

vertical farming

brain implants

a 3D printer

READING

1 Look at the photos and answer the questions.

- 1 What inventions or developments do the pictures show?
- 2 How do you think they can benefit people?

2 A Read the article. What does it tell us about the things shown in Exercise 1? What predictions does it make about translating machines and nano monitors?

B Complete the summary of the article with words from the text. Use one word in each gap.

The writer believes a machine will be able to ¹_____ our words into different languages. She thinks we'll use monitors in our ²_____ to check our health, and 3D printers will make perfect ³_____ of human organs like the heart. We will entertain ourselves with virtual reality, as computers learn to interact with the ⁴_____. The problems caused by ⁵_____ change will mean vertical farming becomes popular.

C Discuss with other students.

- 1 Which ideas in the article do you like? Can you think of other uses for these inventions?
- 2 Which ideas don't you like? Why not?
- 3 Which ideas do you agree will probably come true?

A better world?

Communication

In the near future, we may be able to communicate in any language we choose. A number of companies are working on translating machines that use the voice frequencies of the speaker. This makes it sound as though the user is speaking the foreign language. We already have translating machines, but they are slow and inaccurate and they sound like robots. In only a year or two this new machine, which will be a headset, could come onto the market and allow us to speak every language under the sun.

Health

The future of health is going to be a tale of big and small. Tiny nano monitors will be placed inside our bodies, and these will produce Big Data – enormous amounts of information – that allow us to check our health and help us predict illnesses. Another big development probably won't be ready in the short term, but in the long term there is hope that 3D printers will make copies of body parts such as hearts, livers and kidneys. If it happens, this is likely to save millions of lives. Using 3D printers, we can already make copies of plastic and metal objects. The next step is to copy living tissue.

Entertainment

Full immersion virtual reality will be with us in perhaps ten to twenty years' time. We will be able to plant tiny microchips in the brain, allowing a person to experience games, movies, and virtual life as if they are real. As computers interact with the brain, we will have the sensation of touching, seeing, hearing, and smelling virtual objects in virtual worlds. Instead of just watching heroes in movies, signals to the brain will let us feel what our heroes feel, see what they see. Fortunately, if things get too terrifying, we will be able to switch it off with the push of a button!

Global problems

In the next thirty years, climate change is going to seriously affect traditional farming. Floods and droughts will disrupt farming patterns that have existed for thousands of years. Because of this, cities will have to start producing food, and vertical farming will become common. Tower blocks and skyscrapers will have gardens built into them. Each floor will grow different plants, fruits and vegetables, and the water will be recycled. Instead of stretching out for miles across the landscape, farmland will now rise hundreds of meters into the air.

VOCABULARY

FUTURE TIME MARKERS

3 A Read sentences 1–6 from the article in Exercise 2A and underline the time markers.

- 1 In the near future, we may be able to communicate in any language we choose.
- 2 In only a year or two the machine, which will be a headset, could come onto the market ...
- 3 Another big development probably won't be ready in the short term,
- 4 ... in the long term there is hope that 3D printers will make copies of body parts ...
- 5 Full immersion virtual reality will be with us in perhaps ten to twenty years' time.
- 6 In the next thirty years, climate change is going to seriously affect traditional farming.

B Look at the time markers again. Which of them mean *soon*? Which mean *in a long time*? Which name a future date or time period? Group them.

C  **3.3 STRESS IN TIME MARKERS** Listen to the underlined expressions in 3A. Which words in these expressions are stressed? Which words are the most important to the meaning of each expression?

D Work in pairs. Ask and answer the questions using both the time markers given.

- 1 Will you still live in the same place: a) in the near future? b) in ten years' time?
- 2 What projects will you work on: a) in the short term? b) in the long term?
- 3 Will your working life/life as a student change: a) in the next five to ten years? b) in a year or two?

GRAMMAR

THE FUTURE (PREDICTIONS)

4 A Read the extracts from the article. Are the predictions certain (C) or possible (P)?

- 1 We may be able to communicate in any language we choose. *P*
- 2 In only a year or two, the headset could come onto the market.
- 3 This is likely to save millions of lives.
- 4 Climate change is going to seriously affect traditional farming.
- 5 Tower blocks and skyscrapers will have gardens.

