

8 SCIENCE COUNTS

GRAMMAR

Past simple vs. past continuous (review) SB p.76

- 1 ★★★ Look at the picture. Complete the sentences with the past continuous form of the verbs in the list.

send | look | play | read | draw | sleep



When the teacher came into the classroom, ...

- 0 Harry was sending a text message.
- 1 Chloë _____ a picture on the board.
- 2 Jessica and Sophie _____ a magazine.
- 3 Steve _____.
- 4 Sarah _____ out of the window.
- 5 Mark and Graham _____ football.

- 2 ★★★ **Circle** the correct words.

- 0 I did / was doing some shopping when I met / was meeting my friend Sally.
- 1 When we got / were getting to the party, everyone danced / was dancing.
- 2 It rained / was raining, so we decided / were deciding to stay at home.
- 3 While we walked / were walking in the park, it started / was starting to rain.
- 4 I fell / was falling asleep while we watched / were watching a film on TV.
- 5 He didn't answer / wasn't answering the phone because he listened / was listening to music with headphones.

- 3 ★★★ Complete the text with the correct past tense form of the verbs.

Peter and Terry ⁰ were sitting (sit) in a café. They ¹ _____ (not look) out of the window – they ² _____ (talk). Just then, the waitress ³ _____ (scream) and ⁴ _____ (drop) the boys' coffee on the floor. When they ⁵ _____ (look) round, she ⁶ _____ (look) out to the street. They ⁷ _____ (look) out too and saw a young man who ⁸ _____ (get) out of a big car. The waitress ⁹ _____ (run) outside and ¹⁰ _____ (go) up to him. She ¹¹ _____ (hold) a piece of paper. When the waitress ¹² _____ (come) back into the café, she ¹³ _____ (smile). She had her favourite singer's autograph, but Peter and Terry still didn't have any coffee.

used to SB p.77

- 4 ★★★ Complete the conversation with the correct forms of *used to* and the verbs in the list.

listen | listen | play | buy | eat | wear | write | have

- JOSEPH When you were young, did you have TV?
 GRANDDAD No, we ⁰ used to listen to the radio.
 JOSEPH ¹ _____ with your friends?
 GRANDDAD Yes, we played football, but we didn't have skateboards, just simple skates.
 JOSEPH What about shopping?
 GRANDDAD My mother ² _____ food in small shops, not in supermarkets. She always had to cook for us. We ³ _____ fast food.
 JOSEPH What, no burgers?! ⁴ _____ to music?
 GRANDDAD Of course. We had a record player.
 JOSEPH What was school like?
 GRANDDAD Well, we ⁵ _____ a uniform. And we ⁶ _____ everything in our notebooks – no computers then. But we ⁷ _____ a lot of fun. Why all these questions?
 JOSEPH I'm doing a History project.
 GRANDDAD Ah, OK. I guess I'm part of history now!

Second conditional SB p.79

5 ★★★ Match the sentence halves.

- 0 If I knew Hannah's new phone number,
- 1 If my computer was working,
- 2 I would walk to the shopping centre
- 3 Mum would take me in the car
- 4 I would buy some new jeans
- 5 If I went to the shopping centre,
- a if it wasn't raining.
- b if I asked her nicely.
- c I would send her an email.
- d I would probably meet some of my friends.
- e I would phone her.
- f if I had more money.

e

6 ★★★ Circle the correct words.

- ALAN What ⁰did I would you do if you ⁰were I would be alone in a strange city?
- BELLE I ¹didn't I wouldn't go out. If I ²went I would go out alone, I ³was I would be scared of getting lost.
- ALAN But what ⁴did I would happen if you ⁵got I would get lost?
- BELLE If I ⁶got I would get lost, I ⁷started I would start to panic.
- ALAN ⁸Did I Would you ask a stranger for help?
- BELLE No way! I ⁹phoned I would phone someone.
- ALAN I ¹⁰didn't I wouldn't be worried if I ¹¹got I would get lost. I think it ¹²was I would be fun!

7 ★★★ Complete the sentences so they are true for you.

- 0 If I met a famous singer, I would ask for an autograph.
- 1 If I could visit any place in the world, I _____
- 2 I would be very happy if _____
- 3 It would be really bad if _____
- 4 My home town would be more interesting if _____
- 5 If I didn't live here, I _____
- 6 If I didn't have to go to school, I _____
- 7 The world would be better if _____

I wish SB p.79

8 ★★★ Look at the pictures. Complete the sentences with the correct conditional form and the words in the list.

dance | astronaut | new | curly | stronger | sing



0 I wish I could dance.



1 I wish _____



2 I wish _____



3 I wish _____



4 I wish _____



5 I wish _____

GET IT RIGHT!

wish vs. hope

Learners sometimes overuse I wish where I hope is needed.

