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Secondary 3

(Scientific Section)
(القسم العلمي)

Course Book

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	Two lessons	**Three lessons**	
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Unit 3 Facts and figures	Just a minute! (Scanning for specific information).	*Until, by* and future time phrases.	The future perfect and the future continuous. The infinitive with future meaning.
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Speaking	Writing	Listening	Specialization
One lesson	One lesson	One lesson	Four lessons
Solving puzzles and responding to suggestions.	Presenting different points of view.	Listening for key information.	Solids, liquids and gases Heating and cooling Shapes Shapes, puzzles and mysteries
Telling a news story.	Writing a news article.	Listening to a weather forecast.	Sinking and floating Icebergs Submarines and airships Weather science
Giving advice.	Leaflets giving advice.	Listening for specific details and contrastive stress.	Interpreting data Pie charts and data Statistics Computer English
Telling a story from pictures.	Writing a story.	Listening to complete notes.	Telephones Large numbers Inventions Safety in the lab
Talking about books.	A book review.	Listening for detail and consonant clusters.	Famous books in science The father of science fiction Science fiction novels Classification of plants
Exchanging information.	Longer sentences.	Functions of a conversation.	Lasers Scientific claims Compact discs Sports injuries
Giving instructions.	Instructions.	Understanding information and instructions.	Malaria Distribution of disease Industrial processes What's happening?
Giving opinions and comparing English with Arabic.	Comparing and contrasting.	Predicting content and listening for gist.	Scientific English A dictionary of science What I enjoyed A science quiz

Unit 1 Puzzles and mysteries

Lessons 1 & 2: Reading: Predicting content

1. Before you read [Lesson 1]

A **Look at the photos on page 7. Then discuss these questions in pairs.**

1. Which of the photos was taken from a plane?
2. What can you see in each photo?
3. How old do you think the lines in each photo are?
4. Who or what do you think made the lines?

B **Circle the word in each pair which you think you will find in the text. Discuss your reasons with a partner.**

1. desert / sea
2. trees / ground
3. straight / short
4. colour / shape
5. flat / mountainous
6. paths / road
7. sandy / stony
8. draw / write
9. aliens / human beings
10. uncertain / unlikely

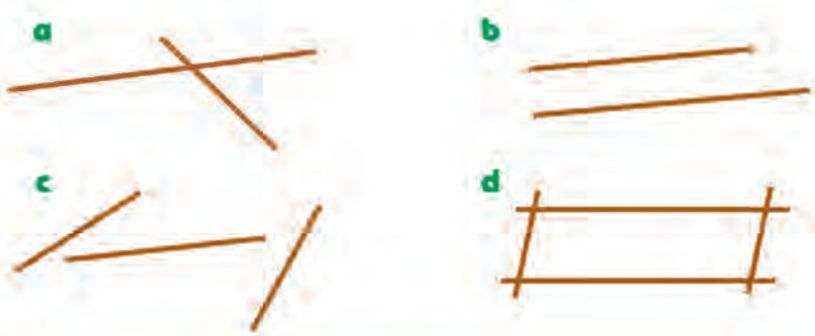
2. While you read

A **Read the first two paragraphs of the text. Find the answers to these questions.**

1. Where are the Nazca lines?
2. What size is the area covered by the pictures?
3. Why didn't people discover the pictures until the 1930s?
4. How old do scientists think the pictures are?

B **Match each diagram to a sentence.**

1. The lines form a shape.
2. The lines are randomly placed.
3. The lines are parallel.
4. The lines intersect.



Reading

C **Read the last two paragraphs. Write notes about each of the following in your notebook.**

1. what the two mysteries of the Nazca lines are
2. theories about the mysteries
3. the writer's opinion about the theories

D **Compare your answers with a partner and discuss these questions.**

1. Which of the theories about the Nazca lines do you think is the most believable?
2. Which of the theories do you think is the least believable?
3. Have you got any more ideas about how the lines were made?

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The mystery of the Nazca lines

When planes fly over the Peruvian desert about 400 kilometres south of Lima, the passengers look down and see large pictures on the ground far below. As well as pictures of birds and animals, they can see hundreds of perfectly straight lines many kilometres long. Some of the lines are parallel, some of them intersect, some combine to form a shape and some seem to be randomly placed. These lines and pictures cover a flat area 60 kilometres long and two kilometres wide.

They can be seen only from a plane high above the ground. In fact, they were not discovered until planes began to fly over the area in the 1930s. If you are on the ground, you see no pictures, only narrow paths through the stony desert. Apparently, the people who made the lines were able to look at the ground from the air in some way. But they can't have had planes or helicopters. According to most scientists who have studied the pictures, they are nearly 2,000 years old.

Clearly, there are two big mysteries about the Nazca lines. The first is this: how were the lines and pictures made 2,000 years ago? As far as we know, nobody could see the pictures, so it must have been difficult to draw them. The second and greater mystery is: why did they do it? If nobody on Earth could see the results, why did they bother? The lines and pictures must have had an important purpose. What was that purpose?

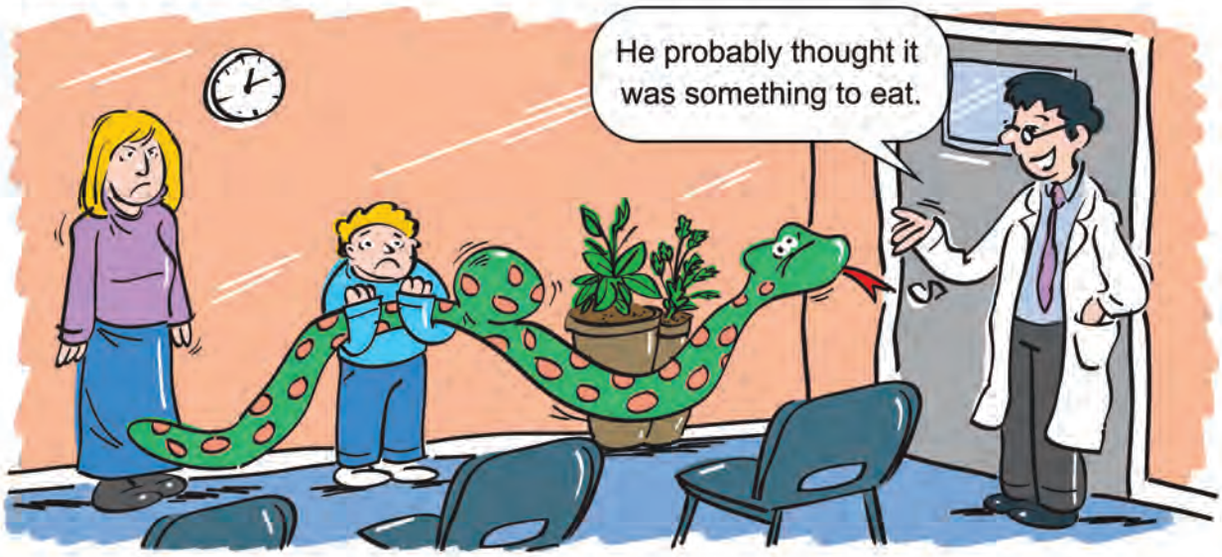
Many people have tried to answer these questions. Some people say the markings can't have been made by ancient people. They say they might have been made by aliens who could see the pictures from their spaceships. Other people have suggested that the ancient people might have made hot air balloons from animal skins and that a master artist might have directed teams of workers from his balloon. But it is extremely unlikely that these explanations are true. It is more likely that the ancient people found a simpler way to make the markings without any need for spaceships, planes or balloons. The purpose of the markings was most likely religious. The people may have thought their gods would see the pictures from the sky. Perhaps they also used the lines as paths in religious ceremonies. However, nobody knows for sure. The 'How?' and 'Why?' of the Nazca lines will always be a mystery.

3. After you read [Lesson 2]

A **Now do Exercises A to E on Workbook page 4.**

Lesson 3: Vocabulary: Certainty and uncertainty

A **Look at the picture and read what the vet says.** What do you think 'it' is? Do you think the vet is sure what happened?



B **Look at the two sentences below. What is Tarek more likely to do, succeed in his exams or go to university? Read the information in the language box to help you.**

1. Tarek is clearly going to do well in his exams.
2. He is probably going to university next year.

apparently	clearly	likely	unlikely	definitely	actually	probably

Degrees of certainty – adverbs

We can show how certain or uncertain we are by using adverbs. If we are sure about something, we use *actually, clearly* or *definitely*. If we are less sure about something, we use *possibly, probably* or *apparently*.

We put these adverbs:

- after the verb *to be*

Example: *He is clearly an intelligent boy.*

- before other verbs

Example: *He clearly works hard.*

- between an auxiliary verb (*be, have, will, can, do, etc.*) and a main verb in positive sentences

Example: *He has clearly studied hard all year.*

- before an auxiliary verb in negative sentences

Example: *He clearly didn't want to fail the exams.*

Note: *Actually, clearly, probably, possibly* and *apparently* can also be used at the beginning or end of a sentence.

Example: *Clearly, he is the best student in the class.*

C **Now do Exercises A and B on Workbook page 5.**

Lesson 4: Grammar 1: Subject and object questions

A **In pairs describe the pictures.**

B **Match the questions 1–8 to the answers a–h.**

1. Who built the Great Pyramid?	☐	a) They rolled them on long pieces of wood.
2. When did they build it?	☐	b) About 30 years.
3. How long did it take?	☐	c) To make a tomb for the pharoah.
4. How many people helped to build it?	☐	d) Probably from Aswan.
5. What did they use to build the pyramid?	☐	e) About 20,000.
6. Where did the materials come from?	☐	f) Stone.
7. How did they transport them?	☐	g) The ancient Egyptians.
8. Why did they build it?	☐	h) 4,600 years ago.

C **Look carefully at the questions in Exercise B. How are questions 1 and 4 different from the other six questions? Check by reading the information below.**

Subject and object questions

In the question *Who built the Great Pyramid?* we want to find out information about the subject of the verb (*the Ancient Egyptians*). This type of question is sometimes called a subject question.

In the question *Why did they build it?* we already know the subject (*they*), and so we are asking about something else (*the reason why*). This type of question is sometimes called an object question.

We make subject questions without *do* or *did*. They usually begin with *who* or *what*.

Examples:

Who *gave you my e-mail address?* [Answer: *Katie* gave me your e-mail address.]
What *makes him run?* [Answer: *Ambition* makes him run.]

We use *do(n't)* or *did(n't)* in object questions in the present or simple past.

Examples:

Where *did you get that scarf?* [Answer: In Tripoli.]
Why *does wood float?* [Answer: Because it is less dense than water.]
Why *didn't you open the door?* [Answer: Because I couldn't find the key.]

D **Now do Exercises A to D on Workbook pages 6–7.**

Lesson 5: Grammar 2: Talking about the past with must, may, might and can't

A **Read the information about *must*, *may*, *might* and *can't* in the grammar box.**

must*, *may*, *might* and *can't

We use these verbs to express certainty and uncertainty. They are another way for a speaker or writer to show his/her opinion about something.

Examples:
*This boy **must** be your brother. You look very similar.* [= He is certainly your brother.]
*The painting **may** be 200 years old.* [= The painting is possibly 200 years old.]
*The band **might** do another tour next year.* [= The band will possibly do another tour next year.]
*She **can't** be that ill. I saw her this morning.* [= She is definitely not that ill.]

Remember that *may* and *might* have a similar meaning. *Might* is more common in spoken British English.

B **Look at the sentences from the text on page 7. Mark each sentence as follows: C = the writer is certain it is true, and N = the writer is not certain it is true.**

1. The people who drew the lines can't have had planes or helicopters. ____
2. It must have been difficult to draw them. ____
3. The lines might have been made by aliens. ____
4. The ancient people might have made hot air balloons. ____
5. The lines and pictures must have had an important purpose. ____
6. The people may have thought their gods would see the pictures from the sky. ____

C **Look at the words after *must have*, *might have*, *may have* and *can't have* in the sentences in Exercise B. What form are all the verbs? Read the information in the grammar box below to check your answers.**

Talking about the past with *must*, *might*, *may* and *can't*

A writer or speaker can show how certain he/she is about an event in the past by using *must/may/might/can't* + *have* + past participle.

Examples:
A snake must have made those marks in the sand.
He might have left home already. I'll phone his mobile.
It can't have been easy for the Egyptians to build the pyramids.
The Taj Mahal must have been built by very skilled workers.

D **Now do Exercises A to C on Workbook pages 7–8.**

E **Look at the photo of Easter Island. Discuss who made the heads and why, using *must/may/might/can't* + *have* + past participle.**

Lesson 6: Speaking: Solving puzzles and responding to suggestions

A **Look at the pictures. What is the problem?**

B **Read the conversation below. How do you think they solved the problem?**

A: Well, the problem is that the lorry is stuck.

B: Yes, the bridge is too low and the driver can't get through.

A: In this picture, the boy has found a solution. What do you think it is?

B: The people might have pushed the lorry from the back.

A: That's one possibility, but I'm not sure it would have worked.

B: They might have cut off part of the bridge to make more room.

A: Hmm. I don't think that's very likely. It would have damaged the bridge.

B: Do you think the driver might have driven very fast towards the bridge to get through?

A: You could be right. But it might have been too dangerous.

B: Aha! I know how they must have solved the problem!

C **Read the language box about responding to suggestions.**

Responding to suggestions

When someone makes a suggestion you don't completely agree with, there are some expressions you can use to be polite.

Examples:

That's one possibility, but …
I don't think that's very likely …/I think that's unlikely …
You could be right.
That's a good idea, but …

D **Work in pairs. Read the puzzle below and talk about possible solutions. Use *must/might/can't* + *have* + past participle and adverbs from Lesson 3. Respond to your partner's suggestions.**

A police chief was interviewing three candidates for a job in his department. To test their logic, he took a red marker pen and a black marker pen and told them, 'I am going to make either a red or black mark on each of your foreheads. At least one mark will be black. Using only your own logic, I want you to find out the colour of the mark on your own forehead. The first man to do this and give me an explanation of how he made his decision will get the job.'

He then blindfolded the candidates and put a black mark on each of their foreheads. After he removed the blindfolds, the three stared at each other for a few seconds, each seeing that the other two marks were black. Then one of the candidates said, 'I have a black mark'.

How did the candidate explain his decision?

E **Now do Exercise A on Workbook page 8.**

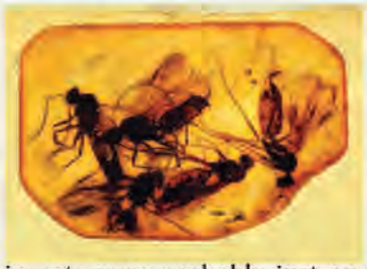
Lesson 7: Writing: Presenting different points of view

1. Preparation for writing

A **Read the article and find four theories about the disappearance of the dinosaurs. Write brief notes about each one in your notebook.**

Was T-Rex killed by a tiny insect?

A new theory has renewed scientific debate about exactly why dinosaurs disappeared from the face of the Earth 65 million years ago.



According to George and Roberta Poinar from Oregon State University, tiny insects might have played an important role in wiping out the giant beasts. The husband-and-wife team have spent their lives studying the insect and plant life which is preserved in fossilized amber. They believe that a variety of insects may have spread infectious diseases or caused stomach problems which gradually made the dinosaurs die out.

In the 1980s, most people believed the theory of Professors Luis and Walter Alvarez as the most likely reason for the dinosaurs' extinction. In their view, the dinosaurs must have been killed by a giant asteroid hitting the Earth. More recently, a team of German scientists led by Peter Schulte claimed that a series of volcanic eruptions were the cause of the dinosaurs' disappearance. They believed that these eruptions released toxic elements like cadmium and nickel into the atmosphere. Others have said that the planet may have been hit by a massive storm which killed off the dinosaurs.

In fact, none of these *sudden death* theories is convincing. The dinosaurs can't have disappeared so suddenly. Apparently, fossil evidence shows that extinction was a gradual process, which happened over millions of years.

The Poinars' theory is much more likely to be true. Actually, George and Roberta agree that insects were probably just one factor in the disappearance of the dinosaurs. Climate change could also have contributed to this gradual process. Because dinosaurs were cold-blooded, they might not have survived increasingly cold temperatures. Perhaps it was more and more difficult for them to find food in the colder climate, experts argue.

We may never know exactly who or what killed the dinosaurs. But it seems that new ideas about this mystery will continue to fascinate future generations.

Adapted from: *Science Daily*, Jan 4, 2008, http://www.sciencedaily.com/releases/2008/01/080103090702.htm

B **Look at the ways of introducing points of view in the language box. Find and underline examples in the text.**

Introducing points of view

- In fact, ...
- (Scientists) claim that ...
- According to ...
- In their view, ...
- (Experts) have put forward the idea that ...
- They believe that ...

C **Choose a mysterious place or event from this unit or a mystery of your own. Do some research in a library or on the Internet. Make notes about different theories people have used to explain the mystery.**

2. Writing

A **Now do Exercise A on Workbook page 9.**

Lesson 8: Solids, liquids and gases

A **Work in pairs. Think of examples from everyday life of solids, liquids and gases.**

B **Match the captions 1–3 to the correct pictures a–c.**

a

b

c

1. The can is a solid fixed shape ☐
2. The 'fizz' is a gas which fills the space it's in ☐
3. The drink is a liquid ☐

C **Work in pairs. Discuss these questions.**

1. At what temperature does water boil?
2. At what temperature does water freeze?
3. When you have a hot shower, what happens to the walls and windows in the bathroom?
4. What happens to chocolate if you leave it in the sun? Why does this happen?
5. What happens to the water if you leave a saucepan of water boiling on top of the cooker for long enough?

D **The words in the box describe processes where there is a physical change. Complete the table with the words in the box.**

melting	evaporating	boiling	freezing	condensation

Getting hotter	Getting colder

E **Now do Exercise A on Workbook page 9.**

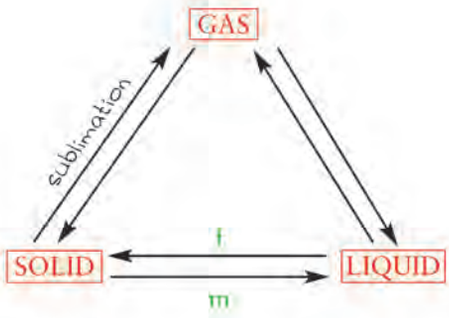
F **Complete the sentences. Then complete the diagram below.**

1. When some solids are heated, they _____ and become _____.
2. Not all solids melt when heated. Some become a _____. This change is called _____.

G **Work in pairs. Discuss these questions. Read the text again if you need to.**

1. Which solid becomes a gas when heated?
2. Which molecules break away from the liquid during evaporation?
3. What gas does water produce when it boils?
4. Explain how sublimation or subliming is a two-way process.

H **Now do Exercises B and C on Workbook pages 9–10.**



Lesson 9: Heating and cooling

A **Work in pairs. Think of a definition for each of these terms.**

boiling point melting point

B **Match the beginnings of the sentences 1–5 to the endings a–e.**

1. The boiling point of a substance is ☐
2. At a temperature between its melting point and boiling point, a substance ☐
3. The melting point of a substance is ☐
4. At a temperature below its melting point, a substance ☐
5. At a temperature above its boiling point, ☐

a) the temperature that causes it to change from a solid to a liquid.
b) will be a liquid.
c) a substance will always be a gas.
d) will always be a solid.
e) the temperature that causes it to change from a liquid to a gas.

C **Experiments in the laboratory have several stages. Number the stages in the boxes 1–4 to show their correct order.**

procedure ☐ aim ☐ conclusion(s) ☐ result(s) ☐

D **Now do Exercise A on Workbook page 10.**

E **Work in pairs. Study the graph in Exercise D. Then answer the questions.**

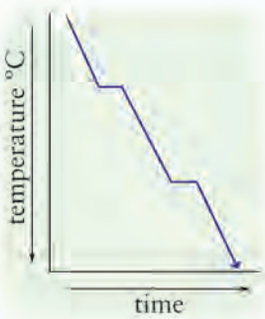
1. Describe the shape of the graph.
2. Why are there steps in the graph?
3. Why do you think the temperature levels out at the melting and boiling points?

F **Read the conclusion to the experiment and check your answer to question 3 above.**

Conclusions:
At the melting point and the boiling point a substance requires heat in order to change from a solid to a liquid and from a liquid to a gas. For this reason the temperature remained constant until all the particles had changed state.

G **Work in pairs. Look at the graph then discuss these questions.**

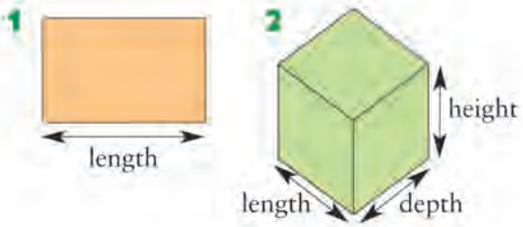
1. What is the experiment about?
2. In what ways is the experiment similar or different to the one in Exercise D?
3. Describe the shape of this graph.
4. Why are there steps in the graph?



H **Now do Exercises B and C on Workbook page 10.**

Lesson 10: Shapes

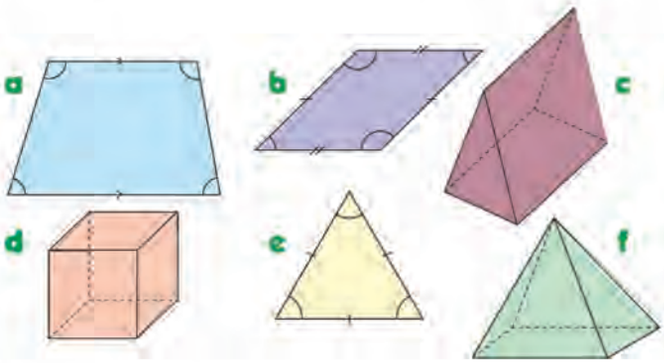
A Complete the sentences about these shapes.



1. This is a _____. It has two dimensions – length and width. All two dimensional (2-D) shapes have area, but no depth. They are flat. Examples of 2-D shapes are rectangles, _____ and _____.
2. This is a _____. It has three _____, length, height and _____. All 3-D shapes are solids.

B Match the words 1–6 to the pictures a–f.

1. pyramid ☐
2. cube ☐
3. trapezium ☐
4. equilateral triangle ☐
5. parallelogram ☐
6. prism ☐



C Now do Exercise A on Workbook page 11.

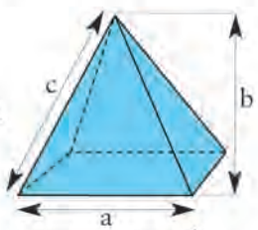
D Match the definitions 1–6 to the correct shapes in Exercise B.

1. a three-sided figure which has all three sides the same length and all its angles are 60° ☐
2. a four-sided figure in which the opposite sides are of equal length and are parallel ☐
3. any three-dimensional shape with the same cross-section throughout its length or height ☐
4. a solid figure with a flat base and straight, flat, three-angled sides that slope upwards to meet at a point ☐
5. a four-sided figure in which only one pair of sides is parallel ☐
6. a solid object with six equal sides ☐

E Read the text then answer the questions.

