Suitable for:
CEFR: B2

2nd Edition

C21

ENGLISH FOR THE 21st CENTURY

Level 5 Course Book

Jake Hughes
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GARNET
EDUCATION

C21

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Contents

Level 5

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Welcome to *C21 English for the 21st Century*

C21 is a groundbreaking, five-level general English course that integrates 21st century skills and academic skills to ensure that students are ready for study, work and life throughout the 21st century.

The course combines the language skills of reading, writing, listening and speaking with 21st century skills such as communication, creativity, critical thinking and study skills, in a unique way.
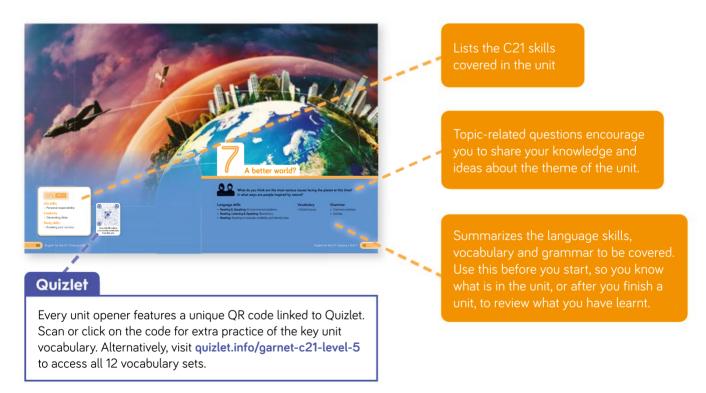
Students of *C21 English for the 21st Century* will be fully prepared to face the challenges and demands of the 21st century.

Unit structure

Each of the five books has 12 units. Each unit is divided into three sections, A, B and C, together with a section on 21st century skills, and either a **Planning ahead** section or a **Progress test** at the end of each unit.

Unit opener

Every unit begins with a double-page unit opener. The opener lists the 21st century skills that are included in the unit, as well as all the target vocabulary and grammar, and the language skills of the unit. The unit opener also features a **Talking point** related to the topic of the unit, to elicit prior knowledge and/or facilitate student engagement with the unit.

Lists the C21 skills covered in the unit

Topic-related questions encourage you to share your knowledge and ideas about the theme of the unit.

Summarizes the language skills, vocabulary and grammar to be covered. Use this before you start, so you know what is in the unit, or after you finish a unit, to review what you have learnt.

Quizlet

Every unit opener features a unique QR code linked to Quizlet. Scan or click on the code for extra practice of the key unit vocabulary. Alternatively, visit **quizlet.info/garnet-c21-level-5** to access all 12 vocabulary sets.

Sections A, B and C

C21 takes an integrated approach to skills development. In each section, you learn the language and skills that relate to the section topic. Icons indicate the main skills you develop in a section.

Vocabulary	Grammar	Reading
Writing	Listening	Speaking

Icons are used to visually direct you to the focus points of lessons.

Section title

Learning point for the section

Icons show the main skills you work on.

Personalizing your learning experience

Each section includes activities that encourage you to personalize the skills you are learning, talk about yourself or your experiences and opinions, and think critically about the themes in the unit. They are indicated by 💡.

6 💡 **In groups. Write a crowdfunding webpage. Follow the instructions.**
- **a** Choose a project from 5 or think of your own project.
- **b** Research some relevant facts and figures. How much money will you ask for?
- **c** Decide if you will offer any rewards to supporters.
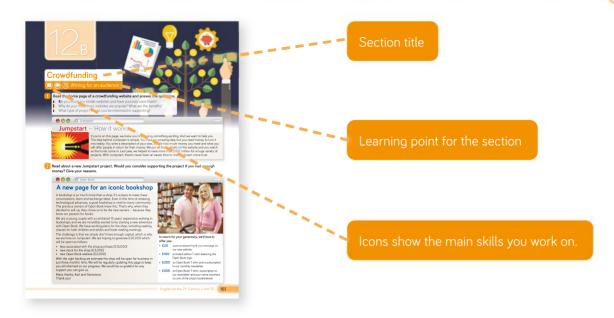- **d** Decide what information your readers will need and make a list.
- **e** Write the appeal and check that it gives all the information the reader needs.

C21 SKILLS
COMMUNICATION:
Readability
See page 165 →

Asks you to personalize your skills

7 💡 **Design your webpage with appropriate photos, etc., and make a poster.**

8 💡 **Look at other groups' posters. Which projects would you consider supporting?**

Asks you to give your opinions

Support for your learning

Focus boxes in each lesson highlight information that is central to the main learning points of the lesson. The Focus boxes will help you with activities in class, and can be used to review your work later. The Focus boxes are colour-coded according to their purpose.

FOCUS — Grammar

should have/shouldn't have
To express criticism of a past action, we use *should not have* + past participle.
To express criticism of an action somebody did not take in the past, we use *should have* + past participle.

Grammar Focus
Provides notes on the form, function and meaning of a grammar point.

FOCUS — Expression

Writing your personal account
- Choose an interesting title.
- Write a short introduction.
- Tell the story. What happened?
- Make it personal.
- Write a conclusion to summarize.

Expression Focus
Contains useful expressions and tips to improve your written and spoken English.

FOCUS — Pronunciation

▷ **9.1 Listen to the words and underline the syllable which is stressed.**
Example a/<u>cute</u>
- **a** bac/te/ri/a
- **b** con/ta/gious
- **c** de/hy/dra/tion

Pronunciation Focus
Provides models of pronunciation to help with speaking tasks, and to help you understand spoken English better.
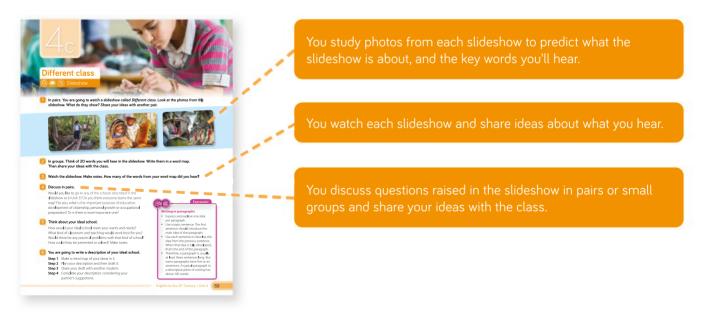
C21 skills

Each section introduces and develops relevant C21 skills. These skills are flagged within the unit by C21 skills boxes, which name the C21 skill and sub-skill, and include a page reference to practise activities in the C21 skills pages at the end of the unit.

C21 skills area and sub-skill

Practice activities from the C21 skills pages for the unit

Reference to practice activities in the C21 pages at the end of the unit

Slideshows

Section C of each even-numbered unit (Units 2, 4, 6, 8, 10 & 12) features a slideshow relating to the themes explored in the previous two units. The audio commentary is at a higher level than other audio in the unit, so as to give you more challenging practice in listening for main ideas, rather than every detail. The listening activities and follow-up writing tasks encourage the sharing of ideas and collaboration.

You study photos from each slideshow to predict what the slideshow is about, and the key words you'll hear.

You watch each slideshow and share ideas about what you hear.

You discuss questions raised in the slideshow in pairs or small groups and share your ideas with the class.

If you have difficulty following the slideshows, you can switch on subtitles, or pause and play back parts of the slideshow.

Assessing your progress

After every unit there are activities to assess your progress with the skills in the unit.

Planning ahead activity
(Units 1, 3, 5, 7, 9 & 11)

The Planning ahead pages ask you to reflect on your learning so you can identify what is going well and what needs improvement, and plan your study time between classes.

Learning a language works best if you are active in class, so there are also questions that ask you to think of ways of participating more actively.

Progress test after every two units
(Units 2, 4, 6, 8, 10 & 12)

The Progress tests check your understanding of topics and skills from the unit. The tests include vocabulary and grammar items, as well as short reading texts. After you complete a test, review any questions you got wrong. You can also use the workbook exercises for extra practice of language from the unit.

C21 SKILLS

Life skills
- Awareness of trends
- Personal development

Study skills
- Preparing for a lecture

Scan the QR code or click here to practise key vocabulary from this unit.

1 Development

In what ways can human beings develop over a short or long period of time?
How do human beings affect their surroundings as they develop?

Language skills

- **Reading:** Reading to interpret charts
- **Reading:** Reading to find specific information
- **Reading & Listening:** Life coaching
- **Writing:** Writing sentences about activities and achievements
- **Listening:** Listening to confirm predictions
- **Listening & Writing:** Listening to take notes and write summaries
- **Speaking:** Discussing large projects

Vocabulary

- The language of trends
- Megaprojects

Grammar

- Adjectives and adverbs
- Present perfect simple and present perfect continuous

1A

Trends
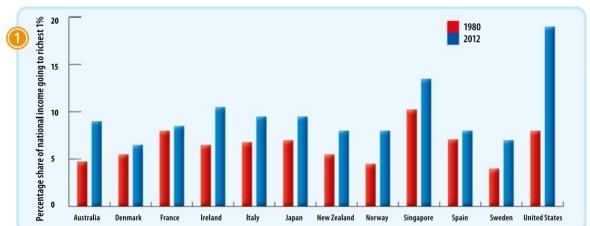
The language of trends; Adjectives and adverbs
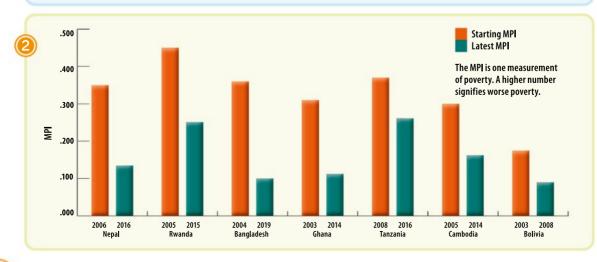
1 **In pairs. Discuss the questions.**

a What is income inequality?

b In which countries do you think incomes are equal or unequal?

c What are the main causes and features of poverty?

d In which countries is poverty a serious problem?
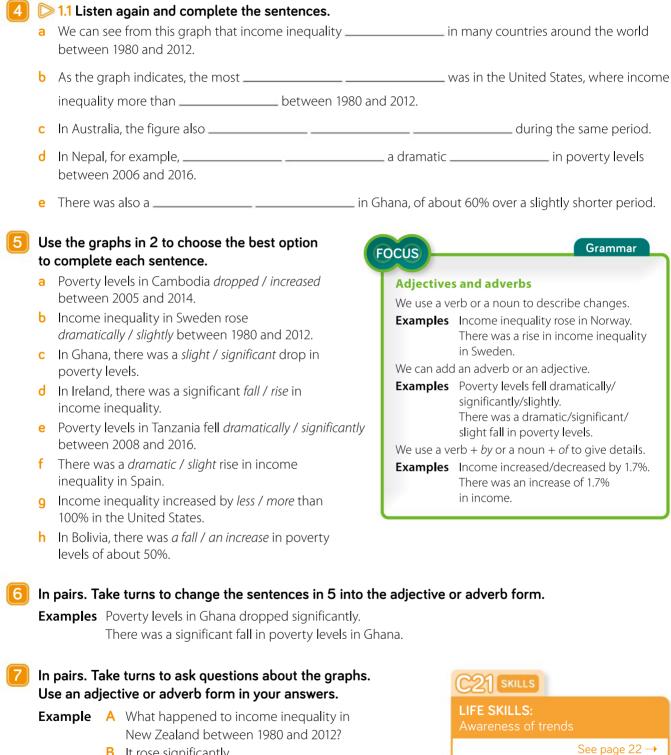
2 **Look at the graphs. Find information in the graphs to answer the questions.**

a What does graph 1 show about the trends in income inequality?

b In which country did income inequality go up the most between 1980 and 2012?

c In which country did income inequality go up the least?

d What does graph 2 show about the trends in poverty levels?

e What happened to poverty levels in Nepal between 2006 and 2016?

f In which country did poverty levels drop the most in percentage terms?

1

Percentage share of national income going to richest 1%

1980
2012

Australia · Denmark · France · Ireland · Italy · Japan · New Zealand · Norway · Singapore · Spain · Sweden · United States

2

MPI

Starting MPI
Latest MPI

The MPI is one measurement of poverty. A higher number signifies worse poverty.

