

User Guide

Introduction

This brief User Guide describes the contents of the *Advancing Physics Revision Guide* CD-ROM. Read it to familiarise yourself with the CD-ROM before starting work.

The *Advancing Physics Revision Guide* CD-ROM is first and foremost a resource that you will print out for use. We recommend that you use the Acrobat PDF versions of the documents for viewing and printing, because they are locked and guaranteed to display correctly on all PCs. (The Word versions may be displayed on screen and on a printer in many different ways according to the setup of your PC.)

The documents contain hypertext links to help you navigate when viewing them on screen.

What you will find in this User Guide

- [About the software](#)
- [Revision guides for each chapter plus Quality of Measurement](#)
- [Sample examination questions and worked solutions](#)
- [How to use the *Advancing Physics Revision Guide*](#)

About the software

The main interface of this CD-ROM is provided by HTML pages that you view in an internet browser such as Microsoft Internet Explorer or Mozilla Firefox.

Links are provided to each chapter's Revision Guide and each unit's Sample Examination Questions and Worked Solutions. These are all provided both in Adobe Acrobat PDF and Microsoft Word formats.

Acrobat PDF

You can open the PDF files in Adobe Acrobat Reader.

If you do not have Acrobat Reader installed, the software is provided in the \Software\ folder on this CD-ROM:

- navigate to the \Software\ folder on this CD-ROM using Windows Explorer or My Computer
- run the installer **AdobeReader812.exe**.

We have provided PDF versions of all the files on the CD-ROM for viewing and printing, because they are locked and guaranteed to display correctly on all PCs. The Word versions, while easy and flexible to work with, are "open" and may be displayed on screen and on a printer in many different ways according to the setup of your PC.

We recommend using the PDF versions of the files for viewing and printing.

However, you may find the Word versions of the files useful if you want copy and paste text and graphics, or if you want to edit or annotate copies of the files on your hard drive. See the Word section below for more details.

Word

You can open the Word files in Microsoft Word.

If you do not have Microsoft Word installed, the free Microsoft Word Viewer software is provided in the \Software\ folder on this CD-ROM:

- navigate to the \Software\ folder on this CD-ROM using Windows Explorer or My Computer
- run the installer **wdviewer.exe**.

We have provided Word versions of all the files on the CD-ROM to enable you to copy and paste text and graphics from the files to other documents or to edit copies of the files on your hard drive.

The Word files on the CD-ROM are, of course, write-protected. But you can make copies of the CD-ROM files on your hard drive and edit or annotate the files as you wish. If you want to do this, in Windows Explorer right click on the file you have copied to your hard drive and choose Properties from the popup menu, then uncheck the "Read only" attribute to make the file editable.

In Word, you can follow the red underlined hypertext links by clicking them. In some versions of Word, you may need to press the Ctrl key at the same time as clicking on the links.

We recommend using the PDF versions of the files for viewing and printing.

Revision guides for each chapter plus Quality of Measurement

There is a Revision Guide for each chapter of the *Advancing Physics* course, plus one for Quality of Measurement. In each Revision Guide you will find:

- Contents list
- Revision Checklist
- Revision Notes
- Summary Diagrams

Contents list

This gives the titles and page numbers of all the Revision Notes and Summary Diagrams, for easy reference if you have printed out the Revision Guide for the chapter.

Revision Checklist

The Revision Checklist is taken from the Revision Checklist for the chapter on the *Advancing Physics* CD-ROM. It lists on a grid all the things that you need to know and be able to do.

In addition, for each item in the list, you will find a reference to all the relevant Revision Notes and Summary Diagrams. You can click on any of these references and go straight to the Revision Note or Summary Diagram that you want.

Revision Notes

This section contains a sequence of concise notes on each idea or topic mentioned in the Revision Checklist. Each idea is briefly explained, reminding you of what you have learned. Essential equations and relationships are given.

