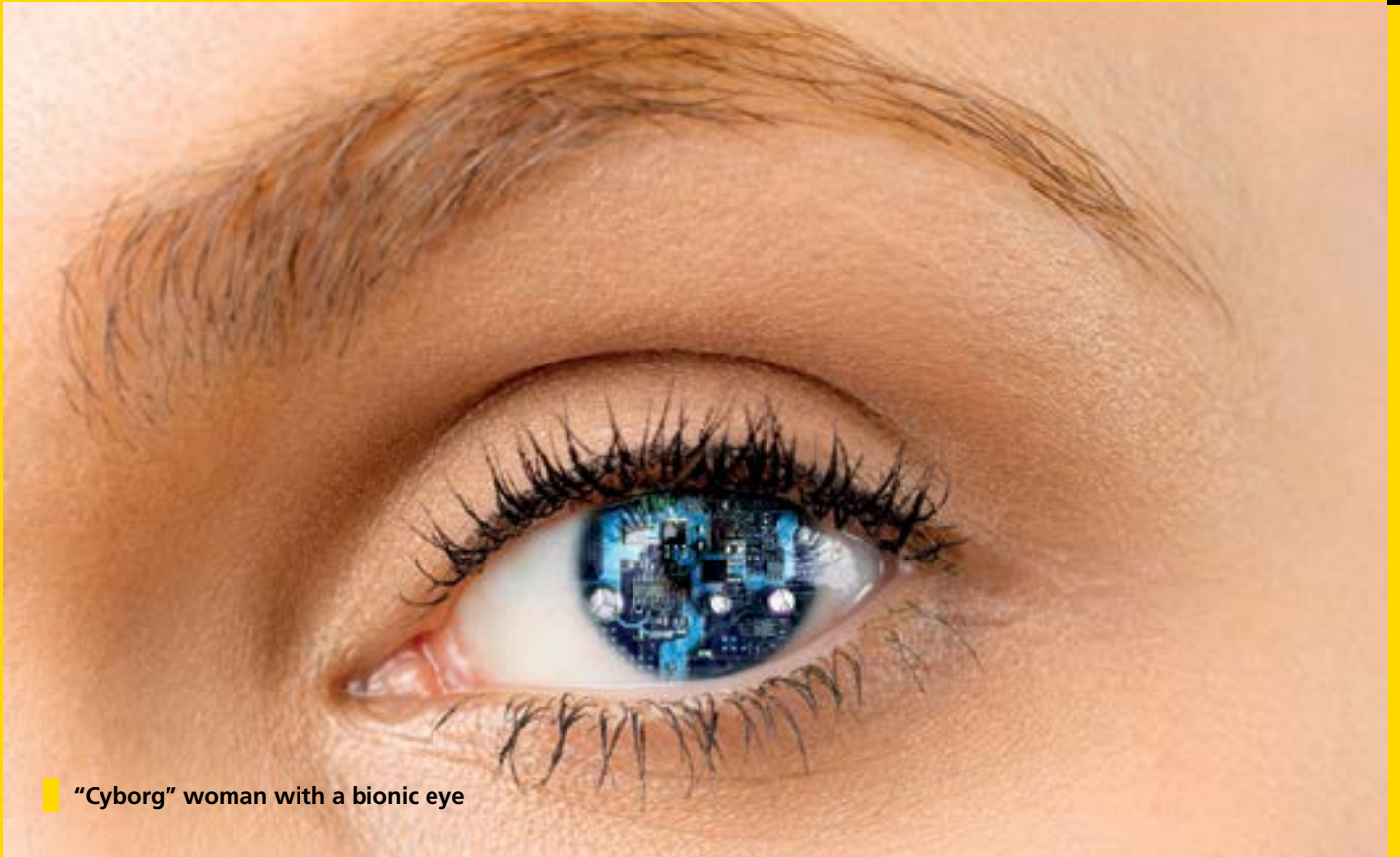


# Unit 4 Innovation



“Cyborg” woman with a bionic eye

## FEATURES

### 46 Shrink it, bend it, fold it

The future of bendable technology

### 48 The mother of invention



What drives new discoveries

### 50 The shoe giver

The story of a successful social entrepreneur

### 54 This man risked it all

A video about a social enterprise in Uganda

- 1 Look at the photo and caption. What do you think “cyborg” and “bionic” mean? Is this science fiction or something real?
- 2  26 Listen to a news report about bionic body parts. Answer the questions.
  - 1 How badly damaged was the woman’s sight before her operation?
  - 2 What could she see after the operation?
  - 3 Who are the ear buds designed for, and what can they do?
  - 4 What question does this new technology raise?
- 3  26 Work in pairs. Replace the verbs in bold with the more scientific verbs used in the news report. Then listen to the news report again and check.
  - 1 Surgeons **put** an electronic chip into her right eye.
  - 2 It’ll probably take months for Lewis to **teach** her brain to see again.
  - 3 She can already **see** nearby objects ...
  - 4 They can **cut out** the background noise ...
  - 5 ... or **make** surrounding sounds **louder** ...
- 4 Discuss how bionic body parts could be more effective than biological body parts. What advantages could they have?

