

# 2 Innovations in health and medicine

**READING SKILLS** Predicting content • Topic sentences • Avoiding plagiarism (1)

**LANGUAGE FOR WRITING** Rephrasing

**WRITING SKILLS** Developing a paragraph • Writing a paragraph

**VOCABULARY DEVELOPMENT** Recording vocabulary (1), (2), and (3)

## READING A musical cure pp12–13

### AIMS

The aims of this section are to give students practice in predicting the content of texts from pictures and titles, identifying and using topic sentences, and understanding how plagiarism can be avoided.

### LEAD IN

- Focus students' attention on the page. Ask students to identify the skill **READING**, and the topic (*A musical cure*). Ask students to tell you what cures they know for illnesses (drugs, painkillers, etc.). If they don't know the word *cure*, help them by saying an aspirin is a cure for a headache, etc.

### PROCEDURE

- Students read the instructions. Students discuss their answers in pairs or small groups for two minutes. Elicit answers from the class. ►►1
- Tell students to read the **Study Skill**. Students read the instructions and answer the questions. Students compare their answers in pairs. ►►2
- Students focus on the title of the text. Ask students to explain *healing* (making someone healthy again) and *therapy* (treatment for an illness, sometimes without drugs). Students read the instructions. Students focus on the example given. Students write one question for each question word. Write some students' questions on the board. ►►3
- Students read the instructions and complete the task. Get students to work in pairs to compare answers. Go back to students' questions on the board from exercise 3. Ask:  
– *Have your questions been answered?* ►►4
- Students read the **Study Skill** and the instructions. Focus students' attention on the example given. Elicit why that is the topic sentence (it gives the subject of the paragraph, which is then expanded on). Students complete the task. Students work in pairs to compare answers. ►►5
- Students read the instructions and complete the task. ►►6
- Students read the instructions and complete the task, answering the questions in exercise 6. Ask if students' predictions in exercise 2 were correct. ►►7
- Students read the instructions and focus on the example. Elicit the three main points in the topic sentence ('has long been used', 'treat', and 'different problems') Elicit which highlighted information in paragraph 2 corresponds to those points.  
Has long been used: ancient Greeks, both world wars, currently  
treat: healing properties  
different problems: people – trauma, cancer, Alzheimer's, long-term pain, learning disabilities  
Students complete the task. ►►8 p13

## READING Answer key pp12–14

### ►►1

#### Possible answers

Where: at home, when travelling, at concerts, in the street, etc.  
When: at all times of day and night, when tired, when relaxing, etc.  
Why: to entertain, to relax, to study, etc.

### ►►2

- newspaper or magazine
- patient in hospital listening to a CD player/walkman; a musician (harpist) playing in a hospital ward
- general readers

### ►►3

#### Possible answers

Where is music used as a therapy?  
How is music used as a therapy? How long has music been used?  
How does it work?  
What is it used to treat?  
Who did the study?

### ►►4

Where? Music used as a therapy in ancient Greece; study carried out in London  
How? Patients listen to a performance; used since ancient times, e.g. during world wars; improves general well-being; maybe electrical messages are sent to the brain  
What? Many different diseases, e.g. cancer, Alzheimer's, long-term pain, learning disabilities  
Who? Study was carried out in Chelsea and Westminster hospital in London, funded by Wellcome Trust

### ►►5

- Music has long been used to treat patients suffering from different problems.
- There is growing evidence that music can cause physical changes to the body which can improve our health.
- These very positive results are partly due to general well-being.
- Music has other effects which have not yet been understood.
- Science, however, demands facts and hard evidence.

### ►►6

- |               |                      |
|---------------|----------------------|
| 2 Paragraph 2 | 4 Paragraphs 4 and 5 |
| 3 Paragraph 3 | 5 Paragraph 4        |

### ►►7

#### Possible answers

- Up till now reports have been based mainly on anecdotal evidence. These new studies could provide that proof.
- It is used for many different diseases such as cancer, Alzheimer's, long-term pain, and learning disabilities.
- Stress levels were reduced, recovery times were improved, and fewer drugs were needed.
- The effects are partly due to a feeling of well-being. Music increases feelings of joy. It is also suggested that music stimulates the brain to be active and to send electrical messages to muscles and limbs.
- People feel better and recover from disease more quickly.

