

Topic Assessment System: Set B

for A Level Year 2 OCR Physics A

zigzageducation.co.uk

POD
12001

Publish your own work... Write to a brief...
Register at **publishmenow.co.uk**

Follow us on Twitter **@ZigZagScience**

Contents

Product Support from ZigZag Education	ii
Terms and Conditions of Use	iii
Teacher's Introduction	1

Tests

Fundamentals Tests

Test 5.1b – Thermal Physics, Circular Motion and Oscillations

Test 6.1b – Gravity and Astrophysics

Test 7.1b – Capacitors & Electric and Magnetic Fields

Test 8.1b – Nuclear, Particle and Medical Physics

Challenge Tests

Test 5.2b – Thermal Physics, Circular Motion and Oscillations

Test 6.2b – Gravity and Astrophysics

Test 7.2b – Capacitors & Electric and Magnetic Fields

Test 8.2b – Nuclear, Particle and Medical Physics

Expert Tests

Test 5.3b – Thermal Physics, Circular Motion and Oscillations

Test 6.3b – Gravity and Astrophysics

Test 7.3b – Capacitors & Electric and Magnetic Fields

Test 8.3b – Nuclear, Particle and Medical Physics

Solutions

Fundamentals Solutions

Solutions 5.1b – Thermal Physics, Circular Motion and Oscillations

Solutions 6.1b – Gravity and Astrophysics

Solutions 7.1b – Capacitors & Electric and Magnetic Fields

Solutions 8.1b – Nuclear, Particle and Medical Physics

Challenge Solutions

Solutions 5.2b – Thermal Physics, Circular Motion and Oscillations

Solutions 6.2b – Gravity and Astrophysics

Solutions 7.2b – Capacitors & Electric and Magnetic Fields

Solutions 8.2b – Nuclear, Particle and Medical Physics

Expert Solutions

Solutions 5.3b – Thermal Physics, Circular Motion and Oscillations

Solutions 6.3b – Gravity and Astrophysics

Solutions 7.3b – Capacitors & Electric and Magnetic Fields

Solutions 8.3b – Nuclear, Particle and Medical Physics

Teacher's Introduction

Content

This pack contains 12 topic tests for the OCR A Level Year 2 (H556) Physics content; 4 fundamentals level tests, 4 challenge level tests and 4 expert level tests.

These Set B tests cover the two second-year topics of the specification (Module 5: Newtonian World and Astrophysics, and Module 6: Particles and Medical Physics). Module 1: Development of Practical Skills in Physics is covered throughout this pack and the year 1 pack.

The tests come with mark schemes that show clearly how marks are allocated for each answer.

About the tests

The **fundamentals** tests focus on isolating and assessing the core content and skills of each topic. The questions are designed to use simple numbers and contexts **so that students can show what they can do**, and contain marks that should be accessible to even those students requiring the most support. These tests also allow you to easily identify any areas for further development.

The **challenge** tests assess the specification learning outcomes at a higher level than the fundamentals tests, allowing students to demonstrate greater understanding of content and a higher skill level. These tests are for those students who need more challenge than that offered by the fundamentals tests.

The **expert** tests contain some questions that reflect more closely the style of an examination paper. Specification learning outcomes are assessed at a high level. The expert tests are for those students needing more challenge and who have already gained confidence in demonstrating the core knowledge, understanding and skills.

Calculator use

As in a live examination, students can use calculators in all of these tests. Programmable and graphics calculators should not be used. Those students who need more support may need to be reminded about setting calculators to radians where appropriate.

Significant figures

Students should pay careful attention to the number of significant figures (s.f.) in their answers. The number of significant figures in the given quantities for a calculation determine the number of significant figures to be given in the answer. For example, if two values, each given in the question to 3 s.f., are used in a calculation, then the answer should also be given to 3 s.f. If the data provided are to different numbers of significant figures, then the answer should be given to the **lesser** of these. However, tolerance is usually given to the higher number. For example, the result of 2.5×3.05 will often be given in the answers as 7.6(3). This indicates that 7.6 is the preferred answer, but 7.63 is condoned.

Access to data, physical constants and equations

For all of the tests in this pack, it is assumed that students will be given access to the same A Level Physics data, formulae and relationships booklet that they would in an examination. This file is available for download at <https://www.ocr.org.uk/Images/363796-units-h156-and-h556-data-formulae-and-relationships-booklet.pdf>

Also available from ZigZag Education

For each collection of Set A tests we also offer a corresponding collection of Set B duplicated tests with the same styles of questions assessing the same areas of the specification in a very similar way. This allows for a variety of **flexible** uses including:

- **Test → Homework:** Students use test B as a homework to consolidate areas that need more support identified from completing test A under test conditions in class.
- **Homework → Test:** Students revise as homework using test A before doing test B in class under test conditions.
- **Test → Classwork:** Students work through test B with teacher input to consolidate on areas that need more support identified from completing test A under test conditions in class.
- **Classwork → Test:** Students work through test A with teacher input, before checking their learning by completing test B under test conditions.

For total flexibility, the Set A and Set B tests of all three levels can be run on a rolling basis, using the fundamentals tests as starters, with a time interval between them, leaving one expert level test to use at the end of the course for topic revision.

December 2022