- ✓ I hope you will be with me next time.
- ✗ I wish you will be with me next time.

Complete the sentences with wish or hope.

- 0 I wish I could be there too, but I have to visit my cousin.
- 1 I _____ you have a good time in Spain.
- 2 I _____ I could go there for my birthday.
- 3 I _____ the weather here was as nice as it is where you are.
- 4 I _____ things go well for you in your new town.
- 5 I'm going to get this finished by five – well, I _____ I can, anyway.

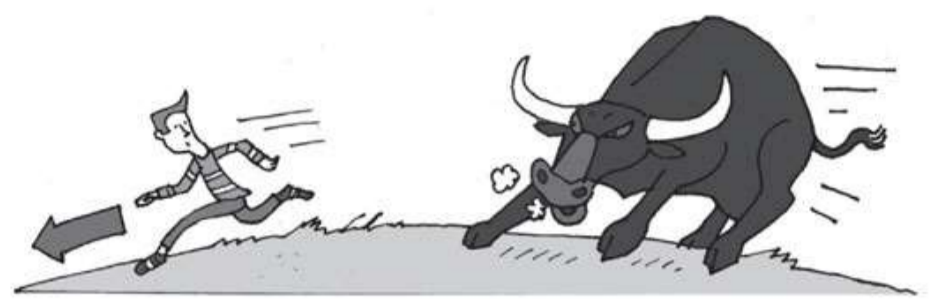
VOCABULARY

Word list

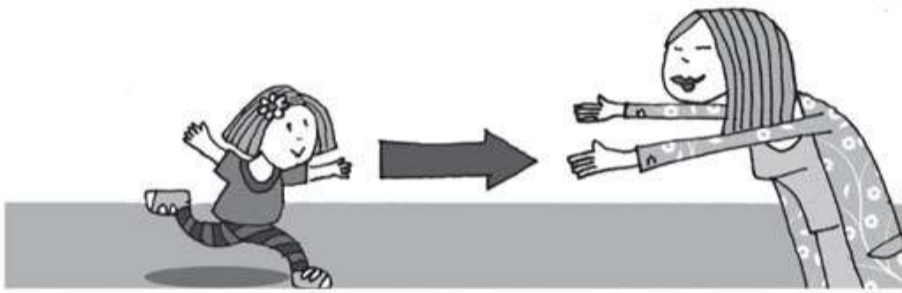
Direction and movement



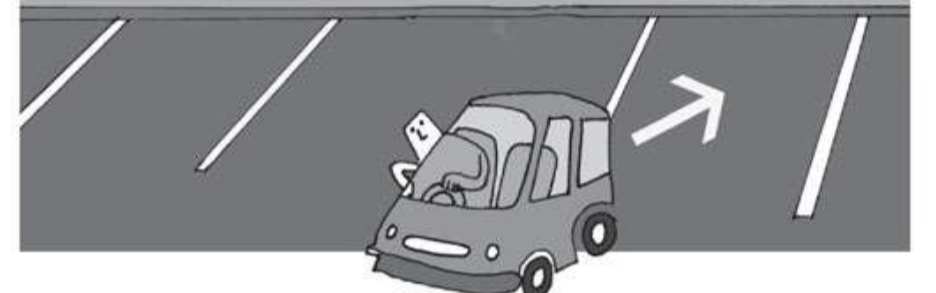
around



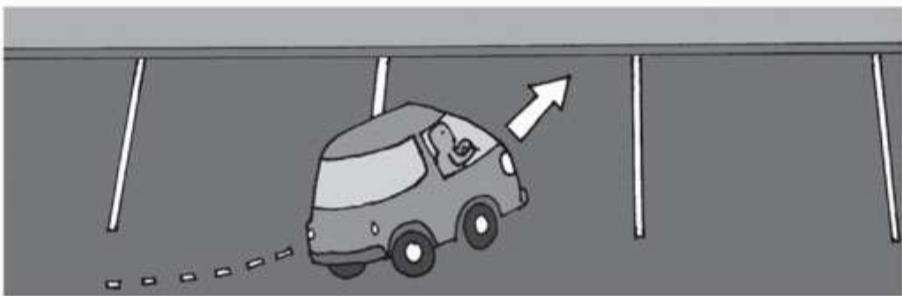
away from



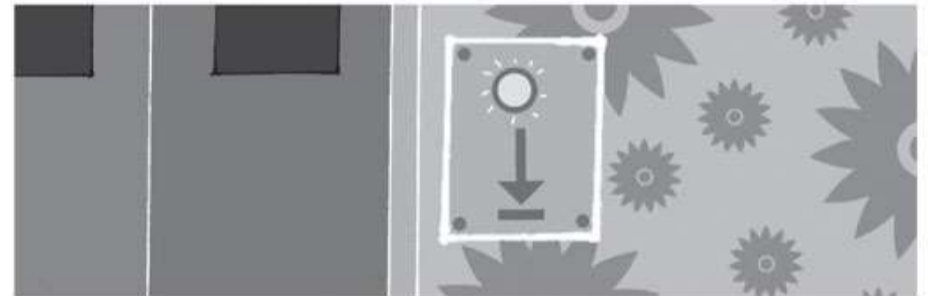
towards



backwards



forwards



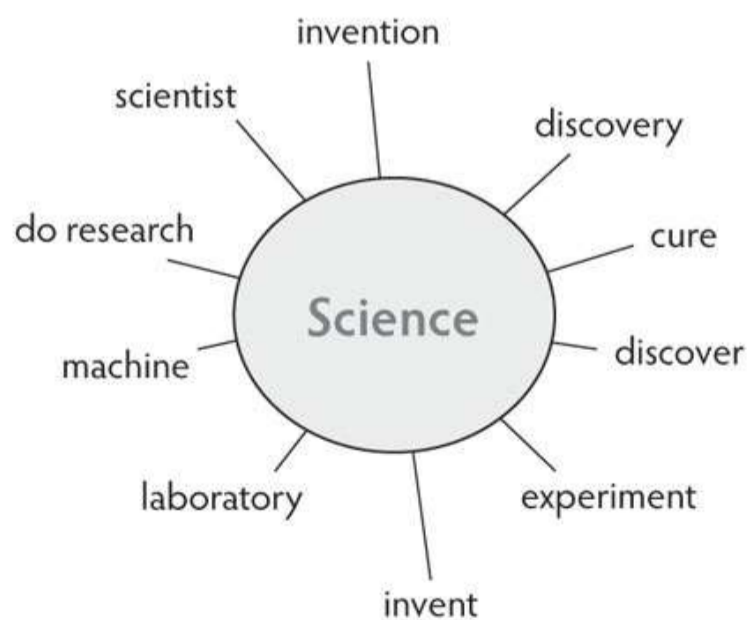
down



up



up and down



Key words in context

- achievement** I won the race and for me, that was a great **achievement**.
- basic** I'm not very good on the computer, but I can do the **basic** things.
- enormous** That house has got twelve bedrooms – it's **enormous**.