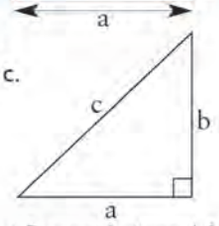
The most famous group of pyramids in Egypt is at Giza, near Cairo. The largest is the Great Pyramid. It was built as the tomb of the Pharaoh Khufu about 4,600 years ago. It is one of the Seven Wonders of the World. The area covered by the pyramid is more than five hectares and it contains 2,300,000 blocks of limestone. The base of the Great Pyramid is square. Each side was originally 230 metres long. The four triangular sides meet at the top of the pyramid, which has a height of 147 metres. How did the Egyptians build such a huge structure? We are not sure, but they must have had some very clever engineers. They must also have used thousands of men to move the blocks. Herodotus, the Greek historian, tells us that it took 20,000 men 20 years to build the pyramid.

1. Write measurements on this diagram of the Great Pyramid.

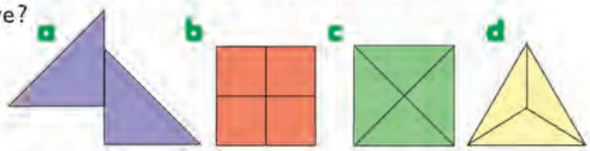


2. Use the theory of Pythagoras to calculate the length of side c.

$$a^2 + b^2 = c^2$$



3. Which diagram shows the Great Pyramid viewed from above?



4. Calculate the volume of the Great Pyramid in cubic metres. Use the formula:
volume = $\frac{\text{height}}{3}$ x base area

F Now do Exercise B on Workbook page 11.

Lesson 11: Shapes, puzzles and mysteries

A **Look at the picture below of a Bent Pyramid. Work in pairs. Discuss why you think it is called this.**

B **Read the text below. Work in pairs. Answer these questions.**

1. The first pyramids were *stepped*. How was the Bent Pyramid different?
2. What is meant by the *classic shape*?
3. What problems did the architects and builders have?
4. Was the Pharaoh happy with the Bent Pyramid?

This first Egyptian attempt at a smooth-sided pyramid was probably designed to have very steep sides. But it was not very stable and this was perhaps why the architects decided to aim for a new angle half-way through construction.

Perhaps because of the difficult angles in the Bent Pyramid, Pharaoh Snefru asked for a second pyramid to be built not far away and sent his workers back to Maidum to finish his first pyramid.

Bent Pyramid facts
First attempt at the classic shape
Built by: Pharaoh Snefru
Date: about 4,600 years ago
Location: Dahshur
Height: 344 feet (105 metres)

C **Look again at the Bent Pyramid Facts in Exercise B. Work in pairs. Take turns asking and answering questions about this strange pyramid using the words in the box.**

What ...?	Who ...?	When ...?	Where ...?	Why ...?	How ...?

Example: *What is the name of this pyramid?*

D **The meaning of the pyramid shape is still a mystery. Work in pairs. Discuss the theories below, and your own ideas. Then complete the sentence.**

They represent the first land to appear at the beginning of time.

The sloping sides let the dead pharaoh climb to the sky and live forever.

The shape preserves the bones and DNA of the people buried inside.

They concentrate the earth's magnetic energy like a very large battery.

The shape represents the rays of the sun. People used to think the dead kings climbed up sunbeams to reach heaven.

The Ancient Egyptians built the Pyramids to _____

E **Now do Exercises A and B on Workbook page 11.**

Lesson 12: Listening: Listening for key information

A **Read the information about a television programme and look at the pictures. Who are the two people in the pictures? What are they talking about?**

Tonight's highlights

Suspicious circumstances

Channel 3, 8:00p.m.

A new episode of the gripping detective series. When Hasan's body is found in his office and there are no signs of a fight or struggle, Detective Ahmed's suspicions are aroused. His attention is drawn to Abdullah, the dead man's business partner …

B **You are going to listen to the detective's interview with Abdullah. Write two questions you think the detective will ask.**

_____

_____

C **Read the detective's notes. Listen to part 1 of the interview. Correct the mistake in the notes and complete the last sentence.**

Dead man's name: Hasan

Killed in his office – 6p.m.

Abdullah – at brother's house

About 30 kilometres away from office

Abdullah got home at _____

D **Listen to part 2 of the interview. Then answer the questions.**

1. How many people have spoken to Abdullah about the murder?
2. According to Abdullah, was Hasan popular?
3. What was Hasan like?

E **Listen to part 3 of the interview. Then answer the questions.**

1. Who told Abdullah that the knife was in Hasan's back?
2. How does the detective know that Abdullah is lying?

F **Look at these questions from the interview. Listen to the intonation of the underlined part of the questions. Who sounds most sure, the detective or Abdullah?**

1. I'm not under suspicion, <u>am</u> I?
2. You were there, <u>weren't</u> you?

G **Practise saying these questions with rising and falling intonation. Work in pairs. Say if your partner is sure or unsure.**

1. You haven't got any brothers, have you?
2. Dinosaurs were cold-blooded, weren't they?
3. Petra is in Jordan, isn't it?

Unit 2 Weather and climate

Lessons 1 & 2: Reading: Taking notes

1. Before you read [Lesson 1]

A **Work in pairs. Look at the table. Write more words about weather and climate. How many can you write in three minutes?**

nouns	*rain, temperature*
verbs	*rain*
adjectives	*rainy*

B **Look at the pictures and captions on page 19. Discuss these questions.**

1. What are Ali and Wendy's hometowns?
2. What do you think the climate is like where they live?

2. While you read

A **Read only the introduction to the text on page 19 and answer these questions.**

1. What does the writer want to find out? _____
2. Why did the writer choose people from these two places? _____

B **Look at this example of note-taking. Are the sentences complete?**

Example:

1. examples of extreme temperatures

MUSCAT	swimming pools too hot to swim in
FAIRBANKS	ice on lake – cars can drive on it

C **Work in pairs. Student A, read Ali's text. Student B, read Wendy's text. Make notes in your notebook under these headings.**

1. examples of extreme temperatures
2. going out and staying in
3. clothes
4. special features of buildings
5. health problems
6. the best part of the year

3. After you read [Lesson 2]

A **Now do Exercises A to E on Workbook page 12.**

Hot and cold

How does climate affect the way we live? To find out, we asked two teenagers from different parts of the world: Ali Naji, who lives in one of the hottest capital cities on Earth, and Wendy Baker, from a town where the winter temperature drops to -25°C or lower.

Ali and his family in Muscat, Oman

'Muscat, the capital of Oman, is so hot in summer that most swimming pools are too hot to swim in. Car bodies get hot enough to cook on. Without air conditioning, driving would be impossible; the steering wheel would burn your hands.

If you go out of your house at midday, sweat begins to drip down your neck within seconds, which feels horrible. We stay indoors during the day if we can, and go out in the evenings and early mornings. We wear thin cotton *dishdashas*, which feel more comfortable than European clothes, and open leather sandals. Of course, everyone covers their heads.

Surprisingly, more people catch colds in the summer than in the winter. This is because the air conditioning in big buildings sometimes makes the air too cold, and it spreads germs, too.

The winter in Oman is wonderful. It's like a European summer. Sometimes the clear blue sky becomes cloudy, but most of the time the weather is perfect for enjoying life outdoors.'

Wendy and her family in Fairbanks, Alaska

'The winters here are very cold. There's a lake near my house which freezes in winter. The ice on the lake is so thick that you can drive a car on it.

Houses are often half-buried under snow in winter. If your front door is on the ground floor, you have to dig your way out through the snow, so many houses have an upstairs door, which is above the snow.

It's too cold to go out unless you wear thick woollen sweaters, a thick waterproof jacket, gloves to protect your hands, and a warm fur hat. Without a hat, your head really hurts. Inside, the buildings are warm, and they have windows with three layers of glass to keep the cold out. People stay indoors a lot, which can be unhealthy physically and mentally.

It sounds terrible, but it's not so bad. There are winter sports like skiing and ice skating, which are great fun, and in summer the snow melts. The country becomes green again, and the lake is warm enough to swim in.'

Lesson 3: Vocabulary: Adjectives with prepositions

A **Look at the pictures and discuss these questions.**

1. What is happening in each picture?
2. How do you think the people in the pictures feel?

B **Match the sentences 1–13 to the pictures a–f. Only six sentences will be used. Do not fill in the gaps yet.**

1. ___ He's interested ____ computers.
2. ___ Some people are afraid ____ flying.
3. ___ He's not very good _____ Maths.
4. ___ She's worried _____ her exams.
5. ___ He's married _____ my cousin.
6. ___ I felt sorry _____ her when she was in hospital.
7. ___ Hurry up! You'll be late _____ school.
8. ___ They are very kind _____ me.
9. ___ Salem's very keen _____ football.
10. ___ Be careful _____ that glass. Don't drop it.
11. ___ The teacher was angry _____ me because I hadn't done the work.
12. ___ Most of the class was absent _____ school yesterday.
13. ___ Are you ready ____ your test tomorrow?

C **Complete the sentences 1–13 above with the prepositions in the box below.**

about	at	for (x3)	from	in	of	on	to (x2)	with (x2)

D **Study the language box. Then circle the adjective + preposition combinations in Exercise B.**

Adjective + preposition

A lot of adjectives in English are followed by a preposition. The preposition is fixed, so you must memorize the two words together.

Examples:

*He is **responsible for** all the people in his office.*
*What's **wrong with** you today?*

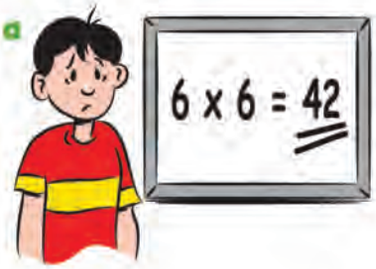
E **Work with a partner. Ask and answer questions using the *adjective + preposition* combinations in Exercise B.**

Examples:

1. *Are you **interested in** computers?*
   Yes, I am.
2. *What are you **afraid of**?*
   I'm afraid of snakes.

F **Now do Exercise A on Workbook page 13.**

a



b

c

d

e

f

Lesson 4: Grammar 1: Adjectives with so, enough and too

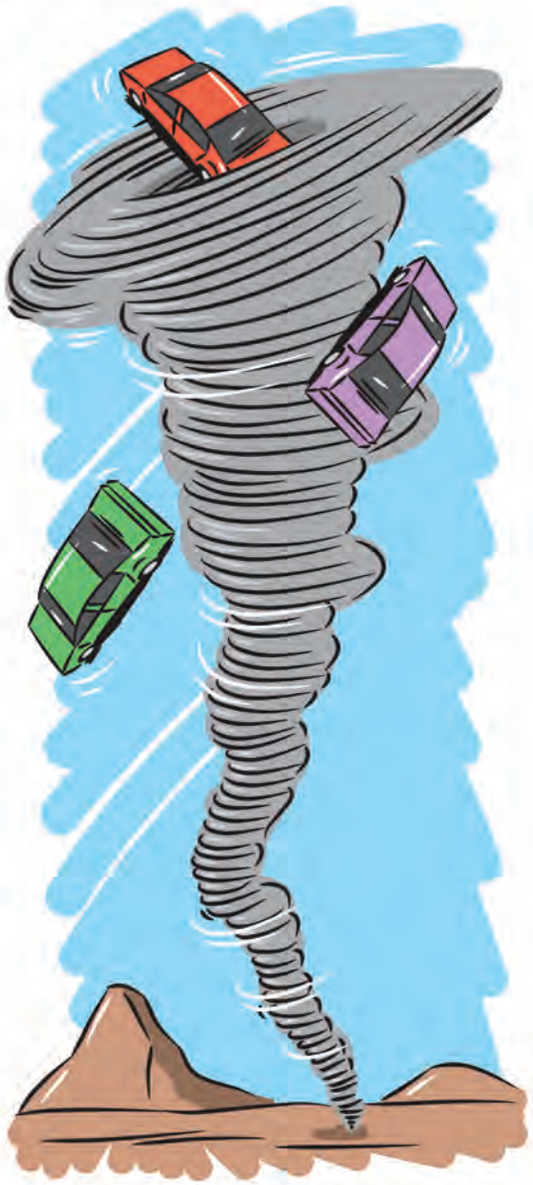
A **Study the grammar box and complete the patterns 1–3.**

Adjectives with *so*, *enough* and *too*

These three sentences have a similar meaning.
1. It's so hot that you can't go out.
2. It's not cool enough to go out.
3. It's too hot to go out.

Use the sentences to complete the three patterns.
1. *so* + adjective + *that*
2. adjective + _____ + infinitive
3. *too* + _____ + _____

Now underline the patterns in these sentences.
a) The ice is so thick that you can drive on it.
b) The ice is thick enough to drive on.
c) The ice is not too thin to drive on.



B **Complete each sentence so that it is similar in meaning to the sentence above it. Use *so*, *enough* and *too*.**

1. The lake is too cold to swim in.
   The lake is not warm _____.
2. The car was too hot to touch.
   The car was _____.
3. The pool gets so hot that you can't swim in it.
   The pool gets _____.
4. We couldn't walk on the sand because it was too hot.
   The sand was _____.
5. A hurricane can destroy buildings.
   A hurricane is strong _____.
6. It's too cloudy to sit on the beach.
   It's not sunny _____.
7. A tornado is strong enough to pick up a car.
   A tornado is _____.

C **Write at least two sentences about each picture in your notebook. Use *so*, *enough* and *too*.**

1

2

3

D **Now do Exercises A to C on Workbook page 13.**

Lesson 5: Grammar 2: Order of adjectives

A **Match the phrases 1–6 to the pictures a–f.**

1. wet weather
2. a nice old man
3. an annoying little insect
4. a rectangular wooden box
5. a red plastic nose
6. Egyptian silver jewellery

B **The chart shows the usual order of common adjectives before a noun in English. Write words from Exercise A in the correct columns.**

opinion	size	age	shape	colour	origin	material	NOUN
nice							

C **Think of at least two more words for each column in Exercise B and write them in the chart.**

Order of adjectives

In English, an adjective describes a noun (a thing). Adjectives go before a noun.
Example: *a red car* NOT *a car red*

If there is more than one adjective, they are in a fixed order.
Example: *a German glass vase* NOT *a glass German vase*

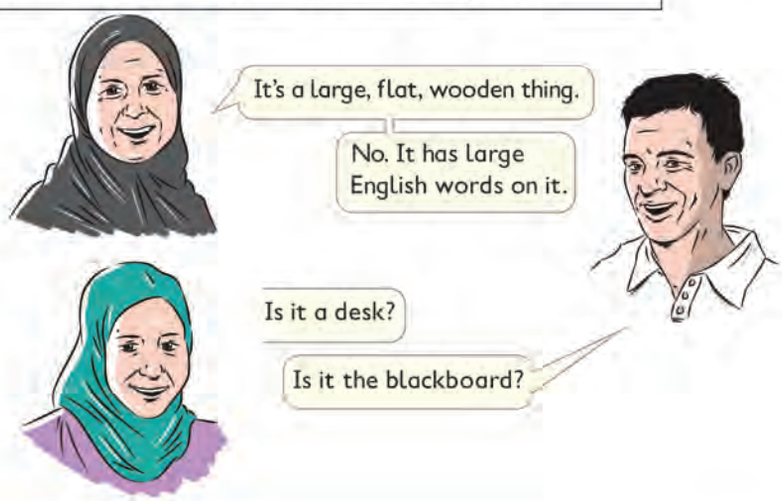
Usually, there are not more than two or three adjectives before a noun. So you will not need to say something like *I have a beautiful, big, new, black, Japanese, plastic phone!*

D **In pairs, make phrases with each of the words in the box. Use two or three adjectives each time and add a noun of your choice.**

cotton	Libyan	white	big	international	useful	metal	tiny	nice	long
interesting	Chinese	square	horrible	dark	blue	new	plastic		

Examples: *a new, cotton shirt*
a big, square table

E **Look at this conversation. Write a description of an object in your notebook, using two or more adjectives. Read your description to your partner. He/she will listen and try to guess the object.**



Lesson 6: Speaking: Telling a news story

A **Work in pairs. Look at the countries in the box and discuss the questions.**

1. In which part of the world are each of these countries?
2. What do you know about the climate there?

Britain	Oman	Australia	Indonesia	Sudan	Canada	Morocco	Bermuda

B **Now look at the newspaper headlines and pictures from the different countries. Discuss these questions about each one using the expressions in the box.**

then	next	at first	after that	soon	in the end

1. What has happened?
2. How or why do you think it happened?

1 Britain

5,000 homes flooded

2 Oman

Flash floods kill seven

3 Australia

Man injured by lightning

4 Indonesia

Forest fire still burning

5 Sudan

Widespread hunger after two years of drought

6 Canada

Ship's crew rescued in storm

7 Morocco

Rally drivers lost after sandstorm

8 Bermuda

Hurricane hits island

C **Imagine you are a journalist. You have to go to interview someone who was involved in one of the emergencies in Exercise B. Decide on who you would like to interview. In your notebook, write five questions you want to ask the person about his/her experience.**

D **Work in pairs.**

1. Show your partner the questions you wrote in Exercise C.
2. Role-play the interview. Your partner will ask you the questions that you wrote in Exercise C. You must now play the role of the person who was involved in the emergency. Use the expressions in the box in Exercise B.

E **Now do Exercises A to D on Workbook page 14.**

Lesson 7: Writing: Writing a news article

A **Work in pairs. Can you remember the headlines from the news stories in Lesson 6? Fill in the blanks with the missing words.**

1. 5,000 homes _____
2. Flash floods _____ _____
3. _____ _____ by lightning
4. Forest fire still _____
5. Widespread _____ after two years of drought
6. Ship's crew _____ in storm
7. _____ _____ lost after sandstorm
8. Hurricane hits _____

B **Read about topic sentences in the box. Then choose one of the headlines in Exercise A. In your notebook, write a short sentence about each of the following main ideas.**

Topic sentences

In a narrative, each new paragraph often starts with a topic sentence. This sentence gives the main idea of the paragraph. It is followed by explanations, examples and more information.

In this news article about a weather problem, there are three main ideas.
1. the cause
2. the events
3. the future

Each main idea will be the focus of one paragraph, so you will have three paragraphs.

1. the original cause of the emergency _____
_____
2. what happened during the emergency _____
_____
3. what will happen now _____
_____

C **Which paragraph do these expressions go in? Mark them 1, 2 or 3.**

___ now the government has decided to …
___ at first …
___ luckily …
___ suddenly …
___ the problem originated in …
___ then/next/after that …
___ some time before …
___ nobody had realized …
___ unfortunately …
___ in the end …
___ from now on …
___ one hour later …
___ it was too late …
___ in the future …

D **Write the three paragraphs of your news article in your notebook. Use the sentences you wrote in Exercise B above to start each paragraph. Include expressions from Exercise C.**

E **Check your writing for spelling, punctuation and grammar. Then give it to a partner to check.**

F **Now do Exercises A to C on Workbook pages 14–15.**

Lesson 8: Sinking and floating

A **Underline the objects in the box which are buoyant and can float in water.**

a gold block	a cork	ice	sand	a piece of wood	polystyrene	a stone
concrete	an empty can	a submarine	a coin			

B **Work in pairs. Check your answers in Exercise A then discuss these questions.**

1. Why do some objects in Exercise A float, and others sink?
2. Why do even the heaviest ships float on water?
3. What do you know about Archimedes? Have you heard of Archimedes' Principle?

C **The answers to the questions in Exercise B were discovered 2,200 years ago by the Greek inventor and mathematician, Archimedes. Read the text and check the information about Archimedes and his principle.**

You fill your bath with water. What happens when you get in? The water rises. It is displaced by your body.

One day, while getting into his bath, Archimedes noticed water spilling over the sides. Suddenly, he understood the relation between the water that had fallen out and the weight of his body – in other words, he had discovered why some objects float and some sink. Archimedes worked out that the key to buoyancy is how much volume an object displaces, compared to its weight.

Archimedes' discovery, now called Archimedes' Principle, explains why steel ships, weighing thousands of tons, float. When a body is immersed in water, it experiences a force known as the buoyancy force. This force is equal to the weight of the water displaced by the body. For example, a lump of steel will sink because it cannot displace water that equals its weight. But steel of the same weight, shaped as a bowl, will float. This is because the weight is distributed over a larger area and the steel displaces water equal to its weight. So a ship with thousands of passengers or a heavy cargo floats because its total weight is exactly equal to the weight of the water it displaces. It is this weight that exerts the buoyant force supporting the ship.

D **Complete the sentence using the information from the text in Exercise C.**

An object will float in water if the _____ of the object equals the _____ of the displaced water.

E **Work in pairs. Discuss these questions.**

1. Why can you float in water?
2. Why is it so easy to float in the Dead Sea?

F **Now do Exercises A and B on Workbook page 15.**

Lesson 9: Icebergs

A **Work in pairs. Look at the picture then discuss these questions.**

1. What is about to happen?
2. What was the Titanic?
3. Why did it become famous?

B **Write a definition of an iceberg in your notebook. Work in pairs. Read your definitions to each other.**

C **Mark the sentences T for true or F for false.**

1. Icebergs are formed when sea water freezes. ☐
2. At 0°C, water has a higher density than ice. ☐
3. Iceberg patrols were started before the Titanic sank. ☐
4. Most of the volume of an iceberg lies below the surface of the water. ☐
5. Icebergs form mainly in the summer. ☐

D **Read the text about icebergs. Check your answers in Exercise C and correct the false sentences in your notebook. Complete the diagram with the percentages.**

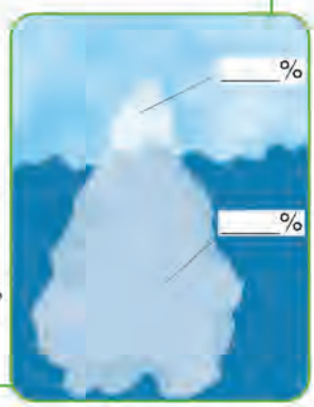
Icebergs

Icebergs are large mountains of freshwater ice floating in water. They vary in size – sometimes enormous and rising up to 150 metres above the surface of the sea, or sometimes the size of a small house. They usually form in the Arctic and the Antarctic. Snow is slowly compressed each year to form large glaciers and ice sheets, which spread outwards. Ice from the outer edge of these glaciers and ice sheets, breaks off into the sea forming floating islands of ice. This happens mostly during the spring and summer, when warmer weather increases the rate of separation.

When these icebergs drift north or south on ocean currents, they come into shipping routes, such as the North Atlantic shipping lanes. Many shipping disasters, such as the sinking of the passenger ship Titanic in 1912, have been caused by icebergs in the North Atlantic.

After the Titanic disaster, in which 1,500 people died, 16 countries got together to start an iceberg patrol. Known as the International Iceberg Patrol, it tracks icebergs and warns ships of their location.

One of the reasons why icebergs are so dangerous is that most of their volume lies below the surface of the water. Water expands when it freezes and the density of ice is less than that of water. At 0°C, the specific gravity of ice is 0.9168, compared with 0.9998 for water. As a result, ice floats in water with about 90 per cent below the surface. The 10 per cent above the water is made up of snow, which is not very compact. The ice in the cold core is very compact, and so very heavy. The temperature in the core stays between -15 and -20°C.



E **Now do Exercises A and B on Workbook page 16.**

Lesson 10: Submarines and airships

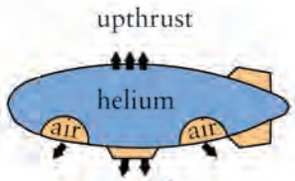
Airship   Hot air balloon

A **Work in pairs. Discuss what you know about the aircraft above. Then match the start of the sentences 1–3 to the ends a–c to complete the definitions.**

1. An aircraft is ☐ a) a powered lighter-than-air craft.
2. An airship is ☐ b) anything that flies.
3. A hot air balloon is ☐ c) a lighter-than-air craft that follows the direction of the wind.

