

11A It's a robot that looks like a human

1 READING AND LISTENING

a Look at titles of the films and books in the article. What kind of stories are they? Have you seen or read any of them? What are they about?

b Read the introduction to the article. What do e-book readers and cash machines have in common?

c Read the article. What ideas come from each sci-fi book/film?

Back to the Future II flying cars

AI _____

Iron Man _____

Minority Report _____ and _____

d 3.34 Do you think people have invented the technology in 1c in real life yet? Tell a partner. Then listen and check.

e 3.34 Listen again. How is the real technology different from the book/film?

f 3.34 Listen again. Are the sentences 1–8 true (T) or false (F)? Correct the false sentences.

- 1 The *Terrafugia* flying car can go on normal roads.
- 2 Anyone who has a driving licence can fly a *Terrafugia* car.
- 3 The *Kirobo* robot was designed to fall in love with the astronauts.
- 4 The *Kirobo* robot knows what the astronauts look like.
- 5 Robotic suits are used to help people with health problems.
- 6 *Cyberdyne* hope their robotic suit is used to save lives.
- 7 *Blue CRUSH* has not reduced crime in Memphis.
- 8 The *NEC* billboards know if you are interested in their adverts or not.

g Answer the questions.

- 1 Which of the new technologies from the listening do you think are the most useful? Why?
- 2 Think of three more kinds of technology you have seen in sci-fi books/films. Is it real yet?

Learn to explain what technology does

G Defining relative clauses

V Compound nouns

SCIENCE FICTION: THEY THOUGHT OF IT FIRST!

Did you know that a lot of the technology we use today appeared in science fiction *before* scientists invented it?



E-book readers didn't appear until 1999, but as long ago as 1961, author Stanislaw Lem wrote about them in his book, *Return from the Stars*.

Cash machines were invented in the 1980s. But Ray Bradbury thought of them first, in his 1953 novel, *Fahrenheit 451*.

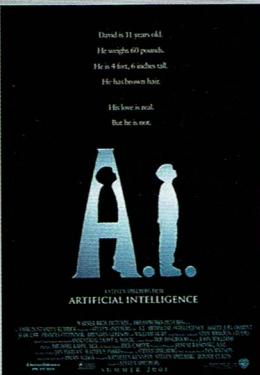


Scientists are working on all these ideas from science fiction. How far have they got?



Back to the Future Part II,
Steven Spielberg (1989)

When the heroes of the film travel to the future, one of the most amazing machines they find is flying cars. The cars fly along 'roads' in the sky which have signs and streetlights.



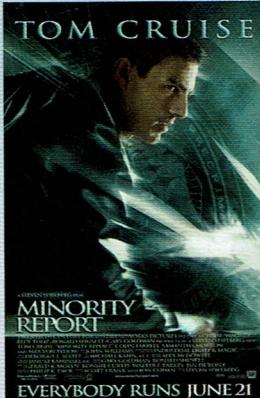
AI, Steven Spielberg (2001) based on *Super-Toys Last All Summer Long*, Brian Aldiss (1969)

When a young child dies, his mother is given an android which looks and behaves exactly like a real boy. The robot loves her like a son.



Iron Man Marvel Comics (1963)
Marvel films (2008 onward)

A rich scientist and engineer is badly hurt. To save his own life, he builds himself a robotic heart and a powerful metal suit which makes him stronger and faster than any other man. He becomes a cyborg – part man, part machine.



Minority Report short story by Philip K. Dick (1956) and a film by Steven Spielberg (2002)

Tom Cruise plays a detective who can stop crimes before they happen. His team use information from psychics, who can see the future. They know who will break the law and when it will happen, but they don't know where.

Another idea that appeared in *Minority Report* is personalised advertising. All around the future city there are advertising billboards which use

technology to show ads that are relevant to the person looking at them. This is called 'contextual advertising'.

2 GRAMMAR Defining relative clauses

- a Look at the words from the reading and listening. Can you remember what they mean? Complete the definitions with the words in the box.

androids billboards cyborgs psychics space

- 1 ____ are people that can predict the future.
- 2 ____ are robots that look like humans.
- 3 ____ are people who have some robot body parts.
- 4 ____ are large signs which show adverts.
- 5 ____ is the place where astronauts go.