- identify** They worked hard to try and **identify** the causes of the illness.
- malaria** Some mosquitoes carry **malaria**.
- pill** He took three **pills** to try to get rid of the pain.
- pollute** The dirt from the factory is **polluting** the river.
- prevent** They have put traffic lights there to try to **prevent** accidents.
- structure** They learned about the **structure** of the atom.
- tool** My dad's got lots of **tools** in the garage for fixing his car and things.
- treat** He's very unhappy, so please **treat** him nicely.

Direction and movement **SB p.76**

1 ★★★ Look at the picture. Complete the sentences with the words in the list.

- around | backwards | up | away from
down | towards | up and down | forwards



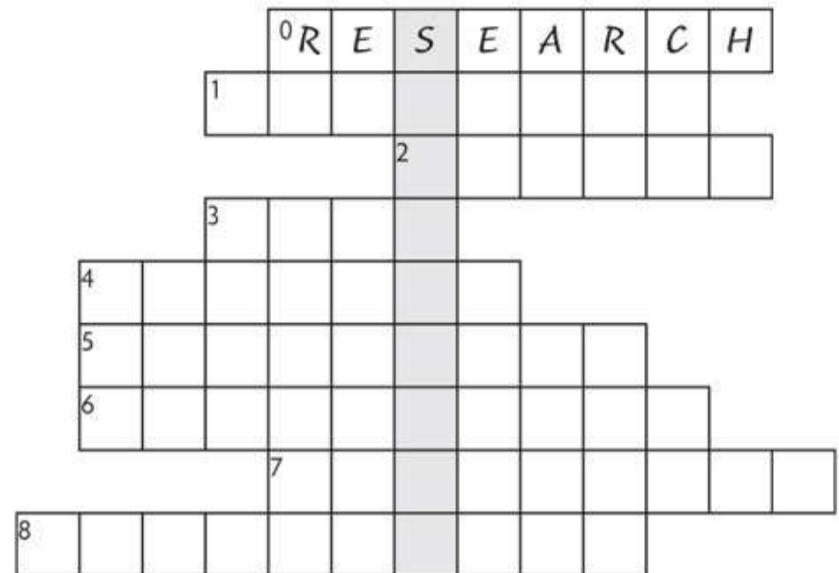
- 0 There's a snake. It's moving around a tree.
- 1 There's a lion. It's going slowly _____ a white rabbit.
- 2 There's a small white mouse. It's running _____ the tree.
- 3 There's a large black mouse. It's running _____ the tree.
- 4 There's a cat. It's running _____ a dog.
- 5 There's a kangaroo. It's jumping _____.
- 6 There's a monkey. It's swinging _____ and _____ on a rope.