B **Now do Exercise A on Workbook page 16.**

C **Archimedes' Principle in Lesson 9 explained why boats float on water. It can also explain why airships fly. Work in pairs. Look at the diagrams of the airships. Student A: Explain how an airship goes up. Student B: Explain how an airship goes down.**

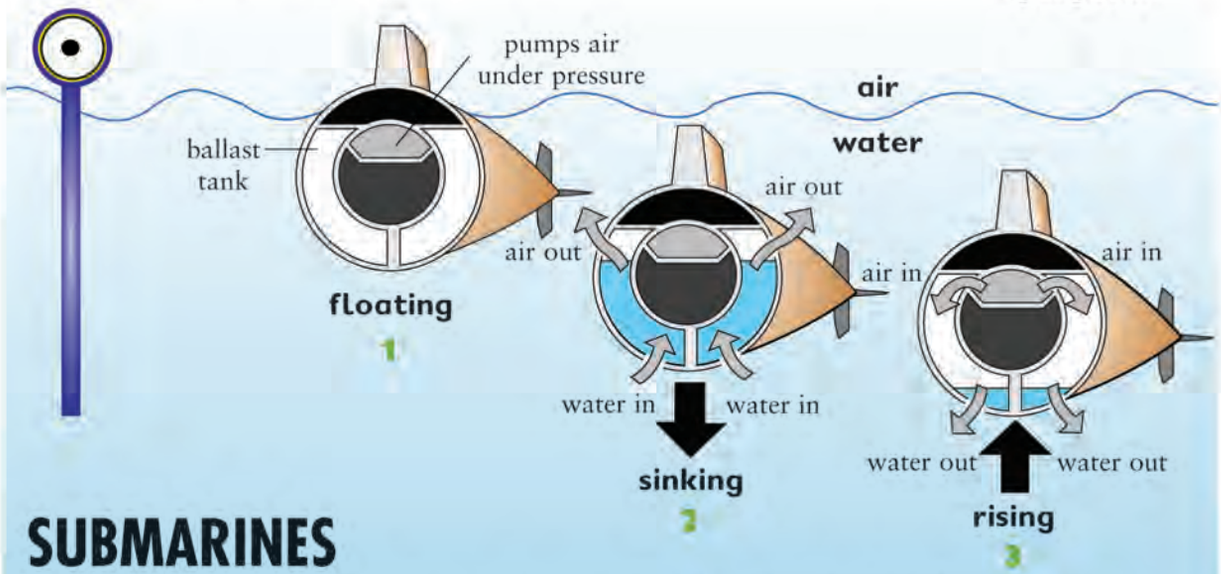


going up

going down

D **Look at the diagrams and read the text below about submarines. Then answer these questions.**

1. Which part of the submarine enables it to float and sink? _____
2. What controls the amount of air? _____



SUBMARINES

Submarines are ships which can float and also sink. They have cigar-shaped hulls and a conning tower on top. They are able to travel to the depths of the ocean as well as sailing on the surface. Because of this, the hull must be strong enough to withstand great pressure. Submarines are able to float and sink because they contain large ballast tanks. Pumps on the submarine adjust the amount of air or water in the tanks. When the submarine floats, the ballast tanks are full of air.

E **Now do Exercises B and C on Workbook pages 16–17.**

Lesson 11: Weather science

'Climate is what we expect, weather is what we get.'
Mark Twain, American author

A Work in pairs. Discuss these questions.

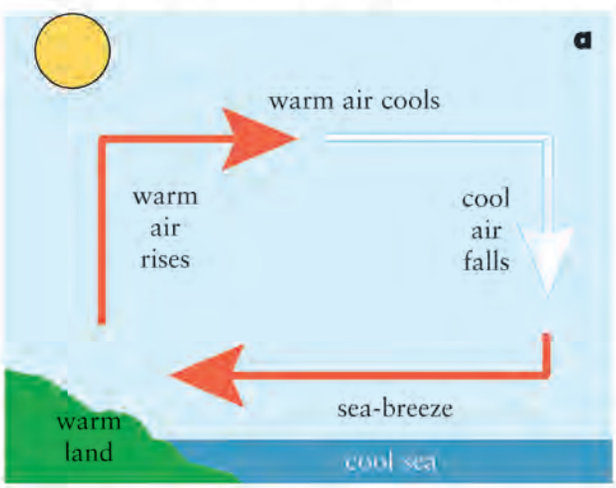
1. Read the quote above. What do you think Mark Twain meant by this?
2. List as many different types of weather as you can in your notebook. Then add the adjective.

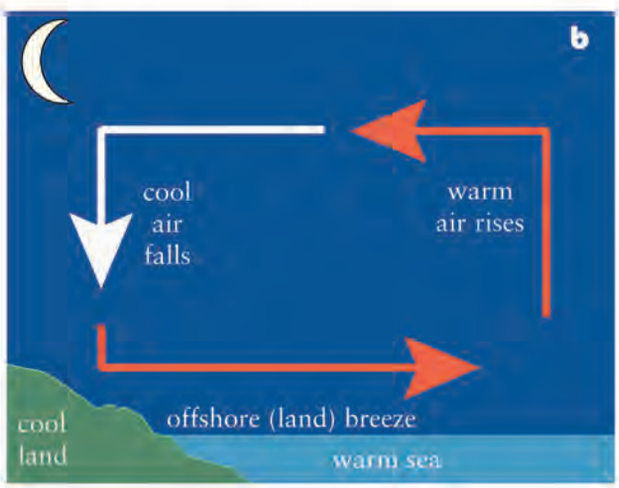
Example: wind – windy

B Complete these sentences about Libya.

1. Sometimes in the desert at night, it is so cold that _____.
2. Most parts of Libya are too dry _____.
3. The *ghibli*, a wind coming from the Sahara, is sometimes strong enough to _____.

C Work in pairs. Look at the diagrams below. Student A, using diagram a) describe how sea breezes are formed. Example: *During the day* ... Student B, using diagram b) describe how land breezes are formed. Example: *At night* ...





D Work in pairs. Look at the pictures then discuss the questions.

1. Describe the weather conditions in each picture.
2. Are the causes of these types of weather the same?
3. Where does fog or mist occur in Libya? What causes it to form?
4. Which countries do you know of that have a smog problem?

a

b

E Now do Exercises A to C on Workbook page 17.

Lesson 12: Listening: Listening to a weather forecast

A **Work in pairs. Check that you know the meaning of these words, and that you know how to pronounce them.**

thunderstorm	coastal areas	high ground	flash flood	showers	temperature

B **It is winter. A family is listening to the radio weather forecast for the weekend. Listen to the forecast and answer the questions.**

1. Which country is the forecast for? Choose the correct answer from the list.
2. Explain why the others must be wrong.

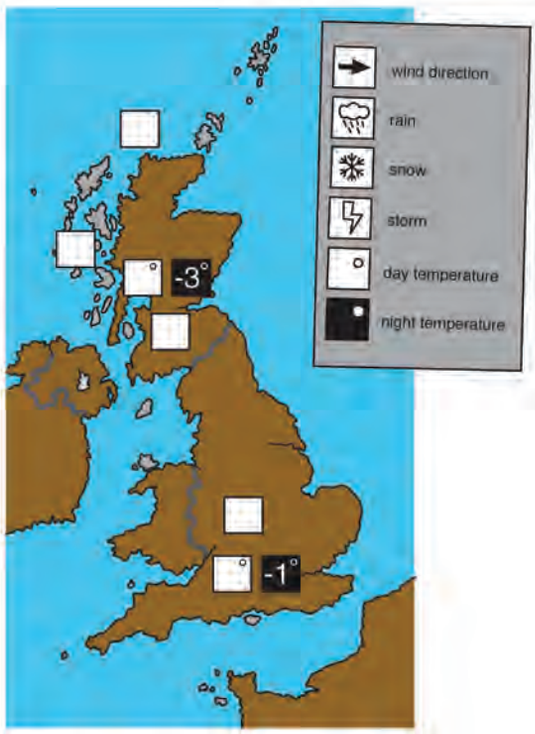
Libya	Oman	Britain	Italy	Alaska

C **The family want to go out together tomorrow. Look at their ideas below. Then listen to the forecast again. In pairs, decide which ideas are good or bad, and why.**

1. Let's go for a walk in the mountains.
2. Let's go to the beach.
3. How about a picnic in a wadi?
4. We could visit our cousins in Sirt – it's only 150 kilometres away.
5. Why don't we go sailing?

D **Work in pairs. Look at the map. Which boxes:**

1. are on the north coast?
2. are in the southeast?
3. show temperatures?



E **Listen to another forecast and complete the map for tomorrow's weather.**

F **Listen to the second weather forecast again. What important information does it contain for the following people?**

1. fishermen
2. people who drive in the early morning
3. people who live near rivers

G **Work in pairs. Prepare to give a weather forecast for tomorrow and the next few days for Libya. Make some notes and practise your forecast.**

H **When you are ready, read your forecast to another pair of students and listen to theirs. Whose forecast do you think is more likely?**

Unit 3 Facts and figures

Lessons 1 & 2: Reading: Scanning for specific information

1. Before you read (Lesson 1)

A **Look at the pictures. Make a note of how many minutes you usually spend doing each of these things every day.**

1 

waiting ___

2 

eating ___

3 

brushing teeth ___

4 

watching TV ___

B **In pairs, compare your answers from Exercise A. Make sentences.**

Examples:
I spend more time watching TV than you do.
You spend a lot of time waiting.
I only spend two minutes a day brushing my teeth.

C **Now compare your answers with two more students. Work out the average number of minutes you spend on each of the activities in Exercise A.**

Example: *waiting*

Student A: 20 mins + Student B: 25 mins + Student C: 10 mins + Student D: 45 mins = 100 mins
Total of 100 mins ÷ 4 students = 25 mins
The average time spent waiting = 25 mins

2. While you read

A **The article on the opposite page is about the results of some research in Britain. Read the first two paragraphs quickly and complete the table.**

activity	time spent during whole life
eating	6 years
waiting at traffic lights	
brushing teeth	
looking at mirrors	
watching television	

B **Read the rest of the article and answer the questions.**

1. How many minutes a day do married couples in Britain spend speaking to each other?
2. How many minutes a day do parents and children in Britain spend talking to each other?

C **Think about the following and discuss as a class.**

1. Which of the results of the research is the most surprising?
2. Do you think the results of research like this would be the same or different in Libya?
3. Why did the writer choose the title *Just a minute!*?

Just a minute!

The average young person today will spend more than 35,000 hours of his or her life eating. That is the equivalent of six years of continuous eating (if the person stops to sleep for 8 hours out of 24). If that doesn't surprise you, consider the following facts, which researchers in Britain have discovered. By the time Mr or Mrs Average is 70 years old, he or she will have spent five months waiting at red traffic lights; the important task of brushing his or her teeth will have taken about three months; and looking in mirrors will have filled another eight months.

Some of these statistics are amusing, but others are worrying. Perhaps the most horrifying statistic of all is this: Mr and Mrs Average, aged 70, will have sat for nine years in front of the television.

Psychologists and sociologists are interested in information of this sort because it helps them to understand how people live nowadays. The information has practical uses, too. A scientist at Britain's Marriage Research Centre says, 'This type of information can help people to think about and improve their relationships.' For example, the average British married couple spend five minutes a day talking to each other, which is less than two days a year, or about ten weeks of their married lives. Parents and children spend even less time talking to each other – one minute a day during the years before the child leaves home, which amounts to only one week of their lives.

When people realize this, they ask themselves, 'Do I really want to spend less time talking to my loved ones than brushing my teeth? And do I really want to give nearly one-seventh of my waking life to the television?'

3. After you read [Lesson 2]

A **Now do Exercises A to D on Workbook page 18.**

Lesson 3: Vocabulary: Until, by and future time phrases

A **Read the information about *by* and *until*.**

> ***Until* and *by***
>
> We use *until* to talk about an activity that will continue up to a certain point in the future.
> Example: *I'll be studying* ***until*** *6 p.m.* (At 6 p.m., the situation will change and I will stop studying.)
>
> We use *by* to say that an activity will happen before or at a certain point in the future.
> Example: *I'll finish my homework* ***by*** *6 p.m.* (Sometime before 6 p.m., I will finish my homework.)
>
> We often use the phrase *by the time* followed by a clause. It is not possible to add a clause directly after *by*.
> Example: ***By the time*** *you arrive, we will have decorated the room.*
>
> **Note:** We sometimes use *till* instead of *until* in informal spoken and written English.

B **Work in pairs. Explain the meaning of each sentence in your own words.**

Example: He'll be in Cairo until 8 p.m. *At 8 p.m., he will leave Cairo.*

1. a) He'll be in Cairo until 8 p.m. _____
   b) He'll be in Cairo by 8 p.m. _____
2. a) I won't finish until lunchtime. _____
   b) I won't have finished by lunchtime. _____
3. a) I'll work until the programme starts. _____
   b) I'll have done the work by the time the programme starts. _____
4. a) We can repair your car by Saturday. _____
   b) We can work on your car until Saturday. _____
5. a) I can stay till 10 p.m. _____
   b) I have to leave by 10 p.m. _____

C **Now do Exercises A and B on Workbook page 19.**

D **Look at the examples in the table below. Then add the words in the box to the table to make time phrases.**

year	evening	night	January	next year	tomorrow	Monday after next

tomorrow	*morning* *afternoon* _____ _____	the	*day after tomorrow* *week after next* _____ _____
next	*Monday* *month* _____ _____	this time	*next week* _____ _____

E **Now do Exercises C and D on Workbook pages 19–20.**

Lesson 4: Grammar 1: The future perfect and the future continuous

A **Study the grammar box. Complete the information about the form of the future perfect.**

The future perfect

We use the future perfect to say that an action will be complete before a certain point in the future.

Examples: *I will have finished my homework at 6 p.m.*
They will have found a solution by the end of the day.
By tomorrow, I will have spent a week writing this essay.

The form of the future perfect is *will* _____ + past _____.

B **Find and underline four examples of the future perfect in the text on Course Book page 31.**

C **Now do Exercise A on Workbook page 20.**

D **What will have happened by the year 2060? Work in pairs. Give your opinions using the verbs in brackets.**

Example: robots (replace) teachers
Robots will probably have replaced teachers.
OR
Robots probably won't have replaced teachers.

1. Chinese (become) the most important language in the world

_____

2. scientists (find) a cure for cancer

_____

3. the population of the world (double)

_____

4. the world (run out) of oil

_____

5. scientists (learn) how to change the weather

_____

E **Study the grammar box. Complete the information about the form of the future continuous.**

The future continuous

We use the future continuous to talk about what will be happening at a particular time in the future.

Examples: *Don't call me at 1:00, because I'll be having lunch.*
This time next week, we'll be flying to London.

The form of the future continuous is *will* + _____ + verb *-ing*.

F **Now do Exercises B and C on Workbook pages 20–21.**

Lesson 5: Grammar 2: The infinitive with future meaning

A **Study the newspaper article and complete the grammar box.**

OPEC REPRESENTATIVES TO MEET NEXT WEEK

The representatives of all the OPEC countries are to meet next week. They will discuss the latest figures …

The infinitive with future meaning

In formal written English, we sometimes use *be* + _____ to talk about future arrangements. _____ often use this form when they write newspaper articles.

Examples: *The president is to open a hydroelectric dam next month.*
Taxi drivers in the capital are to protest against parking restrictions.

This type of sentence is often in the _____ form.

Example: *New measures to combat climate change are to be announced.*

In newspaper _____, the verb *be* is usually left out. This shortened form is never used in spoken English.

B **Now do Exercise A on Workbook page 21.**

C **Write a short newspaper headline about each future event below. Use a maximum of seven words.**

Example: Tripoli will play the English football team, Manchester United, in January.
Tripoli to play Manchester United

1. It has been decided that Monday will be a national holiday.
   Monday _____
2. The new airport will open in January as planned.
   _____
3. The government will spend more money on health education next year.
   _____
4. Cigarettes will cost more when the new tax is introduced next month.
   _____
5. Drivers in Britain, who have always driven on the left, will drive on the right from January 1st next year.
   _____
6. According to the Family Research Unit, families will continue to get smaller during the next twenty years.
   _____

D **Work in pairs. Change the headlines you wrote in Exercise C to full sentences with *be* + infinitive and say them.**

Example: Tripoli to play Manchester United
Tripoli are to play Manchester United.

E **Write a headline and the first few sentences of a newspaper article about another future event, real or imaginary.**

Libyan teenager to become chess master

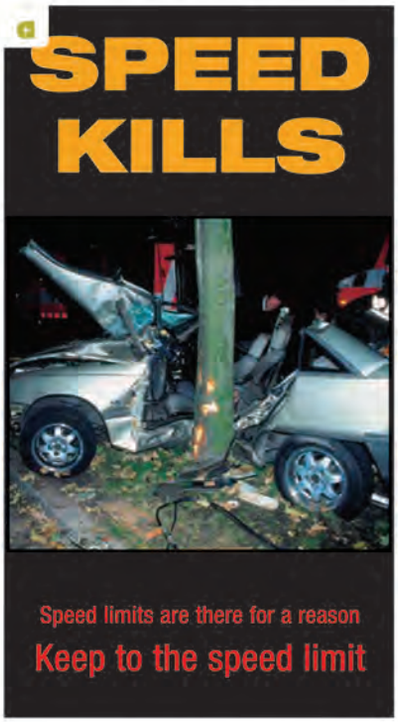
A 17-year-old from Tripoli is to become the youngest African chess master in history. The announcement …

Lesson 6: Speaking: Giving advice

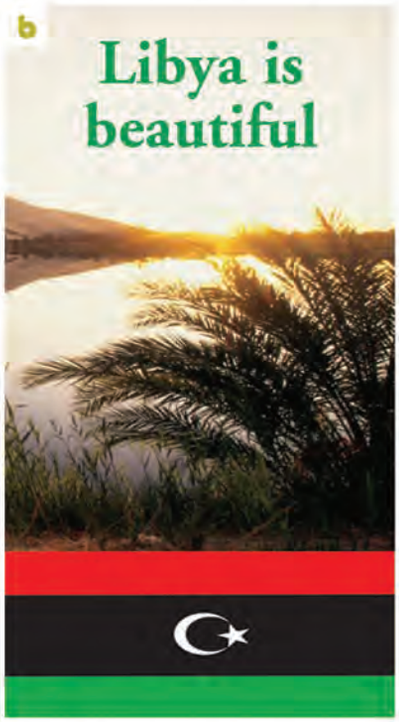
A **Look at the posters. Discuss these questions in small groups. Then share your ideas with the class.**

1. What is the topic of each poster?
2. Which is the best poster and why?
3. Describe a similar poster or television advertisement that you have seen.
4. Suggest a caption for poster b.
5. Think of a new poster to encourage people to keep their neighbourhood tidy. Describe it to the class.

a



b



c

B **Study the box. Which do you think is the strongest way of giving advice?**

Giving advice

We can give advice or warnings in English using particular verb forms.

Examples: ***Don't*** *drop litter.*
You ***should*** *keep the streets clear.*
You ***shouldn't*** *drop litter.*

Or we can give advice by using particular phrases.

Examples: ***It's a good idea to*** *keep your neighbourhood clean.*
It's important to *take your litter home.*
It's important not to *leave litter.*
It's best to *use bins for your litter.*

C **Work in pairs. Make sentences about the advice each poster is giving.**

Example: (Poster a) *You shouldn't speed. It's important not to speed.*

D **Now do Exercise A on Workbook page 21.**

1. Preparation for writing

A **Look at the leaflet. Work with a partner. Answer the questions below.**

Is that what goes into my lungs?

Yes! The nasty black stuff in this one litre jar is tobacco tar. If you smoke a packet of cigarettes per day for a year, this is what you'll put into your lungs. At the end of the year, you'll have coughed up some of it, but some will stay in your lungs.

Tar is very useful. We make roads with it.

But do you want it inside you?

1. How does the writer make smoking unattractive?
2. Which statistic has the writer used on the cover of the leaflet?
3. Do you think the leaflet is effective? Why?/ Why not?

B **Read the three extracts below. Which one do you think is from the next page of the leaflet?**

1 Most tar is made from coal, but it can also be made from petroleum or wood. Although tar is usually considered to be toxic, it is also used for the treatment

2 So isn't it time to stop smoking? It's important to make the decision to stop for yourself. You should also tell your friends and family that you are giving up as

3 By the time you are 70 years old you will have taken around 600 million breaths. The basic function of the lungs is to take carbon dioxide and exchange it

2. Writing

A **Now do Exercises A and B on Workbook page 21.**

Lesson 8: Interpreting data

A **Do you remember the iceberg in Unit 2? Complete the sentence with the percentages.**

How much of the iceberg was above the water? About _____%.

How much was below? About _____%.

B **Work in pairs. Student A, close your book. Student B, choose two percentages and two dates in the box. Read them out loud for Student A to write in their notebooks. Then swap roles.**

93.5%	24.06%	80%	15.36%	0.05%	289.75%	12.12%	155%	0.001%	0.835%
1959	1469	2035	622	1890	2002	1749	2064	1066	1540

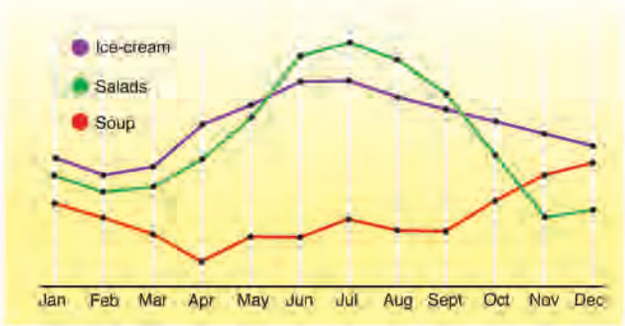
C **Match the dates 1–8 to the events a–h. In pairs, discuss your answers.**

Example: I think the first personal computers were introduced in ... Do you agree?
No, I think it was in ...