# 4a Shrink it, bend it, fold it

## Reading

1 Work in pairs. What everyday objects can you think of that you can shrink, bend, or fold?

*You can shrink a sweater.*

What everyday things would you like to be able to make smaller by shrinking, bending, or folding?

2 Work in pairs. Read the article below. Which of the technologies in the reading are you most interested in? Why?

3 Work in pairs. Read the article again and answer the questions.

- How do 21st-century TVs and cell phones compare with 20th-century ones?
- Where will the next generation of solar cells be placed?
- What is the author's prediction for bendable screens?
- Who will be able to launch their own small satellites?
- What are the benefits of the new specially coated "super-pills"?

## SHRINK IT, BEND IT, FOLD IT

▶ 27

There's something satisfying about things that can be reduced in size and packed away: a folding bicycle you can take on the train; a jacket you can roll up and put into a bag; folding, unbreakable sunglasses you can put in your back pocket. Advances in electronics and materials science are now pushing the boundaries of what is possible, helping manufacturers to make increasingly smaller, thinner, or more flexible devices. You only have to compare a 21st-century television or cell phone with a 20th-century one to see this. What might the next ten years bring?

**Energy:** The idea of harnessing<sup>1</sup> solar energy is nothing new, but we may well be about to see a revolution in the construction of solar cells that will allow them to be incorporated into an ultra-thin, transparent film. So instead of expensive solar panels on roofs or in solar farms, in the future they could form part of the windows on our buildings.

**Communications:** Using screens as thin as a sheet of paper, bendable communications technology is already here. However, chances are that it will become very widespread in the coming years: phones that wrap around your wrist, or foldable computers that fit into your jacket pocket. Perhaps one day soon we will see TV screens that can be rolled up and carried with us.

### Space exploration:

"CubeSats"—tiny satellites measuring 10 cm across—have become much more affordable: anyone can launch their own satellite now for as little as \$3,000. This should increase our chances of making new discoveries in space.

**Medicine:** Doctors are already successfully repairing damaged eyesight with tiny electronic implants<sup>2</sup> and opening blocked arteries with small foldable stents.<sup>3</sup> Progress in bionics is likely to continue at a fast pace, although it will almost certainly raise difficult ethical questions along the way. The other area in which materials science is making huge progress is in how drugs are delivered into the body. New types of coating around pills mean each pill can be taken just once, and then the drug inside can be released over weeks and months—even years. It's likely that such "super-pills" will be inserted directly into the area needing treatment, such as cancer cells, increasing the drug's effectiveness enormously.



A smartphone that unfolds into a tablet



A smartphone with a bendable screen

<sup>1</sup>harness (v.) /'hɑ:rnɪs/ getting hold of and using

<sup>2</sup>implant (n.) /'ɪmplɑ:nt/ something that is put in your body during an operation

<sup>3</sup>stent (n.) /stent/ a small expanding tube used to keep passageways open in your body (e.g., in arteries)

## Wordbuilding -able

### ▶ WORDBUILDING -able

We can add the suffix *-able* to many verbs to form an adjective meaning "something is possible." The prefixes *un-*, *in-*, or *non-* can also be added to say that "something is impossible."

*foldable, removable, unbreakable, non-negotiable*

For more practice, see Workbook page 29.

4 Work in pairs. Look at the wordbuilding box. Then rewrite the sentences (2–4) using adjectives ending in *-able*. You will need to change other words in the sentence.

- You can't **reuse** those cups: you're supposed to **dispose** of them.  
*Those cups aren't reusable; they're disposable.*
- They said this camera couldn't be **broken**. I hope they **refund** me the money.
- Can I **machine wash** this jacket or does it have to go to the dry cleaners?
- The car can be **repaired**. It's just a question of whether I can **afford** the repair.

