

---

# Contents

---

---

## **OVERVIEW 1**

---

### **SYLLABUS GRIDS**

**UNIT 1 3**

**UNIT 2 8**

---

### **TEACHING PROGRAMS**

**UNIT 1 12**

**UNIT 2 22**

---

### **ANSWERS AND FULLY WORKED SOLUTIONS**

**CHAPTER 1** Heating processes 31

**CHAPTER 2** Moving heat around 42

**CHAPTER 3** Particles in the nucleus 46

**CHAPTER 4** Fission and fusion 55

**CHAPTER 5** Electrical physics 61

**UNIT 1 REVIEW 79**

**CHAPTER 6** Scalars and vectors 83

**CHAPTER 7** Linear motion 94

**CHAPTER 8** Momentum and forces 117

**CHAPTER 9** Work, energy and power 138

**CHAPTER 10** The nature of waves 153

**CHAPTER 11** Practical investigation 164

**UNIT 2 REVIEW 166**

### **ONLINE RESOURCES**

The following resources are available online by entering your access code into PearsonPlaces, at [www.pearsonplaces.com.au](http://www.pearsonplaces.com.au).

Access the resources from the Teacher Support section in your Passport.

---

### **CHAPTER TESTS AND SOLUTIONS**

---

### **PRACTICE EXAMS AND SOLUTIONS**

---

---

# Pearson Physics 11 Western Australia Teacher Resource: Overview

**Pearson Physics 11 Western Australia Reader+** and **Pearson Physics 11 Western Australia Teacher Resource** provide an extensive range of resources to support you and your students in undertaking the WACE Physics ATAR course. Each element included in this package is designed to help you plan for, and implement, a detailed Physics 11 ATAR program of teaching and learning.

The **Reader+ eBook** includes interactive activities, videos, fully worked solutions to all student book questions, mathematical skills for physics ATAR and a copy of the SCSA data booklet. The teacher version of Reader+ includes all the student resources plus syllabus grids and sample teaching programs.

The **Teacher Resource** includes the syllabus grids, sample teaching programs and fully worked solutions in print and online formats, and chapter tests and practice exams in online format.

These resources will assist you in ensuring that your course addresses all the aspects of the syllabus.

## Student resources

### INTERACTIVE ACTIVITIES

These interactive activities typically include a short, animated clip or video along with an activity, which may be a drag-and-drop or multiple choice activity, a graphical activity, or a calculation. The animations support content within the student book and bring to life concepts that are difficult to show in static format. The concepts covered in the animation are then consolidated with the interactive activities. These activities are found on Reader+.

### UNTAMED SCIENCE VIDEOS

These are a collection of short videos that place physics concepts in a contextual or applied situation. They are available on Reader+.

### MATHEMATICAL SKILLS

These are short, self-directed learning modules that cover all mathematical skills expected of students studying the Physics ATAR course. There are 20 modules covering concepts such as scientific notation, significant figures, changing the subject of an equation, ratios, trigonometry, graphical relationships like inverse and inverse squared and how to construct a line of best fit. These modules are available in both the student book and Reader+.

### WORKED SOLUTIONS

These are fully worked solutions to all the Worked example: Try yourself activities, section review questions, chapter review questions and unit review questions.

These complement the short answers given at the back of the student book, and show students the reasoning behind the problem-solving and the correct way to set out their working. The fully worked solutions are available on Reader+.

### SCSA DATA BOOKLET

The SCSA data booklet provides the key formulae and data that students will need for the WACE Physics ATAR course. It is reproduced in the student resources by permission of the SCSA for students to access at any time.

## Teacher resources

Teacher resources include information you can use to plan, implement and assess the course. With the exception of the SCSA data booklet, these are not available to students.

### SYLLABUS GRIDS

The two unit syllabus grids connect the syllabus dot points to each chapter and section of the student book. Each syllabus dot point, including Science Understanding, Science as a Human Endeavour and Science Inquiry Skills, is shown alongside the chapter in which the content is covered or the skills are developed. The syllabus grids can be used to show the progression of the course through the student book. They also provide you with a ready reference if you need to find the chapter and section of the student book that relates to any of the dot points. These grids are available on the teacher version of Reader+ and in the print and online versions of the *Teacher Resource*.

## TEACHING PROGRAMS

The two unit teaching programs provide detailed structure to the course by linking the learning outcomes and assessment options to the key concepts, syllabus dot points, student book references, question references, and worked example references. The program is structured around seven lessons per cycle; you might need to modify this to suit your school's timetable. The sequence of lessons follows a logical progression of the concepts and may vary from the sequence in which the syllabus dot points are presented. References in the program to the student book include the chapter, section and page number to help you in the programming of your course. Suggestions for assessment tasks are also provided. These assessments may be sourced from the chapter tests also provided in this package, or sourced from other providers. Practical activities and evaluation and analysis tasks can also be sourced from other providers such as STAWA. The teaching programs are available on the teacher version of Reader+ and in the print version of the *Teacher Resource*. Editable versions are available on the online version of the *Teacher Resource*.

## WORKED SOLUTIONS

These are fully worked solutions to all the Worked example: Try yourself activities, section review questions, chapter review questions and unit review questions. These complement the short answers given at the back of the student book, and show students the reasoning behind the problem-solving and the correct way to set out their working. The fully worked solutions are available on Reader+ and via the print and online versions of the *Teacher Resource*.

## CHAPTER TESTS AND SOLUTIONS

For each chapter, a chapter test, fully worked solutions and marking guide are provided. These can be used to construct tests for your course or to supplement revision material for your students. These tests are only available on the online version of the *Teacher Resource*, so are initially secured.

## PRACTICE EXAMS AND SOLUTIONS

There are two practice exams with fully worked solutions and a marking guide. Each practice exam covers the content from both units 1 and 2. These can also be used to construct exams for your course. They are only available on the online version of the *Teacher Resource*, so are initially secured.