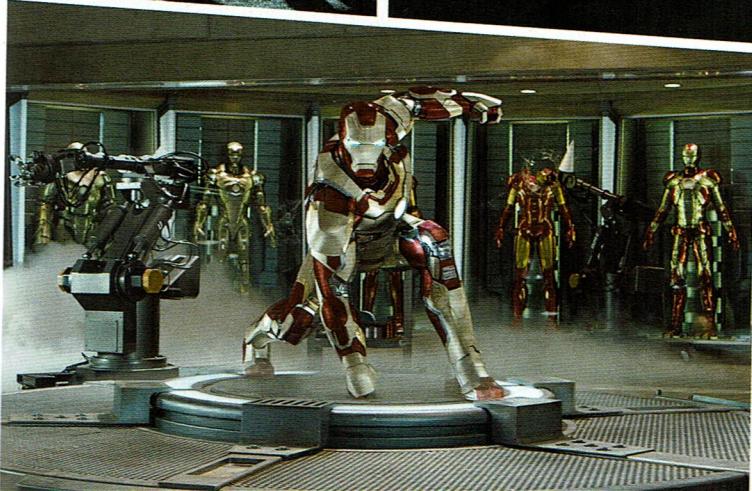
- b Look at the underlined words in 2a. Complete the rules.

In defining relative clauses use:

- ____ or ____ to describe people
- ____ or ____ to describe things
- ____ to describe places

- c Complete the sentences with *who*, *which* or *where*.

- 1 Robots are machines ____ do human jobs.
- 2 Detectives are police officers ____ solve difficult crimes.
- 3 Earth is the planet ____ we all live.



- d ► Now go to Grammar Focus 11A on p.162

- e Look at the sentences. What are A and B describing?

A It's a person who gives you medicine when you're not feeling well.

B It's a thing that is very comfortable. You sleep on it.

- f ► Communication 11A Work in pairs.
Student A: go to p.129. Student B: go to p.131.

3 VOCABULARY Compound nouns

- a Match one noun from each column to make compound nouns. Use the article on p.108 to help you.

science	programme
cash	fiction
street	machines
television	sign
road	lights

- b Look at the first word in each compound noun. Is it singular or plural?

- c ► Now go to Vocabulary Focus 11A on p.140

4 SPEAKING

- a Have you started using any new technology recently? What is it? Why did you get it?

- b Look at the inventions in the pictures. What do you think they are for? Compare your ideas with a partner.

- c Check with your teacher. How many did you get correct?



10A Multi-word verbs

- a Read the sentences. Which multi-word verb in the box can replace the words in **bold**?

passed on put off carried on came round
looked after handed in broke up
turned down joined in felt like

- 1 I asked him to be quiet, but he just **continued** talking. _____
- 2 It was a really sunny day and he really **wanted** an ice cream. _____
- 3 She **came to my house** to ask for some advice. _____
- 4 I **took care of** my friend's cat while he was on holiday. _____
- 5 They used to go out with each other, but they **ended their relationship**. _____
- 6 He **said 'no' to** the invitation, because he had too much work. _____
- 7 The game looked like fun, so I **did it with them**. _____
- 8 They **delayed** the meeting, because Bob was ill. _____
- 9 I **took** the keys I found to the receptionist. _____
- 10 He **told her** the message as soon as he saw her. _____

- b Complete the sentences with the correct form of a multi-word verb from a.

- 1 My friend _____ for dinner last night. I cooked her spaghetti.
- 2 She's ill, so we've _____ the party until she gets better.
- 3 Can you _____ my new number to Bob? It's 07806 540 234.
- 4 Mike and I were together for a year but we _____ two months ago.
- 5 Tom started singing a song and then we all _____. It was pretty noisy!
- 6 Somebody _____ my wallet at the police station.
- 7 She _____ the job offer because the pay was too low.
- 8 "Do you _____ a pizza tonight?" "Yes, that sounds nice."
- 9 I'm _____ my niece this evening. She's only 7 years old.
- 10 We were all tired and wanted to stop running but our teacher told us to _____.