1. 1989 ☐
2. 1915 ☐
3. 1958 ☐
4. 1993 ☐
5. 1981 ☐
6. 1979 ☐
7. 1861 ☐
8. 1917 ☐

a) First personal computers introduced
b) World Wide Web begins
c) Camera phone is invented
d) A computer beats a human player in a chess game
e) Sony sells the first Walkman portable cassette player
f) First colour photograph is displayed
g) First coast-to-coast telephone conversation in the USA
h) Technicolour is used for the first time in movies

D **Look at the graph. It shows the sales trends in ice-cream, soup and salad in British supermarkets. Work in pairs. Discuss what you think the *Barbecue Effect* means.**



E **Write the verbs in the box by their synonyms (words with the same meaning). Then underline the six verbs in the box which can also be used as nouns.**

fall	decline	rise	grow	peak	increase	decrease	remain stable

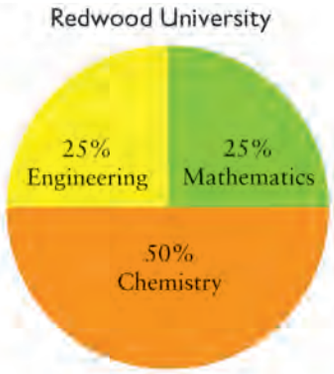
1. go down _____
2. go up _____
3. reach a high point _____
4. stay the same _____

F **Now do Exercises A to D on Workbook page 22.**

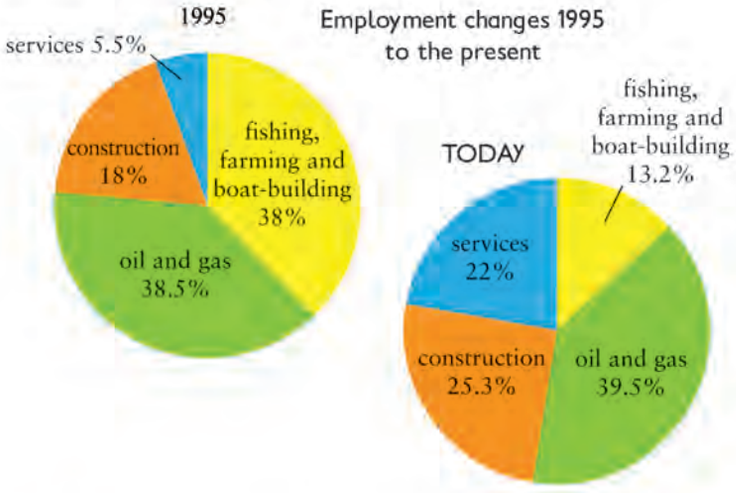
Lesson 9: Pie charts and data

A **Work in pairs. Look at the pie chart then discuss the questions.**

1. How many sectors of university study are shown?
2. What percentage of students are studying engineering?
3. Think of another way of saying how many students are studying mathematics without using a percentage.
4. Which subject accounts for the largest number of students?



B **Professor Abdul-Rahim is preparing a talk about changes in employment in his country. Look at the pie charts he has made to illustrate his talk. Then complete his lectures notes with the information shown.**



In 1995, we can see that service jobs, including tourism, were not very important. They accounted for only ① _____ of total employment. But from the second chart, we can see that this sector has grown rapidly. It now ② _____ for ③ _____ of employment.

The oil and gas industry, however, has remained stable during the same period. In 1995, the number of people employed was ④ _____ of the total and today the figure is nearly the same at ⑤ _____.

What about the construction industry? That has ⑥ _____ from 18% in 1995 to ⑦ _____ today. A marked increase.

Fishing and other traditional industries have declined. The percentage has ⑧ _____ from 38% to only ⑨ _____ today, about a third of the 1995 percentage.

C **Read the rest of the professor's talk. Complete the pie chart based on the information in the talk.**

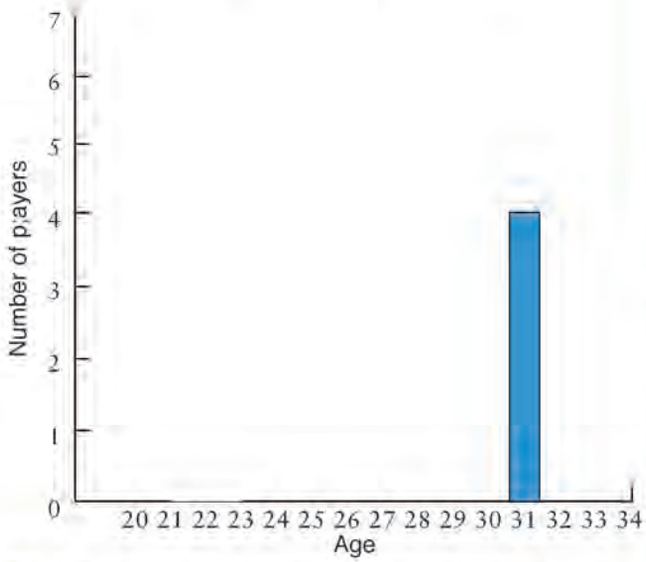
Now let's have a look at future trends in employment. Have a look at this pie chart here. Over the next 20 or 30 years, I expect service industries will continue to grow rapidly. By the year 2030, the number of people employed in these industries will have increased to 34%. The traditional industries, on the other hand – fishing, farming and boat-building – will continue to fall, but rather more slowly than before. By 2030, I expect the percentage figure will have fallen to 9%.

The oil and gas industry has, I believe, peaked with regard to the numbers of people employed. Increasing automation of the industry will mean that fewer and fewer people will be needed. I expect that by 2030, the percentage will have gone down to 24%. However, the construction industry will continue to boom – reflecting the expected growth in population and the need for new housing. The number of people employed in construction will probably have risen to 33% – about a third of the total workforce.

D **Now do Exercise A on Workbook page 23.**

Lesson 10: Statistics

A **Look at the list of Libyan football players from the January 2008 squad and their ages. Then complete the bar chart below recording the ages of the players.**



Name	Position	Age
Meftah Ghazalla	GK	31
Osama El Sanousi	GK	27
Samir Abbud	GK	36
Mohamed El Moghrbe	DF	23
Mohamed Esnany	DF	24
Omar Daoud	DF	25
Osama Hamadi	DF	33
Walid Sebaee	DF	24
Younes Shibani	DF	27
Ali Rahuma	MF	26
Nader Al Tarhoni	MF	29
Khaled Hussein	MF	31
Tarik El Taib	MF	31
Walid Mhadeb	MF	23
Ahmed Saad	FW	28
Ahmed Zuway	FW	26
Osama Al Fazzani	FW	30
Reyad Ellafi	FW	28
Salem Rewani	FW	31

B **Work in pairs. Look again at the list of football players. Are they ranked in any particular order? Discuss how else you could rank them.**

C **Match the statistical terms 1–6 to the definitions a–f.**

1. mean ☐
2. mode ☐
3. median ☐
4. range ☐
5. maximum ☐
6. minimum ☐

a) the number in a set of given numbers which appears most frequently
b) the lowest number in a set of numbers
c) the middle number in a set of numbers when ranked in order
d) the difference between the highest and the lowest values
e) the total score divided by the number of items of data
f) the highest number in a set of numbers

D **Look at the bar chart in Exercise A. Answer these questions.**

1. What is the minimum age of the group? _____
2. What is the maximum age? _____
3. What is the range? _____
4. What is the modal age? _____
5. What is the median age? _____
6. What is the mean? _____

Lesson 11: Computer English

A **Label the icons from a software package using the words in the box.**

open	save	print	cut	copy	paste






1 _____ 2 _____ 3 _____ 4 _____ 5 _____ 6 _____

B **Work in pairs. Look at the instruction words for using a computer in English. Check their meaning and pronunciation. Add any other instruction words you can think of to the list.**

close	edit	view	click	insert	escape	select	delete	draw	shade

C **Write the correct instruction word from Exercise B next to the actions 1–6.**

1. to change a document you have written _____
2. to remove a sentence from your text _____
3. to put a table into your document _____
4. to press a section of the mouse _____
5. to choose from a number of options _____
6. to stop using a file _____

D **Samia is giving instructions to Zuhra on how to use a computer. Complete the conversation with the words in the box.**

type	document	print	click	open	printer	options	save	choose	menu

Samia: What are you trying to do, Zuhra?
Zuhra: I'm trying to ① _____ a new document.
Samia: Well, first of all, move the arrow and ② _____ on *file*.
Zuhra: On *file*. Right.
Samia: Now you see the list of ③ _____?
Zuhra: That's a ④ _____, isn't it?
Samia: That's right. Like in a restaurant. So now you click on the option you want – click on *new*.
Zuhra: New. OK.
Samia: And there's the blank page. Now you can ⑤ _____ what you want.
Zuhra: But when I've finished typing, how can I ⑥ _____ the document?
Samia: Then you click on *file* again and ⑦ _____ the option *save*.
Zuhra: What if I want a copy of the ⑧ _____?
Samia: Well, first make sure the ⑨ _____ is switched on.
Zuhra: Of course!
Samia: Then select the option ⑩ _____.
Zuhra: I see. Thanks very much, Samia.

E **Now do Exercise A on Workbook page 23.**

Lesson 12: Listening: Listening for specific details and contrastive stress

A **Look at the table and the cartoon. Answer the questions. Then compare your ideas with a partner.**

Time difference between Tripoli and major world cities (Tripoli = 0)			
Beijing	+6 hours	London	-2 hours
Dubai	+2 hours	Los Angeles	-10 hours
Hong Kong	+6 hours	Nairobi	+1 hour
Islamabad	+3 hours	Paris	-1 hour
Lima	-7 hours	Sydney	+9 hours

1. Why are some parts of the world dark when it is midday in Libya?
2. How do time differences affect business?
3. What problems do people have after flying across many time zones? Why?
4. Work out the day and time in Hong Kong and Los Angeles when it is 9a.m. on Wednesday in Tripoli.

B **You are going to listen to an in-flight video presentation. Read the leaflet below. Then listen to part 1 and complete the advice.**

Dealing with jet lag

When you arrive at your destination, you will have passed through several time zones. Your watch and your body clock will be telling you different information. It will be a few days before your body clock adjusts to the new time. You can't avoid the problem, but you can reduce it by following these simple steps.

During your flight:

1. Soon after take-off, set your _____ to the _____ at your destination.
2. Do _____ on the plane.
3. _____ light _____.
4. _____ plenty of _____.

C **Listen to part 1 again and make notes about the reasons for the four pieces of advice in Exercise B.**

D **Listen to part 2. In your notebook, make notes about the rest of the advice you hear.**

E **Work in pairs. Compare your notes from Exercise D. Use your notes to give your partner more advice about dealing with jet lag.**

F **When two things are contrasted, we stress the contrasting words. Listen and repeat. Practise saying the phrases in pairs.**

1. Don't wait until you arrive. Do it before you arrive.
2. Don't sleep in the day. Wait until night.
3. Eat light food. Heavy food is not good.
4. Light means day, and dark means night.

Unit 4 Great failures

Lessons 1 & 2: Reading: Reading to retell information

1. Before you read [Lesson 1]

A **Work in pairs. Discuss the following.**

1. the three best sportsmen in Libya
2. the three worst programmes on television
3. the three greatest scientists in history
4. the three worst films ever made

B **Write these words in the correct column in the chart.**

badly best great well worst be good at be not very good at mistake right wrong fail failure pass succeed success successful unsuccessful ashamed of proud of

positive words	
negative words	

C **Look at the pictures on page 43. Quickly read the title and the subtitles in red. Do you think this will be a humorous text or a serious text?**

2. While you read

A **Read only the introduction to the text on page 43. With your partner, discuss what you think happened to the people (and the animal) in the pictures.**

B **Work in groups. Each group reads one of the stories on page 43. Discuss these questions with the other people in your group.**

1. What is the title of the story?
2. Who or what is the story about?
3. What are the main details?
4. What happened in the end?

C **Close your book. Make new groups. Tell your new partners about your story. Listen to your partners' stories and ask about anything you do not understand.**

3. After you read [Lesson 2]

A **Now do Exercises A to C on Workbook pages 24–25.**

Great failures

Great scientists, world leaders, famous writers, singers and film stars all have a special talent. They are all specially good at something. Millions of pages are written about them in books, magazines and newspapers. But what about those who are specially bad at something? This page is for them.

The worst driver in the world

This title is proudly claimed by a British woman who had 212 driving lessons, but could not pass her driving test. She failed her test 38 times in eight years. Her 39th test was not so bad, and she would have passed if she had not driven through a red light. She finally passed the test a month later.

The longest failure to return a borrowed book

Many of us are slow to return things that we have borrowed. But first prize must go to Mr M Dodd, who borrowed a book from a library in 1823. He was supposed to return it three weeks later, but the book was not returned until 1968. Mr Dodd's grandson, who returned the book, explained, 'My grandfather was going to return it, but he died. I should've returned it earlier, but I kept forgetting.'

The least successful weather report

A radio presenter in Saudi Arabia once announced, 'We are sorry that we cannot give you the weather forecast. We receive the weather forecasts from the airport, which is closed because of the bad weather.' The announcement ended, 'If the weather improves, we will give you the forecast tomorrow.'

The worst burglar

A burglar broke into a house in Paris and stole a video and some silver. He was just going to leave when he felt hungry. In the kitchen, he found some of his favourite cheese. If he had left then, he would have been all right, but the kitchen was full of good things, which he ate quickly. After a time, he felt very sick. He wished he had not eaten so much so quickly and he lay down. The next thing he saw was a police officer. He had been asleep for five hours.

The unluckiest lion

When a lion escaped from a circus in Italy, people screamed and ran. Then the lion saw a small boy and ran after him. That was a big mistake. The boy's mother was a big, strong woman, and the lion soon wished it had left the boy alone. It spent the next three weeks in an animal hospital and was afraid of women and small children for the rest of its life.

Lesson 3: Vocabulary: Verb collocations

A **Complete the table. Put the words from the box in the correct column.**

a mistake	work/homework	a break	a guess	sport	damage	220 kph
a choice	a haircut	a discussion	a problem	a suggestion	~~a headache~~	
an experiment	a drawing	your best	a drink	~~a phone call~~	~~a favour~~	
a decision	breakfast	a rest	a noise	an appointment		

make	do	have
a phone call	a favour	a headache

B **What are the three forms of the verbs *make*, *do* and *have*? Complete the table.**

infinitive	past simple	past participle
	made	
to do		
		had

C **Complete the sentences with a phrase from Exercise A above. You will need to change the verbs *make*, *do* or *have* into the correct form.**

Example: My hair's short because I've just had a haircut.

1. I phoned this morning and _____ to see the doctor.
2. I'm tired. I'm going to _____.
3. This car can _____.
4. Has the storm _____ much _____?
5. We've been working for five hours and we haven't _____!
6. OK, I've _____. I want that one.
7. If I didn't know the answer, I _____ just _____. Sometimes I was right.
8. Scientists _____ for years before they found the answer.
9. Can I borrow your mobile? I need to _____.
10. I didn't feel very well. I _____ and a high temperature.

Lesson 4: Grammar 1: How things could have been different

1. Conditional sentences (type 3)

A Study the grammar box.

We cannot change what happened in the past. But when we think about how events in the past could have been different, we use:

***if* + past perfect, *would have* + past participle**

Example 1: The lady in the story drove through a red light, and so she failed her driving test.

If** she **had not driven** through a red light, she **would have passed.
***if* + past perfect, *would have* + past participle**

You can change the order of the two parts of the sentence.

Example 2: The burglar in France ate too much and fell asleep.

*He **would** not **have fallen** asleep **if** he **had eaten** less.*
***would have* + past participle ... *if* + past perfect**

B Change the form of the verbs to make correct sentences about the past.

1. If you/drive more carefully/you/not crash/the car.

_____

2. This/not happen/if you/listen to my advice.

_____

3. They/win/if they/play better.

_____

4. If the weather/not be so bad/we/go for a picnic.

_____

2. wish + clause

A Study the grammar box.

The verb *wish* is followed by the past perfect when referring to things in the past.

Example 1 (past): I'm sorry, I didn't know.
I wish I had known.

The verb *wish* is followed by the past simple when referring to things in the present.

Example 2 (present): I don't speak French.
I wish I spoke French.

B Look at the picture. Read the genie's offer. Write your three wishes in your notebook.

C Tell a partner your wishes, and explain your reasons.

Example:
Student A: *I wish I had known it was your birthday.*
Student B: *Why?*
Student A: *Because if I had known, I would have bought you a gift.*

D Now do Exercises A and B on Workbook page 25.

Lesson 5: Grammar 2: The future in the past

A **These phrases are from the stories in Lesson 1. What future plan did the person have when these things happened?**

1. he died (Mr Dodd)
2. he felt hungry (the burglar)

B **Read the grammar box and complete the sentences in it.**

The future in the past

When we are talking about the past, sometimes we want to talk about something that was in the future at that time – something that had not happened yet. We can use ***was/were going to***.

Complete the two sentences from the stories using ***was/were going to***.

1. My grandfather _____ return it, but he died.
2. He _____ just _____ leave when he felt hungry.

C **Study the pictures and complete the sentences using *was/were going to*. In which sentence can you use *just*?**

1. Yesterday, Jamal _____ do some work, but he decided to do it later.
2. Before she went shopping, Zahra wrote a list of things she _____ buy.
3. The scientists didn't know what they _____ _____ find.
4. Hajir _____ have a drink when an insect flew out of the glass.

D **Rewrite these sentences using *was/were going to ..., but ...***

Example: We forgot to do it.
*We **were going to** do it, **but** we forgot.*

1. The car broke down, so we couldn't go shopping.
2. If I had had time, I would have done it.
3. The teacher told us not to go in.
4. We forgot to bring it.
5. I would have phoned you if I hadn't lost your number.
6. We had just turned on the TV when our cousins arrived.

E **Now do Exercise A on Workbook page 26.**

Lesson 6: Speaking: Telling a story from pictures

A **The pictures show a day last year in the life of Salim, who is not good at doing things on time. With a partner, discuss the pictures. Why is Salim a very lucky man?**

1 On Sunday in his hotel room ...

2 On Monday morning ...

3

4

5

6

7

8

9 The next day ...

B **How could Salim use these phrases to tell his story? Discuss with a partner.**

1. I was going to ...
2. I didn't ... until ...
3. I wished ...
4. By the time I ...
5. If I had ...

C **Work in pairs. Student A, you are Salim. Tell your story. You must use the expressions in Exercise B above. Student B, for each part of the story that Salim tells you, ask a question. Then switch roles.**

Example: Student A: *The traffic was very heavy. I wished we had gone another way.*
Student B: *Why didn't you do that?*

D **Now do Exercises A to D on Workbook pages 26–27.**

Lesson 7: Writing: Writing a story

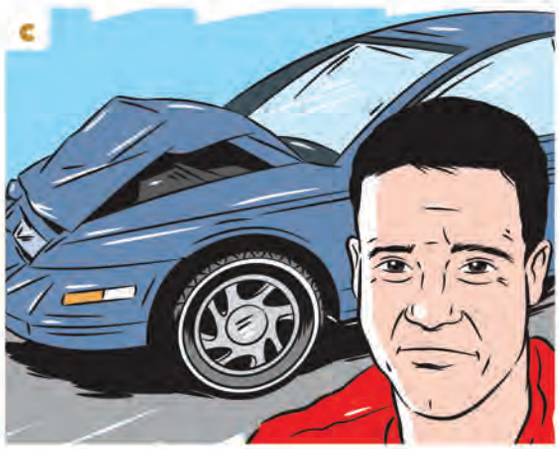
A **Discuss these pictures with a partner.**

1. What can you see?
2. How did the person escape?
3. Why was it a lucky escape?

a

b

c



B **You are going to write a story. Choose one of the following topics: the story of Salim's lucky escape in Lesson 6 or a story of your own about a lucky escape. It could be true or fictional.**

C **What happened in your story? Write notes about the main events of your story in your notebook.**

D **Write sentences to include in your story. Use your notes from Exercise C and the following prompts to help you.**

1. *was going to …, but …*

_____

2. *if* + past perfect, *would have* + past participle

_____

3. *wish* + past perfect

_____

E **In your notebook, write the story in the first person (use *I*, not *he/she*). Make sure you include some of the sentences you wrote in Exercise D above.**

F **Check your work for errors. Then give it to a partner to check.**

Lesson B: Telephones

A **Do a quick survey in your class. Find out the following facts.**

1. the percentage of students in the class who have a fixed line phone at home
2. the percentage of people who have a mobile phone
3. the percentage of people who have a camera phone
4. the average number of telephone calls students make every week
5. the number of text messages students send every day

B **Work in pairs. Discuss how new technology has changed our lives. In your notebooks, list the advantages and disadvantages that new technology, such as cellphones and camera phones, can bring.**

C **Read the text, then give it a title from the box.**

Phones have come a long way!	Africa's telecom boom
Too poor to use a mobile	New technology provides jobs

Google Google Image: Itanl_IL.JPG Google FIPEX Netmail Facebook |

_____

In the first few years of the 21st century, Africa saw faster growth in mobile telephone subscriptions than anywhere else in the world. In fact, Africa was the first continent to have more mobile phone users than fixed-line subscribers.

Between 1999 and 2004, the number of mobile phone customers in Africa jumped from 7.5 million to 76.8 million – an average annual increase of 58 per cent. South Africa, the continent's richest nation, accounted for one-fifth of that growth. The choice of prepaid or *pay-as-you-go* services, where the subscriber does not have to sign up to a long-term contract, has been one reason behind this major growth in Africa, as well as in other continents.

For various reasons, many parts of Africa had few land-lines, so cellphones made it possible for millions of people to skip a technological generation – they went from letter writing to instant messaging in one jump!

Villagers in the forest regions of the Congo were so keen to get service that they built very tall tree houses to catch signals from far-off cellphone towers.

But mobile phones have done far more than just let people talk to each other. They have changed people's lives in poorer or very remote areas. One man used his handset as a public pay phone. People without a cellphone paid him to climb his tree house and use his phone. Health-care workers in rural areas far from towns call ambulances or contact doctors on their phones.

Some farmers use their phones to find out the prices for their goods on the main markets which helps them when they sell to middlemen.

One woman living on the Congo River told her customers to call her if they wanted to buy any fresh fish. She didn't have electricity and couldn't put her fish in a freezer, so she kept them in the river on a line until a call came in, then got them ready for sale.

In 2007, one in eleven Africans was a mobile subscriber. This trend is set to continue.

D **Read the text again in Exercise C. Then answer these questions.**

1. Find another word for *customer* in the text. _____
2. Find another word for *mobile phone*. _____
3. What are the different ways customers or subscribers can pay for their mobile phone calls? _____
4. What was the total number of telephone subscribers in Africa in 2004? _____
5. Find examples in the text of how mobile phones have changed people's lives for the better. _____

E **Work in pairs. Find the figures in box from the text in Exercise D. Then take turns saying what they represent.**

76.8 m	58%
one-fifth	1 in 11

Example: 1999–2004. *In this period, the number of mobile phone subscribers in Africa increased a lot.*

F **Now do Exercises A and B on Workbook page 27.**

Lesson 9: Large numbers

A **Work in pairs. Take turns reading these large numbers to each other.**

Example: *265,590 two hundred and sixty five thousand, five hundred and ninety*

734,612	5,389,000	471,845	4,678,000	821,000	1,510,940

B **Work in pairs. Look at the chart below. Then take turns asking and answering the questions.**

1. What was the population of Africa in 2007?
2. How many people in Asia used the Internet in 2007?
3. How many people in the world had access to the Internet in 2007?
4. What percentage of the world's population live in Asia?
5. How much did Internet use increase in the Middle East between 2000 and 2007?
6. What was the total world population in 2007?