B Look at the underlined words above. Complete the rules with *will, could, to or be*.

RULES

- 1 We use will + infinitive without *to* to make predictions about the future.
- 2 We use _____ *going to* + infinitive without *to* to make predictions when there is present evidence.
- 3 We use *may* or _____ + infinitive without *to* to say something is possible but not certain.
- 4 We use *likely* + infinitive with _____ to say something will probably happen.

 page 132 **LANGUAGEBANK**

5 A Circle the correct alternative to complete the text.



Dr Michio Kaku is a physicist who makes TV programmes about the future. He believes we ¹*will be design/will design* new worlds that look like our own, and that virtual reality is ²*become/going to become*

more like our reality. In one programme, Kaku jumps into a remote controlled car, and tells us the car is so intelligent that the words 'traffic jam' and 'traffic accident' ³*are going to disappear/going to disappear* from the language. He also says that in a few years' time microchips will be so cheap they ⁴*are could be built/could be built* into every product we buy – our walls, our furniture, even our clothes. And they ⁵*likely/are likely* to be so small we ⁶*won't know/won't know* they exist. Kaku also believes our sunglasses ⁷*may become/may becoming* our future home entertainment centre. He then does a virtual dance using 3-D technology (his dance partner is hundreds of miles away) and explains that one day in the near future, 3-D technology ⁸*is could replace/could replace* the telephone and ⁹*reduce might/might reduce* air travel. Finally, he investigates robots and concludes that, in the long term, some of our closest friends ¹⁰*might not be/might be not* people.

B Discuss. Which predictions, if they come true, will be good/bad for the world? Why?

SPEAKING

6 A Look at the pictures about the world in 2040. What information did you already know? Is there anything you find surprising or unlikely?

B Imagine you are a 'futurist' and it's your job to predict the future. Think about the topics in the box. What changes do you think will happen in these areas by 2040? Make some notes.

communication technology food
work habits cities the environment

C Work in pairs and discuss your ideas.
Communication: I think we will probably have video conference calls with people's holograms. There probably won't be ...

VOCABULARY

FUTURE TIME MARKERS

3 A Read sentences 1–6 from the article in Exercise 2A and underline the time markers.

- 1 In the near future, we may be able to communicate in any language we choose.
- 2 In only a year or two the machine, which will be a headset, could come onto the market ...
- 3 Another big development probably won't be ready in the short term,
- 4 ... in the long term there is hope that 3D printers will make copies of body parts ...
- 5 Full immersion virtual reality will be with us in perhaps ten to twenty years' time.
- 6 In the next thirty years, climate change is going to seriously affect traditional farming.

B Look at the time markers again. Which of them mean *soon*? Which mean *in a long time*? Which name a future date or time period? Group them.

C  **3.3 STRESS IN TIME MARKERS** Listen to the underlined expressions in 3A. Which words in these expressions are stressed? Which words are the most important to the meaning of each expression?

D Work in pairs. Ask and answer the questions using both the time markers given.

- 1 Will you still live in the same place: a) in the near future? b) in ten years' time?
- 2 What projects will you work on: a) in the short term? b) in the long term?
- 3 Will your working life/life as a student change: a) in the next five to ten years? b) in a year or two?

GRAMMAR

THE FUTURE (PREDICTIONS)

4 A Read the extracts from the article. Are the predictions certain (C) or possible (P)?

- 1 We may be able to communicate in any language we choose. *P*
- 2 In only a year or two, the headset could come onto the market.
- 3 This is likely to save millions of lives.
- 4 Climate change is going to seriously affect traditional farming.
- 5 Tower blocks and skyscrapers will have gardens.

B Look at the underlined words above. Complete the rules with *will, could, to or be*.