Tip

Multi-word verbs have different kinds of grammar. Some transitive multi-word verbs (*hand in, pass on, put off*) can be separated by an object:

We **put off** the match. ✓ We **put the match off**. ✓

If the object of these multi-word verbs is a pronoun, they must be separated:

I **handed it in**. ✓ ~~I handed in it~~. X

Other multi-word verbs (*feel like, look after*) can never be separated:

He **felt like** an ice cream. ✓ ~~He felt an ice cream like~~. X

- c Now go back to p.99

11A Compound nouns

- a Write the compound nouns. Use the words in the sentences to help you.

- 1 A shop that sells shoes is a shoe shop.
- 2 A book with addresses in it is an ____.
- 3 A shelf you put books on is a ____.
- 4 An office where you buy tickets is a ____.
- 5 A ring you put keys on is a ____.
- 6 A programme on the television is a ____.
- 7 Lights on a street to help you see when it's dark are ____.
- 8 A sign by the road is a ____.
- 9 A machine you can get cash from is a ____.
- 10 Fiction which describes a new kind of science is ____.

Tip

- The first word in a compound noun is normally singular: *a books shop* X *a book shop* ✓

This is also true if the compound noun is plural:

There are three tickets offices in the station. X

There are three ticket offices in the station. ✓

- When a compound noun is used for many years, it sometimes becomes one word, not two. For example, *Cambridge Advanced Learner's Dictionary* says:

streetlights ✓ NOT *street lights* X

But not all compounds can be joined together.

road sign ✓ NOT *roadsign* X

Check the punctuation in a recent dictionary to be sure.

- b  3.36 Listen to the compound nouns in a. Underline the main stressed syllable. Answer the questions.

- 1 Which word in compound nouns is normally stressed?
- 2 Which compound noun is stressed differently from the others?

- c Practise saying the compound nouns in a.

- d Make compound nouns with one word from box A followed by one word from box B. How many can you make?

A

mountain TV bread coffee shopping city
kitchen computer tea rock car bottle

B

knife top park door bag climbing
star screen cup centre game

- e Complete the questions using a compound noun from d. There is usually more than one possible answer.

- 1 Do you like playing ____?
- 2 How long do you spend looking at a ____ every day?
- 3 Have you ever gone ____?
- 4 Would you like to be a ____?
- 5 Who is your favourite ____?
- 6 What is your favourite ____?

- f  Ask and answer the questions in e.

- g Now go back to p.109

11B I think they discovered it by chance

Learn to talk about discoveries

G Articles

V Adverbials: luck and chance

1 READING

- a Look at the pictures and match the headlines 1–3 to the stories. Which story are you most interested in reading? Why?

1 **5,000-year-old body found in the Alps**

2 **Farmers uncover ancient army in the fields**

3 **Scientist discovers how to cook food in seconds**

b Now read the stories and answer the questions for each story.

- 1 Who made the discovery?
- 2 What were they doing when they made the discovery?
- 3 What exactly was the invention/discovery?

c Read the stories again and answer the questions.

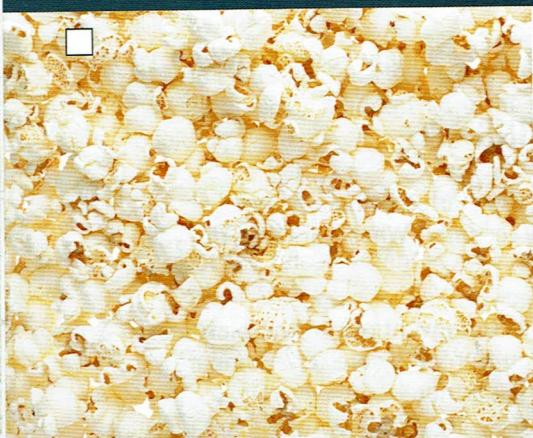
- 1 How did Percy LeBaron Spencer test his machine?
- 2 Why weren't the police careful with Ötzi's body? What damage did they do?
- 3 Why don't archaeologists know exactly how many terracotta soldiers there are?

d Ask and answer the questions.

