

# 9&10 Revise and Check

For instructions on how to use these pages see p.39.

## STUDY LINK

- iTutor

## Test and Assessment CD-ROM

- Quick Test 10
- File Test 10
- Progress Test Files 6-10
- End-of-course Test

## GRAMMAR

- |     |      |      |
|-----|------|------|
| 1 b | 6 b  | 11 c |
| 2 c | 7 a  | 12 b |
| 3 a | 8 c  | 13 a |
| 4 c | 9 a  | 14 b |
| 5 c | 10 c | 15 a |

## VOCABULARY

- |                   |                 |         |
|-------------------|-----------------|---------|
| a 1 genetics      | 3 neighbourhood | 5 death |
| 2 scientific      | 4 loneliness    |         |
| b 1 overpopulated |                 |         |
| 2 mispronounced   |                 |         |
| 3 multinational   |                 |         |
| 4 autobiography   |                 |         |
| 5 underpaid       |                 |         |
| c 1 loss          | 6 staff         |         |
| 2 set up          | 7 rise          |         |
| 3 leader          | 8 side          |         |
| 4 launch          | 9 carry         |         |
| 5 branches        | 10 guinea       |         |
| d 1 quiet         | 3 later         | 5 never |
| 2 sound           | 4 order         |         |

## PRONUNCIATION

- |                   |                 |               |
|-------------------|-----------------|---------------|
| a 1 neighbourhood | 3 research      | 5 colleague   |
| 2 prove           | 4 launch        |               |
| b 1 biological    | 3 multicultural | 5 manufacture |
| 2 physicist       | 4 increase      |               |

## CAN YOU UNDERSTAND THIS TEXT?

- a Billy Ray Harris feels surprised and sad.
- b
- |     |     |     |     |      |
|-----|-----|-----|-----|------|
| 1 b | 3 a | 5 a | 7 a | 9 c  |
| 2 c | 4 c | 6 c | 8 b | 10 b |

## CAN YOU UNDERSTAND THIS FILM?

5.45

- 1 radio waves
- 2 biologists
- 3 blackboard, Oxford / 1931
- 4 1925, scientific instruments, astronomy
- 5 sun, moon, stars
- 6 time, angles
- 7 world, stars
- 8 silver, George III

5.45 Available as MP3 on CD1

### A Short Film on the Museum of the History of Science

Hello, I'm Amy. Welcome to the Museum of the History of Science. Instruments from some of the most important scientific breakthroughs of the modern era are here.

The museum has an unrivalled collection of scientific artefacts, and there are incredible objects wherever you look. This device was used by the Italian inventor Guglielmo Marconi to illustrate how radio waves work. Whenever he pushed a button a bell would ring on the other side of the room. This was the first step towards the invention of the radio, which began the age of the mass media.

Biologists in the 1930s and 40s used this apparatus to develop and test the revolutionary drug penicillin. It was wartime so they had to be innovative and even improvised with biscuit tins. But despite the lack of proper equipment this research led to the large-scale production of the world's first antibiotic. Since then the drug has saved millions of lives.

But neither this penicillin apparatus nor Marconi's radio wave device are the most popular items on display in the museum. The museum's most celebrated artefact is this small blackboard. It might not look like much, but it was used by the genius physicist Albert Einstein. He visited Oxford in 1931 and explained his theories on the age and size of the universe using this very blackboard. You can still read his equations today – if you can understand them!

The Museum of the History of Science is home to one of the largest collections of scientific instruments in the world. It opened as a science museum in 1925, thanks to the donation of a huge collection of scientific instruments from this man – Lewis Evans. Evans was a paper manufacturer but always had a keen interest in science, even as a child. He didn't do well at school, and contemporaries reported that he 'could not spell, but liked blowing himself up with chemicals'. As an adult he travelled around the world collecting artefacts from the worlds of mathematics, astronomy, and navigation. He was particularly famous for his outstanding collection of astrolabes. These are historical instruments that predict the positions of the sun, moon, and stars. They were used by philosophers, navigators, and astronomers for centuries. They were a central tool of science in Ancient Greece and Rome, and had a huge influence on the Islamic Golden Age and the European Renaissance. Evans also collected sundials – ancient devices for telling the time – and quadrants – instruments used for measuring angles.

Today Evans's items are still central to the museum's exhibition, but over the last ninety years the collection has grown. These two beautiful 18th-century globes, for example, one showing a map of the world, the other showing a map of the stars, used to sit in the library of Oxford University's All Souls College.

This ornate silver microscope belonged to King George III, this old astrolabe was Queen Elizabeth I's, and the famous British engineer Isambard Kingdom Brunel owned this sextant, an instrument used to measure the angles between two points. There's an old clockwork universe showing the orbits of the solar system, and a variety of timepieces from ancient civilizations.

Some people think that science is all about facts and figures. But the items on display here, whether it's a beautifully crafted 16th-century astrolabe or a wartime biscuit tin, really bring science to life. It's a wonderful combination of science and history, and thanks to the passion of people like Lewis Evans, visitors can enjoy these fascinating objects for generations to come.