2006 2016 — Nepal
2005 2015 — Rwanda
2004 2019 — Bangladesh
2003 2014 — Ghana
2008 2016 — Tanzania
2005 2014 — Cambodia
2003 2008 — Bolivia

3 ▷ **1.1** Listen to a description of each graph and check your answers to 2. Where do you think your own country would appear in the two graphs? Explain your answers.

4 ▷ **1.1** Listen again and complete the sentences.

a We can see from this graph that income inequality _____ in many countries around the world between 1980 and 2012.

b As the graph indicates, the most _____ _____ was in the United States, where income inequality more than _____ between 1980 and 2012.

c In Australia, the figure also _____ _____ _____ during the same period.

d In Nepal, for example, _____ _____ a dramatic _____ in poverty levels between 2006 and 2016.

e There was also a _____ _____ in Ghana, of about 60% over a slightly shorter period.

5 Use the graphs in 2 to choose the best option to complete each sentence.

a Poverty levels in Cambodia *dropped / increased* between 2005 and 2014.

b Income inequality in Sweden rose *dramatically / slightly* between 1980 and 2012.

c In Ghana, there was a *slight / significant* drop in poverty levels.

d In Ireland, there was a significant *fall / rise* in income inequality.

e Poverty levels in Tanzania fell *dramatically / significantly* between 2008 and 2016.

f There was a *dramatic / slight* rise in income inequality in Spain.

g Income inequality increased by *less / more* than 100% in the United States.

h In Bolivia, there was *a fall / an increase* in poverty levels of about 50%.

FOCUS | **Grammar**

Adjectives and adverbs

We use a verb or a noun to describe changes.

Examples Income inequality rose in Norway.
There was a rise in income inequality in Sweden.

We can add an adverb or an adjective.

Examples Poverty levels fell dramatically/ significantly/slightly.
There was a dramatic/significant/ slight fall in poverty levels.

We use a verb + *by* or a noun + *of* to give details.

Examples Income increased/decreased by 1.7%.
There was an increase of 1.7% in income.

6 In pairs. Take turns to change the sentences in 5 into the adjective or adverb form.

Examples Poverty levels in Ghana dropped significantly.
There was a significant fall in poverty levels in Ghana.

7 In pairs. Take turns to ask questions about the graphs. Use an adjective or adverb form in your answers.

Example **A** What happened to income inequality in New Zealand between 1980 and 2012?
B It rose significantly.

C21 SKILLS

LIFE SKILLS:
Awareness of trends

See page 22 →

8 💡 Go to page 169 for an internet research activity about trends.

Personal development

📖 🎧 💼 💬 Present perfect simple and present perfect continuous

1 **Read the advert for life coach Juba Ladipo and answer the questions.**

  a What do you understand by 'personal development'?
  b What sort of problems or aims do you expect Juba's clients to have?
  c What type of advice do you expect Juba to give?

2 **In pairs. Look at the notes for four of Juba's clients and guess the activities.**

Client 1 ①
Target	To lose 12 kgs
Activity	_____
Achievement	Lost 9 kgs

Client 2 ②
Target	To save money for a new car
Activity	_____
Achievement	Saved nearly £800

Client 3 ③
Target	To meet people and make new friends
Activity	_____
Achievement	Met a couple of nice people

Client 4 ④
Target	To get a new job
Activity	_____
Achievement	Applied for a course

It's time to reach your true potential!

I am a life coach with over five years' experience in personal development, and I want to help you become the best person you can be.

Call me on **09743 224458** *or email me at* **jubaladipo33@gmail.com**

'Juba has helped me to turn my life around!' Ali, 28

3 ▷ **1.2 Listen and check your guesses. How did each client follow Juba's advice?**

FOCUS   **Grammar**

Present perfect simple and present perfect continuous
Complete the rules with *activities* or *achievements*.

We use the **present perfect simple** to talk about experiences and _____. We often use it to say how much, how many or how often.

Examples   I've been to six different countries this year.   She's passed all her exams.
               How much have you saved?   It's rained three times already today!

We use the **present perfect continuous** to talk about recent, continuing _____, or to say how long something has been happening. We often use it with time expressions such as *lately* and *recently*.

Examples   She's been working really hard recently.
               I've been exercising a lot and I haven't been eating junk food.
               It's been raining for three hours!

4 ▷ **1.2 Listen again and circle the words you hear.**

a *I've lost / I've been losing* 9 kgs!

b *I've swum / I've been swimming* a lot lately.

c *I've stayed / I've been staying* at home more.

d *I've been going / I've been* to parties and *talking / talked* to people.

e *I've been looking / I've looked* at job vacancies.

f *I've been applying / I've applied* for a course.

5 **Juba has written notes on other clients' achievements and activities. Complete them with the correct form of the verbs in brackets.**

a He _____ (go) to anger management classes and his behaviour _____ (improve).

b Recently, she _____ (talk) to more people and as a consequence she _____ (make) some new friends.

c He _____ (write) a career plan and for the last two weeks we _____ (discuss) how he can make it work.

d He _____ (buy) a new bike and he _____ (cycle) to work.

e She _____ (make) more notes in lectures and her exam marks _____ (go up).

f She _____ (become) a volunteer at a charity and she _____ (help) at a homeless night shelter.

6 **Match each sentence from 5 with an area of personal development in the diagram on the right. Which areas are the most important for you?**

ethical
physical
academic
emotional
social
professional

7 💡 Read the text below and underline all the areas of personal development.
Do you agree with the idea that a holistic approach is important?

The term 'personal development' is often connected with activities like dieting or exercise, or perhaps learning a new computer program. But while these things are undoubtedly important, there are many other worthwhile skills which are often overlooked. Academic or cognitive skills such as critical thinking, memorization and creativity are important, as are social and emotional skills like friendliness, positive thinking and self-esteem. Other skills not to be neglected include self-control, time management and finding a work-life balance.

The important thing is to take a 'holistic approach' to personal development, meaning you should aim to develop yourself as a whole person rather than focusing on one aspect of yourself at the expense of others.

8 💡 Write six sentences about your recent activities and achievements in the different areas of personal development. Use the present perfect simple and present perfect continuous.

_____
_____
_____
_____
_____
_____
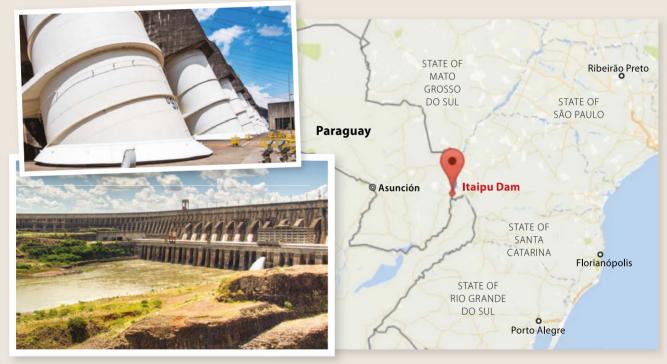
9 In pairs. Take turns to read your sentences from 8 to your partner. Who has a more holistic approach to their development?

10 💡 Go to page 169 for a life coach and client role-play activity.

C21 SKILLS
LIFE SKILLS:
Personal development

1c

Megaprojects

Taking notes

1 **Look at the photos of a 'megaproject' and answer the questions.**

a Describe the project in the photos. Why is it called a 'megaproject'?

b Think of some examples of other megaprojects.

Examples Masdar City in the UAE
The Gotthard Base Tunnel in Switzerland

c In what way do you think megaprojects can be controversial?

Itaipu Dam: An introduction to its construction, benefits and drawbacks

2 **Read the title of the Engineering lecture above. What information would you expect to hear in the lecture?**

3 ▷ **1.3 Listen to the lecture and take notes on the main ideas. Did you find out all the information you expected to?**

C21 SKILLS

STUDY SKILLS:
Preparing for a lecture

4 Read a student's notes on the same lecture and compare them with your own.
Which column do you think the student filled out first?

12/02/2020	En. Eng. 'An introduction to Itaipu Dam: Construction, benefits and drawbacks'
Itaipu Dam: Hydroelectric dam (Brazil + Paraguay border)	2nd most powerful hydroelectric dam in world (after Three Gorges in _____ a) Built on Paraná River — border of Brazil and Paraguay
Construction 9 years, $19.6 bill.	Constr. 1975–_____ b, $19.6 bill. _____ c workers 50 mill. tonnes earth + rock moved
Benefits Power — 14,000 mw Renewable energy — not fossil fuel	Creates huge amount of power (14,000 megawatts) (26% all elec. in Br., _____ d % all elec. in Par.) Reduces global dependence on oil, etc., by producing renewable energy Is a binational project (Br. + Par.) building relationship between 2 countries
Drawbacks Social — displacement Environmental — lost waterfalls	Displaced 10,000 families living by river Guaíra falls (natural wonder) and _____ e lost under water
Summary:	

5 ▷ **1.3** Listen again and complete the notes in 4.

6 In pairs. Cover the right-hand column and use the left-hand column to remember as much information as you can. Then summarize your notes at the bottom of the page and compare with your partner.

7 In small groups. Discuss whether the Itaipu Dam was a worthwhile investment. Use your notes to help you.

Example **A** The project employed 40,000 workers. So it brought a lot of jobs to the area.
B Yes, but so many people were forced to move from the area.

8 In pairs. Look at the photo and the title of an Environmental Engineering lecture. How could you prepare for this lecture? What sort of information do you expect to hear?

18/04/2020

Smart buildings: Why the Pearl River Tower has been described as 'the most energy-efficient skyscraper in the world'

Summary:

9 ▷ 1.4 Listen to part of the lecture and take notes in the right-hand column. In pairs. Compare and improve each other's notes. Then listen again and complete your notes.

10 Complete the left-hand column of your notes. Then cover the right-hand side and use the left-hand column to remember as much information as possible.

11 Write a summary of your notes and compare it with your partner. Then turn to page 170 for sample notes of the lecture. Is there any information you would want to include in your notes? Why is it important? Do you think the Pearl River Tower was a worthwhile investment? Why/Why not?

12 💡 In pairs. Look at four more megaprojects. Student A go to page 170. Student B go to page 184.

A LIFE SKILLS: AWARENESS OF TRENDS

In the fast-moving 21st century, trends spread rapidly across our globalized world. It is important to be aware of these trends and to think about how they may affect your life, the country or region you live in, and the world as a whole.

1 Choose one of the areas listed below and do some online research into current trends taking place in it.

global economic growth	health and fitness	migration
renewable energy use	social media	virtual reality
	voice recognition and voice activated technology	

2 In pairs or small groups. Work with students who researched a different topic from you. Take turns to give a short presentation of the trends you have found out about. Discuss the likely effects of these trends on:

- your lives
- the country you live in
- the world as a whole.

B   LIFE SKILLS: PERSONAL DEVELOPMENT

Personal development involves setting goals and devising a plan for how to reach each goal. Personal goals that are not clearly defined, or that are too large or far off, can be hard to achieve and may set you up for failure. It is important to make your goals possible to achieve by breaking them down into small steps and choosing goals which can be measured clearly.

1 In pairs. Think of some personal goals that you have. Read the extract from an article about defining goals for personal development.

Defining and achieving goals

One personal development goal that many people set themselves is 'I want to learn a new language'. The problem with this is that learning a language can be a lifelong task. Phrased this way, the goal is too broad and too long-term, plus it does not define how you will know that you have achieved the goal.

Step 1
Break the goal into smaller, achievable steps.
To start with, choose a specific short-term goal, for example, 'I want to take a basic Spanish class' or 'My English is quite good, but I want to be able to tell jokes in English'.

Step 2
Define how you are going to achieve Step 1.
Will you join a class or enrol on an online course? Will you teach yourself at home? Will you listen to English comedians on YouTube?

Step 3
Define how you will know that you have achieved your goal.
You need to know that you have achieved your first, small goal before moving on to setting the next goal. How will you do this? Will you know that you have succeeded when you pass a test or complete a course, or manage to make somebody laugh when you tell a joke? Define what your evidence for success will be before you set out to achieve that goal.

Step 4
Once your first small goal has been achieved, you can set the next one.
Follow and repeat Steps 1 to 3 as often as needed until you achieve your big goal. This way you program yourself for success instead of failure!

2 Choose one personal goal that you have. Follow the steps outlined in 1 and write your goal down, breaking it into smaller goals, saying how you will achieve these, and how you will know that you have achieved them.