RULES

- 1 We use will + infinitive without *to* to make predictions about the future.
- 2 We use _____ *going to* + infinitive without *to* to make predictions when there is present evidence.
- 3 We use *may* or _____ + infinitive without *to* to say something is possible but not certain.
- 4 We use *likely* + infinitive with _____ to say something will probably happen.

 page 132 **LANGUAGEBANK**

5 A Circle the correct alternative to complete the text.



Dr Michio Kaku is a physicist who makes TV programmes about the future. He believes we ¹*will be design/will design* new worlds that look like our own, and that virtual reality is ²*become/going to become*

more like our reality. In one programme, Kaku jumps into a remote controlled car, and tells us the car is so intelligent that the words 'traffic jam' and 'traffic accident' ³*are going to disappear/going to disappear* from the language. He also says that in a few years' time microchips will be so cheap they ⁴*are could be built/could be built* into every product we buy – our walls, our furniture, even our clothes. And they ⁵*likely/are likely* to be so small we ⁶*won't know/won't know* they exist. Kaku also believes our sunglasses ⁷*may become/may becoming* our future home entertainment centre. He then does a virtual dance using 3-D technology (his dance partner is hundreds of miles away) and explains that one day in the near future, 3-D technology ⁸*is could replace/could replace* the telephone and ⁹*reduce might/might reduce* air travel. Finally, he investigates robots and concludes that, in the long term, some of our closest friends ¹⁰*might not be/might be not* people.

B Discuss. Which predictions, if they come true, will be good/bad for the world? Why?

SPEAKING

6 A Look at the pictures about the world in 2040. What information did you already know? Is there anything you find surprising or unlikely?

B Imagine you are a 'futurist' and it's your job to predict the future. Think about the topics in the box. What changes do you think will happen in these areas by 2040? Make some notes.

communication technology food
work habits cities the environment

C Work in pairs and discuss your ideas.
Communication: I think we will probably have video conference calls with people's holograms. There probably won't be ...

3.2 the future (predictions)

will

Use *will* to make predictions:

Smartphones will organise our lives.
She's so talented that I'm sure she'll become famous.

We often use *I think* and *I hope* with *will*:

I think John will become a doctor.
She hopes she will work in the theatre.

be going to

Use *be going to* to make predictions when there is present evidence:

We only have two cars. It's going to be difficult to take eleven people tomorrow.

We use *probably* to make the prediction less certain. *Probably* usually comes after *will*:

The dollar will probably get stronger this year.

Probably comes after *to be* when we use it with *be going to*:

E-readers are probably going to become cheaper.

may and might

Use *may* or *might* to make predictions which are less certain. The negative forms are *may not* and *might not*:

Some of our workers may lose their jobs because of the restructuring.

We might not go away this year because we don't have any money.

could

Use *could* to make predictions which are less certain:

Global warming could destroy large parts of Asia in the next thirty years.

be likely to

Use *be likely to* to make predictions when something is probable. The negative is *be unlikely to* or *not be likely to*:

Regina is likely to be late because she works until seven.

We're unlikely to reach Paris before lunch because of all the traffic.

Are you likely to be hungry later?

Likely/Unlikely are adjectives:

Will we start at 5.00? It's unlikely.

spoken grammar

Might is more common than *may* in spoken English.

May is a little bit more formal.

3.2

A Rewrite the sentences below using the words in brackets.

- 1 We probably won't win the cup this year. (might)
We _____
- 2 I may be late. (likely)
I'm _____
- 3 That company will close in July. (going)
That company _____
- 4 He probably won't call after 10.00. (unlikely)
He _____
- 5 I'm not going to give up exercise. (won't)
I _____
- 6 We might have a problem with the flight. (may)
There _____
- 7 She'll get angry when she sees this. (going)
She _____
- 8 Are you going to visit us? (will)