World Internet usage chart

world regions	population	percentage of world population	Internet usage	percentage of population using Internet	usage percentage of world	usage growth 2000–2007
Africa	933,448,292	14.2%	43,995,700	4.7%	3.5%	874.6%
Asia	3,712,527,624	56.5%	459,476,825	12.4%	36.9%	302.0%
Europe	809,624,686	12.3%	337,878,613	41.7%	27.2%	221.5%
Middle East	193,452,727	2.9%	33,878,613	17.3%	2.7%	920.2%
North America	334,538,018	5.1%	234,788,864	70.2%	18.9%	117.2%
Latin America/Caribbean	556,606,627	8.5%	115,759,709	20.8%	9.3%	540.7%
Oceania/Australia	34,468,443	0.5%	19,039,390	55.2%	1.5%	149.9%
World Total	6,574,666,417	100.0%	1,244,449,601	18.9%	100.0%	244.7%

C **We use approximations when talking about figures. Look at the examples below. Then write these figures as approximations.**

985,000 = *nearly* a million *just under* a million *almost* a million *approximately/around/about* a million

1,005,970 = *just over* a million *more than* a million *approximately/around/about* a million

1. 49,600 tons _____
2. LYD 5,090 _____
3. 38.8% _____
4. 19.9 million _____
5. 201.78 km/hour _____

D **Work in pairs. Discuss the information from the table in Exercise B. Use approximations where possible.**

Example: *Nearly 19 per cent of the world's population uses the Internet.*

E **Now do Exercise A on Workbook page 28.**

Lesson 10: Inventions

A **Match the inventions 1–7 to their inventors a–g.**

1. telescope	☐	a) Otis
2. ball-point pen	☐	b) Marconi
3. telephone	☐	c) Edison
4. lift (elevator)	☐	d) Benz
5. radio	☐	e) Galileo
6. motor car	☐	f) Bell
7. electric light bulb	☐	g) Biro

B **Work in pairs. Discuss the inventions in Exercise A and put them in order of how useful they have been. Use the structures below in your discussion.**

Without the ... we wouldn't be able to ... we couldn't ...
we wouldn't have been able to ... we couldn't have ...

Now think of some inventions or developments that you think have had a negative effect. Use the structures below in your discussion.

If ... hadn't invented the ... If we didn't have the ...
we would be / wouldn't be / would have / wouldn't have ...

C **Work in pairs. Discuss these questions.**

1. What is the difference between a calendar and a clock?
2. How can we tell the time from the sun?
3. What is a monument? Give some examples of monuments you have seen.

D **Read the text about early clocks. Then answer the questions.**

1. Complete the table.

date	device
	calendar based on 365-day year
3500 BC	
	T-stick
600 BC	

2. What could ancient people predict from calendars?

_____

3. What shape is an obelisk?

_____

4. Why do you think inventions such as sundials and *merkhets* developed in countries such as Egypt?

_____

E **Now do Exercises A and B on Workbook page 28.**

Early clocks


Egyptian shadow clock, or T-stick

Since ancient times, people have been interested in marking the passage of time. Different civilizations invented calendars, which divided time into years, months and days. In this way, they were able to make calculations about seasonal events. They could predict, for example, when rivers were going to flood, or when winter was going to arrive. The Egyptians, in 4236 BC, devised one of the first calendars based on a year of 365 days.


obelisk

In more recent times, people have wanted to know not just the time of year, but the time of day. The Egyptians were among the first people to divide the day into parts. About 3500 BC, they began to build obelisks, which are slender, tapering, four-sided monuments. The shadows of these early clocks formed a kind of sundial. The shadow indicated when it was midday, and so it was easy to divide the day into two. Later, markers were added around the base of the monument to indicate further subdivisions of time.

Around 1500 BC, the Egyptians developed a portable *clock* called a T-stick, or shadow clock. This device had gradient marks along its long stem. The shorter stem cast a shadow over the marks. It was used to divide the sunlit day into ten hours.

The Egyptians invented another device, called a *merkhet*, about 600 BC. It was used for measuring time at night. Two instruments were aligned with the Pole Star. Time was divided by noting the passage of other stars during the night.

Lesson 11: Safety in the Lab

A **Match the words and phrases 1–7 to the pictures a–g.**

1. fume cupboard ☐
2. first aid box ☐
3. label ☐
4. laboratory coat ☐
5. protective glasses ☐
6. fire extinguisher ☐
7. glove box ☐

B **Put these words in the correct order to make captions for the cartoons.**

1. happened / careful / you'd / it /have / been / if / wouldn't / more

_____

2. read / that / I'd / the bottle / first / I / the label / wish / on

_____

3. switched off / that wire / touched / before / should've / you / you / the electricity

_____

4. glasses / he'd / damaged / if / wouldn't / worn / have / his eyes / protective / Khalid

_____

5. would've / the reaction / I'd known / put on / so violent / if / was going / a lab coat / to be / I

_____

C **Work in pairs. Discuss the signs below that you might see in a lab. What do you think they mean.**

D **Work in pairs. List the materials or equipment found in a lab which correspond to the dangers in Exercise C. What safety steps should you take to prevent these risks?**

E **Now do Exercises A and B on Workbook page 29.**

Lesson 12: Listening: Listening to complete notes

A **Talk in pairs. How many clubs do you know? Discuss them using these topics.**

1. the name of the club
2. the members
3. meetings and activities
4. the club's history
5. the success of the club (and the reasons for this)

B **Look at the poster and discuss these questions.**

1. What kind of club could this be?
2. What kind of people would join this club?

The Not Very Good Club

a club for people who are

☺ - ☹

C **Listen to the first part of a conversation about the club, which was started a few years ago. Are any of your ideas from Exercise B mentioned?**

D **Read these notes. Then listen again to the first part of the conversation and complete the gaps.**

Three of the club's members:

1. a not very good _____
2. somebody who could not _____
3. a fisherman who couldn't _____

The first meeting was at a _____ restaurant

Two activities:

1. a _____
2. an _____ exhibition

E **Read these questions. Then listen twice to the second part of the conversation to answer them.**

1. How long did the club continue? _____
2. What happened when the club became famous? _____
3. Why was that bad for the club? _____
4. What happened in the end? _____

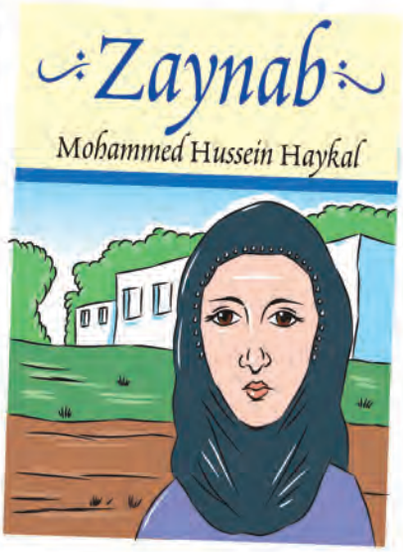
F **Discuss these questions in pairs.**

1. Do you think the club was a success or a failure?
2. Do you think it should have stayed open? Why/Why not?
3. Would you have joined the club? Why/Why not?

Unit 5 Literature

Lessons 1 & 2: Reading: Identifying styles of writing

1. Before you read [Lesson 1]



A **Discuss these questions in groups.**

1. Do you read when you travel? Why?/ Why not?
2. Do you prefer to read fiction or non-fiction?
3. Who are your favourite authors writing in Arabic?
4. Have you read any good books lately? What were they about?
5. What kind of books do you prefer? Number the types of books 1–6.
   (1 = the type you like best and 6 = the type you like least.)

___ historical novels
___ thrillers
___ biographies
___ science fiction novels
___ travel writing
___ novels about modern life

2. While you read

A **Now do Exercise A on Workbook page 30.**

Mousa

I enjoy reading a good story. I mean an exciting story with plenty of action. I've tried reading other kinds of novel, but I prefer this kind. They're relaxing and easy to read. Sometimes I feel like reading at home, and I often read on the bus. I travel a lot by bus and the journeys can be boring, so it's good to have something to read.

Salsabil

Reading a good novel is one of the things I enjoy most. I try to do some reading most days, so I get through quite a lot of books. Sometimes I don't know what to read next, so I ask a friend to recommend a good book. Before choosing a book, I read a few pages to see if I like it. I like novels about people. I think the characters and their thoughts are more interesting than what happens in the story.

Reading

B **Read the two extracts from the novels below quickly. Which would Salsabil prefer? Which would Mousa prefer? Why?**

C **In pairs, discuss books you would recommend to Mousa and Salsabil. Give reasons for your choice.**

1

Chapter 1

A sound woke him. He raised himself on his elbows and listened, holding his breath. But he could hear nothing. It was incredibly quiet, unnaturally so. Then he noticed that the fan had stopped. He got out of bed, untucking the mosquito net, and took the gun from the cabinet drawer. His bare feet made small, tacky noises crossing the floor and his elbow cracked as he reached for the door handle. The silence was so intense without the fan that the smallest sound was exaggerated. He opened the door a few centimetres and peered cautiously into the long, high-ceilinged living room. The big windows let in the dawn light and the room seemed less shadowy than the bedroom. But just as dead, just as silent.

2

CHAPTER 1

Mother died today. Or maybe yesterday. I can't be sure. The telegram from the Home says, 'Your mother passed away. Funeral tomorrow. Deep sympathy.' Which leaves the matter doubtful. It could have been yesterday.

The Home for Aged Persons is about 100 kilometres from Algiers. If I take the 2 o'clock bus, I should get there well before nightfall. Then I can spend the night there and be back here by tomorrow evening. I have fixed up with my employer for two days' leave. Obviously in the circumstances, he couldn't refuse. Still, I had an idea he looked annoyed, and I said, without thinking, 'Sorry sir, but it's not my fault, you know'.

3. After you read (Lesson 2)

A **Now do Exercises A to F on Workbook pages 30–31.**

Lesson 3: Vocabulary: Nouns and adjectives ending with -ing

A **Look at the posters. Complete each caption with one word.**

1

2

3

B **Read the information and check your answers to Exercise A.**

-*ing* form or gerund

We sometimes use the *-ing* form of verbs like a noun. This form is called a *gerund*.

We can use the gerund as the subject of a sentence.
Examples: ***Reading*** *is good for you.*
Driving *too fast is dangerous.*

We can use the gerund as the object after certain verbs. (See Lesson 5.)
Examples: *I enjoy* ***reading*** *a good story.*
I've tried ***reading*** *other kinds ...*

When a verb comes directly after a preposition, it is usually in the *-ing* form.
Examples: *Before* ***choosing*** *a book, I ...*
I said it without ***thinking***.

C **Now do Exercise A on Workbook page 31.**

D **Look again at the texts about Mousa and Salsabil on page 54 and complete these sentences.**

1. Mousa enjoys reading an _____ story with plenty of action.
2. He thinks these kinds of stories are easy to read and _____.
3. He thinks that journeys by bus can be _____.
4. Salsabil thinks that the characters in a book are more _____ than the story.

E **Now do Exercises B to E on Workbook pages 31–32.**

Lesson 4: Grammar 1: Adjectives, nouns and question words followed by the infinitive

A **Underline the infinitive form in this sentence from Lesson 1.**

It's good to have something to read.

B **Study the grammar box.**

Adjectives followed by the infinitive

Adjectives which describe reactions and feelings are often followed by the infinitive form of the verb.
Examples: *Hello! How are you? It's good* ***to see*** *you!*
I'm afraid ***to tell*** *you that you've failed the exam.*

Many other adjectives are also followed by the infinitive.
Examples: *Are you ready* ***to start?***
These grapes are only good ***to eat*** *when they are ripe.*

C **Now do Exercise A on Workbook page 32.**

D **Study the grammar box below. Match these sentences from Lesson 1 with the uses of the infinitive in the grammar box.**

1. I try to do some reading most days. ___
2. Sometimes I don't know what to read next. ___
3. I read a few pages to see if I like it. ___

Nouns, pronouns and question words followed by the infinitive

a) We use the infinitive form after a noun or a pronoun to explain the purpose of something.
Examples: *Pass me a knife* ***to cut*** *this bread, please.*
Can you give me something ***to stop*** *this headache?*

b) We use the infinitive after certain verbs. (See Lesson 5.)
Examples: *She's decided* ***to study*** *Biology.*
I'm trying ***to find*** *the post office.*

c) We sometimes use the infinitive after question words (*how, where, what, when*).
Examples: *Do you know how* ***to drive?***
The man at the tourist office told me where ***to go.***

Note: We don't use the infinitive after *why*.

E **Now do Exercises B and C on Workbook pages 32–33.**

F **Sumaya's employer has asked her to write a letter to a customer, but she is very lazy. Complete her excuses with words from the box.**

send	~~how~~	~~spell~~	where	use	what	find	how	write	where

1. I don't know how to spell his name.
2. I've forgotten _____ to _____ the computer.
3. You haven't told me _____ to _____ the letter.
4. I don't know _____ to _____.
5. I don't have any paper and I don't know _____ to _____ it.

Lesson 5: Grammar 2: -ing or infinitive?

A **Study the grammar box.**

-*ing* or infinitive?

You have already looked at some verbs which always end with *-ing* and some which are followed by the infinitive (*to …*).

Examples: *I enjoy **reading** a good story.*
*We've arranged **to meet** on Tuesday.*

The best way to learn whether a verb is followed by *-ing* or the infinitive is through practice. You can also write the verbs in groups to help you remember. Here are some common verbs for each pattern.

verb + *-ing*: avoid, be worth, enjoy, feel like, finish, imagine, keep, look forward to, mind, practise, risk

verb + infinitive: arrange, afford, choose, decide, expect, fail, hope, learn, plan, prepare, seem, want

B **Now do Exercises A and B on Workbook page 33.**

C **Study the information in the grammar box.**

-*ing* and infinitive with different meanings

After *remember* and *forget*, we can use either *-ing* or the infinitive, but the meaning is different.

We use *-ing* when we are looking back in the past at things that have already happened.

Examples: *I can remember **learning** to swim.*
*I'll never forget **taking** my first driving lesson.*

We use the infinitive when we are looking forward into the future, talking about things that usually happen or talking about a point in the past when something has not happened.

Examples: *Please remember **to phone** me.*
*You forgot **to buy** the magazine.*

D **Now do Exercise C on Workbook page 33.**

E **Study the information in the grammar box below. Then find two examples of sentences with *try* in the texts about Mousa and Salsabil on page 54.**

When we use *try* with *-ing* and the infinitive, there is also a difference in meaning.

We use *-ing* after *try* when we talk about doing something to see what the result will be.

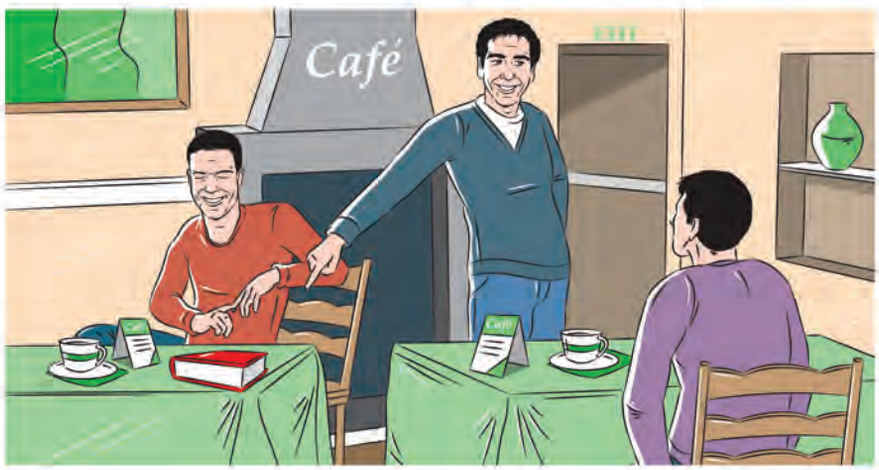
Example: *I tried **changing** the battery, but it still isn't working.*

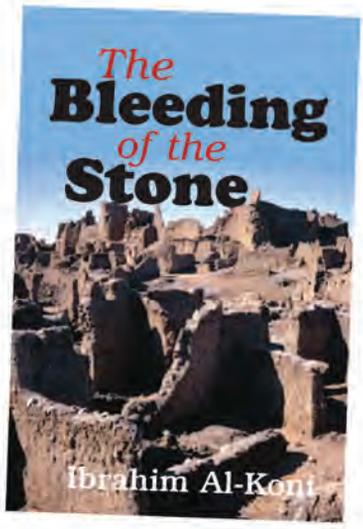
We use the infinitive after *try* when we talk about making an effort to do something.

Example: *We tried **to lift** the box, but it was too heavy.*

F **Now do Exercise D on Workbook page 33.**

Lesson 6: Speaking: Talking about books





A **Complete the conversation with words from the box.**

exciting	set	called	about	written	by	character	recommend

Ahmed: Hi, Khalid. What are you reading?

Khalid: Actually, I've just finished it. It's ① _____ 'The Bleeding of the Stone'.

Ahmed: I've never heard of it. Who's it ② _____?

Khalid: Ibrahim Al-Koni.

Ahmed: So, what is it ③ _____? Stones?

Khalid: Not exactly. It's about the effect humans have on the natural world, really. It's ④ _____ in the desert in Libya.

Ahmed: And what's the storyline?

Khalid: Well, the main ⑤ _____ is called Asouf. He's a Bedouin who lives in a very remote part of the desert. He's a kind of expert on the area and he's the only one who knows where some really rare sheep are. Then these two hunters meet Asouf and they want him to show them where the *waddan* are.

Ahmed: So would you ⑥ _____ it?

Khalid: Yes, I definitely would. It's an ⑦ _____ story and it also made me think. And it's really well- ⑧ _____. There are some beautiful descriptions of the desert. You should read it.

Ahmed: It does sound good. Can I borrow it?

B **Read the information in the box below. Practise saying the phrases in pairs.**

Giving opinions about a book

There are a lot of ways to tell someone what you thought of a book.

When you like a book, you can say:
I couldn't put it down.
It's well/brilliantly written.
I would (definitely) recommend it.
You should read it.

When you don't like a book, you can say:
It's good in parts, but ...
It's not really my kind of book.
It's not very well-written.
I (definitely) wouldn't recommend it.
It's not worth reading.

C **Now do Exercises A to D on Workbook page 34.**

Lesson 7: Writing: A book review

1. Preparation for writing

A **Read the review and answer the questions.**

1. Who wrote *David Copperfield*?
2. What is it about?
3. Where is it set?
4. Does the reviewer recommend the book?
5. Does the book have any bad points?
6. Based on this review, would you like to read *David Copperfield*?

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REVIEW RATING

●●●○○

David Copperfield is one of the most famous novels written by the English author, Charles Dickens. It was written in 1850 and is set mainly in London. It is a classic novel, with lots of drama and serious social themes, but in places, it is also very funny.

The book tells the life story of David Copperfield, from his birth, youth and education to his working life and middle age. As the story unfolds, we are introduced to many wonderful characters, including David's aunt, Betsy, his stepfather, Mr Murdstone, and other friends and enemies he makes in the course of his life. David has a difficult childhood. His mother dies when he is young, and David has a stepfather who sends him to school in a different town. David eventually moves to London, where he works hard and finally becomes a writer.

The best thing about this book is the characters. They are very entertaining and never boring. The narrator of the book (David) is likeable and the story is very well written. But it is quite a long book, and the style of the writing is quite difficult in parts.

I would recommend this book because it is about the kind of people you meet in life and about the importance of friendship. Although David's life is hard, in the end, he is successful.

B **Think of a book you have read which you like or dislike very much. Make notes in the table below.**

title	
author	
date	
kind of book	
setting	
main characters	
storyline	
your opinion	
your recommendation	

2. Writing

A **Use your notes to write a paragraph about the book in your notebook. Give information about the book, briefly tell the story and give your opinion. Use phrases from Lesson 6.**

Lesson B: Famous books in science

A **Work in pairs. Match the languages a-f to the dates 1-4 , to show the main language of science and medicine at these times. There are two extra languages given.**

1. 200 BC	☐	a) English
2. AD 1600	☐	b) Arabic
3. AD 1000	☐	c) Spanish
4. AD 2000	☐	d) French
	☐	e) Latin
	☐	f) Greek

B **You are going to read a text about five famous books written by five different scientists. Before you read, match the scientists 1–5 to the scientific fields a–e.**

1. al-Idrisi	☐	a) mathematics
2. Galileo	☐	b) botany
3. Newton	☐	c) physics
4. al-Khwarizmi	☐	d) cartography
5. Linnaeus	☐	e) astronomy

C **Mark the words and phrases below to show which of the scientific fields they refer to, from the list a–e in Exercise B.**

1. an up-to-date map of the world ☐
2. universal gravitation ☐
3. equations ☐
4. bodies in space and on Earth ☐
5. the Earth revolves around the sun ☐
6. classifying plants ☐
7. a globe ☐
8. powerful telescope ☐
9. algebra ☐
10. the genus and the species ☐

D **Now do Exercise A on Workbook page 34.**

E **Work in pairs. Close the Workbook. Discuss one important fact about each of the famous scientists and their book.**

F **Now do Exercise B on Workbook page 35.**

Lesson 9: The father of science fiction

A **Work in pairs. Discuss these questions.**

1. How much of the *science* in science fiction books and films is based on fact? Give examples from books or films that you know.
2. Should scientists be interested in science fiction?
3. Why is science fiction so popular?

B **Jules Verne was a nineteenth century writer – he is considered to be the father of science fiction. In the 19th century, there was a lot of interest in science and invention amongst the public and Jules Verne's books became very popular. Complete this biography with the words below. Use a capital letter if the word is part of a book title.**

libraries	journey	moon	adventure	days	achievements	sea	balloon

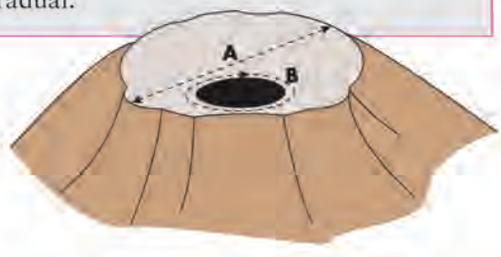
Jules Verne was born in France, in 1828. Even as a boy, he was interested in ① _____. He once tried to run away from home and become a cabin boy on a ship. He later went to Paris to study law. However, he soon began writing. When his father heard that he had stopped studying, he cut off his son's money. Jules had to make money from his writing. He spent many hours in ② _____ studying geology, engineering and astronomy. His first successful short story was published in 1863. It was called *Five Weeks in a* ③ _____.

Soon he started writing novels such as ④ _____ *to the Centre of the Earth*, in which a professor enters a volcano in Iceland and eventually reaches a large lake in the centre of the Earth. In another book –*Twenty Thousand Leagues under the* ⑤ _____, Jules Verne predicts the use of submarines long before they were invented. In fact, he predicts many scientific ⑥ _____ in his books, as well as submarines, helicopters, air conditioning and flights to the ⑦ _____. Many of his books, such as *Around the World in 80* ⑧_____, have been made into successful films. Jules Verne died in France in 1905, but his books continue to be very popular today.

C **Look at the picture opposite. Which of Jules Vernes's stories is the extract from? Answer the questions.**

Henry, his uncle and the guide are looking down at the crater of Mount Sneffels – the beginning of the route to the centre of the Earth.

The crater of Mount Sneffels was an inverted cone, the gaping hole half a mile across; the depth indefinite feet. What must this hole have been like when full of flame and thunder and lightning? The bottom of the funnel-shaped hollow was about five hundred feet in circumference, by which it will be seen that the slope from the summit to the bottom was very gradual.