C STUDY SKILLS: PREPARING FOR A LECTURE

To make the most of a lecture, follow these steps:
- **Analyze the title of the lecture. Predict the content. Look online for a general overview of the topic.**
- **Put the lecture into context. How does it fit with the rest of your module or course?**
- **Think about what information you want from the lecture. What questions do you have?**

1 **The programme below indicates some 'taster lectures' you could attend at a British university's Open Day. Predict which subject area each lecture comes from. Add the subject names from the box to the programme.**

| Archaeology | Business | Drama | Ethics and International Relations |
| Law | Pharmacology | Politics | Psychology |

Open Day Taster Lectures

Appleby Lecture Theatre

Time	Lecture title	Subject
10.00–10.50	Helping others in a globalized world	_____ a
11.00–12.20	Climate change and population growth	_____ b
	Lunch break and exhibition	
14.00–14.50	Who's who in court and what they do	_____ c
15.00–15.50	To Tweet or not to Tweet: Does social media marketing pay off?	_____ d

Mackay Lecture Theatre

Time	Lecture title	Subject
10.00–10.50	Drug discovery and protein modelling	_____ e
11.00–12.20	Thinking on your feet: An introduction to improvization	_____ f
	Lunch break and exhibition	
14.00–14.50	Digging for clues to the classical world	_____ g
15.00–15.50	How do we study the brain?	_____ h

2 **Choose at least two taster lectures that would interest you. Predict what you could expect to hear the lecturer talking about during the lecture.**

PLANNING AHEAD

Progress

1 Make a list of three things you learnt in this unit and three things to practise.

Things I can do	Things to practise
1	1
2	2
3	3

2 Compare your list with a classmate.

My learning plan for next week

1 Think about next week. How can you improve your English? Write four learning ideas for the next week. How much time do you need for each idea?

Example I plan to learn five new words, and write them in my vocabulary notebook (ten minutes).

	Action: I plan to ...	Time (...) mins	Review after a week
1			
2			
3			
4			

2 Share your learning plan with another classmate.

3 At the end of next week, review your plan. Use these ideas.

• Done   • Not done   • More practice   • Update learning plan

Communication in class

1 How active are you in class? Rate yourself for each point.

		Yes	No
a	I ask questions when I don't understand.		
b	I help classmates when they don't understand.		
c	I speak in group tasks a lot.		
d	I answer questions when I know the answer.		

2 How can you be more active in your classes next week? Write three ideas.

Example Ask classmates or my teacher at least two questions.

_____

_____

_____

3 Share your ideas with a classmate.

Example In my next class, I plan to ask my teacher or classmates two or three questions.

C21 SKILLS

Critical thinking
- Watershed events

Life skills
- Dealing with change

Scan the QR code or click here to practise key vocabulary from this unit.

2 Change

Talking point

What events or trends bring about changes in people's lives?
What can people do to help themselves adapt to changes?

Language skills

- **Reading:** Reading for specific information
- **Speaking:** Discussing personal watershed moments
- **Reading & Speaking:** Change management
- **Reading & Writing:** A university admission essay
- **Writing:** Writing a short report

Vocabulary

- Watershed events

Grammar

- Past perfect

2A

Watershed events

Past perfect

1 Read the introduction to the online article 'Watershed events'. Which historical events do you think people voted for? Make a list.

2 Read the complete article and answer the questions.

a When was the printing press invented?
b What did people do before the printing press existed?
c What influence did the printing press have on the world?

Q watershed-events

Watershed events

A watershed event is a point when the course of history changes. A recent poll asked people to vote for the most important watershed events of all time. Each week, we will be profiling one of the events chosen by the public.
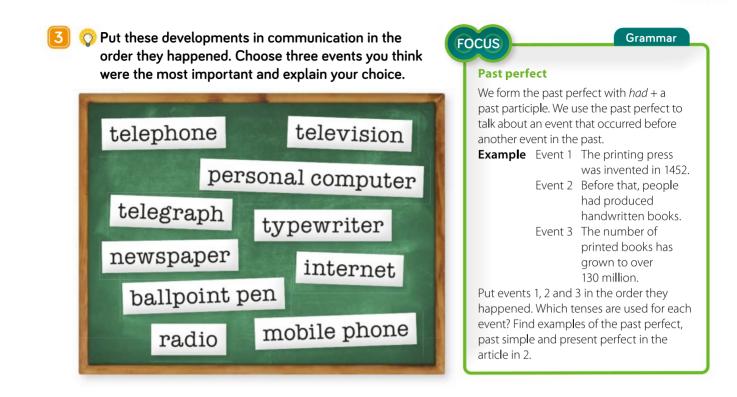
Watershed event #4: The printing press

The printing press was the first machine capable of printing the written word quickly and efficiently. It was invented in 1452 in Germany by Johannes Gutenberg. In previous centuries, the printing press hadn't been necessary due to widespread illiteracy. But by the middle of the 15th century, the rapidly-changing social and economic conditions had created the perfect environment for the rapid production of texts. The cultural ideas of the Renaissance had started to spread northwards from Italy and people needed a quick and efficient way to reproduce these ideas. Additionally, increasing levels of literacy among the wider population had led to a greater demand for reading material.

For centuries, people had copied books by hand, which was a very slow and expensive process. More recently, people had developed a very basic form of printing using pictures and letters cut into pieces of wood. However, Gutenberg had an idea for making the whole process quicker and more efficient, a machine that allowed pages to be printed mechanically. One important aspect of his invention were the letter moulds. Gutenberg made these from metal, and therefore they were more durable than the wooden blocks people had used previously.

Before the printing press, the written word had only reached a small minority of the population – people rich enough to afford handwritten books. Gutenberg's invention allowed books to be produced much more cheaply so they became affordable to a much wider range of people. This in turn helped literacy to increase. Since Gutenberg first sold 150 copies of his printed bible at the Hamburg Book Fair in 1455, over 130 million different books have been published and literacy has spread to all corners of the globe.

3 💡 Put these developments in communication in the order they happened. Choose three events you think were the most important and explain your choice.

telephone
television
personal computer
telegraph
typewriter
newspaper
internet
ballpoint pen
radio
mobile phone

FOCUS | **Grammar**

Past perfect

We form the past perfect with *had* + a past participle. We use the past perfect to talk about an event that occurred before another event in the past.

Example
Event 1 The printing press was invented in 1452.
Event 2 Before that, people had produced handwritten books.
Event 3 The number of printed books has grown to over 130 million.

Put events 1, 2 and 3 in the order they happened. Which tenses are used for each event? Find examples of the past perfect, past simple and present perfect in the article in 2.

4 **Choose the most appropriate tense to complete each sentence.**

a After László Bíró *solved / had solved* the problem of leaking ink with his ballpoint pen, many people *stopped / had stopped* using the old style of ink pen.

b The television *became / had become* popular in the 1930s. Up to this point, radio *was / had been* the most popular form of home entertainment.

c Email *was developed / had been developed* after the first stage of the internet *was established / had been established*.

d Until the invention of the telegraph, most messages *were sent / had been sent* by mail.

e Before the internet *became / had become* accessible worldwide in the 1990s, most information *was / had been* available only in print.

f Authors *used / had used* a pen until Mark Twain *wrote / had written* the first typewritten novel, *Tom Sawyer*.

5 **In pairs. Take turns to tell your partner about watershed moments from your life. Use the past perfect, past simple and present perfect.**

Example **A** I got married last year.
B Did you? That's great! How long had you been engaged?

2B

Change management

📖 💬 📝 A reflective essay

1 In pairs. Make a list of changes people can experience in their life between the ages of 16 and 30.

Examples leaving home, buying their first car

2 Look at the webpage and answer the questions.

a What sort of institution runs the website?
b Who is the intended readership for this page?
c Why would a page like this appear on this website?

3 💡 In pairs. Share your experiences of change in your life. How did you deal with change? Did you use strategies similar to the suggestions?

4 Read about part of a university's application process and answer the questions.

a Why do you think the university wants applicants to write a reflective essay as part of their application?
b Why do you think the university chose this particular title?

🔍 change-and-transition

Change and transition

When you are settled into one pattern of life, a big change can be difficult. This is often the case for unpleasant changes like losing someone dear to you, but it can also be true for 'happy' transitions like getting into university and starting your first job. However, don't forget, there are ways to manage and cope with change.

1 In many cases you can predict change. Predicting change will help you to prepare and be ready when the change comes.

2 Accept that change happens and that change can have a positive as well as a negative effect.

3 Be honest with yourself about how you feel in times of change. It's OK to feel worried!

4 Be patient – it takes time to adjust to new patterns of life.

5 Get support from friends, tutors or other people going through the same experience.

6 Remember, you have managed change and transition before, you can do it again!

ADMISSION ESSAY

As part of your application, we ask that you write a brief admission essay. This essay will be reflective. The title for international students this year is:

'What has been a big change in your life, either at work, school or in your personal life? Describe how you dealt with that change.'

Write approximately 250 words.

FOCUS · Expression

Writing a reflective essay

In a reflective essay, the writer describes and analyzes his or her own experiences. Some universities ask for a reflective essay as part of the application process. It helps them to find 'the person behind the grades'. Common features of a good reflective essay include:

• an 'attention grabbing' first sentence
• a positive attitude to difficult situations
• details of the situation you were in and how you dealt with it
• a description of how things have changed for the better.

5 **Look at three more admission essay titles. Why do you think the university has chosen each title? What does it want to know about the applicants?**

a Describe a problem you have solved or a problem you would like to solve.

b Describe an event that marked your transition from childhood to adulthood.

c Reflect on a time when you challenged a belief.

6 **Meryem is applying to the university. Read her admission essay. How many of the suggestions in 2 did she use? How do you think Meryem will manage the change to being an international student?**

When I was 15 years old, my father was made redundant. Luckily, it was not completely unexpected and he had started applying for other jobs. Unfortunately, though, there weren't many jobs in our city of Bursa and we had to move to Istanbul. Until this point, I had spent all my life in Bursa and, at first, the thought of leaving all my friends made me upset and nervous. I was also worried about how my studies would be affected by a change of school.

But a few days after my parents told me we were moving, I began to get used to the idea. I started researching Istanbul and I became excited about all the things I could see and do. And I also researched my new school and discovered it had a very good reputation. The school's website was full of all the different clubs you could join. I've been at the school for three years now and it's been a fantastic experience. I joined several sports teams, the drama group and the choir, and through this I've made a lot of new friends. And my grades have actually improved since I moved here.

Over the past few weeks, as I've been preparing for university and all the changes it will involve, I've often remembered how it felt when I changed schools. Thanks to that experience I have become a more resilient, adaptable person and I now embrace change, rather than fear it.

7 **Read Meryem's essay again and find examples of features of a good reflective essay from the Focus box.**

C21 SKILLS

LIFE SKILLS:
Dealing with change

8 💡 **Write an admission essay based on a title in 5. Follow the steps below.**

a Brainstorm the topic and write down your ideas.

b Decide which information you should include in the essay.

c Ask 'Why?' and 'How?' questions to help you analyze the title.

d Write the first draft of your essay. Include the 'features of a good reflective essay' from the Focus box.

9 **In small groups. Read each other's essays and say what you liked and didn't like about each essay. What does each essay tell you about the writer?**

2c

Is it getting better?

Slideshow

1 In pairs. You are going to watch a slideshow called *Is it getting better?* Look at the photos from the slideshow. What do they show? Share your ideas with another pair.

2 In groups. Think of 20 words you will hear in the slideshow. Write them in a word map. Then share your ideas with the class.

3 Watch the slideshow. Make notes. How many of the words from your word map did you hear?

4 Discuss in pairs.

Do you think, in general, the world is getting better or worse? What issues do you think are getting better? Which are getting worse? How do you know? How were your perceptions formed? Why do you think we hear bad news more often than we hear good news?

5 Choose one of the issues you care about, such as (un)employment, international stability, terrorism, medicine, health, natural resources, poverty, hunger, equality, etc. Do some research and answer the questions.

What is the general context and background to your chosen issue? What statistics can you find? What trends do the numbers show you? Do numbers confirm your thoughts about the issue? What is the outlook for the issue?

6 You are going to write a short report on your chosen issue.

Step 1 Plan your report and then draft it. Remember to include your data in a graph or table, and cite your sources correctly.

Step 2 Share your draft with another student.

Step 3 Complete your report considering your partner's suggestions.

