

Judging evidence for National 5 Physics: Electricity and Energy, Dynamics and Space, and Waves and Radiation

Since the Outcomes and Assessment Standards are the same for all Units of the Course, the Units differing only by context, evidence for Outcome 1 and Assessment Standards 2.2, 2.3 and 2.4 for one Unit in this Course can be used as evidence of the achievement of Outcome 1 and Assessment Standards 2.2, 2.3 and 2.4 in the other Units of this Course.

Evidence for Outcome 1 may be gathered from a series of experiments from the Units or across the Course.

As Assessment Standard 2.1 (Making accurate statements) relates specifically to the key areas of each Unit, evidence is **not transferable** between the Units. Statements can range from agreeing with a statement to formulating a statement

Outcomes	Assessment Standards	Making assessment judgements	Additional notes on possible activities and forms of evidence
<p>1 Apply skills of scientific inquiry and draw on knowledge and understanding of the key areas of this Unit to carry out an experiment/practical investigation by:</p>	<p>1.1 Planning an experiment/practical investigation</p>	<p>The plan should include:</p> <ul style="list-style-type: none"> ◆ a clear statement of the aim ◆ a dependent and an independent variable ◆ key variables to be kept constant ◆ measurements/observations to be made ◆ the equipment/materials ◆ a clear and detailed description of how the experiment/practical investigation should be carried out including safety considerations, where appropriate. 	<p>Candidates will have many opportunities to demonstrate this skill during learning and teaching activities. This may be as part of experiment/ practical investigations or in answering questions or parts of questions.</p> <p>Results may be recorded in a lab book, part of the candidate's notes or in other appropriate formats.*</p> <p>This Assessment Standard may be generated as a 'stand-alone' activity or as part of a larger activity covering some or all of the other Assessment Standards of Outcome 1.</p>

	<p>1.2 Following procedures safely</p>	<p>The candidate should be seen to follow procedures correctly, including safety considerations, as appropriate.</p>	<p>Candidates will have many opportunities to demonstrate this practical skill during practical learning and teaching activities.</p> <p>An observation checklist of an experiment/practical investigation/activity, supported by assessor comment as appropriate could be used as evidence.*</p> <p>This Assessment Standard may be generated as a 'stand-alone' activity or as part of a larger activity covering some or all of the other Assessment Standards of Outcome 1.</p>
	<p>1.3 Making and recording observations/measurements correctly</p>	<p>Observations/measurements taken should be recorded correctly.</p>	<p>Measurements should be repeated and averages calculated, where appropriate.</p> <p>Candidates will have many opportunities to demonstrate this skill, during learning and teaching practical activities. The results generated during an experiment/practical investigation/activity could be recorded in a lab book, part of the candidate's notes or other appropriate format.</p> <p>This Assessment Standard may be generated as a 'stand-alone' activity or as part of a larger activity</p>

			covering some or all of the other Assessment Standards of Outcome 1.
	1.4 Presenting results in an appropriate format	Candidates should present results in an appropriate format using at least one format from: table, line graph, chart, key, diagram, flow chart, summary or other appropriate format.	<p>Candidates should process/analyse the results and present findings in an appropriate format. Results should be presented so that the assessor can check they have been processed correctly.</p> <p>Candidates will have many opportunities to demonstrate presentation skills during learning and teaching practical activities.</p> <p>Evidence of these skills can be produced in a variety of ways eg lab book, candidate's notes, presentations, posters, written or oral descriptions.</p> <p>This Assessment Standard may be generated as a 'stand-alone' activity or as part of a larger activity covering some or all of the other Assessment Standards of Outcome 1.</p>
	1.5 Drawing valid conclusions	Conclusions should refer to the aim of the experiment. If results are inconclusive but candidates refer to evidence and the aim of the experiment to say that no conclusion can be drawn	<p>Candidates will have many opportunities to demonstrate drawing valid conclusions during learning and teaching activities. This may involve an analysis of</p>