1. Complete the measurements on the diagram of the crater.
2. Mark with an X where the explorers are standing.

D **Now do Exercises A to C on Workbook pages 35–36.**

Lesson 10: Science fiction novels

A **Work in groups. Look at the science fiction themes in the table. They are taken from popular science fiction novels. Match the themes 1–6 to the pictures a–f.**

Science fiction themes	probable	possible	impossible
1. aliens from other parts of the universe visiting Earth			
2. manned space travel to other solar systems			
3. manned space travel to other planets in our solar system.			
4. contact with other civilizations in outer space			
5. time travel to the future or the past			
6. recreation of extinct species such as dinosaurs			

B **The adjectives and phrases in the box are used to talk about how probable or improbable a future event is. Work in pairs. Use them to discuss the themes in Exercise A. Give reasons.**

almost certain | very probable | quite likely | possible | very unlikely | impossible

C **Work in pairs. Think of a science fiction novel or film with a story that is based on one of the themes in Exercise A. Describe it to your partner. Use the questions to help you.**

1. Where and when is the story set?
2. Who are the main characters in the story?
3. What happens to them?
4. Is the story believable or not? Explain why.

D **Work in groups. You are scientists who have landed on Mars. Choose five of the objects below to take with you as you leave the spaceship for a day to explore the planet's surface. Explain your choices to other groups.**

We should take … so that …

We will certainly need … because

We'll need the … to …

a gun | a compass | matches | some chocolate | a flag of your country | some plastic bags | a sleeping bag | a spare cylinder of oxygen | a knife | a watch | a notebook and pen | an umbrella | a torch | a rope

E **Now do Exercises A and B on Workbook page 36.**

Lesson 11: Classification of plants

A **Complete the table with the words in the box.**

mouse	mammals	animal

kingdom	class	species

B **Read the first part of the encyclopedia entry about Carolus Linnaeus and his system of classification. Then complete the table with information about the classification of plants.**

The Swedish botanist Carolus Linnaeus tried to bring scientific order to the naming and classifying of all living things. The system he devised in the seventeenth century is still used today.

He divided all living things into five different kingdoms, including the animal and plant kingdoms. The plant kingdom was divided into four different phyla. These are bryophytes, ferns, angiosperms and conifers. The most common of these is the phylum angiosperms. These plants produce seeds and flowers. They are divided into two types, or classes, monocotyledons and dicotyledons. The former have narrow leaves with parallel veins. The latter have broad leaves with a main vein from which other veins branch off.

kingdom				
		ferns		
class				

C **Which class of plants do these leaves come from? Label them *monocotyledon* and *dicotyledon*.**

_____ _____

D **Read the second part of the text about Linnaeus. Then answer the questions.**

1. Complete the classification groups in column A.
2. Complete column B with the classification of the date palm.
3. What is the Latin name of the common date palm? _____

The next largest group in Linnaeus' classification is called the order. The monocotyledon known commonly as the date palm belongs to the order *palmae*. The next group is the family. In the case of the date palm, there is only one family in the order palmae – it is also called palmae. Finally there are the groups genus and species. The smallest group is therefore the species. Organisms of this group are very alike and can breed together. Organisms in the next smallest group, the genus, have many similarities, but members of its different sub-groups (species) are not able to breed together. The date palm belongs to the genus phoenix and the species dactylifera.

Linnaeus also devised a system for naming organisms. All species are given two names in Latin. This is called the binomial system of naming. The first name is the genus to which the organism belongs. The second name is the species to which the organism belongs.

A	B
kingdom	
phylum	
class	

E **Now do Exercises A and B on Workbook page 37.**

Lesson 12: Listening: Listening for detail and consonant clusters

A **Jenny is choosing a book. She is looking at the English translation of a well-known Arabic novel. Make a list of questions she might ask her friend Zahra.**

B **Listen to part 1 of Jenny and Zahra's conversation and choose the best way to complete the sentences.**

1. The author of the novel is:
   (a) European (b) Arab (c) American
2. The setting of the novel is:
   (a) Algiers (b) London (c) Cairo
3. The novel was written in:
   (a) the 1980s (b) the 1960s (c) the 1950s
4. The novel is about:
   (a) old ideas and new ideas (b) education (c) politics
5. The main characters are:
   (a) the children (b) the father and mother (c) the whole family

C **Listen to part 2. Answer the questions.**

1. Zahra gives four examples of family dramas. What are they?
2. Why does the book give the reader a wonderful picture of life at the time?
3. What problem do the girls in the story have?
4. Does the book have a happy ending?
5. Does Jenny buy the book? Why/Why not?

D **Listen to the whole conversation again. Complete the review with information about the book.**

This novel, set in the early part of ① _____, is about the conflict between ② _____ and change. It tells the story of a traditional Muslim ③ _____, the political struggles and social ④ _____ of the time, and how these changes affect the family. The book is brilliantly ⑤ _____ and is well worth ⑥ _____.

E **Listen to these phrases, and especially to the sounds of the underlined letters. Then listen again and repeat. Be careful not to put any sound between the consonants.**

1. an English <u>tr</u>ans<u>l</u>ation
2. a <u>tr</u>aditional Mus<u>l</u>im family
3. pro<u>bl</u>ems
4. <u>pr</u>isoners
5. he's very <u>str</u>ict
6. political <u>str</u>uggles

Unit 6 The world of sport

Lessons 1 & 2: Reading: Identifying topic sentences

1. Before you read [Lesson 1]

A **In pairs, discuss these questions.**

1. Are you a football fan? Do you hate football or can you take it or leave it? Why?
2. Match these football teams to their countries.

football team	country
Al-Afriqi	Italy
Al-Hilal	Libya
Al-Ahly	England
Estudiantes	Egypt
Manchester United	Saudi Arabia
AC Milan	Argentina

3. Do you think some sports should be for men only, or for women only?

B **Talk to your partner. Discuss the meaning of these words.**

crowd	dressing room	half-time	league	manager	match
	pitch	~~player~~	referee	spectator	score

C **Complete the table. Use the words from the box in Exercise B.**

people	things
player	

2. While you read

A **Look at the text on page 67. Read the first sentence of each paragraph.**

B **Cover the text. In pairs, answer the questions.**

1. What is the text about?
2. The text contains some true stories. Where is the longest story in the text?

C **The title of the text is *Fair play?* Discuss these questions with your partner.**

1. In the rules of football, what is fair play? What is unfair play?
2. Is it fair to try to trick the referee?

3. After you read [Lesson 2]

A **Now do Exercises A to D on Workbook page 38.**

Fair play?

Given the choice of being a football player, a spectator or a referee, how many people would choose to be a referee? In Tunisia, referees have been chased off the pitch by the crowd. In Zimbabwe, a referee was almost stoned to death, and in Colombia, referees have been shot by spectators.

Even if spectators are peaceful, they can make the referee's job difficult. In the 1982 World Cup, a senior Kuwaiti official walked onto the pitch, accused the referee of being unfair and tried to take over his job.

A referee once said, 'People have offered to pay me if I help their team, and people have threatened to hurt me if I don't. It's part of the job.'

Sometimes players try to trick the referee. In the 1991 European Cup, the Italian team AC Milan were losing 1-0 when a light above the pitch broke. It was three minutes before the end of the game. The Italians refused to continue the game, claiming that there was not enough light. This was not true. They just wanted to play the game again another day. The referee realized this and ordered them to finish the game, which they lost.

One of the most famous tricks happened during a game in South America. It involved two top teams from Argentina, Estudiantes and Velez. By half-time, neither team had scored. But during half-time, four loud explosions were heard in the Velez team's dressing room. The Velez manager came out and announced that someone had thrown four fireworks in through the dressing room windows. He said that some of his players were injured and he insisted that his team could not play the second half. He argued that the match should be given to them. If this happened, Velez would win the league title.

The referee asked to see the injured players, but the Velez manager refused. The Velez team were just going to leave when the doctor arrived and insisted on seeing the players. One player claimed he couldn't hear anything because of the loud explosion. However, he could answer the doctor's questions without difficulty. The other players were fine. The police later informed the Argentinian Football Association that the dressing room windows had been opened from inside.

In the end, the AFA decided that Velez had probably tried to cheat and the game should be finished another day. It was, and Estudiantes won 1-0.

Lesson 3: Vocabulary: Connecting words

A Match the words 1–6 to the words a–f.

1. as a result	☐	a) alternatively
2. then	☐	b) also
3. so that	☐	c) after that
4. that	☐	d) so
5. and	☐	e) which
6. or	☐	f) in order to

B Look at the language box. Correct these sentences.

1. Because I liked sports, so I joined the club.
2. Although she doesn't have much time, but she practises hard.
3. As you know, that I am not very good at football.

> We only need one connecting word or phrase in a sentence.
>
> **Incorrect sentence:** *Whereas a rugby team has fifteen players, but a football team has only eleven.*
>
> There are two correct ways to say this.
> 1. Whereas a rugby team has fifteen players, a football team has only eleven.
> 2. A rugby team has fifteen players, but a football team has only eleven.

C Study these sentences. Choose a or b in each case to complete the sentence.

1. My parents encouraged me to keep trying, and _____, I got into the team.
   a) as a result b) because
2. We watched the match and _____ we went home.
   a) then b) after
3. _____ two of our best players were injured, we won the game.
   a) However b) Although
4. We won the first game, _____ was very encouraging.
   a) that b) which
5. Khalid plays for the first team _____ his brother plays for the second team.
   a) and b) or
6. Fishing is relaxing; _____, it can be boring.
   a) on the other hand b) whereas
7. Tennis has to be played on a court, _____ volleyball can be played anywhere.
   a) because b) whereas
8. We were thirsty after the game, _____ Shakir went to get some water.
   a) so that b) so

Lesson 4: Grammar 1: Verbs for reporting speech

A **Look at the four reporting verbs in the table. Find them in the text on page 67 and circle them.**

	verb without object	verb with object
1. verb + (*that*)	announce (para 5)	inform (para 6)
2. verb + infinitive	offer (para 3)	_____
3. verb + prep + *-ing*	insist on (para 6)	_____

B **The four pictures below show scenes from the text on page 67. Match them to the four verbs in the table.**

_____ _____ _____ _____

C **Think about how the reporting verbs in the box are used in the text on page 67. Add them to the table.**

accuse of threaten refuse order say insist
argue ask claim inform

D **In pairs, make sentences with the verbs in Exercise C.**

Examples:

She ordered me to do my homework.

She was accused of cheating.

E **Now do Exercises A to C on Workbook page 39.**

Lesson 5: Grammar 2: Time phrases and questions in reported speech

1. Time phrases in reported speech

A Study the grammar box. Then answer the question at the bottom of the box.

Time phrases in reported speech

In reported speech, the time expressions depend on when the report is given.

Example: Sultan: *'I'll do it tomorrow.'*

1. Reported immediately: *He says he'll do it* ***tomorrow****.*
2. Reported the same day: *He said he would do it* ***tomorrow****.*
3. Reported a few days later: *He said he would do it* ***the next day****.*

Why does *tomorrow* in 1 and 2 become *the next day* in 3?

B Study the phrases in the box below. Add them to the table.

the day before	two days earlier	~~the following day~~	the night before

direct speech	reported speech
'tomorrow'	the next day/*the following day*
'next week'	the next week/the following week
'yesterday'	the previous day/_____
'today'	that day
'two days ago'	two days before/_____
'tonight'	that night
'last night'	_____

C Now do Exercise A on Workbook page 40.

2. Grammar review: Reporting questions

A Study the grammar box.

Reporting questions

A reported question does not have the form of a question. It is a statement.

Examples:

1. 'Are you coming, Mousa?'
   I asked Mousa ***if he was coming.***
2. 'Where is the meeting?'
   She asked me ***where the meeting was.***

B Now do Exercises B and C on Workbook page 40.

Lesson 6: Speaking: Exchanging information

A **You are going to read one of two texts. First look at these words and discuss in pairs. What do you think the text will be about?**

shoot	competition	score	bullets	team	apologize

B **Student A, read text 1. Student B, read text 2. There are several differences between the information in your text and your partner's text. Write questions in your notebook to ask your partner about his/her text. Use the ideas in 1–8 below.**

Examples:

When was he invited to join a team?

Who did he speak to?

1. when Bob was invited to join the team
2. the competition
3. Bob's feelings
4. his skill
5. his score
6. who he spoke to
7. what he said
8. the answer

1

Bob is quite good at shooting. Last year, he was invited to join a team. The team was going to be in a national competition. This was Bob's first competition. On the day of the competition, Bob was feeling nervous, and his hands were shaking. Most of his shots did not hit the target, and his score was only 10 out of 50. He apologized to the captain and said, 'I feel like shooting myself.' The captain replied, 'If you do that, you'll probably need two bullets.'

2

Bob is quite good at shooting. Last week, he was invited to join a team. The team was going to be in an international competition. This was Bob's first competition. On the day of the competition, Bob was feeling excited and nervous, and his hands were shaking. A few of his shots did not hit the target, and his score was only 15 out of 50. He apologized to the team and said, 'I feel like shooting myself.' The captain replied, 'If you do that, you'll probably need six bullets.'

C **Now ask your partner the questions you wrote in Exercise B. Then answer your partner's questions. How many differences can you find between the two texts? Note: Do not read your text aloud, and do not read your partner's text.**

D **Talk to a new partner. Make sure you know all seven differences.**

E **Now do Exercises A and B on Workbook page 41.**

Lesson 7: Writing: Longer sentences

1. Before you write

A **Read the story below and discuss these questions in pairs.**

1. Are the sentences long or short?
2. Are there a lot of connecting words or phrases?
3. How many times is the word *said* used?
4. Are there a lot of details about the story?
5. How could the story be improved?

I learnt to swim when I was six. My parents said I would be a champion. I won a medal when I was eight. I trained hard. It was hard work. I told to my parents, 'I don't have time for anything else.' I felt like giving up. They said I should keep training. I was in the African Junior Championships. I was 13. I won three gold medals. Everyone said nice things to me. Our national anthem was played. People cheered. It was the best moment of my life.

B **Work in pairs. Divide the story into three sections.**

C **In each section, think of connecting words to make the section into only one or two sentences. Write them in your notebook.**

Example: *I trained hard* ***although*** *it was hard work.*

D **Replace the word *said* in the text with other verbs for reporting. You may leave the verb *said* in only one place.**

Example: Everyone said nice things to me.
Everyone congratulated me.

E **In pairs, discuss what details you could add to the story to make it more interesting.**

Example: *The championships took place in Cairo that year, and all the races were held in the National Sports Arena, a beautiful, modern sports complex 2 km outside the city centre.*

F **Rewrite the story in your notebook.**

2. Writing

A **Read the text below. Then rewrite it in your notebook.**

Tarek and his friends were driving home after dune-boarding in the desert. They were about 10 kilometres from the road when the car stopped. Tarek, who was driving, announced that they had run out of petrol.

Lesson 8: Lasers

A **Work in pairs. Discuss how many of these common scientific abbreviations you know. Compare your answers with the class.**

PC	FM	ECG	CFC	CD	IT	LASER

B **Work in pairs. In your notebooks, Student A: write a definition of a laser. Student B: make a list of possible uses of lasers. Compare your notes.**

C **Work in pairs. Discuss the meaning of the words in the box.**

a (light) beam	a medium (such as air)	a pulse	wavelength

D **Read the text on lasers. Complete the paragraphs with the headings in the box. There are three extra headings given.**

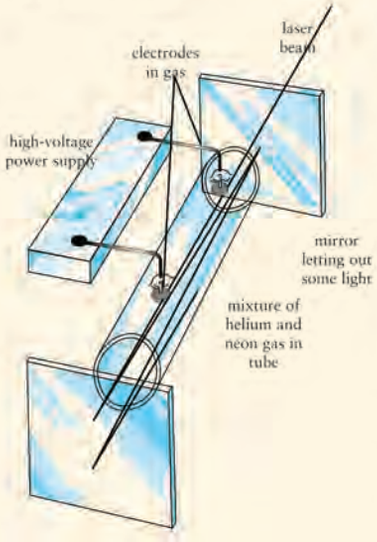
a) Uses of lasers **b) Lasers in the future** **c) The laser beam** **d) Holograms**
e) How a laser works **f) Albert Einstein** **g) The history of lasers**

Lasers

1 An ordinary light source, such as a torch, produces many different wavelengths of light that go off in all directions. A laser, however, is able to generate light waves of a single length all in step with each other and all travelling in the same direction. This makes laser light pure in colour and **extremely intense**. In this way, a laser produces a very narrow beam of light of a single colour. _____

2 The name *laser* **stands for** Light Amplification by Stimulated Emission of Radiation. The idea of stimulated emission came from the famous scientist Albert Einstein. He suggested, in 1917, that lasers would work, but it was not until 1960, that Theodore Maiman made the first working laser. He used **ruby** crystals as a medium. A year later, the Iranian American Ali Javan produced a gas laser, and in 1966, the first liquid laser was constructed. _____

3 Lasers use a crystal, such as ruby, as the medium, or they have a tube which contains a gas or a liquid. The diagram above shows the operation of a neon-helium gas laser. An electrical **discharge**, or a flash of bright light, gives extra energy to some of the atoms in the medium. The atoms lose this energy by giving out light.



Because the waves of light are produced in the same way in every atom, all the waves of light are **identical**. Mirrors at each end of the laser send the light backwards and forwards, and so more and more atoms are **triggered** into sending out light. Light escapes through one of the mirrors, either as a steady beam or as a pulse, depending on the type of laser. _____

4 Lasers have a wide range of uses. In supermarkets, laser beams read the bar codes on the things you buy. Compact-disc players also use lasers. The player picks up pulses of light reflected from the surface of discs. Pulses of laser light can also be used to send telephone signals long distances through **optical fibres**. Lasers are also used by doctors. They can burn away birthmarks and some cancer cells. They are also used in eye surgery. The military use lasers to guide missiles to their targets. In factories lasers are used as very powerful and very **precise** knives which can cut through metals, glass and even cloth. Lasers can also be used to create 3-D images called holograms. _____

E **Now do Exercises A and B on Workbook page 41.**

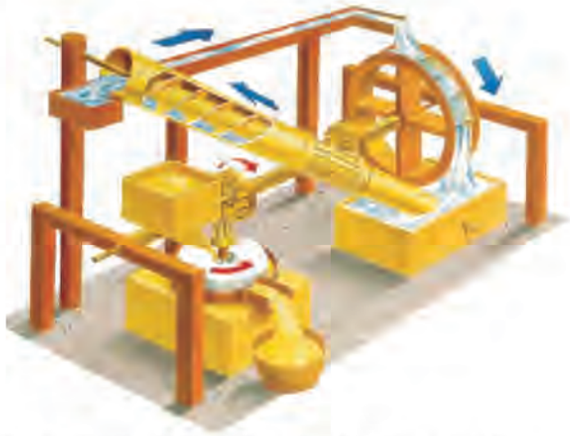
Lesson 9: Scientific claims

A **Work in pairs. Explain the following terms.**

1. watermill
2. perpetual motion
3. continuous circulation
4. rotating screw

B **Work in pairs. Look at the diagram opposite of a perpetual motion watermill designed by Robert Fludd in 1618. Discuss the following questions.**

1. Explain how the machine was supposed to work using the verbs *lift*, *turn* and *carry*.
2. What problems might there have been with this machine?



C **Dr Fludd was very proud of his new invention. Here are some things he might have said about it. Using the verbs in brackets, rewrite each sentence as reported speech.**

Example: 'This is the most important invention since the wheel.' (claim)

Dr Fludd claimed that this was the most important invention since the wheel.

1. 'I have designed a perpetual motion watermill.' (announce) Dr Fludd announced that _____
2. 'It can be used for grinding corn.' (say) _____
3. 'The machine will continue moving forever.' (claim) _____
4. 'The continuous circulation of water turns the grindstone.' (explain) _____
5. 'Life will be much easier for everyone.' (promise) _____
6. 'Friction may be a problem.' (admit) _____

D **Work in pairs. Discuss what Ptolemy and Copernicus disagreed about. Who did Galileo agree with?**

E **Read the text and check your ideas in Exercise D. Then complete the paragraph by crossing out the incorrect options.**

In AD 150, Ptolemy drew the first map of the constellations. He *promised / claimed* that the Earth was the centre of the universe and that the moon, planets and the sun orbited the Earth. It wasn't until 1543, that Ptolemy's ideas were *challenged / disagreed*. Copernicus, a Polish monk, *argued / persuaded* that the Sun, not the Earth, was the centre of the universe and the planets orbited around the Sun. Some years later, Galileo, an Italian physicist, *recommended / supported* Copernicus' ideas. He *convinced / agreed* with Copernicus that the planets orbited the sun. However, Galileo's books on the subject got him into trouble with the Church, which *blamed / accused* him of being anti-religious and *threatened / warned* him with prison. As a result, Galileo was forced to *deny / refuse* his beliefs.

F **Now do Exercise A on Workbook page 42.**

Lesson 10: Compact discs

A **The pictures show four ways of listening to recorded music. Match the names 1–4 to the pictures a–d.**

1. vinyl record ☐
2. cassette tape ☐
3. compact disc ☐
4. MP3 player ☐

a 

b 

c 

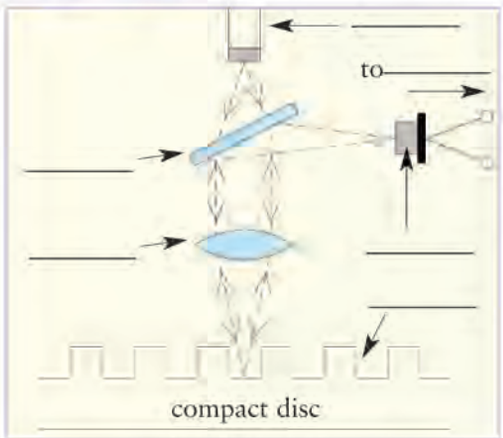
d 

B **Work in pairs. Discuss these questions.**

1. What are analogue and digital systems?
2. What are the differences between the ways of listening to recorded music in Exercise A?
3. What are the advantages and disadvantages of each?

C **Read this extract from a lecture given by Dr al-Suwaidi explaining how a compact disc is read. Label the diagram below with words from the extract.**

There are two ways of storing information – analogue and digital. Records and most audio tapes use analogue recording. CDs use digital recording. Look at this diagram and you see how digital recording is read in a CD player. At the bottom of the diagram, you can see the compact disc. This is a plastic disc containing a thin metallic layer. The digital code is recorded onto the surface of the disc in a series of *pits*. These *pits* are microscopic holes – very close together. A *pit* is 1 and *no pit* is 0. This pattern of pits – the code – is read by the laser which is at the top of the diagram. The laser sends out a beam which is focused by the lens, and concentrated into the tiny holes on the surface. The laser light is then scattered by the pattern of pits. Where there are pits, the sound is scattered differently from areas where there are no pits. This sequence represents the sound information. The scattered light from the surface of the disc is reflected by this mirror. The mirror reflects the light, which is then picked up by this photodetector. The photodetector sends the signal to a microprocessor. The microprocessor converts the signal to sound which can then be played through speakers. As the surface of the disc is read by a light beam, the surface does not become damaged with use, unlike a record, and dirt on the surface of the disc is not a problem.



D **Work in pairs. Find out the answers to these questions. Then write a paragraph in your notebook as an encyclopedia entry for a CD-ROM.**

1. What does the abbreviation CD-ROM stand for?
2. How does a CD-ROM work?
3. What is it used for?

E **Now do Exercise A on Workbook page 42.**

Lesson 11: Sports injuries

A **Look at the sports above. Mark the sports M which depend on strong muscles or C for cardiovascular system (heart, lungs, etc.).**

B **Read the text below. Find and underline the following.**

1. a type of exercise that is good for building muscles
2. a type of exercise that is good for the cardiovascular system

Scientists agree that there are basically two kinds of exercise. One type involves moving muscles through a long distance, with little resistance. An example of this is swimming. The arms are moved in long slow movements. There is only the resistance of the water. This type of exercise is called isotonic exercise. Other examples are running and gymnastics. Such exercise is good for developing the cardiovascular system. The second type of exercise involves moving the muscles through short distances against a high resistance. An example is when a weightlifter tries to lift a heavy weight above his head. Such exercises are good for developing strong muscles and are called isometric exercises.