FOCUS — **Expression**

Using statistics

- Find reliable sources of statistics, such as http://databank.worldbank.org/.
- Take your time and make sure you understand what the data shows. Read the additional information so you know what units, variables, categories, etc., were used.
- When you make your graph/table, make sure you're not leaving out important data to get the results you want.
- Percentages can make any differences look more important than they are. So remember that the smaller the study or number set, the less reliable the results.

A CRITICAL THINKING: WATERSHED EVENTS

A watershed event is a point of significant change in the way we think or do things. Watershed events can be personal (such as gaining a major qualification) or can have impacts that are regional or global. They can occur in all fields – political, military, economic, scientific, and so on.

1 The five events below could all be considered watershed events in history. Rank them in order (1 = the most important and 5 = the least important). Be ready to explain your choices.

_____ Invention of the wheel (in Mesopotamia around 3500 BCE)

_____ Invention of gunpowder (in China around 850 CE)

_____ Establishment of the world's first university (in Morocco in 859 CE)

_____ Invention of the steam engine (in the United Kingdom in 1698–1776 CE)

_____ Discovery of penicillin (in the United Kingdom in 1928 CE)

2 In pairs. Compare your ranking with your partner's ranking and explain why you made the choices you did. Would you change your ranking after hearing your partner's ideas? Are there any other events you can think of that are more significant than these?

B LIFE SKILLS: DEALING WITH CHANGE

Change can often be very stressful, especially if it is a change that you have not chosen for yourself. However, change can offer opportunities as well as challenges. Focusing on the opportunities and finding ways to fulfil them can help people deal with change and even come to enjoy it.

1 Read the case study. Then discuss Jack's situation with a partner and complete the chart.

Jack is an architect. While inspecting a building that was under construction, a section of scaffolding collapsed and Jack had a serious accident. He is now in a wheelchair and will have to spend at least six months off work recovering and learning to walk again. The construction company has accepted responsibility for the accident, so he will be paid a large sum of money in compensation, and the company that employs Jack has promised to keep his job open for him.

Challenges it presents	
Opportunities it offers	
Things he can do to take advantage of the opportunities	

Progress test

1 **Use a verb and an adverb to change each sentence. The meaning should be the same.**

a There was a slight drop in house prices last year.

b There was a significant rise in crime.

c In 2014, there was a spectacular increase in the number of people learning English.

d There was a dramatic fall in university admissions a few years ago.

e Last autumn, there was a slight decrease in temperatures.

2 **Change the verbs in each sentence in 1 to the present perfect and replace the time expression with '*recently*'. Mark the sentences as true (T) or false (F) for where you live.**

3 **Complete the email with either the present perfect simple or the present perfect continuous form of the verbs in brackets. Use contractions where possible.**

Hi Inika,

Thanks for your email. Sorry to hear you _____ ª (not feel) well lately, but it's good that you _____ ᵇ (see) a doctor. I'm sure it's nothing serious.

You asked what I _____ ᶜ (do) since we last met. Well, I _____ ᵈ (do) work on the new house mostly. I _____ ᵉ (be) busy with work and Fahim _____ ᶠ (start) a new job so we _____ ᵍ (not have) much spare time, but we _____ ʰ (spend) every spare minute doing jobs in the house and garden. The main thing is we _____ ⁱ (decide) to build an extension, so we _____ ʲ (take) all the measurements and for the last few days we _____ ᵏ (talk) to builders. We _____ ˡ (speak) to three different builders so far, but we _____ ᵐ (not decide) which one to hire.

The weather _____ ⁿ (be) awful lately, but this morning we _____ º (have) a few hours of sunshine so we're making the most of it. So far I _____ ᵖ (mow) the lawn, trimmed the hedge and watered the plants. Fahim _____ ᵍ (paint) the fence, but he _____ ʳ (not finish) yet.

Sorry this email is so boring. Anyway, let's meet up soon. I _____ ˢ (not see) you in ages!

Hadia

4 **Read the text about a watershed event and take Cornell notes in the space provided.**

In the late 1940s, despite many scientists understanding that DNA was the 'molecule of life', nobody knew what it looked like, and therefore people couldn't understand how it worked. But a few years later it seemed that the problem had been solved by just two young scientists at Cambridge University.

In 1953, Francis Crick and James Watson claimed to have found 'the secret of life'. For several years, they had been trying to identify the structure of DNA and they had just created a model which helped to explain how genetic information is coded on it. Their discovery amazed the scientific community and they were soon celebrated around the world. However, as is the case with most complex problems, the solution was only found after years of hard work by several people. In this case, the role of a scientist called Rosalind Franklin was crucial.

Along with Maurice Wilkins, Franklin worked at King's College London, and the two had been using X-ray diffraction to study DNA for a number of years. Franklin presented some of her findings in a lecture in 1951, where James Watson was present. She also managed to take an X-ray photograph of DNA which was shown to Watson in 1953. Both of these incidents were crucial to the development of Crick and Watson's model, which began the incredible advances in molecular biology that continue to this day. However, while Watson, Crick and Wilkins received the Nobel Prize in Medicine in 1962, many people believe that Franklin has never been properly credited.

12/01/2020   Crick, Watson, Wilkins, Franklin – discovery of DNA double helix

Summary:

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5 **The sentences below are about a megaproject called Petronas Twin Towers. Match 1–5 with a–e.**

1 The building officially opened in 1999, but …

2 At the end of the construction stage, one tower was completed a few days before the other …

3 In 2004, it became the second tallest building in the world, but …

4 In September 2009, Alain Robert successfully climbed tower two with no safety equipment after …

5 On the evening of 4th November 2005, there was panic among theatregoers in Petronas Towers because …

a … it (be) the tallest building in the world for six years before that.

b … a fire (break) out inside the theatre. Luckily, no one was injured.

c … construction (begin) in 1994.

d … because there (be) a 'building race' with each tower being built by a rival company.

e … his previous attempts (end) in his arrest.

6 **Write out the sentences in 5 using the past perfect form of the verbs in brackets.**

7 **Write a 200-word reflective essay about one of the following:**

- your current English course from the beginning of the course until now
- your social life and hobbies in the last year
- any paid work or volunteering you have done

C21 SKILLS

Study skills
- Using an English–English dictionary

Creativity
- Acquiring knowledge

Study skills
- Learning at a distance

Scan the QR code or click here to practise key vocabulary from this unit.

3 Education

Talking point

What do you think are the five most important features of a good school or college? Who is more responsible for your learning – your teachers or yourself?

Language skills

- **Reading:** Reading to predict content from titles and topic sentences
- **Reading:** Reading to match paragraphs with articles
- **Reading:** Reading for specific information and general ideas
- **Speaking:** Discussing education
- **Reading & Speaking:** Self-organized learning
- **Listening:** Listening to complete a report
- **Speaking & Writing:** Flipped learning

Vocabulary

- Educational terminology
- Verb–noun combinations

Grammar

- Reported speech

3A

Effective teaching and learning

Educational terminology; Verb–noun combinations

1 Read the headlines and first lines of four articles. Which article(s) will probably:

a be in favour of educational technology?
b not be in favour of technology in the classroom?
c not mention educational technology at all?

A The classroom of the future?

The classrooms at Newnham Primary School are packed with digital technology and software to meet all the pupils' basic needs. The objective is not so much to teach digital literacy from an early age but to transform the entire nature of the classroom.

B Teaching 21st century skills

Four key elements make up 21st century skills: collaboration, communication, critical thinking and problem-solving, and creativity and innovation. Education should embrace these skills as they are the ones that will be needed for the society of the future.

C No technology, please – our Mums and Dads work for Google

Their school is located near Silicon Valley and both their parents work for Google, but Ben and Alexandra attend a school where computers and mobile devices are banned and notes are taken with pens and pencils on paper.

D Solar mamas at the Barefoot College

In a simple classroom in rural Rajasthan, India, 30 students sit round a wooden table that is covered with electrical components. The students are not the teenage boys you might expect; instead they are all women, some of whom are illiterate, and many of whom are grandmothers.

2 Each of the four paragraphs below comes from one of the articles in 1. Match the paragraphs (1–4) with the articles (A–D).

①

This is one of about 160 Waldorf schools in the United States, establishments whose teachers believe that younger pupils learn best through physically active or creative tasks. Their ==methodology== includes teaching knitting and learning poetry while throwing and catching items in a group. When pupils want to look up information, they do it in an encyclopedia, not on the internet. ☐
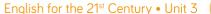
②

Those of us who work in traditional schools set our students tasks and make them sit exams which involve finding and supplying 'right answers'. In this way, we avoid providing opportunities for our students to explore alternative ways to solve problems and risk creating a society of unimaginative thinkers. But what if we posed questions that had more than one correct answer? ☐

③

Here teachers do not instruct the pupils, computer programs do that. Instead, their role is to be ==mentors== – they encourage the students to find out answers for themselves, and, if necessary, provide ==guidance== in where to look for those answers. Pupils learn ==at their own pace==, and motivation is high. ☐

④

The college has trained women from small villages in 68 countries as far apart as Togo and Myanmar. All the teaching is carried out using sign language, photographs or symbols because the women don't share a common language. Thanks to practice and ==repetition==, the women pick up engineering skills and knowledge and return to their villages to install solar panels and lighting systems. ☐

3 Match the highlighted words and phrases in the texts with the definitions.

a experienced teachers who give advice and help
b unable to read or write
c a system of teaching
d the act of doing something again and again
e as quickly or slowly as they want
f help and advice about how to do something
g the ability to use information technology effectively

C21 SKILLS

STUDY SKILLS:
Using an English–English dictionary
See page 48 →

4 In pairs. If you could read more of one of the four articles in 1, which one would you choose? Why?

5 Complete the verb and noun combinations from paragraphs 1–4 in 2.
Read the texts again if necessary.

a _____ tasks

e sit _____

b look up _____

f _____ questions

c _____ ways to do something

g pick up _____

d _____ guidance

h _____ / _____ answers

6 Complete the sentences using the words from 5.

a Miss Lee doesn't give us many facts or figures; she likes us to look up _____ and _____ answers to her questions for ourselves.

b Our teacher has set lots of revision _____ for homework to prepare us for an exam that we will _____ tomorrow.

c At the end of each class, our tutor poses a difficult _____ which we have to discuss in the next class.

d In these lessons, pupils explore _____ to solve a problem together, and the teacher's only role is to provide _____ if a group gets stuck.

7 💡 In pairs. Ask and answer questions about your experiences of and ideas about education.

Student A: Look at page 171.
Student B: Look at page 184.

Self-organized learning

Understanding referencing in texts

1 **In pairs. Look at the photos and read the title and first paragraph of an article. Who and what do you think the:**

a photos show?   **b** article will be about?

Is knowing obsolete?

Sugata Mitra loves 'big questions'; he posed the one above during a presentation in 2013, and big questions are at the heart of his new system of education, known as SOLEs (Self-Organized Learning Environments) or the 'School in the Cloud'.

2 **Read the next four paragraphs of the article. Check your answers to 1.**

A Dr Mitra, the Indian physicist turned radical educationalist, is now internationally known for his 'Hole in the Wall' experiments, which ran for a decade in different parts of India from 1999. In these experiments, he placed computers with internet access in public places in remote villages or slum areas and left them to be explored by the local children without guidance from teachers or other adults.

B The results were remarkable. The children rapidly taught themselves and each other to carry out basic functions such as opening, closing and saving files and were soon surfing the net, despite the fact that some of them had never learnt to read or write in English.

C Dr Mitra then moved on to setting tasks, for example, finding out about DNA replication or answering moral questions, such as 'Is it ever necessary to tell lies?' Having raised a question, he then went away for several months, leaving the children to research the answers on their own. Once again, the results exceeded expectations. For example, those who studied DNA replication went from 0% to 30% on a biotechnology test in the space of two months' self-instruction.

D The holes in the wall no longer exist, but Dr Mitra, now Professor of Educational Technology at Newcastle University in the United Kingdom, has a new vision. Building on the earlier insights about how children can organize their own learning, he has established seven Self-Organized Learning Environments in schools in India and England.

3 **Read the first two paragraphs again. What do the highlighted words refer to?**

a he _____   **b** some of them _____

Find and highlight all the other references for *a* and *b*.

4 Use paragraph D in 2 to predict the topic of the next paragraph of the article. What details would you expect to find?

5 In pairs. Look at four more paragraphs from the article. Put them in the correct order. Use the reference words to help you.