- 1 Which discovery do you think was the luckiest?
- 2 How important do you think each of the discoveries was? Put them in order (1–3).
- 3 What important discoveries can you think of from your lifetime?

Lucky discoveries

Some of our most important discoveries happen when we aren't expecting them at all ...



Percy LeBaron Spencer, an engineer, was working on radar for the army. One day, he was walking past a machine when the chocolate bar in his pocket melted. He was curious, so he did a test. He put a small bowl of popcorn in front of the machine. **As expected**, a minute later it started popping and jumping out of the bowl.

Spencer realised the microwaves from the radar were heating the food. Next, he made a metal box and sent microwaves into it through a hole. When he put some food in the box, it cooked. This was the first microwave oven – invented totally **by chance**.



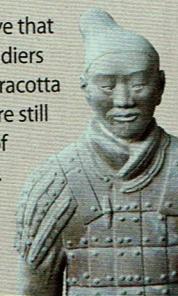
In 1991, two German tourists, Helmut and Erika Simon, were hiking in the mountains in Italy, near the border with Austria. They were coming back down the mountain when one of them saw something in the ice. As they got closer, they realised that they were looking at a man's body. They reported the body and carried on hiking.

When the police arrived the next day, they tried to get the body out of the ice. Everyone thought that it was the body of an unlucky mountain climber and they weren't very careful. They **accidentally** tore the clothes and also broke one arm. But when scientists studied the body they were shocked. **Amazingly**, the body was 5,000 years old. He was quickly given the name 'Ötzi the Iceman'. Ötzi is one of the oldest, most complete human bodies ever found.



In 1974, local farmers were digging in Xi'an, a city in China. They were looking for water, but instead they found a life-size soldier made out of terracotta. **Fortunately**, the farmers stopped digging before they damaged anything and soon archaeologists arrived to look at the area. **Surprisingly**, there was not just one, but thousands of clay soldiers. They were made around 2,200 years ago and they were buried **on purpose** – together with the body of the First Emperor of China.

Archaeologists now believe that there are around 6,000 soldiers and their horses in the Terracotta Army, but most of them are still buried underground. All of the soldiers look different. Some are tall, some are short and they all have different clothes and faces. Archaeologists



2 GRAMMAR Articles

- a Read the sentences and the rules for articles. Match the rules with examples 1–7.

He put ¹**a small bowl** of popcorn in front of the machine. A minute later, it started popping and jumping out of ²**the bowl**.

In 1974, some local farmers were digging in ³**Xi'an**, a city in ⁴**China** ... Fortunately, ⁵**the farmers** stopped digging ...

⁶**Archaeologists** think 700,000 people helped to make ⁷**the Terracotta Army**.

- a Use no article before plural nouns to talk generally.
- b Use no article before most countries and place names.
- c Use *a/an* the first time you talk about something.
- d Use *the* if you have already mentioned something.
- e Use *the* when there is only one of something in the world.

- b Now go to Grammar Focus 11B on p.162

- c Complete the text with *the*, *a/an* or no article.

New species of lizard discovered on menu



In 2010, Ngo Van Tri, of ¹**Vietnam Academy of Science and Technology**, was at ²**small village restaurant**. While he was eating, he saw ³**box of lizards** on ⁴**cooking bench**. He thought they looked unusual, so he sent some pictures to ⁵**biologist** in America, L. Lee Grismer.

When Grismer saw ⁶**pictures** he was sure ⁷**lizards** were special. He wanted to be ⁸**scientist** to make ⁹**discovery**, so he got on ¹⁰**plane** to ¹¹**Vietnam**. Then he rode on ¹²**motorbike** for eight hours to get from ¹³**airport** to ¹⁴**restaurant**. But, **unfortunately**, while he was travelling ¹⁵**restaurant owner** cooked ¹⁶**lizards** and served them to his customers. When Grismer arrived, they were all gone. **Luckily**, ¹⁷**nearby restaurant** also had the same kind of lizards on their menu. The species of lizard was new to scientists – but not to the Vietnamese villagers!

- d Listen and check.

- e Work in pairs. Answer the questions about the story in 2c.