C **Read again the text in Exercise B. Then write definitions for the two types of exercise mentioned in the text and give examples.**

1. _____
2. _____

D **Work in pairs. Discuss these questions.**

1. Why do people who play football and basketball get knee injuries?
2. What sort of injuries do long-distance runners suffer from?
3. How can athletes avoid getting injured?

E **Now do Exercises A to D on Workbook pages 42–43.**

Lesson 12: Listening: Functions of a conversation

A **In pairs, look at the pictures and discuss what is happening in each picture.**

B **With your partner, decide in which of the five situations a–e you might hear these words, and why.**

gold medal	the next race	kick-off
Out!	hand signals	

C **Listen to the five conversations. Match the conversations 1–5 to the pictures a–e.**

D **In which conversations did the speakers do these things? Write a conversation number in each box.**

a) congratulated and thanked ☐

b) invited, suggested and agreed ☐

c) insisted and agreed ☐

d) told, warned, reminded and told not to ☐

e) told and predicted ☐

E **In pairs, summarize the conversations using the verbs in Exercise D.**

Example:

Samia and Sukainah were playing tennis. Sukainah insisted that the ball was in, but her opponent insisted it was out. In the end, the first player suggested that they play the point again, and her opponent agreed.

F **In pairs, write one or two dialogues based on situations in sport. Practise and then perform them with your partner. The class will tell you the function of your dialogues.**

Example:

Student A: *I don't think we will win. I don't want to play.*

Student B: *Don't worry. You are a great team. I'm sure you'll win!*

Class: *You encouraged him to play.*

a ☐

b ☐

c ☐

d ☐

e ☐

Unit 7 Health and first aid

Lessons 1 & 2: Reading: Reading for specific information

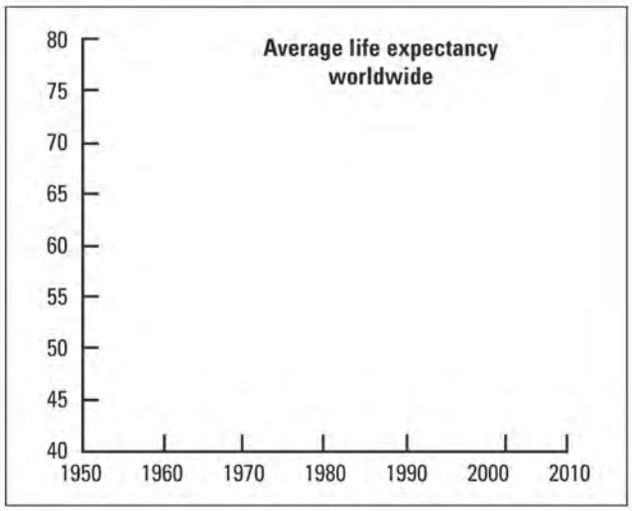
1. Before you read [Lesson 1]

A **Look at the photographs and discuss the questions in pairs.**

1. What do you know about the World Health Organization?
2. Why do people have vaccinations?
3. Which vaccinations have you or members of your family had?
4. What kills more people in the world: diseases like smallpox and polio or illnesses caused by tobacco?
5. What is the average life expectancy in the world today?

2. While you read

A **Read the first paragraph of the article on page 79 and complete the graph.**



B **Scan the article to find these figures. What does each one mean?**

1. 1948
2. 50%
3. 2 million
4. 1980
5. 5.4 million
6. 31st

C **Read the article and answer these questions.**

1. Who started the World Health Organization?
2. Which parts of the body can be permanently damaged by smallpox?
3. Why is smallpox a thing of the past?
4. How many people would probably have died in the last twenty years if smallpox had not been eradicated?
5. What is the purpose of World No-Tobacco Day?
6. When was the smallpox vaccine invented?
7. Why wasn't smallpox eradicated a long time ago?

3. After you read [Lesson 2]

A **Now do Exercises A to E on Workbook page 44.**

The World Health Organization

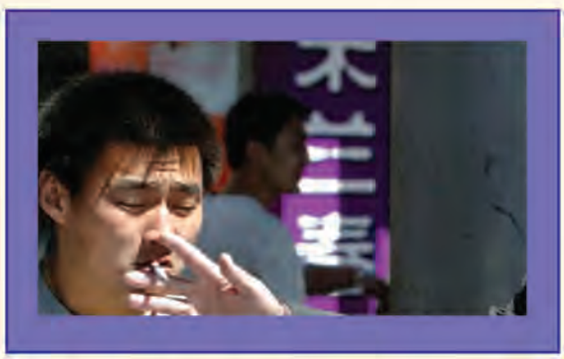
In the 1950s, the average life expectancy worldwide was just 46 years. Twenty years later, the world average increased to 56 years, and in 2005, it was 66. That is an overall increase of almost 50%. There are many reasons for this, and one of them is the World Health Organization (WHO).

In 1948, the WHO was set up by the countries of the United Nations to improve the health of everyone in the world. The WHO organizes research and education programmes, as well as helping to fight health problems which have been caused by natural disasters. The best known example of the WHO's work is the eradication of a disease called smallpox through mass vaccination. Before it was eradicated, 15 million people suffered from smallpox every year. Two million of them died. Others suffered permanent damage to their skin, and many people were blinded by the disease. But by 1980, smallpox was a thing of the past. This terrible disease had been eradicated from every country in the world. It was the first time in history that such a thing had happened.

If smallpox had not been eradicated, there would have been 300 million new victims over the past twenty years and an estimated 40 million deaths – a number roughly equal to seven times the population of Libya. The WHO believes that many other diseases can be eradicated with the cooperation of the authorities in all parts of the world. In recent years, polio has almost completely disappeared, and plans are being made to combat other diseases.

One of today's biggest killers is tobacco. Tobacco kills 5.4 million people each year worldwide – that's the equivalent of one person every six seconds. The WHO believes that people should be reminded of the dangers of smoking and should be encouraged to stop. That is the purpose of World No-Tobacco Day, which is held on May 31st every year.

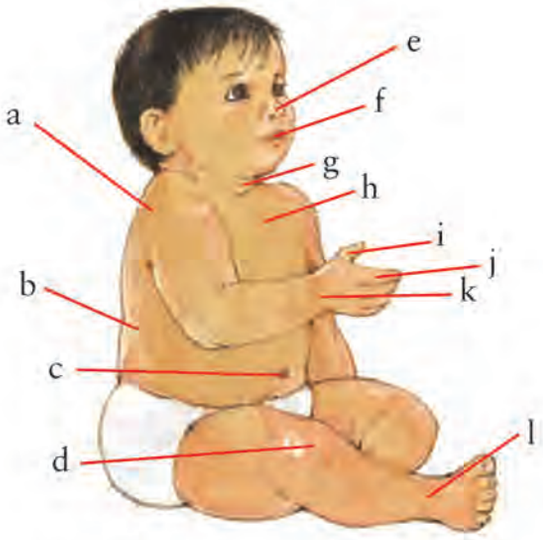
A number of important lessons have been learnt since 1948. The most important lesson is that the people of the world can fight disease only if they work together. Disease does not recognize national borders or religious, political, racial or economic differences between countries. The vaccine against smallpox was invented 200 years ago, but smallpox was not eradicated until the countries of the world agreed to work together. Science alone is not enough.



Lesson 3: Vocabulary: The body and first aid

A **Match the words 1–12 to the parts of the body a–l.**

1. ankle ___
2. wrist ___
3. thumb ___
4. finger ___
5. throat ___
6. nose ___
7. navel ___
8. mouth ___
9. back ___
10. shoulder ___
11. chest ___
12. knee ___



B **Have you ever had any of these health problems? What is the best thing to do in each case? Discuss in pairs. Use phrases from the box and your own ideas.**

put a plaster on	call an ambulance	press down	see a doctor
clean the wound	hold it up	take tablets	drink water	lie down
sit down	put a bandage on	breathe slowly	rest

1. a sore throat
2. backache
3. a broken bone
4. a twisted ankle
5. chest pains
6. a nosebleed
7. a cut finger or thumb
8. losing consciousness

C **Look at the pictures of a first aid procedure. Complete the paragraph with a part of the body in each space.**

If someone has stopped breathing, you can help to keep them alive until the emergency services arrive. Lie the person on his ① _____. Open his ② _____ and check if there is anything blocking it. Hold his ③ _____ shut and breathe into his mouth quickly twice. In this way, you are giving him enough oxygen to survive. Watch to see if the ④ _____ rises. Then pump the oxygen around the body by pressing down on his chest with your ⑤ _____. Keep your fingers and ⑥ _____ up. Press 30 times. Then give two more rescue breaths and start the 30 chest compressions again. Repeat this cycle until help arrives.

D **Now do Exercises A to C on Workbook page 45.**

Lesson 4: Grammar 1: The passive – review

A **Look back at the article on page 79. Underline all the passive forms.**

B **Read the information in the grammar box below and complete the examples.**

Passive forms

We often use the passive when the focus of a sentence is an action, not the person who does the action (the agent).

Examples:

The news has just been announced. (The important fact is the news, not the person who announced it.)

The Taj Mahal was completed in 1653. (The completion of the building and the date are the focus of the sentence, not the people who built it.)

Sometimes we do mention the agent, using *by* at the end of the sentence.

Examples:

The Colosseum was built ***by*** *the Romans.*

Sandstorms will be caused ***by*** *the strong winds.*

The form of the passive is the same in all tenses.

subject + *be* + past participle

Examples:

simple present and simple past

World No-Tobacco Day is held on May 31st.

The vaccine _____ _____ 200 years ago.

modals (will, can, should)

Other diseases can be eradicated.

People should _____ _____ to stop.

present perfect and past perfect

Polio has been eradicated ...

If smallpox _____ not _____ _____ ...

C **Now do Exercises A to D on Workbook pages 45–46.**

D **Choose three of the underlined passive sentences from the text on page 79. Rewrite the sentences in the active form.**

Example:

The WHO was set up by the countries of the United Nations.

The countries of the United Nations set up the WHO.

Lesson 5: Grammar 2: The passive – continuous tenses and have + object + past participle

A **Read the newspaper report and answer the questions below.**

Flood victims saved

After the floods, which began yesterday morning, thousands of people are now homeless. By late afternoon yesterday, the water was still rising, and people **were being rescued** from rooftops by boat and by helicopter.

The government said this morning that everything possible **was being done** to help the victims. Food, blankets and other supplies **are being flown** to the area by the army. Medical and rescue services **are being provided** by the Red Crescent and local emergency services.

1. What was the situation yesterday afternoon?
2. What did the government say this morning?
3. How are supplies getting to the area?
4. What about medical and rescue services?

B **Now do Exercise A on Workbook page 47.**

C **Study these three sentences. Do they all share the same meaning?**

She is bandaging his arm.

His arm is being bandaged.

He is having his arm bandaged.

***have* + object + past participle**

We use *have* followed by an object and past participle to talk about something that someone else is doing for us. The past participle has a similar meaning to the passive.

Examples:

*I **had my carpet cleaned** last week. (My carpet was cleaned [by someone else] last week.)*

*She **is having her hair cut** at the new hairdresser's. (Her hair is being cut by the new hairdresser.)*

D **Say what is happening in the pictures. Begin: *He/She is having ...***

E **Now do Exercises B and C on Workbook page 47.**

Lesson 6: Speaking: Giving instructions

A **Read the advertisement. Then discuss the questions in small groups.**

FIRST AID COURSE

You will learn to recognize emergencies, do rescue breathing and treat choking, bleeding and other emergencies.

1. Where can you learn to do first aid?
2. Have you done a course like this?
3. Have you (or has anyone you know) ever helped in an emergency? What happened?
4. Do you know what to do if someone is bleeding?
5. Do you know what to do if someone has burnt himself/herself?

B **Read the information. Practise saying the phrases in pairs.**

Giving instructions

It is very important to give clear instructions, especially if the procedure you are describing can save someone's life. Sometimes, it is just as important to tell someone what **not** to do, as doing the wrong thing can make an injury worse.

Examples:

You should ask the person to sit down.
Don't let them get up until help arrives.
Make sure you stay with them at all times.
Make sure you don't leave them alone.
Be careful to keep the person's head forward.
Be careful not to put the person's head back.
Always reassure the person by talking to him/her.
Never let the victim become agitated.

C **Now do Exercise A on Workbook page 48.**

Lesson 7: Writing: Instructions

1. Preparation for writing

A **Read the leaflet. Then answer the questions with a partner.**

WHAT TO DO IF THERE IS A FIRE

Fires spread quickly. If a fire starts in your home, there might not be time to stop and think about what to do. That's why it's important to make sure that everyone in your home knows how to react if there is a fire. A few minutes can mean the difference between life and death.

If there is a fire in your home:

- Remember to stay calm. It will help you to escape more quickly.
- Don't look for possessions or pets as it wastes precious time. Always leave the house.
- Be careful to check doors before you open them. If a door feels warm, make sure you don't open it. The fire might be on the other side.
- If there is a lot of smoke, crawl on the floor. The air is cleaner there.
- Call the emergency services when you are out of the house. Make sure you speak slowly and clearly. Be careful to give them your whole address.
- Never go back into the house. You will put yourself in danger and slow down the firefighters.

1. What is the purpose of the first paragraph?
2. If you have a pet, should you find it before you leave your house?
3. Why should you check doors before you open them?
4. When should you phone the emergency services?
5. Why shouldn't you go back into the house?
6. Which do you think are the most important pieces of advice?

B **Look at the notes about how to react during an earthquake. Match each piece of advice to a reason.**

ADVICE
- if indoors, take cover under a desk or table, hold on and wait
- stay away from windows and heavy furniture
- if outside, get into the open
- if driving, stop if you can, but not under a tree or sign
- if in the mountains, watch out for falling rocks

REASON
- it's dangerous to be near buildings
- they might fall onto your car
- they might be loosened by the earthquake
- they might break or fall over
- it isn't safe to move

2. Writing

A **Use the notes above to write a list of instructions in your network about what to do during an earthquake. Use the expressions in Exercise B on page 83.**

B **Now do Exercises A and B on Workbook page 49.**

Lesson 8: Malaria

A **Work in pairs. Discuss these questions.**

1. Where do you find mosquitoes? What places do they like?
2. What time of the day and year do they appear?
3. What are the best ways to avoid mosquito bites? Make a list.

B **Complete the table with the missing words.**

verbs	noun	adjectives
resist		
		curable / incurable
bite		X
		infectious

C **Work in pairs. Look at the symptoms in the box. Explain their meaning.**

a chill	a fever	sweating	a coma	delirium

D **Work in pairs. Write five questions about malaria in your notebooks.**

E **Read the text. Look for answers to your questions in Exercise D.**

Malaria

Malaria is an infectious disease of birds, monkeys and humans. It is caused by organisms called protozoans, which are transmitted by the bite of mosquitoes. The disease occurs in most tropical and sub-tropical areas of the world. It also occurs in some temperate regions. The main symptoms of the disease are chills, fever and sweating.

Control of the disease has been based on the use of **insecticides**. Since 1950, the disease has been **eliminated** from almost all of Europe and from large areas of Central and South America. It still remains a problem in many parts of Africa and southeast Asia. Each year about 300 to 500 million people are infected with malaria. Some 1.5 to 2.7 million of these cases are **fatal**.

In humans, there are four forms of malaria, each caused by a different parasite. Most deaths are caused by a type of malaria known as *jungle fever*. The organisms in this form of the disease, *plasmodium falciparum*, often block the blood vessels. This produces coma and delirium in the patient and finally death.

Since 1638, malaria has been treated with quinine, which is an extract from the bark of the cinchona tree. Quinine slows down the growth of the protozoans in the bloodstream. It is also rather toxic. In 1930, German chemists produced a drug called Atabrine which is more **effective** than quinine and less toxic. A new drug called chloroquine was produced in 1945. It could cure jungle fever completely and was more effective than quinine or Albatrine in **suppressing** the other forms of malaria. It was also less toxic than other drugs and needed to be taken in less frequent **doses**.

In recent years, there have been **setbacks** in the fight against malaria. *Plasmodium falciparum* has become more resistant to chloroquine and other drugs. In addition, some mosquitoes have developed resistance to insecticides such as DDT. As a result, malaria is starting to spread again in some areas of the world such as Asia and Central America.

F **Now do Exercises A and B on Workbook page 50.**

Lesson 9: Distribution of disease

A **Write three things you remember about malaria from Lesson 8 in your notebook. Work in pairs. Compare your answers.**

B **You will read an extract from a lecture given by Dr Muna Sultan about the distribution of malaria throughout the world. Before you read, underline the option that you think is correct in each of the following sentences.**

1. Malaria *exists in very few countries / is very widespread.*
2. Annually, there are *around a million / around half a billion* cases of malaria.
3. *About half a million / nearly three million* people die of malaria every year.
4. The continent that has the highest number of malaria cases is *Asia / Africa.*
5. Drugs that fight malaria are becoming *more / less* effective.

C **Read the extract. Check your ideas in Exercise B.**

I'd like to talk now about the distribution of malaria throughout the world. The disease is very widespread throughout almost every continent. In fact, the situation is very serious and, I'm afraid to say, getting worse. Most tropical and sub-tropical countries are affected and there are between 300 and 500 million cases of malaria annually.

The death rate is between one and a half and two point seven million people each year – that's a very large number – and about 100 countries are affected by malaria. Most of these countries are in the tropical or sub-tropical areas of the world. In fact, the continent with the highest number of cases of malaria is Africa. Approximately 90 per cent of malaria cases occur in Africa. The situation throughout the world is being made worse by two main facts. Firstly, some mosquitoes are becoming resistant to insecticides; and secondly, *plasmodium falciparum* – that's the organism which causes the most deaths – is also becoming resistant to drugs.

D **Read the website extract about the disease leprosy. Find answers to these questions.**

1. What kind of disease is leprosy?

   _____

2. What other disease is it related to?

   _____

3. What other name does it have?

   _____

4. When was it discovered?

   _____

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Leprosy or **Hansen's Disease**, chronic, infectious disease of human beings that primarily affects the skin, mucous membranes and nerves. The disease is caused by a rod-shaped bacillus, mycobacterium leprae, which is similar to the bacillus that causes tuberculosis. The leprosy bacillus was identified in 1874 by the Norwegian physician Gerhard Henrik Armauer Hansen.

E **Now do Exercises A and B on Workbook page 51.**

Lesson 10: Industrial processes

A **Work in pairs. Discuss these questions.**

1. Underline the substances that contain carbon.

coke	coal	graphite	diamond	charcoal

2. Match the substances 1–3 to the formulae a–c.

1. limestone
2. silica
3. iron oxide

a) Fe_2O_3
b) $CaCO_3$
c) SiO_2

B **Complete the table with the missing verbs and adjectives.**

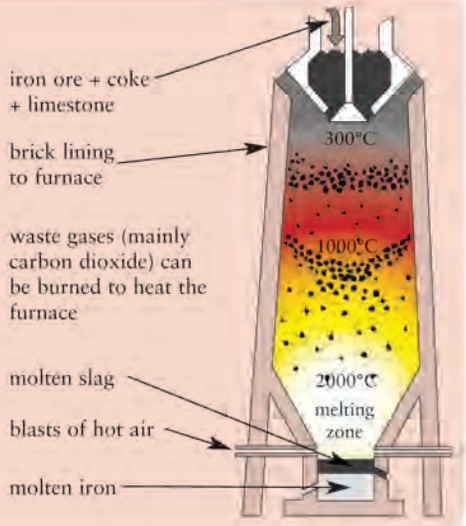
verbs	adjectives
melt	1.
2.	freezing / frozen
boil	3.
4.	solid

C **Complete the description with the verbs in the word box. Write them in the present passive form.**

call	produce	remove	mix	force	extract	heat	put

The extraction of iron from iron ore in the blast furnace

Iron ① _____ from its ore in a blast furnace. The inside of a blast furnace is lined with bricks so that very high temperatures can be maintained. Iron ore ② _____ with coke and limestone. The mixture ③ _____ into the top of the blast furnace. Air ④ _____ in stoves until it is extremely hot. Then it ⑤ _____ under high pressure into the blast furnace where it reacts with the coke, iron ore and limestone. Carbon monoxide ⑥ _____ during the reaction which helps to heat the furnace. Molten iron ⑦ _____ from the bottom of the furnace through a tap. Another tap removes the waste which ⑧ _____ *slag*.



D **Read these equations. They show some of the reactions that take place inside the blast furnace. In your notebook, write a paragraph describing these reactions.**

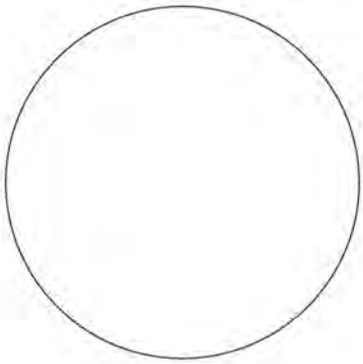
$$C + O_2 \longrightarrow CO_2$$
$$CO_2 + C \longrightarrow 2CO$$
$$Fe_2O_3 + 3CO \longrightarrow 2Fe + 3CO_2$$

E **Now do Exercises A and B on Workbook page 52.**

Lesson 11: What's happening?

A **Work in small groups. Answer these questions.**

1. Explain the following terms: anode, cathode, electrolyte, electrolysis.
2. List the main components of air. Then complete the pie chart with the approximate percentages.



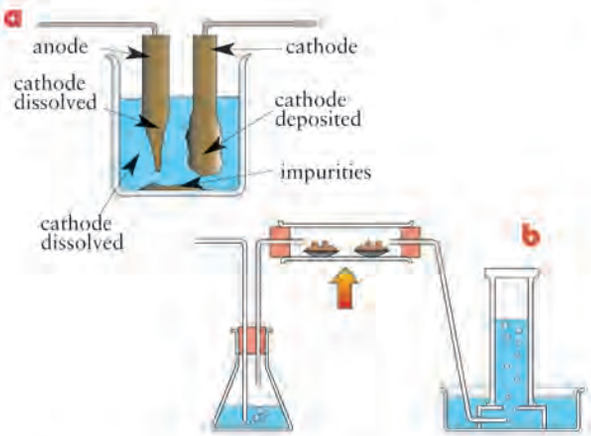
B **Work in pairs. Look at the two sentences below. In what way are they the same? What is the difference between them?**

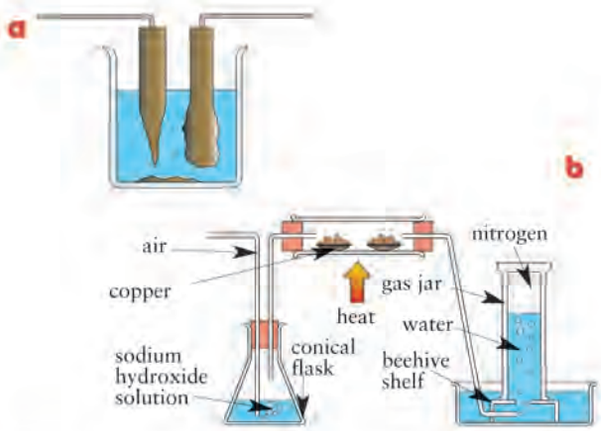
1. The professor is heating the liquid over a flame.
2. The liquid is being heated over a flame.