Understanding referencing in texts

These words and phrases are often used to refer back to information that has already been given:

- pronouns – *he*, *his*, *them*, *it*, *these*, etc.
- the definite article + noun phrase – *the children*, *the earlier insights*, etc.
- determiners – *some* (*of them*), *much* (*of it*), *a few*, etc.

In addition, references to people often describe their position, job title or role in different words:

- *the Indian physicist*; (*the*) *radical educationalist*

Good writers use referencing strategies to avoid repeating the same phrases. These strategies also connect different paragraphs within a text so that ideas and information can flow clearly and logically.

E As with the original experiments in India, the response from pupils to SOLEs has been extremely positive, and the methodology has been enthusiastically taken up and used by teachers in schools in countries as disparate as Hong Kong, Colombia, Australia and the United States.

F However, despite a wealth of anecdotal evidence for the success of the method, many educators remain unconvinced about Dr Mitra's ideas and sceptical about how innovative they are. Some point out that the notion of autonomous question-led learning is as old as the teaching methods of the Ancient Greek philosopher Socrates, and that only the method of researching the answers is different. Others note that task-based learning in groups has been familiar to language teachers since the 1970s.

G In some sessions a teacher is present, but only as a mediator – his or her role is to choose which 'big question', for example, 'What happens to the air we breathe in?' or 'Why do we learn history?', is to be researched, to encourage the pupils and to coordinate the final phase in which the groups report their findings to the rest of the class. Where SOLEs exist in remote environments without teachers, groups of children can contact mentors by video calling.

H These are rooms within schools where children can work in small groups, averaging four people per screen, at computers that are connected to the internet. The emphasis on group learning is key, as the earlier series of 'Hole in the Wall' experiments in India demonstrated that learning was optimized when children worked together in groups and shared knowledge and skills. In a SOLE session, the children organize themselves into groups and are free to wander from group to group to compare what each is doing.

6 💡 What do you think of Dr Mitra's ideas? Would they work in your country?

7 💡 Go to page 171 for a class discussion activity about exams.

C21 SKILLS

CREATIVITY:
Acquiring knowledge

See page 49 →

3c

Flipped classrooms

Reported speech

1 | **In pairs. Discuss the questions.**

a In a typical class at your school, college or university, how much time does the teacher spend explaining things?
b How much time do the students spend practising new things in class?
c How much time do you spend doing homework each week?
d What kinds of homework do you get from your teachers?

2 Read the start of an article about 'flipped classrooms'. Answer the questions.

a In what way is a flipped classroom different from a traditional classroom?
b What role does homework play when teachers use a flipped approach?
c What do you think the advantages and disadvantages of this idea might be?
d Do you think a flipped approach would work in your place of education? Why/Why not?

Kyle's flipped classroom

Last year, Kyle Ford used to daydream through his maths classes while his teacher wrote figures and sums he didn't understand on the board. Inevitably, the sums he did for homework in his exercise book were returned to him covered with red ink, and his marks were always very low.

Last night, Kyle did his maths homework – he watched a video about long division. He didn't understand much at first, so he watched it again, pausing playback to think about what it showed. Today, in class, Kyle is doing long division sums with a group of three classmates. They help each other with the difficult bits and discuss the answers. The teacher goes round the groups to check work and offer extra help if it is needed.

Kyle's primary school now uses a system called the 'flipped classroom' to teach maths and . . .
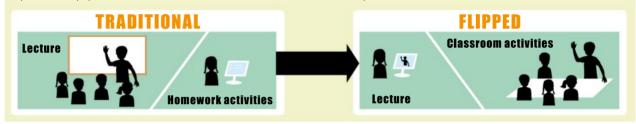
3 Two trainee teachers (A and B) from a local college interviewed two teachers (C and D) at Kyle's school. Compare what they said and what they wrote later. What do you notice about the verbs?

A Do you feel that the flipped approach has been a success?

C *Without a doubt. The pupils' marks have improved a lot.*

We interviewed two teachers at Northwood Primary School near the end of last term. Both teachers felt that the flipped approach had been a success and reported that the pupils' marks had improved significantly.

4 Complete the interview with the actual words the trainees and teachers used. Use the report to help you.

Report on the flipped classroom interview

We interviewed two teachers at Northwood Primary School near the end of last term. Both teachers felt that the flipped approach had been a success and reported that the pupils' marks had improved significantly. They also noted that the children seemed to enjoy their classes more than before, and hoped that the school would continue to use flipped classes the following year. The teachers reported that the main advantage of the flipped approach was that children could learn at their own pace as they could watch the homework videos more than once at home. Previously, when teachers presented new material in class, good students had picked up new material rapidly while weaker students had got lost. In addition, because the learning of new material took place in the pupils' time, that meant that there was more time available for practice in class.

TRADITIONAL
Lecture
Homework activities

FLIPPED
Classroom activities
Lecture

A Do you feel that the flipped approach has been a success?

C Without a doubt. The pupils' marks have improved a lot.

D And they _____ ^a to enjoy the classes much more than before.

A That's excellent! I believe the introduction of flipped classes was an experiment for the school. _____ ^b you continue using flipped methods next year?

D Well, that's the head teacher's decision, but I certainly hope we _____ ^c.

C Yes, I hope so, too.

B So why have these improvements taken place?

D I think the main reason _____ ^d that the pupils _____ ^e learn at their own pace. In the past, we had limited time to present new material in class. The good students generally _____ ^f new things rapidly, but the weaker ones often _____ ^g lost.

C That's true. But with videos, the students _____ ^h go back and watch again if they need to. This learning of new material _____ ⁱ place in their own time, not class time, so that there _____ ^j plenty of time in class for practice.

FOCUS
Grammar

Reported speech

When reporting what people said, the form of the verbs used in direct speech changes.

Direct speech	Reported speech
present simple tense	past simple tense
present perfect tense	past perfect tense
past simple tense	past perfect tense
modal verbs, e.g., *can*	past modals, e.g., *could*

Can you guess how verbs in the present continuous change when reported? What about the modals *may* and *will*?

Note that time phrases also change.

Examples *Next week/month/year* becomes *the following week/month/year*. *Last week/month/year* becomes *the previous week/month/year*.

C21 SKILLS

STUDY SKILLS:
Learning at a distance

See page 50 →

5 ▷ **3.1 Listen to the interview and check your answers.**

6 ▷ **3.2 Read the next part of the trainee teachers' report then listen to the second part of the interview and complete the report.**

Both teachers reported that the pupils usually _____[a] their video homework before class, but that some children _____[b] the videos at home at the start of the project. The teachers _____[c] those pupils to the computer room to watch the video material, and so the pupils _____[d] the group practice. As the children _____[e] the classroom sessions because they _____[f] with their friends in groups, the problem of homework not being done _____[g] in general. In cases where pupils _____[h] internet access at home, the teachers _____[i] them the video on a data stick or DVD. In contrast, when using YouTube videos, the pupils _____[j] watch them in the computer room after school hours. When talking about creating video materials, the teachers _____[k] into the details. However, they mentioned that the process _____[l] difficult and time-consuming, but that they _____[m] be able to reuse these materials the following year.

7 **After the interview, the head teacher at Kyle's school wanted to know what the trainee teachers had asked the teachers. Look at the direct and reported questions. Can you work out the missing words?**

	Original question	Reported question
a	Do you feel that the flipped approach has been a success?	They asked _____ we _____ that the flipped approach had been a success.
b	Will you continue using flipped methods?	They wanted to know _____ we _____ continue using flipped methods.
c	Why have these improvements taken place?	They asked _____ these improvements _____ place.
d	Do the pupils always do the video homework you give them?	They wondered _____ the pupils always _____ the video homework.
e	So what did you do in that case?	They asked _____ we _____ in that case.
f	Where do they watch the videos?	They asked _____ they _____ the videos.
g	How do you approach finding or creating materials for the video lessons?	They wanted to know _____ we _____ finding or creating materials.

8 ▷ **3.3 Listen and check your answers to 7.**

9 **In pairs. Study the changes above and write your own rules for reporting questions.**

10 **In groups of four. Students A and B look at page 172. Students C and D look at page 185.**

11 **Listen to the other pair's conversation. Report what each student asked and said.**

12 💡 **Prepare three questions to ask a classmate about flipped learning.**

13 💡 **In pairs. Ask and answer questions, giving your opinions about flipped learning.**

14 💡 **Write a report on what you and your partner discussed regarding flipped learning.**

A STUDY SKILLS: USING AN ENGLISH-ENGLISH DICTIONARY

A good English–English dictionary written specially for English language students can offer far more information than just a definition. The information in online and paper versions of dictionaries for English language learners is basically the same, with the extra benefit of being able to hear the pronunciation of a word if you use the online version.
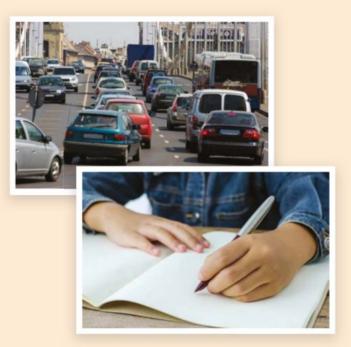
1 Look at the dictionary entry. What information can you get from it?

> **establishment**
> **1** (noun, countable; formal) an organization or institution, for example, a shop, hotel or other business | *He lives in an establishment for retired people on the seafront in Brighton.*
> **2** the establishment/Establishment (noun, singular) the group of people in society or in a professional group that have power | *Her unusual views have got her into trouble with the medical establishment.* | *As usual, the Establishment is doing all it can to block change.*
> **3** (noun, uncountable) the act of starting an organization or system | *He left money for the establishment of the first school for girls in the city.*

2 Dictionaries can also give useful information about which verb form to use when one verb follows another. Look up the verbs in bold and choose the correct form for the second verb.

a Her parents **advised** Maria *train / to train / training* as a nurse.

b I try to **avoid** *to drive / that I drive / driving* through the town centre at this time of day.

c The school has **banned** pupils *to bring / that they bring / from bringing* tablets into class.

d His grandfather **encouraged** Salah *to study / that he study / for studying* hard.

e Teachers used to **force** pupils *to write / writing / that they write* with their right hand.

f We **risk** *to go / that we go / going* out of business if we continue spending so much money.

B CREATIVITY: ACQUIRING KNOWLEDGE

Sugata Mitra says that the internet makes knowledge obsolete, but are knowledge and information the same thing, and how can you acquire knowledge?

1 Read the article and answer the questions.

a How did Kenny acquire his knowledge?
b What is his view of knowledge compared to information?

'I work as an Offshore Client Representative for oil companies. That means I am the eyes and ears of the company on the platform or vessel they are using to carry out a specific task, such as repairing underwater wells or laying pipes.

I am responsible for making sure that the work is carried out safely and efficiently. I started out working as a diver in the North Sea oil fields 35 years ago, and I spent 25 years doing underwater engineering work. It's a dangerous and challenging environment in the North Sea.

I've seen accidents, both underwater and on vessels, which took place when people were careless or didn't follow procedures. Sadly, in some cases, these accidents were fatal. When you've lost colleagues that way, it makes you very aware of the need for strict safety procedures. About a decade ago, I stopped working underwater myself and moved into the job I'm doing now. Recently, the oil companies have started using inexperienced people and young graduates straight out of university to work as Client Representatives. They're usually very bright kids, with top-notch degrees in Offshore Engineering, but it's theoretical learning. They don't spot obvious potential dangers because they haven't got hands-on experience and do not have the confidence to speak up when they do. Real long-term experience and knowledge is necessary to be a Client Representative that will do a reliable job in all situations.'

Kenny, 59

2 In pairs. Discuss the questions.

a In what other ways do people acquire knowledge?
b Do you think knowledge is always superior to information? If not, in what situations is it not?

C STUDY SKILLS: LEARNING AT A DISTANCE

No matter what method is used to deliver distance learning (correspondence, TV, radio or the internet), courses of this type have a far higher dropout rate than courses in which people have face-to-face contact with a teacher, tutor or lecturer. The main challenges students face, and often fail to overcome, are maintaining motivation and managing their time.

1 Read the tips from two students who successfully completed online distance learning courses. Answer the questions.

a Which tips relate to motivating oneself and which to managing one's time?
b Which tips do you think you would find useful?
c Are any of these tips also useful for other situations, such as doing homework for class?
d Can you think of other ideas to motivate yourself and manage your time when learning at home?

1 Choose a course that offers interactive monitoring of your progress – for example, an email is automatically sent to you when you haven't completed a section in a given amount of time. That really helped me.