- 1 Who discovered the lizards?
- 2 Why did he take pictures of the lizards?
- 3 How did Grismer travel to Vietnam?
- 4 What happened while Grismer was travelling?
- 5 Where did Grismer find the lizards in the end?

- f Cover the story and try to tell it with a partner. Use the prompts to help you.

- | | |
|----------------------------|--------------------|
| • small village restaurant | • motorbike |
| • box of lizards | • restaurant owner |
| • biologist | • luckily |
| • plane | • new species |

3 VOCABULARY

Adverbials: luck and chance

- a Work in pairs. Look at the highlighted words and phrases in the four stories on these pages. What do they mean?

- b Add the opposite words and phrases from the stories to the table.

1 _____	unfortunately
2 _____	
3 _____	on purpose
4 _____	
5 _____	as expected
6 _____	

- c **3.39** Listen to the words and phrases. Underline the stressed syllables.

luckily fortunately accidentally by chance
unfortunately surprisingly amazingly
on purpose as expected

- d Write about three occasions when something unexpected happened to you. Use three of the new words and phrases.

I lost my house keys last week. Luckily, my neighbour had an extra key.

- e Compare your sentences with other students in the class. Whose are the most interesting?

4 SPEAKING

- Communication 11B Student A: go to p.128. Student B: go to p.132.

11C Everyday English

It's straight ahead

Learn to ask for and give directions in a building

P Sound and spelling: *3:* and *ɔ:*

S Checking information

1 LISTENING

a Ask and answer the questions.

- 1 Have you ever got lost? When was the last time it happened?
- 2 Do you like to ask for directions or do you prefer to use maps?
- 3 Have you ever got lost in a building?

b 3.40 Annie goes to visit Mark at his office. Why does she get lost? Watch or listen to Part 1 and find out.

c 3.40 Watch or listen to Part 1 again. Complete the directions the receptionist gives to Annie.

It's on the ¹_____ floor. Go ²_____ the stairs and turn ³_____. Go through the ⁴_____ and turn ⁵_____. Then go ⁶_____ the corridor and it's the ⁷_____ door on the ⁸_____.

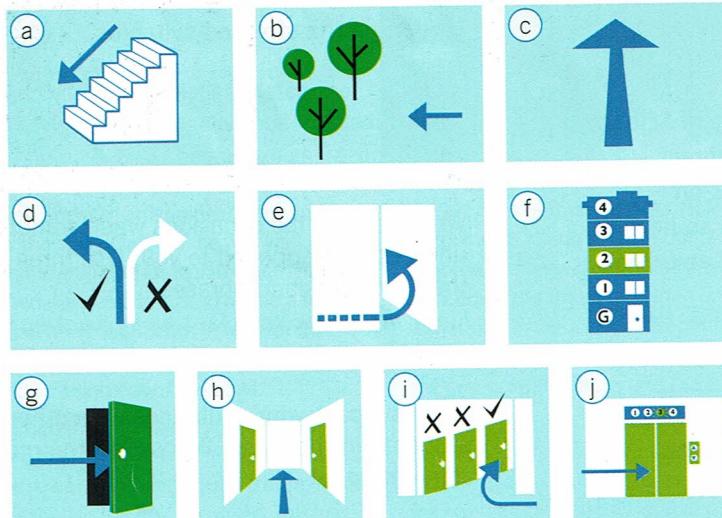
2 USEFUL LANGUAGE Asking for and giving directions in a building

a 3.41 What phrase does Annie use to ask for directions? Complete the question with the words in the box. Then listen and check.

is tell you can me

Excuse me, _____ where the reception _____?

b 3.42 Match the phrases with the pictures. Listen and check. Repeat the phrases.



- | | |
|---|--|
| 1 <input type="checkbox"/> It's over there, by the trees. | 6 <input type="checkbox"/> Turn left. |
| 2 <input type="checkbox"/> It's on the second floor. | 7 <input type="checkbox"/> Go down the stairs. |
| 3 <input type="checkbox"/> It's straight ahead. | 8 <input type="checkbox"/> It's the third door on the left. |
| 4 <input type="checkbox"/> Go through the door. | 9 <input type="checkbox"/> Take the lift to the third floor. |
| 5 <input type="checkbox"/> Go down the corridor. | 10 <input type="checkbox"/> Go round the corner. |

c Cover the phrases and try to remember the directions for each picture.