2 ★★★ Complete the sentences with direction and movement phrases.

- 0 Two boys are playing in the lift. They've already gone up and down six times.
- 1 It's difficult to walk _____ because you can't see where you're going.
- 2 I was scared when I saw the tiger coming _____ me.
- 3 I think he was angry with me because he just turned round and walked _____ me, and out of the door.
- 4 The children were really excited. They were running _____ the room and shouting.
- 5 It took two hours to get into the exhibition. The queue moved _____ very slowly.

Science **SB p.79**

3 ★★★ Use the clues 1–8 to complete the puzzle. What's the mystery word?



- 0 I'm going to do some research for my science project at school.
- 1 Some people are trying to _____ a way to build cities under the sea.
- 2 Did Edison _____ the telephone, or was it someone else?
- 3 Maybe one day they'll find a _____ for every disease – but perhaps not!
- 4 Some jobs can't be done by a _____ – they have to be done by people.
- 5 I think the lift was a very important _____. It changed buildings completely.
- 6 Today we did an _____ with electricity.
- 7 What do you think is the most important scientific _____ of all time?
- 8 Our school's got a _____, where we have our science class.

4 ★★★ Match the sentence halves to make a paragraph.

- 0 My brother loves
- 1 He likes to think the kitchen is
- 2 He's done a lot of
- 3 He looks on the Internet to
- 4 Sometimes he just
- 5 He'd like to make
- 6 He thinks he's a sort of
- 7 I wish he could find
- a discover new ways to make sandwiches.
- b research into how to make sandwiches.
- c a machine for putting butter on bread.
- d food scientist, in fact.
- e a cure for my stomach ache.
- f doing experiments in the kitchen.
- g his laboratory.
- h invents his own.



READING

1 **REMEMBER AND CHECK** Correct the underlined words. Then check your answers in the text on page 75 of the Student's Book.

- 0 Isaac Newton was walking around in his father's garden. mother's
- 1 He sat near a tree and an orange fell out of the tree. _____
- 2 Newton then got the book about gravity. _____
- 3 Archimedes was an old Italian man. _____
- 4 One day he got an idea when he was in the shower. _____
- 5 He saw how the amount of water changed when he moved. _____
- 6 Newton saw that gravity also has an effect on the sun. _____
- 7 Archimedes and Newton's discoveries were not complete mistakes. _____

2 Read the article. Tick (✓) the best title.

- 1 Films about science in the 20th century
- 2 'Mad scientists' in books and films
- 3 Scientists in horror films
- 4 From *Frankenstein* to *The Fly*

Scientists haven't always been seen as very positive figures. In fact, the idea of the 'mad scientist' has been around for a very long time, and it appears in books and films to this day.

Back in the 19th century, Mary Shelley wrote a story about a scientist called Frankenstein who did an experiment in his laboratory because he wanted to show that he could create life from dead things. He takes bits of dead people and he creates ... a monster, of course, that starts to kill people. The Frankenstein story has produced hundreds of film versions – mostly horror films, although there have been one or two comedy ones.

This is the idea of science as something really quite dangerous. Things can – and probably will – go wrong because the scientists don't really know what they're doing. Another example is the film *The Fly*, which was made in 1958 and again in 1986. Here, a scientist wants to



do an experiment on transportation, but it goes wrong when a fly enters the transportation machine with him. He creates a man with parts of a fly's body, and a fly with parts of a man's body. The slogan of the film was *Be afraid. Be very afraid!*

The idea of the 'mad scientist' was especially strong in films in the second half of the 20th century. A survey was done of more than 1,000 horror films from the 1930s to the 1980s.

In 30% of the films, a 'mad scientist' was the bad guy; in 39% of the films, an enormous danger was created by scientific research that went wrong; and the scientist was the hero in only 11% of them.

Sometimes the scientist isn't the bad guy – he's still a bit crazy, but not dangerous. Take Doc in *Back to the Future*, who turns a car into a machine that can travel in time. With his crazy white hair (just like Einstein) and big eyes, he's the genius who makes mistakes but tries hard and is always nice in the end. And in the TV comedy *The Big Bang Theory*, the scientists are nerds but certainly not dangerous.

But the 'mad scientist' idea never goes away altogether. In the 2008 cartoon *Igor*, there's a whole country (called Malaria) that's run by evil scientists. And in the film, the hero, Igor, builds a person from bits and pieces of other people – and there we are, right back to Frankenstein again!