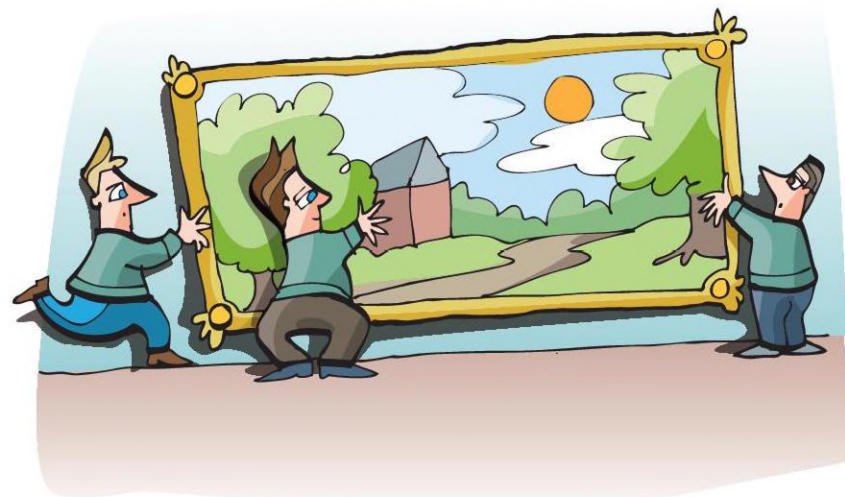
- 9 I would love it if he comes to the party. (hope)

- 10 It is thought prices will rise if they complete the development. (could)
Prices _____

B Put the pairs of words in the box into the correct place to complete the sentences.

will be aren't going won't know might not
likely to may arrive is going not likely

- 1 Jenny be able to meet us tonight because she has to work late.
- 2 Several of our workers are lose their jobs this year because of the economic recession.
- 3 In twenty years' time, cars able to fly.
- 4 The predicted storm at any moment.
- 5 The children to stay with me because I'm busy.
- 6 I my exam results until August.
- 7 It's that we'll arrive before 6.00 because there are train delays.
- 8 Watch out! That painting to fall off the wall!



READING

1 Read the text and choose the best heading.

- a) Famous inventions
- b) Man and the planet – what's next?
- c) Science in the future: discoveries

2 Read the text again and answer the questions.

- 1 Where has space travel taken us?

- 2 What kind of energy will we produce?

- 3 How will we control the locks and lights in our homes?

- 4 What can American scientists already do?

- 5 Why will skin and bone grown in a laboratory help people?

- 6 Why do some people disagree with space exploration?

A ¹_____ We now take tablets, mobile communication and other types of new technology for granted. We can speak to friends on the other side of the world as if they were in the same room and see their faces on instant-messaging systems. Space travel is no longer unusual as we explore Mars and beyond. Medical science has produced new ways of curing disease and helped build robotic hands. In the last fifty years, technology has changed the world beyond recognition. Leading scientists believe that technology will continue to change our lives in significant ways. So what can we expect in the next 20 years or so?

B Firstly science will continue to change our homes and the world around us. ²_____ Scientists believe that technology will be key in helping us to protect the environment. New systems will allow cities to become environmentally 'clean'. Resources will be recycled and we will produce energy that does not pollute the environment.

C Houses themselves will become 'smart' with water, electricity and doors being controlled via the internet or our phones. ³_____ We already have the technology to control locks, lights and alarms via phone apps. These will become normal as people use their mobile devices to turn on heating or air conditioning and check security from miles away or even other countries.

D We will continue to use technology to communicate. It is likely that broadband will become so sophisticated we will be able to project images of our friends like holograms when we talk to them. Scientists in the USA have already found a way to project 3D images using sensors, mirrors and video-conferencing pods.

3 Complete the text in Exercise 1 with the following sentences. Write the correct letter in gaps 1–5.

- a) We will no longer need to be physically present to control what happens in our homes.
- b) Some people would prefer technology to be used differently.
- c) Of course at the moment the equipment is large and inconvenient.
- d) These changes will make life easier for people but will offer other advantages, too.
- e) It is hard to believe that only a few years ago computers were not an everyday part of life.

4 Find words in the text to match definitions 1–4.

- 1 important (paragraph A) _____
- 2 clever and complex (paragraph D) _____
- 3 damage to a part of the body such as a hole or cut (paragraph E) _____
- 4 searching for and finding out about a place (paragraph F) _____

⁴_____ But they believe that the technology will eventually be good enough and small enough for people to use every day and people will be able to project an image of themselves to wherever they want – a business meeting for example.

