

Introduction

Forces are around you all the time, whether you are moving or still. You use forces when you pick up a pencil from the floor, push open a door or run across the playground. Electricity powers TVs, torches and other electrical items that you use in your home and at school. Electricity is very useful, but you need to know how to use it safely. In this book you will find out about different kinds of forces and what they do. You will learn about machines and gears. You will also learn about electrical components and circuits.

How to use this book

Before you start using this book, write your name in the box on the first page.

Then decide how to begin. If you want a complete course on forces and electricity, you should work right through the book from beginning to end. Another way to use the book is to dip into it when you want to find out about a particular topic. The Contents page or the Index at the back of the book will help you to find the pages you need. Whichever way you choose, don't try to do too much at once – it's better to work through the book in short bursts.

When you have found the topic you want to study, look out for the icons below, which mark different parts of the text.

Finally, use the Scientific investigation table on page 30 to find out how the **Understanding Science** series can help you use your new skills to investigate scientific questions in other topics.



Activities

These are the activities that you should complete. Write your answers in the spaces provided. After you have worked through all the activities on the page, turn to pages 31–37 at the end of the book to check your answers. When you are sure that you understand the topic, put a tick in the box beside it on the Contents page.



Explanation

This text explains the topic and gives examples. Read it before you start the activities. Any words shown like **this** appear in the combined Index and glossary. Turn to page 38 to see what these words mean.

Did you know?

Information

This text gives you useful background information and interesting facts about the subject.