## Grammar future probability

### ▶ FUTURE PROBABILITY

#### Modal verbs

*may (well) / could (well) / might (well), should*

*In the future, they could form part of the windows ...*

*We may well be about to see a revolution in solar cells.*

*It should increase our chances of making new discoveries ...*

#### Adverbs

*perhaps, maybe, probably, almost certainly*

*It will almost certainly raise difficult ethical questions.*

*Perhaps one day soon we will see TV screens that can be rolled up.*

#### Adjective phrases

*It's possible/probable/(un)likely that; is likely to*

*It's likely that in the future "super-pills" will be inserted.*

*Progress in bionics is likely to continue at a fast pace.*

*Progress in bionics is likely to continue at a fast pace.*

*Progress in bionics is likely to continue at a fast pace.*

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*Progress in bionics is likely to continue at a fast pace.*

5 Work in pairs. Look at the grammar box. Answer the questions.

- What are the usual positions of an adverb of probability?
- Sentences with *(un)likely* have two possible grammatical forms. What are they? Transform each example in the grammar box using the other form.

6 Look at the expressions of probability again in the grammar box. Discuss which words or phrases mean the following:

- something is possible
- something is probable
- something is not probable
- something is very sure or almost certain

7 Work in pairs. Look at the description of innovations. Replace the phrases in bold using the words in parentheses.

Smart textiles are already here but <sup>1</sup> **we will probably see** (chances) a lot more of them in the coming years. Some innovations will just be cosmetic but others <sup>2</sup> **are likely to have** (may well) practical uses. For example, scientists believe that within the next ten years people <sup>3</sup> **will probably be wearing** (likely) clothes that mend themselves. <sup>4</sup> **It's possible this will mean** (could) the end of sewing as we know it. Meanwhile, researchers in China have made a fabric that generates electricity as you move. It <sup>5</sup> **is unlikely to produce** (probably) large amounts of power but <sup>6</sup> **it will probably be** (should) enough to recharge a phone.

8 Complete the conversation using one word in each space. There is sometimes more than one possible answer. Work in pairs. Discuss if you agree with the speakers' views.

A: Do you think that the problem of internet security <sup>1</sup> \_\_\_\_\_ get worse in the future?

B: Well, there <sup>2</sup> \_\_\_\_\_ be a technological solution, but I doubt it. I think what's more <sup>3</sup> \_\_\_\_\_ to happen is that we'll use the internet more and more, and internet crime will almost <sup>4</sup> \_\_\_\_\_ increase.

A: I think you're right. Internet security may <sup>5</sup> \_\_\_\_\_ improve, but the criminals will <sup>6</sup> \_\_\_\_\_ get better at what they do too.

## Speaking myLife

9 Work in pairs. Choose two of the challenges (or your own ideas) that people face in the 21st century. Discuss whether technology will be able to solve them, and if so, how. Use expressions of probability.

- Traffic congestion and pollution
- The growing shortage of water
- Curing illness and disease


# 4b The mother of invention

## Listening


1 Work in pairs. Look at the saying below. Discuss what it means and if you think it is always true.

“Necessity is the mother of invention.”

2 Look at the photo and the caption. What adjectives would you use to describe this invention? What do you think the inventor is trying to achieve?

3  28 Listen to an interview about what inspires inventions. Circle the statement (a–c) that best summarizes Martha Kay’s view.

- a Most inventions are an answer to an urgent need.
- b Most inventions are things that we didn’t imagine we needed until we became used to them.
- c Most inventions come from companies who want to make a commercial profit.

4  28 Listen to the interview again and choose the correct option to complete the sentences.

- 1 People in their twenties probably can’t imagine *doing research / following the news* without the internet.
- 2 Martha Kay is *a business woman / an academic*.
- 3 In the nineteenth century, British politicians said the telephone was *too expensive / of little use*.
- 4 The presenter uses the telephone as an example of a case where a need *was filled / didn’t exist before*.
- 5 Most innovations make our lives *safer and healthier / easier*.
- 6 The presenter suggests that women in the 1960s liked *going out to shop / staying in the house*.
- 7 The cell phone and the computer are examples of innovations that were *very expensive at first / seen as unnecessary*.
- 8 *Literary Digest* predicted that the motor car would *remain a luxury / be used by everyone*.



Charles Steinlauf’s invention: a four-position bicycle that also contains a built-in sewing machine

## Vocabulary phrasal verb come

5 Look at the sentences. Circle the correct meaning (a–c) of each phrasal verb. The first three sentences are from the interview.

- 1 But how do such inventions **come about**?  
a succeed      b happen      c work
- 2 Entrepreneurs often **come up with** ideas to make our lives a little more convenient.  
a think of      b ignore      c search for
- 3 Over time, we **come to** rely on them.  
a start to      b try to      c have to
- 4 A researcher **came across** the material for Post-it notes when looking for a new kind of glue.  
a thought of      b found by chance      c stole
- 5 I really don’t like it when strangers **come up to** me on the street and try to sell things.  
a approach      b watch      c find

6 Work in pairs. Write three sentences using the phrasal verbs from Exercise 5. Then read your sentences to your partner omitting the verb and see if they can guess it.