5 My course included some contact with a tutor by email and video calling. Being able to ask questions and get some feedback really kept me going when my enthusiasm was fading.

2 Take a course with a friend – friendly competition helps you keep to the programme.

6 I studied in blocks of an hour at a time and promised myself a small reward at the end of that hour.

3 Set aside a specific time each day or each week that you will spend doing the course. Don't alter this for any reason!

7 Make sure your friends and family understand that you must spend a certain amount of time every week on the programme and that they can't expect you to give that up.

4 Ask your friends or family to choose a special treat that you will all share when you have finished the whole course. We spent a day at an indoor rock-climbing centre together, but it could be something like a weekend away in a new place if that's more your kind of thing.

8 Because I was online doing my coursework, I got really easily distracted and found myself checking my email or Facebook page when I was meant to be studying. You can install software that blocks sites like that for a certain period of time. I found that really useful.

PLANNING AHEAD

Progress

1 Make a list of three things you learnt in this unit and three things to practise.

Things I can do	Things to practise
1	1
2	2
3	3

2 Compare your list with a classmate.

My learning plan for next week

1 Think about next week. How can you improve your English? Write four learning ideas for the next week. How much time do you need for each idea?

Example I plan to learn five new words, and write them in my vocabulary notebook (ten minutes).

	Action: I plan to ...	Time (...) mins	Review after a week
1			
2			
3			
4			

2 Share your learning plan with another classmate.

3 At the end of next week, review your plan. Use these ideas.
• Done   • Not done   • More practice   • Update learning plan

Communication in class

1 How active are you in class? Rate yourself for each point.

2 How can you be more active in your classes next week? Write three ideas.

		Yes	No
a	I ask questions when I don't understand.		
b	I help classmates when they don't understand.		
c	I speak in group tasks a lot.		
d	I answer questions when I know the answer.		

Example Ask classmates or my teacher at least two questions.

_____

_____

_____

3 Share your ideas with a classmate.
Example In my next class, I plan to ask my teacher or classmates two or three questions.

C21 SKILLS

Life skills
- Making a good first impression

Collaboration
- Teams and leaders

Scan the QR code or click here to practise key vocabulary from this unit.

4 Collaboration

Talking point

Which kind of tasks do you think are better carried out in teams, and which alone? What challenges arise when you collaborate with other people?

Language skills
- **Listening:** Listening to compare ideas
- **Listening:** Listening to compare and assess different approaches
- **Listening:** Listening to complete a table
- **Reading & Listening:** Completing sentences
- **Listening & Speaking:** Networking
- **Reading & Writing:** Class projects
- **Writing:** Writing a description

Vocabulary
- Networking
- Formal and informal language

4A

Networking

Joining groups, establishing rapport, ending conversations

1 In groups. Do you have any experience of going to networking events? What are they for? What should you do at them? Prepare some information to help people who attend such events.

2 ▷ **4.1** Listen to a tutor giving a seminar on networking skills to a group of third-year Business Studies students. Answer the questions.

   a Are any of your ideas from 1 mentioned by the tutor or her students?
   b Which picture illustrates the type of group you should join at a networking event?

3 ▷ **4.1 Read the tips for networking and complete the sentences. Then listen to the seminar again and check.**

NETWORKING TIPS

Before you go to the event

_____ **ᵃ** appropriately. For example, _____ **ᵇ** clothes that you would wear to the gym.

Be ready to offer _____ **ᶜ** to potential employers and business contacts. These should contain your _____ **ᵈ**, such as email addresses and mobile phone numbers.

When you get to the event

Keep your _____ **ᵉ** on silent.

Approach _____ **ᶠ**, don't _____ **ᵍ** for them to come to you.

Approach groups of _____ **ʰ** people that contain at least _____ **ⁱ**.

Choose groups that are standing in an open 'V' shape, rather than a closed _____ **ʲ**.

Your opening line should be 'Hi, I'm (your name). _____ **ᵏ** you?'

4 **In pairs. Discuss the tips. Are they useful? Are they appropriate for the country you live in?**

5 ▷ **4.2 Listen to the tutor play two recordings from a networking seminar. Both show a different approach to talking to new contacts. Which do you think is more effective? Why?**

6 ▷ **4.3 The four students in the seminar and their tutor had different opinions about talking to new contacts. Listen and note which newcomer at the networking event each student preferred and the reason.**

	The young man	The woman	Reason
Rachel			
Gina			
Faisal			
Mike			

7 ▷ **4.4** Ending conversations at networking events can be difficult. Listen to three speakers ending a conversation and answer the questions. In which conversation(s) does the speaker:

a remember and use the other person's name?

b use an excuse to leave the conversation?

c end the conversation politely?

d want to develop a business relationship with the other person?

C21 SKILLS

LIFE SKILLS:
Making a good first impression

See page 60 →

8 ▷ **4.5** Listen to two of the conversations again. Complete the sentences.

a So, Tom, _____ meet you.

b I need to _____, too, but

_____ our conversation some other time.

c _____ business card?

d So, it's been _____ to you, but I'm

sure _____ some other people,

and I _____ mingle, too. I hope

_____ the rest of the day.

9 In pairs. Look back at your answers to 5 to 8. Write tips for the other stages of networking events.

NETWORKING TIPS
Getting to know people during the event
_____ _____
Ending conversations at networking events
_____ _____

10 💡 In groups of four. Role-play being at a networking event.

Students A, B and C: Look at page 172.
Student D: Look at page 185.

FOCUS Pronunciation

Little words like 'so' and 'OK' can have different meanings in different contexts. Their pronunciation also changes depending on the meaning.

▷ **4.6** Listen and repeat these phrases from the conversations in this lesson.

a I think I'd be OK, …

b So, when you enter the room …

c OK, that's understandable, …

d OK, so we have identified which group …

e So, it's been a pleasure chatting to you …

4B

Class projects

Formal and informal language

1 **In groups. At college and university nowadays, students are often asked to work on projects in groups. Discuss these points.**

a What are the advantages and drawbacks of working on projects in groups?
b How do you communicate with people in your project group?
c What are the pros and cons of the communication methods you use?
d What do you do if you need to communicate with your tutors?

2 **Boo, Kiera, Lucy, Mike and Faisal, five Business Studies students, are working on a presentation of their idea for a new business. They communicate with each other via Facebook chats, and with their tutors by email. Read the extracts from chats with fellow students and emails to and from tutors. Which messages are:**

a making arrangements?
b making apologies or excuses for not being able to do something?
c checking progress and trying to get people to work faster?
d checking or recommending which reference sources are useful or appropriate?

A Hey guys check out this article, this might be helpful esp for your part, Kiera.

B Anyway, I'm sorry. I'll have to round this off tomorrow because I can't keep my eyes open :/ Hope I'm not holding us back too much.

C How are you getting on? I've been editing stuff most of the night :P I'm still missing your part and Boo's.

D I was wondering when the initial meeting is supposed to take place – is it before the next academic year begins? If so, I would be available any time in August if that would suit you.

E I'm writing the presentation just now peeps! Kiera and Faisal, how are you guys getting on? Don't worry, your points don't need to be too long (about 300–350 words) as I think we will more than cover the 15 minutes!

F It may take me a while to research stuff as I also have a project for Monday, but I'll get my part in by Tuesday evening at the latest (:

G I've been feeling ill since I woke up this morning, but hoped that I would get better in time for the seminar. Unfortunately, this has not been the case; in fact, I have just taken my temperature and I seem to have a fever. Under the circumstances, I think it would be better if I didn't come to the seminar.

H Kiera, can you try and upload your part by tomorrow morning at the latest? I need time to organize it for the presentation.

I Nice, thanks. I've been searching for academic articles on trends in veganism, but there doesn't seem to be much. Was thinking I might have to look online and at newspaper articles myself!

J Sorry I haven't sent anything yet, I've been really ill the last few days and haven't been able to do much. Will send it to you at some point today.

K Thank you very much for the clarification. The article in question has also been published in a German journal so I think I can be sure it's reputable.

L That's fine, thanks for the message. Come along on either Tuesday 4th 11–1, or Tuesday 11th 11–1 and we can have a meeting. If you could confirm the day, that would be great.

M We didn't agree any time, right? How do you guys feel about 12 noon? I need to be gone by 5 p.m., but before that I'm free all day, and would probs prefer to meet before 12, just so we have enough time to make adjustments, but it's up to you :)

3 In pairs. Identify which extracts are written to or from tutors, and which are written to classmates.

4 Which features do the two types of communication display? Complete the table following the example. Underline words and phrases in the texts for each category.

	Chats with classmates	Emails to/from tutors
Emoticons	✔	✘
Use of abbreviations		
Past modal verbs		
Phrases including 'if'		
Phrasal verbs		
Informal phrases and vocabulary		
More formal phrases and vocabulary		
Lack of punctuation		

5 Now turn to page 173 for a writing practice activity.

C21 SKILLS

COLLABORATION: Teams and leaders

See page 61 →

4c

Different class
🎧 💬 📝 Slideshow

1 In pairs. You are going to watch a slideshow called *Different class*. Look at the photos from the slideshow. What do they show? Share your ideas with another pair.

2 In groups. Think of 20 words you will hear in the slideshow. Write them in a word map. Then share your ideas with the class.

3 Watch the slideshow. Make notes. How many of the words from your word map did you hear?

4 Discuss in pairs.

Would you like to go to any of the schools described in the slideshow or in Unit 3? Do you think everyone learns the same way? For you, what is the important purpose of education: development of citizenship, personal growth or occupational preparation? Or is there a more important one?

5 Think about your ideal school.

How would your ideal school meet your wants and needs? What kind of classroom and teaching would work best for you? Would there be any practical problems with that kind of school? How could they be prevented or solved? Make notes.

6 You are going to write a description of your ideal school.

Step 1 Make a mind map of your ideas in 5.
Step 2 Plan your description and then draft it.
Step 3 Share your draft with another student.
Step 4 Complete your description considering your partner's suggestions.

FOCUS   **Expression**

Writing in paragraphs
- Express and explore one idea per paragraph.
- Use a topic sentence. The first sentence should introduce the main idea of the paragraph.
- Use each sentence to develop the idea from the previous sentence. When that idea is fully developed, that's the end of the paragraph.
- Therefore, a paragraph is usually at least three sentences long. But some paragraphs have five or six sentences. A typical paragraph in a descriptive piece of writing has about 100 words.

C21 skills

A LIFE SKILLS: MAKING A GOOD FIRST IMPRESSION

Psychologists say that you have only a few seconds to make a good first impression on new contacts at networking events, interviews or business meetings. In general, people keep the first impression they have of a new person in mind for a long time, so it is important to get it right.

1 ▷ **4.7 Listen to Misaki, a Japanese student at a college in the United States, talking to her friends Sarah and Diego. Misaki has just been for an interview for a position as an intern. Answer the questions.**

a How does Misaki feel about the interview?
b Sarah and Diego mention three things you should do to make a good first impression. What are they?

_____

_____

_____

c Which of these things did Misaki not do, and why?

2 **In pairs. Discuss the tips for making a good first impression. Would they be useful in your country, too? Can you think of other tips that might be useful?**

B COLLABORATION: TEAMS AND LEADERS

In an ideal situation, teams are carefully chosen to have a balance of skills and personalities. Sometimes, however, teams are put together without much thought and leaders emerge without being actually chosen. It is not always the best person for the role that ends up as the leader.

1 You attend an international college in your country. You have been put in a team with the four classmates below to work on a group project for the next three months. You know all of them, but you are not friends. Who do you think would make the best team leader?

— STUDENT ID CARD —

Martine
Character and habits: confident, outgoing, rather bossy; likes to be the centre of attention; enjoys making lists, plans and schedules

Favourite phrase: 'Hmm, that's an interesting idea. Any other suggestions?'

— STUDENT ID CARD —

Carl
Character and habits: serious and very hard-working; often spends all weekend in the college library; not very willing to try out different ways of approaching tasks

Favourite phrase: 'Actually, I think you'll find that what you say is not true.'

— STUDENT ID CARD —

Shazia
Character and habits: appears to be shy and under-confident; good at getting other people to open up to her and tell her their problems or secrets; hard-working but not a high-flyer

Favourite phrase: 'Well, I could be wrong, of course. What do you think?'

— STUDENT ID CARD —

Viktor
Character and habits: very sure of his own abilities; seems disorganized and lazy but always gets his classwork done and submitted at the last minute

Favourite phrase: 'Sure, I made up a couple of references. So what? Who's going to check?'