E Medicine will continue to improve. Doctors will be able to grow skin, bone tissue and even organs in laboratories to help repair wounds. As scientists understand more about human genes they will be able to cure or prevent illnesses by using this knowledge.

F Of course not everyone is impressed by these developments. ⁵_____ In fact many people believe that science should only be used to prevent hunger, war and disease, and the money spent on computers, space exploration and weapons should be used to improve the world as it is now.



VOCABULARY

FUTURE TIME MARKERS

5 A Complete the predictions with the words in the box.

term next future in time short

- In the near future I'm going to travel around Europe. I just need to save a bit more money.
- The economy is weak now, but it will improve in the long _____.
- In the _____ term we expect our profits to increase by about 3 percent.
- I'm planning to get married to my boyfriend _____ a year or two. Then we'll start a family.
- In ten years' _____ I hope to be a doctor working with children somewhere in Africa.
- I'm starting a new job _____ month. If all goes well, I'll keep working for the company until I retire.

B Which predictions are about things that will happen soon? Which are about things that will happen more than three years in the future?

GRAMMAR

THE FUTURE (PREDICTIONS)

6 Rewrite the second sentence so that it has the same meaning as the first sentence. Use the words in capitals.

- There's a possibility that I will study in Spain. MAY
I may study in Spain.
- Where do you plan to stay? WILL
Where _____?
- Will you speak to Ted tomorrow? GOING
Are _____?
- Janine probably won't pass her exam. UNLIKELY
Janine _____.
- The weather forecast predicts a storm. GOING
There's _____.
- He has a chance of becoming the champion. COULD
He _____.
- Scientists will probably find a cure for cancer one day. LIKELY
Scientists _____.
- I don't think we'll be able to attend the meeting. MAY
We _____.
- There isn't time for us to go shopping. WON'T
We _____.
- There's an opportunity to meet next week. COULD
We _____.

7 Complete the text with one word in each gap. Contractions are one word.

THE FUTURE OF LANGUAGE LEARNING

In the future we ¹ _____ going to see more and more people using technology to learn languages. There will ² _____ software that gets computers to read texts aloud and translate them. And we ³ _____ only talk on the computer; we will also talk with the computer in any language we choose.

We will also begin to understand the importance of the five senses in language education, and researchers and publishers are likely ⁴ _____ look at children's toys for inspiration. Music is going ⁵ _____ play an increasing role in language learning. Short texts and phrases will be set to music and this will help students to remember the words, just as *The A, B, C Song* helps children learn the alphabet.

Textbooks may ⁶ _____ unrecognisable when compared to today's books. They will come with microchips that produce smells and sounds. So if we are learning the word *bread*, when we touch that part of the page it will smell of bread. If we are learning the word *cry*, when we touch the word it ⁷ _____ make a crying sound.

At first, these books ⁸ _____ likely to be expensive, but market economics will drive prices down. So get ready for fun and games while you learn another language – these changes could happen sooner than you think!

VOCABULARY PLUS

IDIOMS

8 Underline the correct alternatives.

'I always put my ¹foot/hand in it when I speak to people. Socialising is really not my cup of ²tea/coffee. I love my friends, they're really close to my ³head/heart, but I'm quite shy with strangers.'

'I joined the ⁴mouse/rat race last year when I became a project manager. I have to keep my ⁵ear/eye on three or four projects at the same time. We're always ⁶working/running against the clock and quite often we ⁷work/run out of time. My friend said I was constantly multitasking and he ⁸kicked/hit the nail on the head – there is always something to do.'

'I thought an online course would be a ⁹piece/bit of cake, but I soon found myself in ¹⁰cold/hot water. It was really difficult. I work hard but, let's ¹¹face/eye it, sometimes that isn't enough. So I asked for some advice from another guy. He was an A student and he gave me a ¹²foot/hand with one of the assignments and I passed the course.'