## Grammar past modals

### PAST MODALS

- 1 **had to (do)**  
They felt they **had to find** a way to communicate at a distance.
- 2 **didn’t need to (do/have done)**  
They **didn’t need to have phones**.  
We have so many things around us that we **didn’t need to have acquired**.
- 3 **must have, might/may/could have, can’t have (done)**  
Life **must have been** very different before the invention of certain things.  
You **might never have considered** how people searched for information before the internet.  
It **can’t have been** easy.
- 4 **should have / ought to have (done)**  
They probably **should have been** more open-minded.

For more information and practice, see page 162.

7 Look at the grammar box. Match the past modal verb forms (1–4) with the uses (a–d).

- a to speculate on past events \_\_\_\_
- b to talk about an obligation \_\_\_\_
- c to say what was expected or advisable \_\_\_\_
- d to talk about a lack of necessity \_\_\_\_

8 Work in pairs. Complete the sentences with the correct past modal verb form.


may/might/could have    must have    can’t have

- a When we use \_\_\_\_\_, it means we are almost certain that something happened / was true.
  - b When we use \_\_\_\_\_, it means we are almost certain it didn’t happen / wasn’t true.
  - c When we use \_\_\_\_\_, it means we think it possibly happened / was true.
- 9 Circle the correct options to complete the conversation.
- A: I didn’t hear you leave this morning. I  
<sup>1</sup> *must / might* have been asleep.
- B: I left for work very early, actually. But I shouldn’t <sup>2</sup> *bother / have bothered*. There was no traffic.
- A: I think it was a school vacation. That <sup>3</sup> *could / should* have been the reason. But you <sup>4</sup> *had to wake / should have woken* me. I got to work late in the end.
- B: Sorry. I was really focused on leaving on time. I <sup>5</sup> *must have been / had to be* sure of getting to my meeting.

10 Complete the sentences. Use an appropriate past modal verb form with the words in parentheses.

- 1 Before cars were commonplace, it \_\_\_\_\_ (not / be) so easy to take your family on a weekend trip.
- 2 In the 1940s, people \_\_\_\_\_ (not / own) a television, because radios provided news and entertainment.
- 3 Before GPS in cars, people \_\_\_\_\_ (depend) on printed maps.
- 4 I never use this microwave oven. I \_\_\_\_\_ (buy) it.
- 5 In the days before TV, it \_\_\_\_\_ (be) really exciting to go to the movies!
- 6 I’m not sure who invented the wristwatch. It \_\_\_\_\_ (be) a Swiss person.
- 7 I think when Tim Berners-Lee invented the internet, he \_\_\_\_\_ (realize) that it would have negative as well as positive effects.

## 11 Pronunciation weak forms in past modals

a  29 Circle the weak forms (words not stressed, including “to”) in these past modal verbs. Then listen and check.

- 1 It should have worked, but it didn’t.
- 2 I had to wait half an hour.
- 3 He must have forgotten.
- 4 She may have left already.
- 5 I didn’t need to be there.

b Practice saying the sentences in Exercise 11a.

## Speaking

12 Work in groups. Use a range of past modals to speculate on the answers to these questions.

How did people:

- wake up on time before there were alarm clocks?
- keep money safe before savings banks existed?
- deal with aches and pains without medicines?
- contact each other in an emergency before the telephone existed?
- clean their teeth without toothbrushes?
- detect broken bones before x-rays existed?

13 Work in pairs. Think of two commonly used inventions: one that you couldn’t live without and one that you find unnecessary. Discuss the inventions and the reasons you chose them.

*I couldn’t live without my coffee maker because I drink so much coffee. I know in the past people used to boil water on the stove, but it must have taken a long time.*

# 4c The shoe giver

## Reading

- 1 Work in pairs and discuss the questions.
  - 1 What do you think are the main priorities of a business?
  - 2 Can you think of ways that a business could make money and help society at the same time?
- 2 Work in pairs. Read the article on page 51. Then summarize how TOMS makes money and does good at the same time.
- 3 Read the article again. Are the sentences true (T) or false (F)?
  - 1 Blake Mycoskie's early career consisted of starting and then selling companies. \_\_\_\_
  - 2 The main advantage of the one-for-one scheme is that Mycoskie doesn't have to keep asking people to donate money. \_\_\_\_
  - 3 The author suggests that in business, energy and enthusiasm is a very important factor. \_\_\_\_
  - 4 Mycoskie prefers his customers to have no contact with the recipients of the free shoes. \_\_\_\_
  - 5 Mycoskie thinks that any business could profit from making a similar one-for-one offer to its customers. \_\_\_\_
  - 6 The author thinks that Mycoskie should be proud that he has a successful business, not just one that helps people. \_\_\_\_

## Critical thinking finding counter arguments

- 4 The author presents a positive picture of TOMS, but there are suggestions that there are also arguments against the initiative. Find possible criticisms in the text in these areas.
  - a the price of the product
  - b the business model
  - c charitable giving
- 5 Work in pairs. Compare your answers from Exercise 4. Then write some questions for Blake Mycoskie that would challenge him on these points.

