



Topic Assessment System: Set B

for A Level Year 2 AQA Physics

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Teacher's Introduction

Content

This pack contains 9 topic tests for the A Level Year 2 (7408) Physics content; 3 fundamentals level tests, 3 challenge level tests and 3 expert level tests.

These Set B tests cover the three compulsory second-year topics of the specification (Further Mechanics and Thermal Physics, Fields and their Consequences, and Nuclear Physics).

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 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.

Suggested use of the A and B tests

Each test in Set B has a corresponding test in Set A that features 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 of weakness 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 of weakness 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.

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 and formulae sheet that they would in an examination. This file is available for download at

<https://filestore.aqa.org.uk/resources/physics/AQA-7408-SDB.PDF>

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