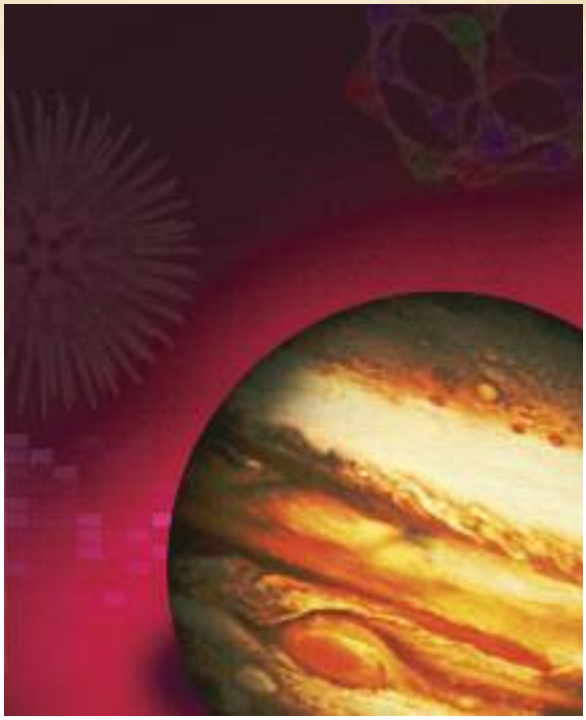

Welcome

We are delighted to introduce you to the sample controlled assessment materials for our new GCSEs in Science 2011. At the front of this publication, we have supplied a handy guide containing annotated pages from the accredited Physics sample controlled assessment materials that provide you with explanations and insights into their content and structure.

This introduction is then followed by the accredited sample controlled assessment materials. These sample controlled assessment materials should be used as follows:

- For GCSE Science, use P1
- For GCSE Additional Science, use P2
- For GCSE Physics, you can use either P2 or P3.

These materials have been combined with our accredited specifications and sample assessment materials, plus a selection of valuable support materials, to provide you with our Enhanced Specifications Pack. Together, these items have been created to provide you with the information you need to prepare, teach and assess our exciting new qualifications.

Our team of experts are on hand to discuss any questions you may have about the information contained in this pack. You can contact our Science Subject Advisor team, led by Stephen Nugus by calling **0844 372 2188**, or emailing **ScienceSubjectAdvisor@edexcelexperts.co.uk**

Supporting science, supporting you

The following section contains annotated pages from our accredited Physics sample controlled assessment materials to help you see quickly and easily how we've made our assessment to understand.

The Examiner explains

Videos of experiments will be available on the ActiveTeach CD-ROM (that forms part of our suite of purchasable published resources), as an additional support to give you greater flexibility.

Edexcel GCSE

Science

Unit SCA: Science Controlled Assessment

Sample Controlled Assessment
Task P1

Paper Reference
5SC04/01

This Controlled Assessment Task may be submitted for moderation in either MAY XXXX or OCTOBER XXXX.

Submission of this Controlled Assessment Task at any other time will result in it being returned to the centre unmoderated with no result issued.

Turn over ▶

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advancing learning, changing lives

Task P1

Specification reference 1.7

Use converging lenses to:

b investigate factors which affect the magnification of a converging lens (formulae are not needed).

Student Brief

This controlled assessment is about magnification of a convex (converging) lens.

You are going to test the hypothesis that the distance between the object and the lens affects the image size.

Plan an investigation to find out how the distance between the object and the lens affects the image size.

You will be given the following resources:

A convex lens (this could be a standard glass or plastic convex lens or a mobile phone camera lens).

The Examiner explains

For GCSE in Science, the hypothesis is given to students. In GCSE in Additional Science / Biology / Chemistry / Physics, students must formulate their own hypothesis.

Part A – Planning

How to attempt the task:

You must produce a plan.

The plan must include:

- an explanation of which equipment you need to complete the task. You may want to draw a diagram of how the equipment will be set up
- which variable (or variables) you will change and which you will keep the same
- which measurements you should make to test the hypothesis, explaining how these will test the hypothesis, and including the number and range of measurements
- any risks that are linked to the practical task and how you can reduce these to make your practical task safer.

You should check that the overall plan is clear and will produce a range of results that will test the hypothesis.

The Examiner explains

Students are expected to carry out their own plan. Where a plan is not completed, will not yield results, or is unsafe, you may give the candidate a method which Edexcel will supply.

The Examiner explains

The Planning section is under limited control. This means you can discuss ideas as a class and students can prepare in their own time. The final write-up must be students' own work.

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Part B – Observations

You are going to test the hypothesis that the distance between the object and the lens affects the image size.

You will test **this** hypothesis using your own method, from Part A.

You should also collect some secondary evidence on how image size is affected by the distance between the object and the lens.