## Word focus give

- 6 Work in pairs. Find this expression with *give* in the article and discuss what it means.
 

giving it some thought (line 28–29)
- 7 Complete the expressions with *give* using these words. Discuss what each expression means.

best      break      try      thought      time

- 1 It's difficult to be in a new environment, but **give it some** \_\_\_\_\_ and you'll feel more at home.
  - 2 Don't worry if you don't win: just **give it your** \_\_\_\_\_.
  - 3 **Give him a** \_\_\_\_\_. He's only been doing the job two months. He can't be expected to know everything.
  - 4 There's no need to tell me your answer now. **Give it some** \_\_\_\_\_ and then let me know.
  - 5 The only way to find out if you can fix it yourself is to **give it a** \_\_\_\_\_.
- 8 Match these expressions with similar expressions from Exercise 7. Then make three sentences about your own experience using expressions with *give*.

a chance      a shot      a while

## Speaking myLife

- 9 Work in groups. Imagine these organizations have come to you for financial help. Decide which you would help. Give reasons.

**A** This organization collects food near its expiration date and uses volunteers to distribute it free to homeless people. The company needs money for transportation and administration costs.

**B** This organization sells gardening and landscaping services to companies. The people it employs are all long-term unemployed people who get training, work experience, and a little pocket money.

**C** This organization collects unwanted clothing. Clothes in good condition are washed and given to people in need. Clothes in poor condition are recycled and made into fashionable clothing to be sold.

- 10 Work in pairs. Do you know of a company with a social purpose?

▶ 30

Blake Mycoskie is a serial entrepreneur. He set up his first business, EZ Laundry, a laundry service for students, when he was still at college. Having built up the company to serve seven colleges in the southwestern United States, he sold his share to his business partner and moved on to an advertising business in Nashville. This again he sold on to Clear Channel, one of the industry's leading companies.

Three more businesses later, still only 29 years old and feeling a little burned out from work, Mycoskie decided to take a break for a while, and headed down to Argentina for some rest and relaxation. But rest isn't really part of an entrepreneur's make-up, and it wasn't long before Mycoskie had hit on another idea, one that would come to define him as perhaps the world's best-known social entrepreneur.

On a visit to a village outside Buenos Aires, he was shocked to see that many of the children didn't have any shoes; or if they did, the shoes were ill-fitting and badly worn. Since shoes—particularly the local farmers' canvas shoe, the *alpargata*—are relatively cheap in Argentina, Mycoskie's first instinct was to set up a charity to donate shoes to the children. But after giving it some thought, he realized that this probably wouldn't work: the shoes would quickly wear out, and if he asked people to donate repeatedly every time more shoes were needed, their sympathy for the cause might also soon wear out.

So he came up with the idea of TOMS: One for One shoes. He would take the *alpargata* to America, manufacture it, and sell it as a high-end fashion item at around \$50 a pair. Quite a lot for a canvas shoe you might say, but for each pair he sold, another pair would be donated to village children. That way he could guarantee a continuing supply and also run the project as a business rather than as a charity.

Mycoskie knew nothing about manufacturing, let alone shoe manufacturing, but he understood that he had to learn fast. At first, by his own admission, he made "a poor job of making shoes," so he brought in help from people with experience in the industry. Soon his product was getting high satisfaction ratings from customers. The vital element that Mycoskie added was his own passion. It is a passion he wants others to share. TOMS encourages customers to become more involved by volunteering to hand-deliver the shoes to the children in need. It's an intimate giving experience, and Mycoskie hopes it might inspire volunteers to develop similar projects.

Ten years on and with revenues of \$392 million a year, the business is thriving, supplying shoes not only to children in Argentina but also other parts of the world where foot diseases are a problem. In southern Ethiopia, where a high concentration of silicone in the soil causes podocionosis, a disease that swells the feet, 300,000 people suffer simply because they have no shoes. The same type of soil exists in parts of France and Hawaii, but people there are unaffected.

