b>	<b>3</b>	<b>1</b>
<b>A</b> Approach and experimental skill	<b>(i) Initial plan</b> There is a clear analysis of the problem in terms of underlying physics. Appropriate variables are identified. The initial approach and methods are well chosen	The definition of the problem is sound but lacks some detail. There are limited ideas about how to get started.	The problem has been defined in simple terms. Help is needed to get started.
	<b>(ii) Careful methodical work</b> Methods and approach are well chosen. An appropriate risk assessment is carried out. The work is done methodically and systematically, and with data recorded carefully and accurately as they are taken.	Methods and approach are adequate for the task. Safety may be adequately addressed	There are shortcomings or limitations in the approach chosen. Safety may not be considered.
	<b>(iii) Practical competence and skill</b> Considerable skill and care is used to obtain results that are as good as possible, and to reduce uncertainty and avoid systematic error.	Competent practical work with attention to practical detail is demonstrated	There is limited attention to practical detail and little attempt to deal with interfering effects.
	<b>/5</b>		
<b>B</b> Progress, independence, use of physical thinking	<b>(i) Use of physics</b> The student uses sound knowledge of physics <b>to make decisions</b> about the progress of the investigation beyond the initial plan.	Some knowledge of relevant physics is demonstrated, but is not fully utilised in making decisions about the progress of the investigation.	The work is largely empirical.
	<b>(ii) Independence</b> The student makes very good progress, showing initiative and actively seeking and making use of <b>advice</b> .	The student requires some guidance in order to progress, or is limited in progress due to not seeking <b>guidance</b> when appropriate	The student requires <b>considerable guidance</b> or demonstrates little engagement with the task.
	<b>(iii) Progression of experiments</b> A good range of experiments showing <b>progression</b> and <b>development</b> , responding to problems or effects found. The work will often be limited only by the time available.	A related set of experiments, or several variables in one experiment are investigated	Experimental work is limited or lacking in demand.
<b>/5</b>			

	<b>5</b>	<b>3</b>	<b>1</b>
<b>C</b> Quality and presentation of observations	<b>(i) Collection and recording of data</b> A good range of data, including repeated observations where necessary, is collected and displayed clearly with correct headings, units, tolerances and significant figures. Thought is given to design and presentation of tables.	A satisfactory range of data is collected and displayed clearly. There may be inconsistencies in the use of headings, units or significant figures.	The data may be limited in quantity or range. There may be serious shortcomings in the clarity of the presentation of the data.
	<b>(ii) Graphical plots and other representations of data</b> Graphical plots are well chosen to display the data to best effect. Labelling, uncertainty bars and best fit lines are used appropriately. The message conveyed by plots is stated clearly (perhaps in a caption)	Graphical plots are clear and without distracting elements. Some possibly incomplete attempt is made to represent uncertainty. It is not always clear what message is conveyed by a plot.	Graphical plots may be inappropriate, unclear or incorrect. Uncertainties are not represented, or are represented implausibly.
	<b>(iii) Quality of the report</b> The report is concise, well written and adds value to the investigation with good structuring and clear illustrations and referencing	The report is a legible account of the investigation but may feature shortcomings in structure, length or quality of English.	The physics of the experiment is explained poorly or incorrectly. The report has serious flaws in content and structure.
	<b>/5</b>		
<b>D</b> Conclusions and evaluation	<b>(i) Analysis of data</b> The data is analysed in depth to allow the student to propose relationships between the variables under investigation. Where possible results of analysis are cross-checked against other analysis or data.	Some valid calculations of derived quantities are attempted and outcomes stated	The analysis is limited to direct comparisons or plots of measured data.
	<b>(ii) Interpretation of data</b> There is a detailed discussion of the outcomes of the investigation explaining them in terms of relevant physics. Uncertainty of measurements and is estimated from spread of data or from tests on instruments. Possible systematic errors are identified, and if possible corrected for.	There is an attempt to discuss the outcomes in terms of physical explanations with few major errors. Some qualifications arising from uncertainty or systematic error are made.	There is little attempt to explain the outcomes in terms of physical ideas. There may be major flaws in use of physics.
	<b>(iii) Evaluation</b> Uncertainties in conclusions are discussed in terms of the limitations of the procedures used. Anomalies are noted and discussed or dealt with.	The main limitations of the procedures used are discussed. Any obvious anomalies are noted.	Discussion of the limitations of the procedures or of the results obtained is missing or incorrect.
<b>/5</b>			
<b>RATING TOTAL</b>		<b>/20</b>	
Assessor's signature:		Date:	