## A new vaccine p14

### LEAD IN

- Write on the board the title of the page: *A new vaccine*. Ask:
  - *What are vaccines used for?* (to protect people from developing diseases)
  - *What are they?* (injections of a mild form of the disease)
  - *What vaccinations have you had?* (polio, diphtheria, tetanus)
  - *When do people have vaccinations?* (in childhood, or before travelling to certain countries)

### PROCEDURE

- Students read the instructions. Students discuss the answers in pairs or in small groups. Write students' answers on the board. ►►9
- Students read the instructions. Students work in pairs or small groups and discuss the possible topic of each paragraph. Ask some pairs or groups to tell the class their ideas. Write some of these ideas on the board. Do not worry if they are contradictory at this stage. ►►10
- Students read the instructions. Students check if the predictions from exercises 9 and 10 written on the board were right.
- Students read the instructions. Ask:  
– *How do you scan read?*  
If necessary, refer students to the **Study Skill** on p4. Students discuss the answers in pairs or small groups. ►►12
- Students read the instructions. Students discuss the answers in pairs or in small groups. ►►13
- Students read the **Study Skill** and the instructions. Students discuss the answers in pairs or in small groups. ►►14

### EXTENSION ACTIVITY

Get students to re-read the text and to underline any new vocabulary. Tell students to use an English–English dictionary to look up these words.

Do **not** teach or explain new vocabulary at this stage. Tell students to make a record of these words.

### ►►8

Paragraph 3: There is growing evidence that music can cause physical changes to the body which can improve our health. In the Wellcome Trust study, which took place over three years at the Chelsea and Westminster hospital in London, patients were asked to listen to musical performances. As a result, it was found that stress levels were significantly reduced, recovery times were improved, and fewer drugs were needed.

Paragraph 4: These very positive results are partly due to general well-being. It is already accepted that when people feel happy and have a positive approach to life, they are more likely to feel better and recover from disease quickly. Music increases this feeling of joy and adds to the recovery process.

Paragraph 5: However, not all these benefits can be attributed to an increase in well-being. Music has other effects which have not yet been understood. According to Professor Robertson, a scientist and musician, some effects of music are mysterious and are, therefore, being investigated further. It has been suggested that the sounds and rhythms of music help stimulate the brain and send electrical messages to the muscles and limbs.

Paragraph 6: Science, however, demands facts and hard evidence. Many in the medical profession have not yet recognized the healing benefits of music, since reports have been based mainly on anecdotal evidence. These new studies could provide proof to medical practitioners that music is a suitable treatment for many conditions. One day doctors may even 'prescribe' music, but that could be a long time in the future.

### ►►9

#### Possible answers

A study has been done on a new treatment for cancer. The results are promising. The article explains the study and the results.

### ►►10

#### Possible answers

Paragraph A: A vaccine has been developed which has cured lung cancer.

Paragraph B: People involved in the trials were in the early and advanced stages of the disease. The disease did not spread.

Paragraph C: The vaccine stimulates the immune system to deal with the harmful cancer/cells.

Paragraph D: Further studies will be carried out.

### ►►12

1F 2T 3F 4F 5T 6T

### ►►13

The vocabulary and the sentence structures are different. The summary is shorter and gives only the main points.

### ►►14

fewer than fifty people = forty-three patients  
their own vaccine = it is made specifically for each patient  
which activated the body's immune system = it stimulates the body's immune system  
enabled it to fight the cancer = attacks and destroys them  
other forms of cancer can be cured in a similar way = it offers great hope for the treatment of cancer in general

## LANGUAGE FOR WRITING Rephrasing p15

### AIMS

The aim of this section is to help students to recognize and use fixed phrases and linking words which are commonly used in academic writing.

### PROCEDURE

- 1 Students read the instructions. Students work individually and then discuss the answers in pairs or in small groups. ►►1

### BACKGROUND INFORMATION

A synonym is a word or phrase that has the same meaning as another word or phrase. However, not all synonyms can be used in the same context. A near synonym is a word or phrase that has a similar meaning to another word or phrase. A near synonym can be used in fewer contexts than a true synonym.

- 2 Students read the instructions. Students work individually and then discuss the answers in pairs or in small groups. Ask some students to write their sentences on the board. The rest of the class compares their answers. ►►2
- 3 Students read the instructions and the **Rules**. Students work individually and then discuss their answers in pairs or in small groups. ►►3
- 4 Students read the instructions. Students work individually and then discuss their answers in pairs or in small groups. ►►4
- 5 Students read the instructions. Students work individually and then discuss their answers in pairs or in small groups. Ask some students to write their sentences on the board. The rest of the class compares their answers. ►►5

►►5

## LANGUAGE FOR WRITING Answer key p15

### ►►1

- 1 researchers/scientists, carried out/conducted, trials/tests
- 2 study/research, results/findings, promising/encouraging
- 3 disease/illness, were cured/recovered

### ►►2

- 2 Although the research was limited to fewer than fifty people, the findings were very encouraging.
- 3 Some of the patients at an advanced stage of the illness recovered.

### ►►3

- 2 The funding for the study was provided by the government.
- 3 Alternative therapies have been used for many years (by doctors).
- 4 Their/Scientists' theories are usually tested in the laboratory.
- 5 Their/The researchers' findings will be published next month.