3 Read the article again. Mark the sentences T (true), F (false) or DS (the text doesn't say).

- 0 The idea of 'mad scientists' isn't a new one.
- 1 All the films about Frankenstein have been horror films.
- 2 The film *The Fly* has been made twice.
- 3 People were very afraid when they saw *The Fly*.
- 4 A survey was done of all the horror films from 1930 to 1980.
- 5 Einstein had big eyes.
- 6 In *Back to the Future*, Doc doesn't get everything right.
- 7 In the cartoon, Igor builds a monster who kills people.

T

4 Think of another film or TV programme with scientists in it. Are they shown as good or bad? Write a short text (about 50–100 words).

Pronunciation

The /ju:/ sound

Go to page 120.



DEVELOPING WRITING

How technology changes people's lives

1 Match the texts with the life-changing inventions in the list. There are three that you don't need.



penicillin



the aeroplane



the car



the lift



the syringe



the wheel

A _____

I think it's very hard to imagine what life would be like without [?]. Life in the country might not be too different, but in cities it certainly would be.

Before we had [?], people had to walk a lot more than they do now – up and down, of course, and carrying lots of things. Without it, we wouldn't have towers and really tall buildings like you see in every city in the world. How would you carry all your shopping to your home if you had to walk up to the fifth floor? And it wouldn't be easy to build places like airports, either. How would people go up and down inside with all their heavy suitcases?

I think [?] is one of the most important inventions of all time.

B _____

Can you imagine what things would be like if [?] didn't exist? Everyone's life would be harder. The work of doctors and hospitals would be a lot more difficult, too.

I read once that the discovery of [?] was a kind of accident. Almost a hundred years ago, a scientist in Britain found something surprising in his laboratory and other people discovered how to turn it into this really, really important medicine. It helps people who are sick from many different things, and it's used all over the world.

A long time ago, people didn't use to have [?]. Now life is much better because we've got it.

C _____

I think [?] has changed people's lives a lot – and not always in a good way. Now that we've got it, people feel freer and they can go to a lot of places much more easily. It used to be very expensive, but prices have gone down a lot in the last twenty or thirty years.

If we didn't have [?], things like the food we eat in many countries would be different. Because of [?], now you can get fish, fruit or other things from one country to another in a very short time – a day or less. So in Britain, for example, we can have fresh pineapple for breakfast, and that used to be impossible.

But [?] makes a lot of noise and creates pollution. Maybe things would be better without fresh pineapple or holidays in faraway countries.

2 Read the text again. Find examples of ...

1 the second conditional: *things would be very different*, _____

2 *used to*: *people didn't use to have it*, _____

3 comparatives: *more difficult*, _____

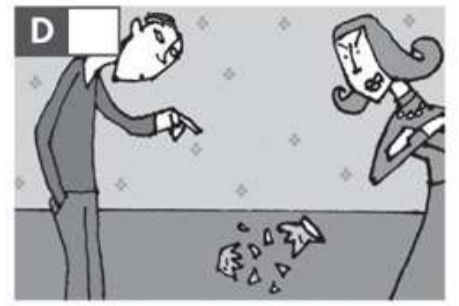
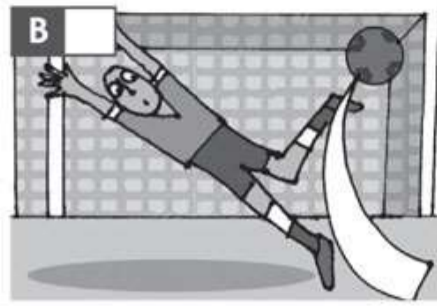
3 Write a short text about an invention or discovery that you think is really important (100–150 words).

- Choose what to write about – maybe one of the other things in Exercise 1? Or the mobile phone? The computer? The camera?
- What can you say about how life used to be before we had this thing?
- What can you say about what life would be like if we still didn't have it?
- What comparisons can you make?

You can try to write your text without saying what you're writing about. Then give your text to a partner. Can they say what your text is about?

LISTENING

1 31 Listen to two conversations. Match them with the correct picture.



2 31 Listen again and answer the questions.

CONVERSATION 1

- 0 Whose vase did the girl's brother break?
- 1 Who did her brother tell about the broken vase?
- 2 Why would John perhaps not do the same thing?

CONVERSATION 2

- 3 Why is the girl so happy?
- 4 Why isn't the boy very enthusiastic?
- 5 What would happen if someone said, 'It wasn't a goal'?

He broke his friend's mother's vase.

DIALOGUE

1 Put the conversations in the correct order.

CONVERSATION 1

- A www.helpyourenglish.net
- A I know – but I'm much better now! I used to spend hours studying at home – but then I found a great website.
- 7 A Hey, look! I got 79 per cent in the English test.
- A Why not?
- B Oh, yes – I know that one. I used to use it a lot. But not any more.
- B Because I found a better one. And look – I got 92 per cent in the English test!
- B Seventy-nine per cent? That's great. But you used to be really bad at English.
- B Oh, yes? What's it called?