2 In pairs. Explain your choice to your partner and try to agree on a leader together.

Progress test

1 **Complete the sentences with the words and expressions from the box.**

at their own pace	digital literacy	guidance
illiterate mentor	methodologies	repetition

a Teachers should let students learn _____ rather than rushing them.

b The best way to learn new words is through _____, in other words they need to be exposed to the word again and again.

c Having a _____ is important because it gives children someone to look up to.

d Because there is no one correct way to teach, teachers should use a mixture of _____ in the classroom.

e Reading and writing are so important today that it is impossible to get a good job if you are _____.

f _____ has become a more important skill than reading because of how central computers are to life in the 21st century.

g Rather than simply giving the answers to students, teachers should offer _____.

2 **Read what people said at a networking event. Complete the sentences below using reported speech.**

a 'Are you having a nice time?'

She asked if _____.

b 'Have you been to something like this before?'

He asked if _____.

c 'How many people do you know here?'

She asked how many _____.

d 'I'm here to make friends as well as professional contacts.'

He said _____.

e 'My name is Pieter.'

He told me _____.

f 'I'll be back in five minutes!'

She told me _____.

g 'We can find you a job.'

They promised that they _____.

h 'I lost my job two weeks ago.'

He told me _____.

3 Tanit has written a report about a group project she worked on. Read part of the report and mark which of the people and things in the box each highlighted word refers to.

> a deadline   deciding on how the group worked together   developing a presentation
> Everado   group leader   Ibrahim   Jane   Jane and Everado   Jane and Ibrahim
> microfinance   Tanit   the group   the presentation   working in pairs

Everado, Jane, Ibrahim and I worked as a group of four. Our aim was to develop a presentation on microfinance. This[a] wasn't easy as it[b] is a huge subject and the presentation could only be ten minutes long. It[c] would have to be very carefully planned. First of all, we had to decide on how we[d] would work together. This[e] caused some disagreement. Ibrahim thought we should all work in pairs, but Jane disagreed. He said it[f] would save time, but she[g] told him[h] it would be too confusing. In the end, they[i] agreed that we should work in pairs. We then elected Everado as group leader because we thought his character was the most suited to the role[j].

Ibrahim and I[k] began by researching the history of microfinance while the others[l] focused on the role it plays in developing countries today. Our group leader[m] set a deadline of 48 hours because he thought it[n] would make us more efficient.

4 Write a Facebook message to a friend explaining a problem you are having in your class. Use as many features of informal communication as you can.

C21 SKILLS

Life skills

- Understanding different eating habits
- Understanding proxemics
- Identifying cultural values, attitudes and behaviours

Scan the QR code or click here to practise key vocabulary from this unit.

5

Culture

![Talking point] **What do you think of when you hear the word 'culture'?**
In your opinion, what makes your country's culture special?

Language skills
- **Listening:** Listening to match speakers and ideas
- **Listening:** Listening to complete sentences/extracts
- **Listening:** Listening to label a diagram
- **Listening:** Listening for specific information
- **Speaking:** Discussing your country's culture
- **Writing:** Writing a list of dos and don'ts

Vocabulary
- Words to describe culture
- Verb and noun forms
- Commentary in lectures

Grammar
- Review of modals

5A

What is culture?

Words to describe culture; Verb and noun forms

1 **In groups. Which photos best fit the three definitions of culture? Do you agree with the definitions?**

a Culture refers to special artistic or intellectual works that can transcend national boundaries and generations, but which are generally understood and appreciated only by educated groups within populations.

b Culture is the shared patterns of behaviour, beliefs, customs and knowledge of a particular group of people. It includes that group's religion, language, eating habits and social etiquette, and their traditional arts and crafts. Traditions are passed on through symbols, including artefacts, and make up the achievements of distinctive human groups.

c Culture is a way of behaving, thinking or working that exists in a specific business or organization. It includes the shared values, attitudes and practices that characterize the organization and define its nature.

2 **Match the words highlighted in 1 with the definitions.**

a the ways that people think about things _____

b the way that people act _____

c rules for the correct way to act in formal social or business situations _____

d ways of carrying out tasks _____

e ways of doing something that have been accepted for a long time _____, _____

f objects that have been made by people and have historical or cultural significance _____

g groups of people who were born around the same time _____

h beliefs about what is right or wrong, or what is good or bad _____

i go further or beyond the limits of something _____

3 **Complete the sentences using words from 2.**

a It can be difficult for Americans to do business in Saudi Arabia because the two cultures have very different _____ to the amount of time you should spend getting to know new business partners.

b My sister is an anthropologist. She works in Papua New Guinea and studies the _____ of various tribes there. She says many of these haven't changed for thousands of years.

c I left that company because their _____ were different to mine – I wanted a job that was useful and helpful to society, but they were only interested in making lots of money.

d My father thinks my children's _____ is bad. He says he wishes he lived in a country where young people respect people of an older _____.

e Alice travels a lot and she has a huge collection of _____ she has bought in different countries.

f I've been invited to dinner at the Royal Palace! Can you give me some advice on _____?

4 **What is the noun form of each verb below?**
Choose the correct ending from the four groups.

Group 1	*-ence, -icance*	Group 2	no change

Group 3	varied endings	Group 4	*-ion*

a celebrate _____
b innovate _____
c predict _____
d validate _____
e tolerate _____
f converge _____
g transcend _____
h signify _____
i access _____

j survey _____
k pioneer _____
l schedule _____
m stereotype _____
n impact _____
o reward _____
p behave _____
q criticize _____

5 💡 **Divide into two groups, A and B, to do a verb–noun practice activity.**

Student A: Look at page 174.
Student B: Look at page 186.

C21 SKILLS

LIFE SKILLS:
Understanding different eating habits

See page 74 →

FOCUS **Pronunciation**

▷ **5.1 Listen to the verbs and nouns in the sentences. In which pairs is the stress in the verb and the noun different? Underline the stressed syllables.**

a access/access
b celebrate/celebration
c converging/convergence
d impacted/impact
e pioneered/pioneer
f signify/significance
g stereotyped/stereotype
h surveyed/survey

5B

Cultural differences

🎧 👥 💬 Review of modals

1 In pairs. Discuss the questions about culture.

a What experience do you have of meeting people from different cultures?
b What have you noticed is different or interesting about the way people in different cultures do things?

2 ▷ 5.2 Federico Rossi is an Italian student in the UK and works for a university radio station. Listen to him interview some international students. Tick the topics they mention for each country.

		Britain	Dubai	Greece
a	The way women dress			
b	The way couples behave in public			
c	The times that restaurants are open			
d	The habit of apologizing			

3 In pairs. Read the extracts from the conversation. Complete the sentences.

a So _____ I interview you all for my radio show?
b I think British girls _____ wear more clothes.
c That's true. It's really weird. They _____ feel very cold.
d Where I come from, women _____ cover their arms, legs and hair when they leave the house.
e And, talking of modesty, couples _____ kiss in public.
f Well, I don't agree with that at all. I think women _____ be free to choose.
g My mum and dad _____ keep the restaurant open, but business is business.
h Here … if you go to smaller places you _____ get anything to eat except …
i I know, you're right! But I think it _____ be the owner who decides; there _____ be laws about it.
j Once I was in a little village in England and went to a café at about two, wanting lunch. They said to me, 'We're sorry, but you _____ wait until five and then we _____ serve you a meal.'
k You _____ be serious! He apologized to a suitcase? He _____ be crazy.

C21 SKILLS

LIFE SKILLS:
Understanding proxemics

See page 75 →

4 ▷ 5.2 Listen again and check your answers.

FOCUS

Review of modals

Permission	can, may	You may bring a bottle of water to class.
	can't, may not	You can't use mobile phones in the library.
Possibility	can	You can hire bicycles from the shop.
	can't	You can't climb Mount Everest without special equipment.
Recommendation	should, ought to	It's cold – you should put a jumper on.
	shouldn't, oughtn't to	You shouldn't drink so many fizzy drinks.
Obligation	must, have to	You must obey the laws of the country.
	mustn't	You mustn't touch the red button.
Lack of obligation	don't have to	You don't have to buy the book; it's in the library.
Deduction	must	She must be tired after such a long journey.
	may/might/could	He could be guilty. He's been acting very suspiciously.
	can't	He can't be 60; he looks much younger than that.

Find examples of the different types of modals in transcript 5.2 on pages 196–197.

5 Choose the correct modal verbs to complete these forum postings.

Expatseverywhere Forum > Getting It Right > Food and eating

Posted by Andy, from Canada, newly arrived in Indonesia
I *should / must* [a] be doing something wrong! Twice I've been invited to eat at colleagues' houses. The food is delicious and I have eaten everything on my plate to show I appreciate it. Then they bring me more … and more again!

Answer from Dewi
Here in Indonesia we think you are still hungry if you eat everything on your plate. To show you are satisfied, you *have to / mustn't* [b] leave a little bit of food on your plate. If you like the food and want more, you *may / don't have to* [c] eat everything, and you will be given more. But don't do this again or your host *must / might* [d] think you are a greedy person!

- -

Posted by Jens, from Denmark, in the UAE on a business trip
Hi, I arrived in Dubai yesterday – my first trip here. My business partners have invited me for dinner in a very fancy hotel. What *ought / have* [e] I to know about etiquette? For example, *may / must* [f] I eat with my right hand only?

Answer from Salah
If you are eating in an expensive restaurant, you *can't / shouldn't* [g] eat with your hands at all. Follow the same rules for using knives and forks that you would at home. Also, you *must / may* [h] wait for your host to start eating before you eat anything yourself.

Answer from Jeff
You *shouldn't / don't have to* [i] pass anything to someone with your left hand – this is offensive, though they *must / may* [j] forgive you because it's your first time here.

- -

---

6 💡 In small groups. Go to page 174 for a discussion activity.

7 💡 In pairs or small groups. Write a list of dos and don'ts for people visiting your country or working in your country. Include warnings about what the results could be if people don't follow the rules.

5c

Cross-cultural theories

🎧 💬 Understanding commentary in lectures

Iceberg Model of Culture

_____ª: dress, food, dance, literature, traditional _____ᵇ, etc.

Attitudes: gender roles, care of the elderly, _____ᶜ vs _____ᵈ, punctuality, etc.

Core _____ᵉ: what is right, wrong, good or bad?

---

1 ▷ **5.3** Listen to a lecturer talking about cultural theories to a group of first-year students. Answer the questions.

   a Complete the labels on the 'Iceberg Model of Culture' as you listen.
   b Who is the originator of this model?
   c In his commentary, is the lecturer positive, negative or neutral about this model?

2 💡 In pairs. What do you think about this model? In what ways could it help you to understand another person and their culture?

3 ▷ **5.4** In the second part of the lecture, the lecturer talks about a key researcher in this field. Scan the booklist on page 72, then listen and answer the questions.

   a Which of the authors on the reading list is this part of the lecture about?
   b Which part of the 'iceberg' does his research focus on?
   c Where and when did he first conduct his research?
   d How many countries does his most recent research cover?
   e What does he mean by 'power distance'?
   f In his commentary, is the lecturer positive, negative or neutral about this researcher's theories?

BOOKLIST

Hall, E. (1959). *The Silent Language*. New York: Doubleday.

Hall, E. (1983). *The Dance of Life: The Other Dimension of Time*. New York: Doubleday.

Hall, E. & Hall, M. (1990). *Understanding Cultural Differences: Germans, French and Americans*. Yarmouth: Intercultural Press.

Hofstede, G. (1980). *Culture's Consequences: International Differences in Work-related Values*. Beverly Hills, CA: Sage.

Hofstede, G. (1991). *Cultures and Organizations*. Berkshire, England: McGraw-Hill.

Lewis, R. D. (1999). *When Cultures Collide: Managing Successfully Across Cultures*. (Revised edition.) London: Nicholas Brealey.

Trompenaars, F. & Hampden-Turner, C. (2011). *Riding the Waves of Culture*. London, UK: Nicholas Brealey Publications.

4 ▷ **5.5 Listen to an extract from a later part of the lecture and answer the questions.**

a Which of the authors on the reading list is this part of the lecture about?

b Which part of the 'iceberg' does his research focus on?

c Where and when did he first become interested in cross-cultural issues?

d What does he mean by 'monochronic' and 'polychronic' time?

e Which, if any, of his books does the lecturer refer to?

f In his commentary, is the lecturer positive, negative or neutral about this researcher's theories?