But is the one-for-one model repeatable with other products? TOMS is a for-profit business, but for a long time it didn't show a profit. Mycoskie says his model is not like a sales promotion you can just add to your existing business model; you have to build it in from the beginning. He now diverts a lot of his profits into other innovative social ventures. He is conscious that "giving" alone is not the answer, and that educating people to improve their own lives is the real key. Yet he still loves TOMS: One for One, calling it his "greatest hit." And why shouldn't he? It has made a difference to millions of poor children around the world and brought him great entrepreneurial satisfaction.

# The shoe giver



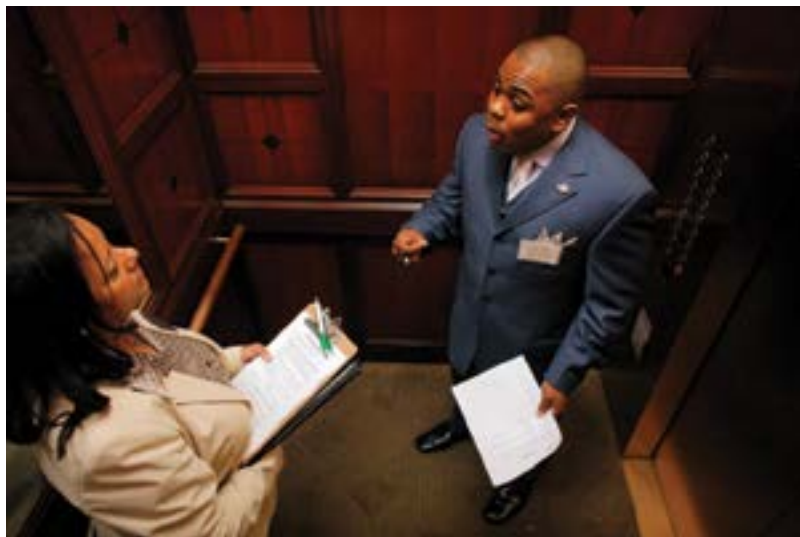
Changing a life begins with a single step

# 4d An elevator pitch

## Real life making a short pitch

- 1 Read the definition of an elevator pitch. Then work in pairs. What information do you think you should include? What don't you need to talk about?

Imagine you are in an elevator with someone you want to sell your new (business) idea to. You only have the time until the doors open again to convince this person. This is known as an elevator pitch.



- 2 **▶ 31** Listen to someone giving advice about making an elevator pitch. What points does she make? Compare the points she makes with your ideas from Exercise 1. Did you agree with what she said? Why or why not?
- 3 **▶ 32** Listen to a short pitch for a new phone app and complete the notes in the chart.

Name of app	1 _____
What it does	Links people who want to volunteer with 2 _____
Problem it solves	People don't volunteer because they can't commit to a 3 _____.
Competition	Doodle and 4 _____
Why it's different	Has a database of volunteers' 5 _____ and 6 _____
Developers' qualifications	Team of 7 _____ with experience 8 _____
Needs	9 _____ to bring it to market

## 4 Speaking skill making key points

- ▶ 32** Look at the expressions for making key points. Listen again and circle the rhetorical questions and sentence adverbs the speaker uses. Can you remember what the speaker said right after each question?

▶ MAKING KEY POINTS	
<b>Rhetorical questions</b>	<b>Sentence adverbs</b>
What is it?	Basically, ...
How does it work?	Essentially, ...
What does it do exactly?	Clearly, ...
Why is it/that necessary?	Obviously, ...
Won't that be expensive?	Of course, ...
How do we achieve this?	Honestly, ...
What are we asking for?	To be honest, ...
What's our ambition ...?	Financially, ...
	Practically, ...

## 5 Pronunciation word stress

- ▶ 33** Mark where you think the stress falls in each adverb or adverbial phrase in the box above. Then listen and check.
  - ▶ 33** Work in pairs. Practice saying the words with the same stress patterns. Then listen again and check.
- 6 Work in pairs or groups of three. Present your own elevator pitch. Follow these steps.

**Student A:** Turn to page 153 and read the notes.

**Student B:** Turn to page 154 and read the notes.

**Student C:** Turn to page 155 and read the notes.

- Prepare your pitch carefully. Use the expressions for making key points to help you (use no more than three rhetorical questions).
- Speak for no more than a minute.
- Write down the main message of each pitch and at the end compare your answers.
- Vote on who you think gave the most persuasive pitch.

# 4e Problem or solution?

## Writing a proposal

- 1 Work in pairs. Read the proposal and answer the questions.
  - 1 Does the author think the rise in the use of digital devices is a negative trend? How do you know?
  - 2 Why does the author think the declining trend in book reading needs to be reversed?
  - 3 Do you think the author's suggestions are good ones? Why or why not?

### Introduction

This proposal suggests ways teachers can use technology to get children to read.