CONVERSATION 2

- A So he doesn't work there any more?
- 7 A I can't go out tonight. I'm working on a presentation about experiments on animals.
- A Your dad? Why?
- A Your dad worked in a laboratory like that?
- B Because he used to work in a laboratory where they tested things on animals.
- B No, he left after a year. Now he works in a pet shop – he loves it!
- B Yes, but he hated it. He used to come home really angry. We used to keep very quiet!
- B Animal testing? Really? You should talk to my dad, then.

TRAIN TO THINK

Using criteria

1 Look at the inventions on page 77 again. Some people were asked which they think is the best. Match the beginnings and ends of their answers.

- 0 It's penicillin, because e
- 1 It's the plane, because
- 2 It's the car, because
- 3 It's the lift, because
- 4 It's the syringe, because
- 5 It's the wheel, because
- a you can't give some medicines without it.
- b people don't have to use stairs any more.
- c other things (like cars) depend on it.
- d you don't have to walk or use bicycles or horses any more.
- e it helps people who have bad illnesses.
- f it lets people travel all over the world.

2 Write three inventions or discoveries that you think may be the best. Say why.

- 1 It's _____, because _____
- 2 It's _____, because _____
- 3 It's _____, because _____

Help with reading: scanning a text

- When you scan a text, you look for specific information – a price, a year, a place, a name, etc. – without trying to read the whole text or understand what it's all about. When you scan a text, it's important that you move your eyes quickly down the page.
- Scanning is a very useful technique if you have little time available and only need certain precise information from a text.

Tip: scanning a text

- To scan a text successfully, you first of all need to know exactly what you're looking for. If, for example, you're reading a text about an invention and want to find out when it's from, you know that the answer will be a year, so you're looking for a number.
- Then try to find quickly where in the text the information can be found. Don't read the text word for word – just move your eyes quickly vertically (up and down) and horizontally (across) the page until you've found the place in the text where the information is.
- Once you've found the place, you need to make sure the information you're taking from the text is accurate. Don't go too fast now – it's better to check twice if you've really found the information you've been looking for.

1 Look at the grid to see what information is missing. Scan the text for the missing information and complete the grid.

JAMES WATT:

Year of birth: ⁰ <u>1736</u>	Place of birth: ¹ _____
Year he started experimenting with steam engines: ² _____	
Year and day of the week when he built the modern steam engine: ³ _____, ⁴ _____	Year he sold his first steam engine: ⁵ _____
Year he stopped working: ⁶ _____	Year he died: ⁷ _____

When James Watt was born in 1736 in Greenock, Scotland, simple steam engines were already used to pump water out of coal mines. These pumps weren't invented by Watt, of course, and nobody knows who first made them. However, Watt is usually called the inventor of the 'modern' steam engine.

The story begins with young Watt, sitting by the fireplace in the little cottage he grew up in. He loved watching the steam rising from his parents' boiling tea kettle in their cottage, and this was the beginning of a lifelong fascination with steam.

In 1763, somebody brought him a model of Thomas Newcomen's steam-pumping engine that was broken and didn't work any more. He asked Watt if he could try and repair the machine.

Watt was excited, and it didn't take him long to get the model going. He was fascinated by it, but soon noticed that it wasted a lot of energy because the cylinder was used both for heating and for cooling. For weeks, he carried out lots of experiments.

On a Sunday afternoon in 1765, while the inventor was going for a walk, he had an idea. He thought that he could make the steam engine much more powerful if he made a second container where the cooling could take place and the steam could be condensed, while the cylinder was kept at the same temperature all the time.

The next morning, he built a prototype and was very happy when he saw that it worked. Watt had invented a much more efficient steam engine.

Shortly afterwards, James Watt and Matthew Boulton started a business together and began selling the Watt steam engine in 1775. Watt's engines were used in the coal mines, but they were much better than the ones used when he was a boy. His engines were also used for transportation and in the textile industry.

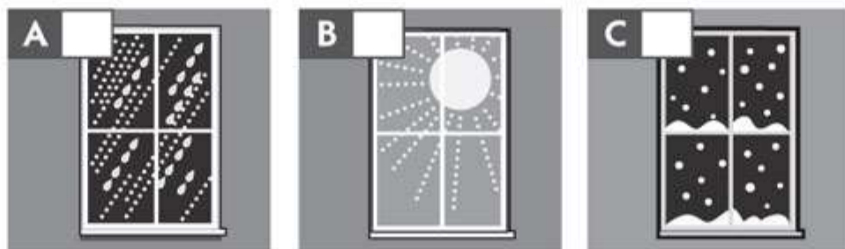
Watt was very successful as a businessman, and when he retired in 1800, he'd become a wealthy man. He died in August 1819.