The notes are based on the notes in the A-Z section of the *Advancing Physics* CD-ROMs. Some of the original A-Z items have been shortened for use in the Revision Guides and some new notes have been written specifically for the Revision Guide CD. So, if you want to find out more about an item, consulting the A-Z on the CD-ROM will often suffice.

The Revision Notes are arranged in order of their first mention in the Revision Checklist.

Summary Diagrams

These diagrams each summarise an important set of relationships, or an argument, which you need to know. They are selected from the Display Materials provided for each chapter on the *Advancing Physics* CD-ROMs, in the section Resources > Display Materials for each chapter. Many of these diagrams are also to be found in the *Advancing Physics* Student's Books, in the relevant chapters.

Sample examination questions and worked solutions

A selection of questions is provided for each module of the *Advancing Physics* course. Detailed solutions and answers are provided for all the sample questions. These questions are reproduced with the kind permission of OCR and are selected from the January and

May/June sessions of the 2002, 2003 and 2007 AS and A2 examinations (which have been edited to conform to the revised format of the examinations starting in January 2008), together with sample questions for the new material associated with the 2008 specification changes.

In the *Advancing Physics* examinations – AS and A2 – the individual chapters are examined by unit papers:

AS level

Physics in Action examines chapters 1–5.

Understanding Processes examines chapters 6–9 and has a section C based on a pre-release article describing two or three situations related to Experimentation and Data Handling. This section C will examine ideas about Quality of Measurement that are developed through the whole AS course.

A2 level

Rise and Fall of the Clockwork Universe examines chapters 10–14.

Field and Particle Pictures examines chapters 15–18 and has synoptic section C based on an Advanced Notice article. This synoptic section may contain questions drawn from the material covered in any of the 18 chapters.

The sample examination questions have been taken directly from past *Advancing Physics* examination papers together with sample questions for the new material associated with the 2008 specification changes. Completing these is the best way to check your understanding of each unit. They will also allow you to practice answering a variety of types of questions, like those you will meet in the exam.

Remember that the marks allocated to a question are a good indicator of how detailed the answer needs to be – the guide is 1 mark per minute for AS, although at A2 you are allowed a little more time, because the questions are more demanding. In each A2 paper, some of the questions will not be structured into separate steps, and you will have to decide yourself the way to approach them. This new emphasis at A2 is referred to as 'Stretch and Challenge'.

Worked solutions and answers are provided for you to check your work or get help if you need it.

Data, Formulae and Relationships

A booklet containing the values of physical and mathematical data and formulae is supplied for all examinations. The official OCR booklet is available from the OCR website.

A similar set of Data, Formulae and Relationships, together with other useful information, is provided on this Revision Guide CD-ROM in [PhysicsEquations.pdf](#), also available from the *Advancing Physics* Web site at:

http://advancingphysics.iop.org/support_materials/student/PhysicsEquations.pdf

How to use the Advancing Physics Revision Guide

Decide on the chapter that you are going to revise.

Open the Revision Guide file (PDF) and print out the Contents list and Revision Checklist for that chapter. Go through the Revision Checklist item by item, and mark the items that you need to work on (you can use the empty slot in the grid beside that item).

For each item that you have selected for revision, read the Revision Notes and carefully review the Summary Diagrams listed. You can look at them on-screen, but we suggest that you print them out and add your own notes and reminders.

You could also print out and read through all the Revision Notes and Summary Diagrams in sequence. This would make sure that you have not missed anything. Then make sure that you can answer questions on each point. Start with the Sample Examination Questions

provided. Your best plan will be to do them all. You can check out your answers in the Worked Solutions.

This Revision Guide is **not** sufficient for your study of the *Advancing Physics* course. It consists only of reminders of essential ideas, nothing more. Thus, if you missed or really did not understand a particular part of the course, you will need to go back to the *Advancing Physics* Student's Book and consult the lists after each section headed "Links to the Advancing Physics CD-ROM".

What the Revision Guide **can** do is to help you to focus your efforts. Starting from the lists of all the things that you need to know or to be able to do, you can remind yourself of the ideas that you have mastered, and identify your weak points for further work.

Good Luck!