### Current situation

Children are now spending more time on digital devices, browsing on the internet, messaging friends, etc. They are reading fewer books. This matters because reading books is known to help your ability to:

- focus and remember.
- expand your vocabulary.
- improve communication skills.
- develop analytical thinking.

So how can we use students' enthusiasm for digital devices to encourage them to read more?

### Possible solutions

First of all, we suggest that teachers actively encourage students to use the internet in class: either to research new subjects or to compare their conclusions with other people's. Second, we recommend using student blogs or learning diaries as a way of sharing ideas. Last, we think technology could help make reading a pleasure rather than a chore. One idea would be to put screens with interesting short stories and visuals in a quiet part of the classroom. Students could read the stories as a reward for finishing other work.

### Recommendations

These are just a few examples of how technology could be an aid to reading. We strongly recommend teachers explore similar ideas. Unless we begin to see technology as part of the solution, rather than part of the problem, we are unlikely to reverse the trend.

- 2 Look at how the proposal is organized. Answer the questions.
  - 1 How is it divided into different sections? How are different points listed?
  - 2 Underline the sentences in the proposal that do the following.
    - a state the proposal's aim
    - b state the problem that needs addressing
    - c summarize the writer's opinion

## 3 Writing skill making recommendations

- a Look at the forms used with the verbs *suggest* and *recommend*. Which forms are used in the proposal?

- 1 *recommend / suggest* (that) someone (should) do something
- 2 *recommend / suggest* something or doing something
- 3 *recommend* + someone do something

- b Complete these recommendations by circling the appropriate verb forms.

- 1 I strongly recommend that people *follow / following* this advice.
- 2 We suggest that people *save / to save* their money.
- 3 He recommends you *wait / waiting* until after the summer.
- 4 We are not suggesting that teachers always *teach / to teach* this way.
- 5 I recommend the company *look / looking* into these options.

- 4 Write a proposal that each school student should be given a tablet computer at the age of five. Include the following points.

- different uses for these tablet computers
- the benefits they could bring
- why this is an opportunity not to be missed

- 5 Exchange proposals with your partner. Use these questions to check your proposals.

- Is your partner's proposal organized in the same way as the proposal in Exercise 1 (with sub-headings and bullet points)?
- Has your partner used the language to make recommendations correctly?
- Is it a persuasive proposal? Does your partner's proposal include any points you wish you'd included?

# 4f This man risked it all

Women and children carrying firewood, Uganda



## Before you watch

- 1 Look at the photo and caption. How do you think this activity affects:  
a the children's lives?      b the environment?

## 2 Key vocabulary

- a Read the sentences. The words in bold are used in the video. Guess their meanings.
- 1 I was **on the verge of** dropping out of college, but my parents persuaded me to stick with it.
  - 2 I don't know why I continued to believe him. It was as if I was **under a spell**.
  - 3 We sell some products directly, but mostly they are sold through **retailers**.
  - 4 We supply over ten million **households** in the state with gas and electricity.
  - 5 The island has experienced terrible **deforestation** because the construction industry needs wood as a building material.
- b Match the words in bold in Exercise 2a with these definitions.
- a shops that sell to individual customers \_\_\_\_\_
  - b large-scale cutting down of trees \_\_\_\_\_
  - c just about to \_\_\_\_\_
  - d influenced by a powerful (often magical) force \_\_\_\_\_
  - e homes \_\_\_\_\_

## While you watch

- 3 4.1, 4.2 Watch both parts of the video and check your ideas from Exercise 1. What benefits did Sanga Moses's business bring to the community?
- 4 Work in pairs. What do you remember about the following things in the video?
- the process of gathering firewood
  - Sanga Moses's village
  - the process of making the clean fuel
  - the process of distributing and selling the clean fuel
- 5 4.1 Watch Part 1 of the video again. Work in pairs. Answer the questions.
- 1 What part of his sister's situation particularly inspired Sanga Moses to act?
  - 2 What did his boss think about his decision to quit his job?
  - 3 How many of the university students wanted to help him with his new business venture?
  - 4 How did he raise the funds for his new business?
  - 5 What was his girlfriend's reaction?

- 6 4.2 Watch Part 2 of the video again. Complete the facts and figures.

- Eco-Fuel Africa turns farm <sup>1</sup> \_\_\_\_\_ into clean cooking fuel.
- The fuels burns cleaner and <sup>2</sup> \_\_\_\_\_ and is <sup>3</sup> \_\_\_\_\_ cheaper.
- Eco-Fuel Africa has a network of 2,500 farmers and 460 <sup>4</sup> \_\_\_\_\_ retailers.
- It supplies <sup>5</sup> \_\_\_\_\_ households.
- Its ambition is to supply 16.6 million households in the next <sup>6</sup> \_\_\_\_\_ years.
- Eco-Fuel Africa prevents <sup>7</sup> \_\_\_\_\_ and <sup>8</sup> \_\_\_\_\_ air pollution.
- It provides a living for farmers and <sup>9</sup> \_\_\_\_\_ and makes sure children get an <sup>10</sup> \_\_\_\_\_ .