### ►►4

- 1 a The main causes of acute asthma attacks are common cold viruses.  
b Common cold viruses are the principal causes of severe asthma attacks.
- 2 a Scientists use radiation to investigate details of tiny structures.  
b Scientists use radiation to study details of very small structures.
- 3 a A short ten-minute walk every day can be beneficial to your health.  
b Walking for ten minutes daily can benefit your health.

### ►►5

#### Possible answers

- 1 Evidence is needed that the treatment is/drugs are effective.
- 2 An enormous medical centre will be built soon.
- 3 Many illnesses are caused by an unhealthy way of life.
- 4 The talk was cancelled because the speaker/presenter was unwell/ill.

## WRITING Keeping healthy pp16–17

### AIMS

The aim of this section is to give students practice in paragraph writing, including topic sentences, body sentences, and final sentences. Students will write a paragraph about vaccinations and the prevention of diseases.

### LEAD IN

- Write *Keeping Healthy* on the board and ask:
  - *What is good for your health?*
  - *What is bad for your health?*
- Write students' ideas on the board.

### PROCEDURE

- 1 Students read the instructions and discuss the questions in pairs or small groups. Elicit answers from the students. Students compare their answers with the ideas on the board. ►►1
- 2 Students read the **Study Skill**. Students read the instructions and work individually. Remind students that a topic sentence gives the subject of the paragraph. Students compare their answers in pairs or small groups. Ask some students to write their sentences on the board. Discuss which sentences are best and why. ►►2
- 3 Students read the instructions and complete the task individually. Students compare their answers in pairs or small groups. ►►3
- 4 Students read the instructions and complete the task individually. Students compare their answers in pairs or small groups. ►►4
- 5 Students read the instructions and complete the task individually. Students compare their answers in pairs or small groups. ►►5
- 6 Students read the instructions and complete the task individually. Students compare their answers in pairs or small groups. Ask some students to write their sentences on the board. Discuss which sentences are best and why. ►►6

## Writing a paragraph p17

- 7 Students read the instructions and complete the task individually. ►►7

### EXTENSION ACTIVITY

Remind students that checking their work is important.

Either tell students to check their own work for topic sentence, body sentences and final sentence, or put students into pairs to check each other's work for these things.

## WRITING Answer key pp16–17

### ►►1

#### Possible answers

- 1 once a year for a check-up, or only when you are ill
- 2 by eating a well-balanced diet and taking exercise
- 3 a mixture of all types of food, such as proteins, carbohydrates, fats, fibre, vitamins and minerals; not too much sugar or fat; lots of fruit and vegetables

### ►►2

#### Possible answers

- B It is important for everyone to drink enough water every day.
- C A well-balanced diet is essential to keep healthy.

### ►►3

- 1 We should all eat five portions of fruit and vegetables a day, according to nutritionists. **a** It has been proved that eating regular amounts of fresh fruit and vegetables reduces the risk of developing serious diseases. **d** It is easy to follow these guidelines by having fruit juice for breakfast and vegetables with your main course at lunch, followed by a piece of fruit for dessert. **f** If you then include salad or more vegetables with your evening meal, you will soon reach the target five portions.
- 2 Obesity is a growing problem all over the world. **b** In some developed countries, over 50% of the population is overweight. **c** This is in part due to an unhealthy diet, but also to lack of exercise. **e** There is also growing concern over the number of young people who suffer from weight problems.

### ►►4

#### Model answer

- 1 The weather can affect how people feel. It has been shown that people who live in countries where the days are very short in the winter, with little sunlight, suffer from depression. However, those who live in sunny countries are less likely to have mental health problems. Generally, sunshine improves our mood.

### ►►5

1 C 2 A 3 B

### ►►6

#### Possible answers

Antibiotics: It is, therefore, important that antibiotics are not prescribed unnecessarily.  
Back pain: It is always important, however, to consult a doctor if you suffer from long periods of back pain.

### ►►7

Students' own answers.

## VOCABULARY DEVELOPMENT

### Recording vocabulary p18

#### AIMS

The aim of this section is to help students make choices about what new vocabulary to record and how to record it.

#### LEAD IN

- Ask:
  - *What words do you record?*
  - *Do you record every new word?*
  - *Do you write down the same information about every new word?*
- Write students' answers on the board. Explain that not every word is useful to every student. It depends on their needs. For example, an engineering student will need more technical words than a history student. Tell students they should think about whether the words are important for their studies.