How to attempt the task:

- You should decide on the number and range of measurements you will make.
- Complete the practical task, recording your measurements clearly and accurately.
- Collect some secondary evidence on this task.
- Comment on the quality of the source of this secondary evidence.

The Examiner explains

Students can collect secondary data from the web or textbooks. Collection of secondary data is an Ofqual requirement. If a student is absent for the Observations task, you may provide them with data from another member of the class (although no marks will be awarded for data collection).

Part C – Conclusions

You will need your primary and secondary evidence from the Part B – Observations task and information about the method you used.

How to attempt the task:

You must process your primary and secondary evidence from Part B and present these, using mathematical processes if relevant.

You must produce a conclusion in which you:

- review all of the primary and secondary evidence, then identify and deal with any anomalies
- draw conclusions from this processed evidence to prove or disprove a hypothesis
- show how the data supports the conclusion
- explain how you might change the method if you were going to repeat the investigation
- describe the primary and secondary evidence you might collect to extend your investigation and say why you would collect it.

Examiner's teaching tip

To score top marks, students must explain their results and conclusion using scientific ideas.

Assessment criteria for P1

Part A - Planning

Element	Marks		Criteria
Equipment	4	0 marks	Gives no relevant detail
		1–2 marks	a) Chooses some relevant resources/equipment b) Describes reasons for choices
		3–4 marks	a) Chooses most relevant resources/equipment b) Explains reasons for choices and choices are fully relevant to method

The Examiner explains

For each controlled assessment we will also produce specific marking support to help you apply these generic marking criteria. All controlled assessments are marked to these generic criteria regardless of subject. This means that you can apply generic criteria to award marks where a student gives an answer that you see is correct, but falls outside the specific marking guidance for that controlled assessment.

Element	Marks		Criteria
Controls (If variables are to be controlled, criteria a1 and b1 will be used. If there are no variables to control, criteria a2 and b2 will be used. The specific criteria needed will be in the controlled assessment task.)	6	0 marks	Gives no relevant controls
		1–2 marks	a1) Identifies one appropriate variable to control b1) Describes how this variable can be controlled OR a2) Identifies one appropriate way to control the task b2) Describes this way of controlling the task
		3–4 marks	a1) Identifies some relevant variables to control b1) Gives an appropriate description of how to control these variables OR a2) Identifies some relevant ways to control the task to produce meaningful results b2) Describes how these ways control the task
		5–6 marks	a1) Identifies a range of variables appropriate to control b1) Gives an appropriate explanation of how to control these variables OR a2) Provides a comprehensive list of relevant ways to control the task to produce meaningful results b2) Explains how these ways control the task

The Examiner explains

Two sets of marking criteria are given for controls to allow you to mark quantitative or qualitative experiments.

The Examiner explains

Marking for each part is split into sections are as follows:
Part A – Equipment, Controls, Hypothesis (not Science), Risks, Overall plan
Part B – Primary evidence and recording, Secondary Evidence
Part C – Processing evidence, Quality of evidence, Conclusions based on evidence, Evaluation of conclusion, Evaluation of method

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Make the most of your Edexcel Enhanced Specifications Pack

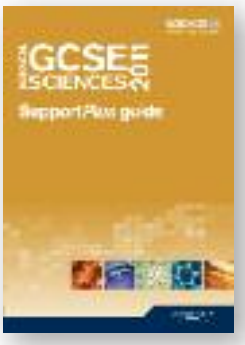
In addition to our sample assessment materials, your Enhanced Specifications Pack includes our accredited specifications and sample controlled assessment materials. These too have been produced with annotated introductions. We have also developed the following support materials, which provide valuable tools for your preparation, teaching and assessment of our exciting new specifications.

Getting started guide

An at-a-glance introduction to our specifications. This guide shows you how easy it is to move to Edexcel, detailing the support available to help you do so. It also offers guidance on teaching each unit, providing suggestions for managing assessment and support with preparing students for extended writing and mathematics.

Assessment guide

Developed to give you detailed support with managing assessment, the Assessment guide covers ways of scheduling and administering controlled assessment, including suggestions for making entries and choosing tiers. It provides information on Results*Plus*, our free results analysis service that provides unrivalled support with performance analysis, and includes a selection of exemplar answers to exam questions, with comments on how these should be assessed using our mark schemes.



SupportPlus guide

Providing detailed support with planning and implementation of our specifications, our Support*Plus* guide includes exemplar course plans, schemes of work and worksheets, all of which are ready-to-use, or available in editable format on our website.

GCSE & BTEC Links guide

This guide details the support we provide to make it easy for your students to move between GCSE and BTEC, and choose the learning pathway to which they are best suited.

Now turn to your copy of our accredited Physics sample assessment materials