CONSOLIDATION

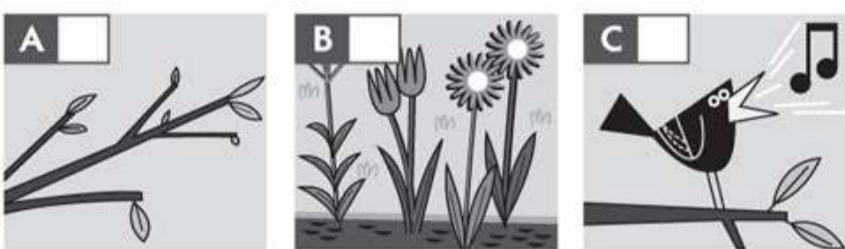
LISTENING

1 32 Listen to the conversation. Tick (✓) A, B or C.

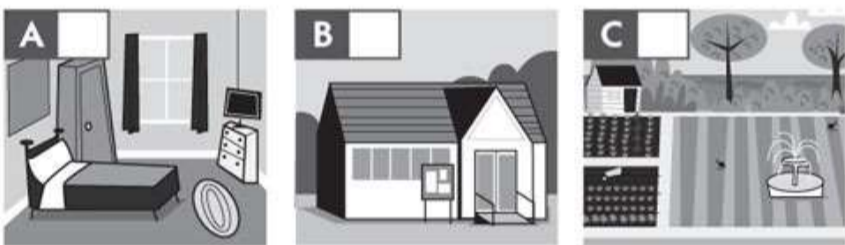
1 What is the weather like as they are talking?



2 The boy says that spring is already starting. How does he know?



3 Where does the girl think they could have a party?



2 32 Listen again. Mark the sentences T (true) or F (false).

- 0 It's summer. F
- 1 The boy would like to stop winter happening.
- 2 The boy likes to hear birds singing.
- 3 The boy thinks they could have a party at the end of the month.
- 4 You can get twenty people into the flat.
- 5 The girl's parents have a big garden.

GRAMMAR

3 Complete the sentences. Use one word.

- 0 I go running every morning, and so does my friend Monica.
- 1 I wish you _____ here – but you aren't!
- 2 When I was younger, I _____ to think there were monsters under my bed!
- 3 A I really don't like cold showers.
B _____ do I!
- 4 You can't come? That's a shame. I really wish you _____.

4 Correct the sentences.

- 0 My sister doesn't like science, and so do I.
My sister doesn't like science, and neither do I.
- 1 If I knew the answer, I told you.

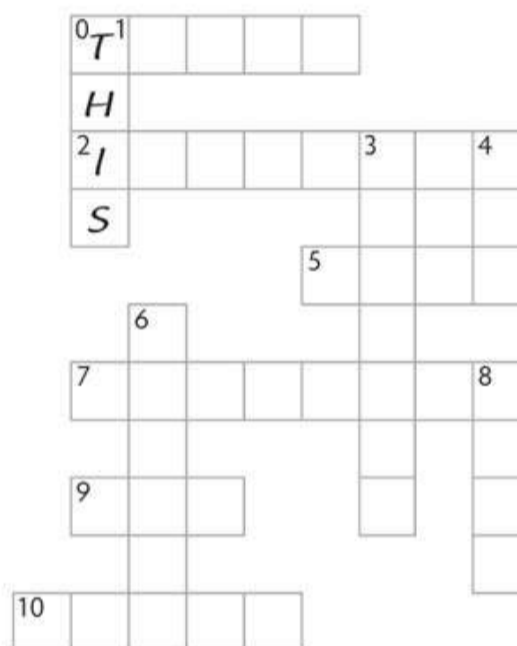
- 2 He's read this book, isn't he?

- 3 I wish my sister is nicer to me.

- 4 I wish I can go out tonight, but I've got homework.

VOCABULARY

5 Complete the crossword.



Down

- 0 I think we're going to move later ... year.
- 3 I saw this big dog. It was running ... me. I was so scared.
- 4 I'll come and see you the ... after tomorrow.
- 6 He's a little late, but he'll be here ... too long.
- 8 We're going to ... a DJ for the party.

Across

- 1 It's a ... party – it's all about sport.
- 2 Who ... the telephone?
- 5 I was scared of the dog so I ran ... from it.
- 7 She's a scientist – she does ... into new materials for building.
- 9 Our party is on the 18th, two weeks from
- 10 I'm writing a ... list for the party – I'm inviting lots of people!

DIALOGUE

6 Complete the conversation. Use the phrases in the list.

forgotten about | In other words, | That's a shame
round and round | thank goodness | lucky you
What do you reckon | there's nothing wrong with

HAYLEY Hi, Max. Listen, I want to say sorry for yesterday. I didn't mean to get angry. I'm sorry I said those things.