3 CONVERSATION SKILLS

Checking information

a 3.43 What do you think Annie does next after she gets lost? Watch or listen to Part 2 and check your ideas.

b 3.44 Read and listen to the three exchanges. Look at the underlined phrases 1–4. Which phrases do we use ... ?

- to check information by repeating it
- to show we understand

R First, go up the stairs to the first floor and turn left.

A So go up the stairs to the first floor and turn left.

A Sorry, the fourth office?

R No, the first.

A Right, I think I've got that.

A So can I just check? Go up the stairs and turn right ...

R No, turn left.

c Work in pairs. Student A: write three directions for the building you are in and read each one to your partner.

Student B: listen and repeat the information to check it's correct. Use the phrases in 3b. Then swap roles.

Go through that door. Then go up the stairs to the second floor.

So I go through that door, then I go up the stairs to the second floor?

That's right.

d 3.45 Watch or listen to Part 3. What does Mark think about Annie getting a job at his company?

e Would you give Annie a job at your company? Why / Why not?

4 PRONUNCIATION

Sound and spelling: /ɔ:/ and /ɔ:/

- a 3.46 Listen to the vowel sounds in **bold**.

Then listen and repeat.

/ɔ:/ the **f**irst office

/ɔ:/ the **f**ourth office

- b Look at sentences 1–5. Which of the words in *italics* have the /ɔ:/ sound?

- 1 The *third* / *fourth* floor.
- 2 On *Tuesday* / *Thursday* evening.
- 3 It's office number *thirty* / *forty*.
- 4 It's hard to *walk* / *work* there.
- 5 There's a *board* / *bird* in the meeting room.

- c 3.47 Listen to the sentences in 4b. Circle the words you hear. Listen again and repeat.



5 SPEAKING

Look at the building. Take turns to ask for directions to different places. Give your directions from the entrance. Follow your partner's directions. Are they correct?



- | | |
|-----------------------|---|
| 1 Reception | 10 Meeting room 2 / Sales and Marketing |
| 2 Meeting room 1 | 11 Snacks and drinks machine |
| 3 Staff lounge | 12 Buildings and maintenance |
| 4 Lift – Ground Floor | 13 Lift – Second Floor |
| 5 Gents toilets | 14 Administration |
| 6 Ladies toilets | 15 Director's suite |
| 7 HR / Finance | |
| 8 IT | |
| 9 Lift – First Floor | |



Unit Progress Test

CHECK YOUR PROGRESS

You can now do the Unit Progress Test.

11D Skills for Writing

In my opinion, it's because of the Internet

Learn to write a web post giving an opinion

W Giving opinions; Expressing results and reasons

1 LISTENING AND SPEAKING

- a Look at the pictures of ideas for inventions. What do you think the inventions are?
- b 3.48 Listen to people talking about the inventions. Complete the first row of the table.
- c 3.48 Listen again and complete the table.

	Amir	Uta	Pierre
What's the invention?			
Why is it important / useful?			
Do they think it will happen?			



- d Think about each invention and answer the questions. Make notes.
 - 1 Is it a good idea? Why / Why not?
 - 2 Can you think of any other ways to solve the same problems?
- e Work in small groups. Talk about the inventions and compare your answers.

2 READING

- a People were asked the question *What is the most important invention of the last 2,000 years?* Read the web posts and write the names of the inventions.

Invention

- 1 _____
- 2 _____
- 3 _____
- 4 _____

- b Match the inventions 1–4 with their results a–d.

Result

- a Older people can continue to work and learn.
- b All the different sciences could develop.
- c Everyday life will change completely.
- d People could record and send information.

- c Read the web posts again and answer the questions.

- 1 Which of the four inventions was the earliest? Which was the latest?
- 2 In what way might schools, offices etc. change as a result of the Internet?
- 3 How did the invention of paper change communication?
- 4 How would the world be different without numbers?
- 5 How do reading glasses make a difference to the writer of the web post?