#### PROCEDURE

- 1 Tell students to read the **Study Skill**. Elicit what *key words* are (important words or phrases related to the topic), and focus on the fact that the words students record should be ones they will need to use when they write or to search through indexes or electronic sources. Students work in pairs or small groups to complete the task. ►►1
- 2 Students read the **Study Skill**. Write a word on the board (e.g. *write*). Elicit the different information about *write* that is listed in the **Study Skill**:
  - pronunciation /raɪt/
  - part of speech: verb
  - irregular forms: wrote, written
  - associated prepositions: to write **to** someone, **about** something, to write something **down**
  - example sentence: I wrote an essay last week.
  - definition: to make words on paper using a pen or pencilStudents read the instructions. Elicit the meaning of *active use* (to be used in writing or speaking, not just to be understood). Students complete the task individually. Students compare their answers with a partner. Compare this with students' answers from the LEAD IN. ►►2
- 3 Tell students to read the **Study Skill**. Ask:
  - *What methods of recording vocabulary do you use?*
  - *Do you know any other methods?* (according to topic, in lists, in a mind map, on note cards, on a computer).Elicit why it is better to record words according to topic than alphabetically listing words from a lesson (words are easier to retrieve and remember if they are organized according to topic). Students read the instructions. Students work in pairs and complete the task. ►►3
- 4 Students read the instructions. Students work individually and complete the task. Students compare their answers with a partner. ►►4

#### EXTENSION ACTIVITY

Tell students to look at the vocabulary they recorded for the extension activity on p13 of the Teacher's Guide. Tell them to go through the vocabulary and choose a maximum of ten words they would like to record for active use. Students use a dictionary to find the information they need about each word. Students choose an appropriate method to record the words.

## VOCABULARY DEVELOPMENT Answer key p18

### ►►1

- 1 a literature student: novel, author
- 2 a medical student: heal, therapy, immune, vaccine, disease
- 3 all students: curriculum, data, analyse, grading, define, course, lecture

### ►►2

- 1 active use: suffer, cut
- 2 understanding only: prestigious, intake

### ►►3

- 1 according to topic
- 2 mind map
- 3 a group of words with similar meaning

### ►►4

scientists, geneticists, physicists, biologists, chemists (as a mind map or according to topic)  
food, proteins, fats, minerals, sugars, carbohydrates (as a mind map or according to topic)  
encouraging, favourable, promising, positive (as a group of words with similar meanings)

## REVIEW p19

#### AIMS

The aims of this section are to give students further practice in the skills learnt in this unit, and to give them the opportunity to review the work they have done. A further aim is to encourage students to apply what they have learnt to their academic studies in English.

#### PROCEDURE

- 1 Students read the instructions. Students work in pairs or small groups and complete the task. ►►1

#### BACKGROUND INFORMATION

There are some sayings in English about certain food being good for you. For example:

*Carrots help you see in the dark* (traditionally used to encourage children to eat carrots).

*An apple a day keeps the doctor away.*

- 2 Students read the instructions and complete the task. ►►2
- 3 Students read the instructions and complete the task individually. Students compare answers with a partner. ►►3
- 4 Students read the instructions. Remind students to change the vocabulary and the grammar in the sentences. Students complete the task individually. Ask some students to write their answers on the board. Discuss which are best and why. ►►4
- 5 Elicit from students the different types of sentences found in a paragraph (topic, body, and final). Students read the instructions and complete the task. ►►5
- 6 Ask students to recall how to choose which words to record and the methods of recording vocabulary:
  - words that will be useful to them
  - as mind maps, in topic lists, words with similar meaningsStudents work alone to make their vocabulary records. ►►6

#### EXTENSION ACTIVITY

Ask the students to list the skills they have learnt and practised in this unit. For example:

- predicting the content of texts
- recognizing and writing topic sentences
- rephrasing to avoid plagiarism
- organizing a paragraph
- recording vocabulary

Put students into small groups to discuss how they could apply these skills to their other academic studies.

Tell students to select vocabulary from texts they are reading in their other academic studies and to record them using one or more of the methods practised in this unit. You could ask students to present these vocabulary groups to the class.

This activity could be set as homework.

## REVIEW Answer key p19

### ►►1

- 1 a newspaper or magazine
- 2 probably the general reader
- 3 vegetables (carrots, peas, broccoli) and a woman having her eyes examined/tested
- 4 Carrots improve your eyesight or help you see at night.

### ►►2

1B 2C 3A

### ►►3

- 1 older people
- 2 It reduces the chances.
- 3 It causes loss of clear, sharp vision.
- 4 The consumption of coloured vegetables was monitored in a group of women between the ages of 50 and 79. The study took 15 years.

### ►►4

#### Possible answers

- 1 The risk of developing the illness can be reduced by increasing the intake of these vegetables.
- 2 A study group was headed by Dr Suzan Moeller.
- 3 They recorded the women's intake of coloured vegetables over 15 years.
- 4 An increased consumption of these vegetables lowered the risk of developing the disease in women under 75.

### ►►5

Students' own answers.

### ►►6

Students' own answers.