MAX Oh, that's OK, Hayley. I've ⁰ *forgotten about* it already.

HAYLEY Really? ¹ _____, you're OK with it?

MAX Sure. I think we should still be friends. ² _____?

HAYLEY I think that's brilliant. Thanks! And I promise I won't speak to you like that again.

MAX Well, you know, ³ _____ getting angry. I mean, it happens to everyone. But sometimes people say things they don't really mean.

HAYLEY Yes, you're right of course. And honestly, I don't get angry like that very often – ⁴ _____!

MAX Well, ⁵ _____! I wish I could say the same.

HAYLEY Oh? Do you often get angry?

MAX Yeah, I get angry a lot, and I get bad thoughts that go ⁶ _____ inside my head. Oh, anyway, let's not talk about that. Let's go get some coffee.

HAYLEY I'm sorry, I can't. I've got to go home.

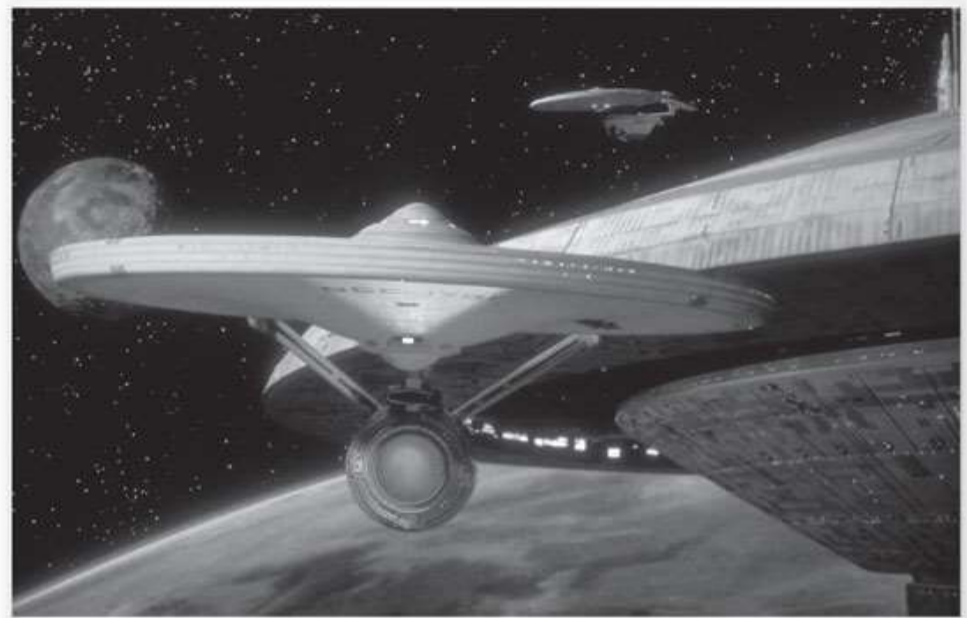
MAX ⁷ _____. But OK, another day. See you tomorrow, Hayley.

READING

7 Read the article. Match the missing sentences with the spaces A–E.

- 0 and meet to speak it
- 1 when *Star Trek* included them
- 2 in the 1960s and 1970s
- 3 the deepest parts of outer space
- 4 played by William Shatner

D



One of the greatest successes ever in science fiction is the TV series *Star Trek*. The person who got the idea for the story was Gene Roddenberry, and the very first episode went on air in 1966. The series features a spaceship – the Starship Enterprise – that has gone out into space on a mission to explore [A] and to make contact with other civilisations. At the time, it was probably the best science fiction on TV or in the movies, and the series was remarkable because members of the crew of the Enterprise included women and people of different races, something that TV [B] didn't show very often.

Some years after the original series finished, a new series called *Star Trek: The Next Generation* was created, with Patrick Stewart as Jean-Luc Picard, the captain of the Enterprise – a quite different figure from the original Captain Kirk, [C].

Star Trek is about 50 years old, but it still has an incredible cult following. There are 'Trekkie' conventions in many places every year. Among the Enterprise's enemies were the Klingons, from the planet Klingon, and a whole Klingon language has been developed. People learn it [D]. There are references to the show in many books, plays and TV programmes. In *The Big Bang Theory*, for example, some of the characters know every episode by heart.

And it's also interesting to observe that some things that were fiction [E] are not fiction any more. Mobile phones and sliding doors, for example, seemed incredible in the early episodes, but now they are part of our everyday lives.

WRITING

8 Write a short text (about 120–150 words) about a science fiction book, film or TV programme that you really like or really dislike. Include the following information:

- what the book / film / TV programme is called
- what it is about
- what you like / dislike about it