		then this would be valid and sufficient.	<p>their own results, or of results given by their assessor.</p> <p>Evidence of this skill can be presented in a variety of ways eg lab book, candidate's notes, presentations, posters, written or oral description.*</p> <p>This Assessment Standard may be generated as a 'stand-alone' activity or as part of a larger activity covering some or all of the other Assessment Standards of Outcome 1.</p>
	1.6 Evaluating experimental procedures	Evaluation should be supported by justification and provide at least one possible improvement for the experiment/practical investigation.	<p>Candidates will have many opportunities to demonstrate evaluation skills during learning and teaching activities. This may involve an analysis of their own results, or of results given by the assessor.</p> <p>Evidence of this skill can be presented in a variety of ways eg lab book, candidate's notes, presentations, posters, written or oral descriptions.*</p> <p>This Assessment Standard may be generated as a 'stand-alone' activity or as part of a larger activity covering some or all of the other Assessment Standards of Outcome 1.</p>

<p>2 Draw on knowledge and understanding of the key areas of this Unit and apply scientific skills by:</p>	<p>2.1 Making accurate statements</p>	<p>Candidates must be able to make accurate statements about the key areas of the Unit(s).</p> <p>The number of responses should be appropriate to the size of the key area.</p> <p>At least half of the statements made by the candidate should be correct for each Unit. (An unanswered opportunity is deemed to be incorrect.)</p>	<p>Candidates should be given the opportunity to make accurate statements for all of the key areas of each Unit. These could be written or oral responses to questions, or could be contained within reports, presentations, posters etc.*</p> <p>Key areas can be assessed individually during learning activities and can be combined with others from the same or other Units as appropriate.</p> <p>Assessors must ensure that the evidence generated is the candidate's own work.</p>
	<p>2.2 Describing an application</p>	<p>The description of an application of physics should demonstrate knowledge and understanding of the application.</p>	<p>This should relate to a key area of the Course. Following learning and teaching of a key area, learners could be asked to research an application. Evidence from this research can be presented in a variety of ways eg presentations, posters, written or oral descriptions.*</p> <p>Evidence must demonstrate that the candidate has a clear understanding of the physics related to the application.</p> <p>The candidate's report should make</p>

			<p>statements that are relevant to the application, which demonstrate knowledge and understanding of the underlying physics. These should use terms and ideas that are correct and at a depth appropriate to National 5 Physics.</p> <p>This Assessment Standard may be combined in a single activity with other Assessment Standards. Assessors must ensure that the evidence generated is the candidate's own work.</p>
	<p>2.3 Describing a physics issue in terms of the effect on the environment/ society</p>	<p>A physics issue should be described in such a way that its effect on the environment/society is clear.</p>	<p>This should relate to a key area of the Course. Following learning and teaching of a key area, learners could be asked to research an issue. Evidence from this research can be presented in a variety of ways eg presentations, posters, written or oral descriptions.* Evidence must demonstrate that the candidate has a clear understanding of the physics related to the effect.</p> <p>The candidate's report should make statements that are relevant to the issue, which demonstrate understanding of the underlying physics.</p>

			<p>These should use terms and ideas that are correct and at a depth appropriate to National 5 Physics</p> <p>This Assessment Standard may be combined in a single activity with other Assessment Standards.</p> <p>Assessors must ensure that the evidence generated is the candidate's own work.</p>
	<p>2.4 Solving problems</p>	<p>Candidates must demonstrate all of the following problem-solving skills:</p> <ul style="list-style-type: none"> ◆ Making predictions ◆ Selecting information ◆ Processing information ◆ Analysing information <p>Each of the skills must be demonstrated, and if candidates have more than one opportunity to demonstrate a problem solving skill, then they must do so on at least half of those occasions</p>	<p>Candidates will have many opportunities to demonstrate the problem-solving skills during learning and teaching activities. Evidence may be drawn from written or oral questions or from reports generated by practical activities*.</p> <p>Evidence can be presented through written or oral responses to questions, or contained within reports, presentations, posters etc.*</p> <p>Successful written or oral responses to questions from each of the problem solving types are required across the Course.</p> <p>A problem solving type can be assessed individually or in combination with one or more of the</p>

			other types. Assessors must ensure that the evidence generated is the candidate's own work.
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* In the case of assessment by observation or oral questioning, evidence should include assessors' comments and other relevant evidence that shows clearly the basis on which assessment judgements have been made. Assessors should keep accurate records of the evidence gathered and the assessment decisions made.