Mark
Turner

I think the most important invention is the Internet. The 'world wide web' was invented in 1989 by Tim Berners-Lee and now nearly all of us use it in our daily lives. We haven't even started to see how much the Internet will change our lives in the future. We still have schools, post offices, newspapers, cinemas, shopping malls, but not for long. All these things will change as a result of the Internet. For example, we may stop using shops or offices as we will do everything from home. Choose any part of the way we live today and it will be completely different in the future – because of the Internet.

Comment added at 12.35

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Eva
Sorensen

Around 100 AD, the Chinese invented paper, and by 600 AD paper was used all over Asia. As a result of this, people were able to write down information, keep it and send it over long distances. Paper completely changed the way people communicated, as previously people wrote on clay or stone, which was heavy and broke easily. Later there were printed books and then, in our time, the Internet, but it all started with the invention of paper. So it seems to me that paper is a really important invention, perhaps one of the most important ever.

3 WRITING SKILLS

Giving opinions; Expressing results and reasons

- a Look at the example and underline the phrase which shows the writer is giving an opinion. Then underline four more phrases for giving opinions in web posts 2–4.

I think the most important invention is the Internet.

- b Look at the sentences. Correct the phrases for giving opinions.

- 1 From my view, the most important invention is the wheel.
- 2 According to my opinion, the steam engine changed the world the most.
- 3 I belief the car is a very important invention.
- 4 It seems like me that the jet engine has made the biggest difference.

- c Each example 1–4 below describes a change. What is the cause or reason for each change? What is the result?

- 1 **Because of** the invention of numbers, science could develop.
- 2 Around 100 AD, the Chinese invented paper. **As a result of** this, people could send messages long-distance.
- 3 We may stop using shops and offices, **as** we can now do everything online at home.
- 4 **Because** they had reading glasses, people could stay active in old age.

- d Look at the words and phrases in **bold** in 3c. Which ... ?

- are followed by a noun / noun phrase / pronoun and a comma
- join two clauses in the same sentence

- e Which two words or phrases from examples 1–4 in 3c can go in each gap?

- 1 _____ they can use email, most people have stopped sending letters by post.
- 2 _____ cheap air travel, people are able to visit countries anywhere in the world.
- 3 Most people now have mobile phones. _____ this, they can now keep in touch wherever they are.

- f Look at these notes about the invention of the telephone. Make sentences using:

- a phrase for giving your opinion
- two words / phrases from 3c to connect a cause with a result.

The telephone:
most important invention /

19th century
talk to people in other places
we can communicate more quickly

- g Write one more sentence about the telephone using your own ideas.

4 WRITING

- a Choose one of these inventions to write about or use your own idea.

- | | | |
|---------------|-----------------|---------|
| • cars | • the aeroplane | • glass |
| • photography | • boats | • TV |

Think about the questions below and make notes. Walk around the class and collect ideas from other students.

- Why is the invention important?
- What good or bad results has it had?
- How was life different before?
- What other things have changed because of it?

- b Write a web post for the website. Remember to explain results and reasons using *as*, *because*, *because of* and *as a result of*.

- c Read another student's web post and respond to it. You can:

- agree or disagree and say why
- add another idea

- d Look at the response you received. Have they ... ?

- agreed or disagreed with your comment
- used phrases to give opinions
- used the correct language to connect reasons and results

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Tomas Valnek

I believe the most important invention is the Hindu-Arabic number system, which was invented around the sixth century in India. It spread throughout the Middle East and was finally brought to Europe in the 13th century. People could add numbers together easily for the first time, so because of this system, science could develop. Numbers are essential to almost all aspects of life, and without this invention there might be no science, engineering or computers.

Comment added at 10.55 [Like](#) [Reply](#) [Send Tomas a message](#)



Hiroko Okuzawa

In my opinion, the most important invention has been reading glasses. Reading glasses were invented in Italy around 1280 and they changed the world. Because they had reading glasses, people could read, stay active and work even in old age. In my view, that's really important, especially as I'm over 60 myself. I can still do lots of things because of my reading glasses. I don't know where I would be without them.

Comment added at 10.47 [Like](#) [Reply](#) [Send Hiroko a message](#)