C **Rewrite these sentences in the passive form.**

1. The surgeon is performing the operation as we speak. _____
2. A mechanic is repairing my car at the moment. _____

D **Work in pairs. You will be describing diagrams. Use the structure *is/are* being + *-ed*.**





Student A: describe what is happening in experiment A. Use these verbs: purify, dissolve, deposit, leave, behind. Then ask your partner to explain what is happening in experiment B. Label the diagram with the following: air, copper, nitrogen.

Student B: ask your partner to explain what is happening in experiment A. Label the diagram with the following: impurities, anode, cathode. Then describe to your partner what is happening in experiment B. Use these verbs: prepare, heat, remove, pass through, collect.

E **In your notebook, write a paragraph describing what is happening in one of the diagrams in Exercise D.**

F **Now do Exercise A on Workbook page 52.**

Lesson 12: Listening: Understanding information and instructions

A **Look at the pictures. Which kind of emergency do they show?**

a) shock b) bleeding c) choking

B **You are going to listen to part of a first aid course. Listen to part 1 and answer the questions.**

1. What are two common causes of choking?
2. When is choking a serious emergency?
3. If you find someone unconscious, what are two signs that the person has choked?

C **Work in pairs. Describe what the man is doing in each of the pictures. Use the words in the box.**

hold	shoulders	upside down	slap
clear the throat	hand	fingers	navel
press	mouth	unconscious	

D **Listen to part 2 of the recording and check your answers to Exercise C. Which of the techniques shown in the pictures is not mentioned?**

E **Listen to part 2 again and complete the instructions.**

1. Hold him _____ _____ and slap his back.
2. Do it quite hard, but _____ _____ not to hurt him.
3. The fingers should meet just above his _____.
4. One or two quick presses should clear the _____.
5. Make sure you clear his _____ afterwards.
6. Never give water to someone who is _____.

F **Listen to the groups of words. Which word in each group has a different vowel sound from the others? Circle it.**

1. food	blue	do	good
2. cough	off	one	on
3. live	breathe	mean	see
4. hurt	heard	hear	her
5. part	hard	hurt	half

Unit 8 English in the world

Lessons 1 & 2: Reading: Understanding gist

1. Before you read [Lesson 1]

A **Look at the photographs and discuss the questions below with a partner.**

1. What do you think each person is saying?
2. Make a list of other places or situations where people from different countries use English to communicate. Think about both speaking and writing.

B **Guess the correct answer to each question.**

1. How many languages are there in the world?
   a) 200 b) 450 c) 4,500
2. How many languages are used in India?
   a) 80 b) 200 c) 800
3. How many words are there in the English language?
   a) 10,000 b) 100,000 c) 800,000
4. How many people in the world speak English fluently?
   a) 1 billion b) 6 billion c) 10 billion

2. While you read

A **Read the text on page 91. Check your answers to the questions in Exercise B above.**

B **Answer these questions in pairs.**

1. How many varieties of English are there?
2. Why is there no international standard variety of English?
3. Who uses the present perfect tense more often, English people or American people?
4. What does *just now* mean in South African English?
5. What is the main reason why English has such a large number of words?

C **Discuss the questions in small groups. Then share your opinions with the class. Use the words in the box.**

apparently	definitely	actually	clearly	probably	possibly

1. Which languages will be important in the future?
2. Will other languages become more important than English in the 21st century?
3. Will a world standard of English develop?
4. Will everyone in the world eventually speak English, either as a first or second language?
5. What effect will the Internet and satellite TV have on the way people use English in the future?

3. After you read [Lesson 2]

A **Now do Exercises A to F on Workbook page 53.**

English in the world

The six and a half billion people of the world live in about 200 countries and speak about 4,500 languages. Some countries have only one language, whereas others have many. India, for example, has more than 800 languages. When people from different parts of the world need to communicate, a world language is needed, and this language is usually English. 85% of international organizations use English as one of their working languages and around a third of the world's books are published in English.

There are hundreds of varieties of English, including British English, American English, South African English and Nigerian English. Within Britain, there are many local varieties, too. In Britain, there is one variety that is regarded as standard English, and this is normally used in British newspapers and on television. However, there is no international standard. In other parts of the world, the variety of English that people use depends on geography. In European countries, for example, British English is taught in most schools, while in East Asia, American English is more common.

The most noticeable differences between the varieties are in pronunciation. For example, standard British English has a silent 'r' in words like *far* and *here*, but in many British and international varieties, the 'r' is pronounced strongly. There are some differences in vocabulary, and these can cause misunderstanding. In South Africa, for example, *I'll do it just now* means *I'll do it later*, whereas in Britain *now* means *now*, not *later*.

Differences in grammar are few. An example is the American dislike of the present perfect tense. Americans use this tense less often than British speakers, preferring the simple past tense. However, despite all these differences, most English speakers can understand each other without too much difficulty. It has been suggested that everyone should agree to use one standard variety of English, a simple form of English that everyone can learn easily. But language is a living thing which nobody can control.

Because language is living, it is always growing. Although most English speakers use a maximum of 10,000 words, the English language now contains more than 800,000 words. The main reason for this is that nearly 70% of the world's scientists write in English, and each science has its own vocabulary.

If anyone controls the English language, it is the people who use it. It has been estimated that about 1 billion people (a sixth of the world's population) speak English fluently, and another billion make use of it for purposes such as travel, work or study.

Lesson 3: Vocabulary: Review

A **In your notebook, write a caption for each of the photos. Begin each caption with an *-ing* word. Do you do any of these things in your free time to improve your English?**

B **Choose the correct word to complete each sentence.**

1. I am good _____ languages.
   a) in b) at c) for
2. I am interested _____ different languages.
   a) in b) at c) for
3. I enjoy _____ English books.
   a) reading b) read c) to read
4. I'm not afraid _____ speaking English.
   a) with b) of c) at
5. It's important to _____ mistakes when you learn a language.
   a) do b) have c) make
6. I enjoy _____ discussions in English.
   a) doing b) having c) making
7. I will _____ study English at university.
   a) definitely b) unlikely c) probable
8. I think _____ is the most difficult skill in English.
   a) writing b) write c) written
9. I always _____ my homework.
   a) do b) have c) make
10. I am never late _____ English lessons.
    a) at b) on c) for

1

2

3

C **Decide if the statements in Exercise B are true or false for you. Compare your answers with a partner.**

D **Complete each sentence with a word or phrase from the box.**

until	afternoon	year	the	by	this	by

1. _____ the age of three, a child will have learnt the grammar of his/her native language.
2. _____ time last year, I was working as a receptionist.
3. Most children do not say words _____ they are about a year old.
4. The meeting is tomorrow _____.
5. _____ 2050, there will probably be 500 million native speakers of English.
6. I'll be starting college next _____.
7. The money won't be in your account until _____ day after tomorrow.

E **Now do Exercises A to C on Workbook page 54.**

Lesson 4: Grammar 1: Review – sentence patterns

A **Look at the list of grammar features. How are they different in Arabic and English?**

- the verb *be*
- questions
- modal verbs (*can, must, should,* etc.)
- word order

B **Think of two more aspects of grammar which are different in Arabic and English. Compare your ideas with a partner.**

C **Reorder the words to make complete sentences.**

Example: enough / vote / not / old / to

I'm not old enough to vote.

1. too / on / walk / hot / was / to

   The sand _____

2. how / know / spell / to / word / this

   Do you _____

3. tested / have / my / to / eyes

   I need _____

4. do / forgot / my / I / but / homework / to / going

   I was _____

5. Scottish / jumper / wool / thick

   This is my _____

6. enough / to / ripe / not / are / eat

   Those grapes _____

D **Complete each sentence, first with an appropriate verb in the correct form and then any other necessary words.**

Example:

I don't know where to go this evening.

1. I've decided _____.
2. I'm looking forward to _____.
3. The teacher often reminds us _____.
4. I promise _____.
5. I feel like _____.
6. People always tell me _____.
7. My parents congratulated me on _____.

E **Now do Exercise A on Workbook page 54.**

Lesson 5: Grammar 2: Review – the passive, conditionals and wish

A **How does the man in the cartoon feel? Why? Underline the passive form in the caption.**

B **Rewrite each sentence in the passive. Begin with the words given and leave out the agent if appropriate.**

1. At this moment, people are studying English all around the world.
   At this moment, English _____.
2. Perhaps another language will replace English as the most important in the world.
   Perhaps English _____.
3. Libyan teachers teach British English.
   British English _____.
4. The doctor is examining the boy now.
   The boy _____.
5. Someone has vaccinated me against polio.
   I have _____.
6. Children should learn languages from an early age.
   Languages _____.

C **Choose the correct word to complete each sentence.**

1. What would you wish for if you _____ three wishes?
   a) have b) would have c) had
2. If I had grown up in Japan, I _____ American English.
   a) would have learnt b) had learnt c) would learn
3. He _____ a better job if he improves his English.
   a) gets b) will get c) is getting
4. I wish I _____ before I said that.
   a) have thought b) thought c) had thought
5. If she _____ asleep, she wouldn't have missed the bus.
   a) had fallen b) hadn't fallen c) fell
6. I wish I _____ speak perfect English.
   a) could b) can c) would can

D **Look at the caption of the cartoon in Exercise A. In your notebook, write three sentences the man with the letter could say. Begin each sentence: *I wish* ... or *If* ...**

Example:

If *someone else had found the letter, they would have rescued me.*

E **Now do Exercise A on Workbook page 55.**

Lesson 6: Speaking: Giving opinions and comparing English with Arabic

A **Look at the sentences. Number the sentences according to the level of importance they express (1 = the most important). Compare your answers in pairs.**

It's not important at all. _____

It's important. _____

It's not important. _____

It's very important indeed. _____

It's not very important. _____

It's very important. _____

B **Work in pairs. Give your opinions about these things. Use the adjective in brackets.**

Example: watching television (interesting)
Watching television is not very interesting. I think it's very interesting indeed.

1. fast food (nice)
2. horror films (entertaining)
3. using the Internet (difficult)
4. exams (enjoyable)
5. technology (exciting)
6. English and Arabic (different)

C **Look at the pictures. What are these things called in English? What are they called in Arabic? What do you notice about them.**

1

2

3

4

5

6

D **Write a list in your exercise book of ten more English words that are similar in Arabic. Compare your list with a partner.**

E **Now do Exercise A on Workbook page 55.**

Lesson 7: Writing: Comparing and contrasting

1. Preparation for writing

A **Work in pairs. Discuss the differences between English and Arabic writing. In your notebook, make notes about the following.**

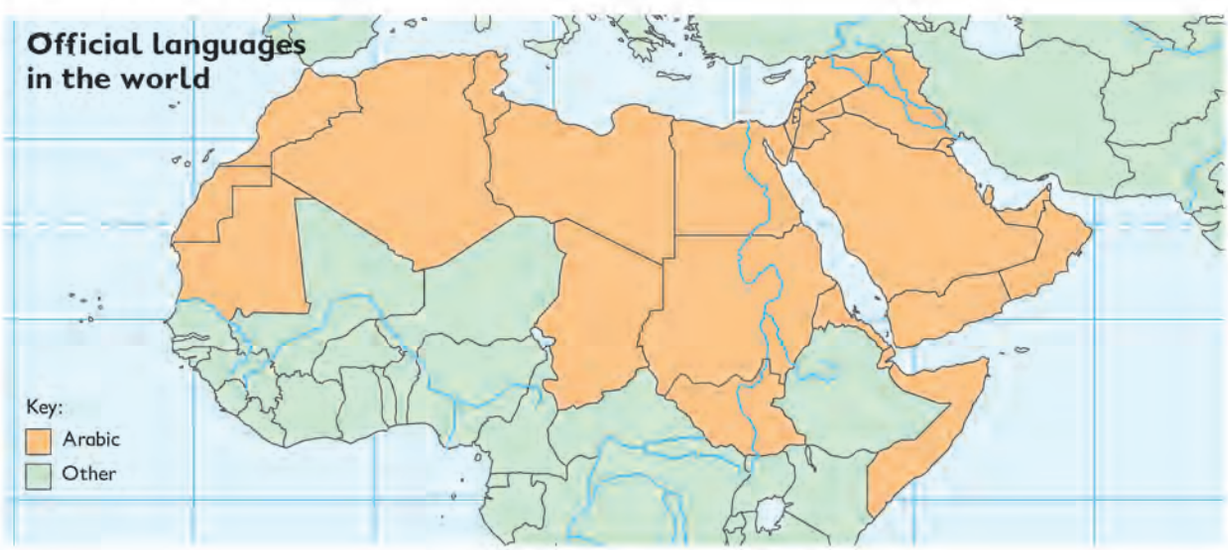
- the script
- punctuation and capital letters
- spelling
- silent consonants
- any other differences

B **Work with another pair of students. Discuss the questions below.**

1. Compare your notes from Exercise A. Do you agree?
2. Which of the differences between English and Arabic do you think would cause most difficulty for an English speaker who is learning Arabic? Think about grammar, vocabulary, pronunciation and writing.
3. Make a list of things about English and Arabic that are similar.
4. What advice would you give someone who is learning Arabic?

C **Complete the facts about Arabic with a suitable word in each space.**

Arabic is ① _____ by around 250 million people as a first ② _____. There are three types of Arabic. The first is ③ _____ Arabic, which is used in religious texts and poetry and ④ _____ in schools. Secondly, there is Modern ⑤ _____ Arabic, which is used for news, speeches, lectures, signs and for ⑥ _____ between Arab speakers of different nationalities. Thirdly, there is the group of ⑦ _____ of colloquial Arabic which people use for everyday communication. There are 27 different varieties of colloquial Arabic, including ⑧ _____, which is spoken by 5 million people.



2. Writing

A **Now do Exercises A and B on Workbook pages 55–56.**

Lesson 8: Scientific English

A **Work in pairs. Underline the subjects that are pure science. Circle the subjects that are applied science. Then explain the differences between the two types of science.**

physics	botany	medicine	aeronautics	engineering	zoology
electronics	chemistry	geology	agronomy		

B **Work in pairs. Look at this list. It shows sources of information for scientists working in particular fields of science.**

scientific conferences ☐	the Internet ☐	textbooks ☐	journals ☐

1. Mark the items 1–4 to show the most important sources of information for scientists.
2. How important is English in getting information from each of these sources?
3. What other sources of information are there for scientists?

C **Work in pairs. Discuss these questions.**

1. If people with different first languages use another language to communicate, we call it a *lingua franca*. What evidence is there to support the view that English is the lingua franca of science today?
2. From the end of the seventeenth century until the end of the First World War, German was the language of science. Why did English take over again after the First World War?
3. Do you think English is used as a lingua franca equally in all areas of science?

D **Now do Exercises A and B on Workbook page 56.**

E **Close your Workbook. Work in pairs. Answer these questions. Then check your answers in the text on Workbook page 57.**

1. What percentage of information in the world's computers is in English?
2. When did English first become an important scientific language?
3. What language was the Mexican journal Archives of Medical Research originally published in?
4. What did the survey of French science journals show?
5. Who were involved in the survey of languages in science?
6. In which subject is English used most as a working language, according to the survey in Germany?

F **Work in groups. Discuss these questions.**

1. Why is English used more in the pure sciences, for example physics, chemistry and biology, than in subjects like law, theology, classics and history?
2. What do you think will happen to English in the future as the language of science? What other languages could replace it?
3. What are the advantages and disadvantages of one language being used as the international language of science?

Lesson 9: A dictionary of science

A **The abbreviations below are all found in science dictionaries. Write out the words in full.**

1. At. No. _____
2. conc. _____
3. A.W. _____
4. kg _____
5. b.p. _____
6. mm _____
7. cc _____
8. m.p. _____
9. chem. _____
10. phys. _____
11. f.p. _____
12. sq. _____
13. Hz _____
14. temp. _____

B **Complete the dictionary definitions. Choose from the words in the box.**

proteins	elements	vaccine	ligament	fossil fuels	catalyst	crystals	medium

1. The general term for coal, oil and natural gas. _____ are formed over million of years by the bodies of dead organisms which are compressed under the Earth's surface.
2. A solid whose elements are arranged in a definite geometric pattern. The edges of _____ are straight and the surfaces flat.
3. Naturally occurring polymers made from chains of monomers called amino acids. _____ are used by living cells for growth and the repair of living tissue.
4. A substance which increases the rate of a chemical reaction without undergoing any permanent change itself is known as a _____.
5. A _____ is a substance containing viruses and other microorganisms which is injected into the human body in order to stimulate the formation of antibodies. In this way, the body develops immunity to this type of organism.

C **Complete the dictionary definitions opposite with the words in the box.**

low	molecules	quantities	volume
halved	forces	released	mass
constant	reciprocal	state	lead

D **In your notebook, write a dictionary definition for two of the following words and phrases in the box. Write at least two sentences for each.**

marble	botany	atomic weight	vacuum
cartography	coke	calendar	date palm
perpetual motion	leprosy		

E **Work in pairs. Take turns reading your definition without naming it. Let your partner guess what it is.**

F **Now do Exercises A and B on Workbook page 58.**

Latent heat The amount of heat absorbed or ① _____ while a substance is changing its ② _____ is called its latent heat. For example, when water begins to boil, its temperature remains ③ _____ even though heating continues. The heat supplied is used to enable the water ④ _____ to escape from the attractive ⑤ _____ of their neighbours.

Inversely proportional Two ⑥ _____ are inversely proportional when one quantity is directly proportional to the ⑦ _____ of the other. In other words, if one quantity is doubled then the other will be ⑧ _____.

Density The density of a substance is its ⑨ _____ divided by its ⑩ _____ and stated in units of g/cm^3. A substance with a large mass occupying a small volume (such as ⑪ _____) has a high density. Many gases have a low mass occupying a large volume. They have a ⑫ _____ density. Every substance has its own different density which helps in identifying substances.

Lesson 10: What I enjoyed

A **Read the dialogue between Abdulah and Fareed. They are discussing the Course Book that they have just finished. Underline what they enjoyed about the course.**

Abdulah: Well, I've finished … at last.

Fareed: Finished what?

Abdulah: This English course.

Fareed: Did you enjoy it?

Abdulah: I enjoyed parts of it. I enjoyed learning about tropical diseases.

Fareed: I enjoyed that, too. But I didn't like reading about databases. I found that boring.

Abdulah: Oh, I liked that. I liked the grammar exercises, too. I liked practising the different tenses. That was useful.

Fareed: I didn't like that! I hated studying all those verbs.

Abdulah: What part did you like best?

Fareed: Well, I enjoyed learning new vocabulary – especially scientific vocabulary. That was really useful.

Abdulah: Me, too. I liked reading about the Titanic as well.

B **Work in pairs. Discuss this Course Book. Use the structures below in your conversation.**

I liked …	reading about …
I enjoyed …	learning about …
I didn't like …	practising …
I hated …	studying …

C **Work in pairs. List as many ways as you can think of to keep improving your English after the course has finished.**

D **Read the text and check your answers in Exercise C. Then mark the suggestions 1–6, with 1 being the most useful method for you and 6 the least useful.**

Language learning is for life

Learning a language is a job for life. Learning doesn't stop when a language course comes to an end. How can you carry on learning when a course has finished?

a) **Read all you can in English.** Read novels, magazines and newspapers, as well as science textbooks and journals. Reading is a useful skill, but it also helps you to learn new vocabulary and improve your writing skills. ☐

b) **Listen to as much English as you can.** Listen to the radio and watch TV in English if you can. Some radio stations (like the BBC) have programmes to help you learn English. Listen to CDs. It is important to listen to as much authentic English as possible. ☐

c) **Practise your English.** Find opportunities to speak English. Practise with native speakers of English, but also remember many people such as Indians, Filipinos, Swedes and Germans speak English very well, even though it is not their first language. ☐

d) **Keep a notebook.** Make a note of new language as you come across it. Write down new vocabulary, new expressions and new structures. Make sure you know how to use them. Write examples using the new language. ☐

e) **Find a teacher.** Find someone who knows English better than you. Ask them to help you with explaining things you don't understand and to give you practice in English. ☐

f) **Find a Course Book.** Get a Course Book that suits your level and your purpose in learning English. Set yourself a time each week to study part of the book. Buy the Workbook as well and do the exercises. ☐

E **Now do Exercise A on Workbook page 58.**

Lesson 11: A science quiz

Try this quiz. Work in teams of four. Most of the content is based on what you have learnt during the course, though there may be a few points to test what you know!

A Underline the odd word out in these groups.

1. igneous, sedimentary, limestone, metamorphic
2. ice, mist, water vapour, fog
3. mean, graph, range, median
4. tourism, fishing, farming, boat-building
5. malaria, leprosy, smallpox, cholera

B Circle the correct answer.

6. Who wrote *The Book of Roger*?

a) al-Idrisi b) King Roger II c) Linnaeus d) al-Khwarizmi

7. Who drew the first map of the stars?

a) Galileo b) Copernicus c) Ptolemy d) Newton

8. Who first put forward the idea of continental drift?

a) Herodotus b) Newton c) Wegener d) Darwin

9. Who wrote *Integration and Equation*?

a) Galileo b) Copernicus c) Avicenna d) al-Khwarizmi

10. Who was *the father of science fiction*?

a) H.G. Wells b) Jules Verne c) Conan Doyle d) Aldous Huxley

C Complete these definitions. Circle a, b, c or d.

11. A _____ is a solid figure with a flat base and straight, flat, three-angled sides that slope upwards to meet at a point.

a) cube b) pyramid c) a prism d) triangle

12. A _____ is a four-sided figure in which only one pair of sides is parallel.

a) rhombus b) parallelogram c) trapezium d) rectangle

13. _____ is a reddish-brown substance which forms when iron or steel comes into contact with air or water.

a) Rust b) Chlorine c) Limestone d) Copper

14. A _____ is a collection of facts that is organized for storage.

a) graph b) field c) pie chart d) database

15. A *merkhet* is a type of _____.

a) calendar b) clock c) telescope d) monument

D Complete the paragraph with words from the box.

mean	modal	range	median	maximum	minimum	frequency

There are 20 students in my class. The ⑯ _____ age is 17 and the ⑰ _____ is 21, and so the ⑱ _____ of ages is from 17 to 21 years old. The ⑲ _____ age of the group is 19.4 years. Most people in the group are 19 years old. This is the ⑳ _____ age of our group.

E Now do Exercise A to C on Workbook pages 58–59.

Lesson 12: Listening: Predicting content and listening for gist

A **Look at the pictures. What do you think each person does for a living?**

B **Look at the table. In pairs, guess some of the answers. Give reasons for your guesses.**

C **Listen and complete the table.**

	1 	2 	3 	4 
country	India			
job				
English is important because ...	it's the international language of science			
skill(s) used most ...	reading			

D **Why is English important for you? Make notes in your notebook. Then compare your ideas in pairs.**

E **Read about diphthongs. Then listen and repeat.**

Two vowel sounds together are called a diphthong. Here are some examples with their phonetic symbols.

1. /eɪ/ able, date
2. /au/ out, now
3. /ɪə/ India, hear
4. /aɪ/ why, time

F **Listen. Which four words contain diphthongs? Circle them.**

really	read	found	weight	sit	write