## After you watch

- 7 4.3 Watch the clips from the video. Choose the correct meaning of the words.
- 8 Complete the sentences in your own words. Then compare your sentences with a partner.
- 1 The news that ... hit people hard.
  - 2 It's important to have a good network of friends because ...
  - 3 I have an idea to ..., but I don't know if I should act on it.
- 9 Work in pairs. First summarize the benefits of Eco Fuel Africa's service and then discuss if you see any potential drawbacks of this system.
- 10 What problem have you seen in your community, and what do you think can be done about it? Think about these areas or one of your own. Then prepare a short talk to describe the problem and possible solution.
- Crime/safety
  - Transportation
  - Pollution
  - Lack of stores
  - Noise
  - Lack of public/recreation space
  - Jobs

# UNIT 4 REVIEW AND MEMORY BOOSTER

## Grammar

1 Read the article and complete it using these words.

need	certainly	chances	probably
had	likely	might	possible



The problem of knowing what information to trust <sup>1</sup> \_\_\_\_\_ just have got harder. That's because a Canadian company has recently developed a computer program that can mimic people's voices. The program does not just copy words, it analyzes speech patterns to create new sentences in the same voice. So the person whose voice is being imitated doesn't <sup>2</sup> \_\_\_\_\_ to have actually said the words. The program is already very good at doing this, and the <sup>3</sup> \_\_\_\_\_ are that it will get better very quickly. Although the company developed the program for good reasons—for use in games and audio books—it is now worried that, in the wrong hands, the program is <sup>4</sup> \_\_\_\_\_ to be used for identity theft. For example, it's <sup>5</sup> \_\_\_\_\_ that someone could pretend to be a politician or a diplomat and use this ability to learn important secrets. The company felt it <sup>6</sup> \_\_\_\_\_ to inform people about how powerful the technology is, because it thinks others have <sup>7</sup> \_\_\_\_\_ developed similar programs. Their spokesperson said the development of these programs means that we will almost <sup>8</sup> \_\_\_\_\_ not be able to trust audio evidence in the future.

2 >> MB Work in pairs. According to the article, how likely is each of these things to happen?

- 1 people using voice software to steal other people's identities
- 2 similar programs already existing elsewhere
- 3 audio evidence no longer being usable

I CAN	
talk about future probability	<input type="checkbox"/>
use past modals to express obligation or necessity	<input type="checkbox"/>

## Vocabulary

3 Replace the bold parts of each phrase with an adjective ending in *-able*. Some of the adjectives need to use the negative form.

- 1 A table **that can be extended**. \_\_\_\_\_
- 2 A mistake **that can be forgiven**. \_\_\_\_\_
- 3 A car **that can't be relied on**. \_\_\_\_\_
- 4 A cover **that can be removed**. \_\_\_\_\_
- 5 A deposit **that can't be refunded**. \_\_\_\_\_
- 6 A bag **that can be used again**. \_\_\_\_\_
- 7 A cost **that can't be avoided**. \_\_\_\_\_

4 >> MB Look at the phrases (1–4). Think of a situation when you would use each of these phrases. Then compare answers with a partner. How similar were your situations?

- 1 "Give it some thought, anyway."
- 2 "Give her a break."
- 3 "Sure. I'll give it a try."
- 4 "We came up against a lot of opposition."

I CAN	
use words with the <i>-able</i> ending	<input type="checkbox"/>
use expressions with <i>give</i> and phrasal verbs with <i>come</i>	<input type="checkbox"/>

## Real life

5 Look at the statements from a short product pitch. Complete the rhetorical questions.

- 1 So, what \_\_\_\_\_? It's a vacuum that can clean any type of floor surface.
- 2 Why \_\_\_\_\_? Because there's no other machine that can perform all these functions.
- 3 How \_\_\_\_\_? At the base, there's a rotary brush that cleans as it sucks up the dirt.
- 4 Won't \_\_\_\_\_? Despite its sophistication, it's very affordable.

6 >> MB Think of a product that you use frequently. Then work in pairs. Take turns presenting your product as if it was a new product. Use at least three rhetorical questions.

I CAN	
give a short presentation for a new product	<input type="checkbox"/>
use rhetorical questions in a presentation	<input type="checkbox"/>