5 💡 **Turn to page 175 and read the description of cultural attitudes to time. In pairs, discuss where your culture comes on this spectrum.**

6 ▷ **5.6 Listen again to some extracts from the lecture. Complete what the lecturer says.**

a … this analogy is frequently used … and is now so widely _____ that there is disagreement about when it was first _____ and who actually _____ the model. The general consensus is that it was most probably …

b I must point out that a number of _____ have been voiced about his work. One of these is that it _____ that national borders and cultural borders are always the same, which is not, of course, the case. Another is that, being originally based on questionnaires completed mainly by male engineers, it is _____ _____ of all groups in society. Nevertheless, his work was _____ and many subsequent researchers have _____ his original findings and _____ _____ them.

c As with Hofstede, the work of Hall has been extremely _____ and has led to many practical applications in the area of communication skills training for people working in international business and diplomacy. His original theories have been _____ by subsequent research and have been _____ and _____ by other theorists, most notably …

7 In pairs. Put the gapped words from 6 into the correct column of the table. Which neutral words refer to the beginnings of a new idea?

a Positive commentary	b Negative commentary	c Neutral commentary
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____		_____
_____		
_____		

FOCUS

Expression

Understanding commentary in lectures

Lecturers usually give the following information about their subject.

Where ideas first came from
He formulated the theory of …
She originated the model of …
She pioneered the concept of …

How important the work was and who took it further
His work was groundbreaking/innovative.
Her ideas have been very influential.
Others have developed/expanded upon/adapted her theories.

How others have reacted to the work
This theory is highly controversial/widely accepted.
Some criticisms/objections have been voiced about …
One objection is that the researcher assumes that …
Some critics say the work is/is not representative of …
Subsequent researchers have validated/confirmed her findings.

C21 SKILLS

LIFE SKILLS:
Identifying cultural values, attitudes and behaviours

See page 76 →

8 💡 Turn to page 175 again and read the other cultural descriptors. In groups, discuss the descriptors and where your culture(s) fit(s) on the dimensions.

A LIFE SKILLS: UNDERSTANDING DIFFERENT EATING HABITS

The types of food people eat in different places can vary a lot, and in some places or groups of people, some foods are taboo. In addition, eating habits in different countries, regions and religious or cultural groups can be very different. If you are going to visit other countries, it is a good idea to research their eating habits before you get there.

1 Can you identify which region, country or cultural or religious group the statements below refer to?

a   A lot of working people eat lunch, often just a sandwich, at their desks. They have their main meal at home in the evening.

b   Family members often help themselves to food from the fridge or freezer and eat alone, or with other family members while watching TV.

c   Food may be eaten using hands, but only your right hand should be used.

d   People are happy to discuss work during meals and sometimes even have business meetings at breakfast.

e   People eat using long, thin pieces of wood, plastic or metal called chopsticks. It is rude to stick these upright in a bowl of rice, or to point them at the people you are eating with.

f   People sometimes invite business associates to eat an evening meal at home with them and their family.

g   The main meal is eaten in the middle of the day and people sometimes eat again, either out or at home, very late in the evening.

B LIFE SKILLS: UNDERSTANDING PROXEMICS

Proxemics is the study of how close people stand to other people. Research shows that the distances which people consider to be normal actually vary a lot from culture to culture.

1 In pairs. Cut a large piece of paper into four pieces. Write one letter, A, B, C or D, on each piece of paper. Put paper A on the floor. Put paper B on the floor, 45 cm away from paper A. Put paper C on the floor, in line with A and B and 120 cm from A. Finally, put paper D on the floor, in line with the others and 350 cm from paper A.

Step 1 Student A stands on paper A. Student B stands between Student A and paper B. Have a short conversation. How do you feel? Comfortable/uncomfortable? Too close/too far away?

Step 2 Repeat Step 1, with Student B standing first between papers B and C and then between papers C and D. Which position was the most comfortable for you both? Why?

2 The spaces you made on the floor in 1 correspond to different distances people use in North American culture. Read the descriptions and compare them to your own experience and culture.

Intimate distance
(0–45 cm between people)
Only parents and young children or husbands and wives usually stand this close to each other. Even good friends who stand this close can make each other feel uncomfortable.

Personal distance
(45–120 cm between people)
This distance is common only between members of the same family, or close friends. People who know each other only slightly can feel uncomfortable if they stand this close together.

Social distance
(120–350 cm between people)
This distance is for talking with people you don't know very well, or have only just met. Within this range, the closer people stand, the more comfortable they feel with each other.

C LIFE SKILLS: IDENTIFYING CULTURAL VALUES, ATTITUDES AND BEHAVIOURS

Cultural values give rise to attitudes and these, in turn, give rise to behaviour. However, cultural values are often subconscious – many people are not aware of their own values, and even less aware of those of other people from different countries. As a result, people can think others are behaving badly or thoughtlessly when, in fact, they are just acting based on a different set of values and attitudes.

1 **Read this story about a couple from different cultures. In pairs. Discuss what different underlying cultural values could be causing problems for this couple.**

Carlos and Alison met five years ago. Carlos, who is from Colombia, was 57 years old, and divorced. His company sent him to London for two years. Alison was in her early fifties. They got married, lived in London, then moved to Bogotá at the end of Carlos' contract in London. Alison was able to get a transfer to the Bogotá branch of the international bank she works for. All went well until Carlos' mother fell ill. Carlos brought her to live in his and Alison's home and suggested that Alison should give up her job and stay at home with his mother. He pointed out that they had enough money to live on one salary. Alison suggested that her mother-in-law could stay in an expensive nursing home, pointing out that they had enough money to pay for that if she continued working. Now Carlos says Alison is cold-hearted, selfish and unfeminine. Alison is angry because he wants to destroy her career and she thinks he loves his mother more than her.

PLANNING AHEAD

Progress

1 Make a list of three things you learnt in this unit and three things to practise.

Things I can do	Things to practise
1	1
2	2
3	3

2 Compare your list with a classmate.

My learning plan for next week

1 Think about next week. How can you improve your English? Write four learning ideas for the next week. How much time do you need for each idea?

Example I plan to learn five new words, and write them in my vocabulary notebook (ten minutes).

	Action: I plan to ...	Time (...) mins	Review after a week
1			
2			
3			
4			

2 Share your learning plan with another classmate.

3 At the end of next week, review your plan. Use these ideas.

• Done   • Not done   • More practice   • Update learning plan

Communication in class

1 How active are you in class? Rate yourself for each point.

		Yes	No
a	I ask questions when I don't understand.		
b	I help classmates when they don't understand.		
c	I speak in group tasks a lot.		
d	I answer questions when I know the answer.		

2 How can you be more active in your classes next week? Write three ideas.

Example Ask classmates or my teacher at least two questions.

_____

_____

_____

3 Share your ideas with a classmate.

Example In my next class, I plan to ask my teacher or classmates two or three questions.

C21 SKILLS

Critical thinking
- Assessing the credibility of statistics

Communication
- Presentation tips

Scan the QR code or click here to practise key vocabulary from this unit.

6

Identity

Talking point

There are many ways to define your identity. Which are common in your group? If you had to choose an object that illustrated your country's identity, what would you choose?

Language skills

- **Reading:** Reading for research purposes
- **Reading:** Reading to find statistics
- **Reading:** Reading to make notes
- **Speaking:** Discussing different generations
- **Listening & Speaking:** Giving an informal presentation
- **Writing:** Writing a personal account

Vocabulary

- Youth culture

Grammar

- Comparatives and modifiers

6A

Millennials

📖 🅰️🅱️ Effective reading

1 **In groups. Discuss the questions about young people and the internet.**

a What do you understand by the term 'millennials'?

b Do you have online friends in other countries? If so, what do you do or discuss together?

c In what ways do you think the internet brings young people around the world together?

2 **In pairs. Imagine you have been asked to do some research for a class project on the topic 'Is the internet creating a global youth culture?' You have found six possible articles online that may help. Look at their titles and rank each article.**

1 = this looks like it could be very useful
2 = this might be useful, it's hard to tell without looking at the article
3 = this probably won't be very useful

a Millennials and mobile technology ☐

b Seven global brands millennials everywhere adore ☐

c Are millennials creating a global culture? ☐

d Reaching millennials through pop culture ☐

e Television, the internet and popular culture ☐

f Are millennials changing work culture? ☐

3 **Read the article quickly. Answer these questions.**

a Is the article useful for your research described in 2?

b Which title in 2 (a–f) goes with the article?

FOCUS — Expression

Effective reading

When reading in an academic context, follow these steps to read and use your time effectively.

- Be clear about your objectives – what do you hope to get from the article or text?
- Use the title to predict, in general terms, what the text will be about.
- Skim read the text by moving your eyes over it quickly to get a general idea of what it is about and if it meets your needs.
- Think about specific information you need, e.g., facts, dates, statistics. Scan the article by reading quickly until you find relevant information.
- Read closely – slowly and word by word – to understand the details.

The generation known as millennials or Generation Y has, like all generations, somewhat fluid boundaries. A common definition is those who were born between 1980 and 2000, though some sources push the frontiers back as far as 1977 at one end, or 2004 at the other. Nevertheless, no matter how you choose to define it, there is widespread agreement about two things: millennials make up the largest generation alive, and they are all digitally literate and highly connected.

The current world population comprises 1.8 billion millennials – more than a quarter of the seven billion people alive today – a large percentage of whom live in India, China and South East Asia. This generation has never known a world without the internet and much of their lives is spent online. This phenomenon is not confined to specific regions; a 2013 survey of millennials in 27 countries on all continents found that 76% of millennials own a smartphone and spend, on average, six hours a day using it. In some parts of Sub-Saharan Africa, mobile internet access is more common than having electricity at home, and many people who have hardly ever seen a television set are parents to children who are connected to the world via their smartphones.

Given the role of the internet in their lives, governments and global organizations are starting to ask if millennials are creating a global culture. Are they really transcending national and cultural borders and becoming more similar? What passions and worries do they have in common?

There is no doubt that millennials all over the world share a lot of common ground – they wear the same multinational brands, eat at the same chains of fast-food outlets and stream the same games and apps. They follow sports that aren't played in their own countries and can discuss books or TV shows with counterparts in different continents thousands of kilometres away.

This homogenization of the visible aspects of culture is probably to be expected but, more interestingly, recent surveys have revealed that a shared set of values is emerging among millennials all around the globe. Although their immediate political concerns vary from region to region, millennials in all areas surveyed are interested in social justice, improving everyone's access to education, and religious tolerance. Far fewer of them actively practise a religion than their parents' generation did, and 80% say they would consider marrying a person whose religious faith was different from their own.

Perhaps the most astonishing convergence of beliefs among millennials worldwide is their scepticism about the ability of governments to solve the world's problems. Instead, this generation is putting its trust in businesses to initiate improvements in society – 86% of respondents to one survey in Japan, China and India said that they felt corporations should lead the way when it came to societal change, while the majority of British millennials in one survey said they wanted multinational tech, media and fashion mega-brands to initiate campaigns for international change.

It is still early days for this new generation of tech-savvy, idealistic youngsters and it remains to be seen if their views will affect culture at its deeper level. Whatever happens, however, it looks as though the pace of change will be rapid, and may take us all in unexpected directions.

4 **Read the article again quickly and complete the sentences below with statistics from it.**

a _____% of millennials own a smartphone.

b There are _____ in the world, many of whom live in _____.

c Millennials spend about _____ using their smartphones.

d _____% of millennials would marry someone of a different religious faith.

e _____ of millennials in Asian countries believe businesses should create improvements in society.

5 **In pairs. Do any of the statistics in 4 surprise you? If so, which, and why?**

6 **Read the article one more time, more slowly and in detail. Make notes on the points below.**

a areas of similarity between millennials globally

b areas of difference between millennials in different places

c the author's final conclusions

Comparatives and modifiers

1 **Look at the table and complete the text.**

% of millennials in … who own …	a laptop	a tablet	a smartphone
North America	83%	37%	71%
Western Europe	72%	22%	79%
Central and Eastern Europe	64%	23%	60%
Latin America	62%	22%	68%
Middle East and Africa	66%	20%	72%
Asia	77%	31%	83%

The table clearly shows that, in all regions of the world, smartphones are **considerably** *more popular* with millennials than tablets. For example, _____ **ª** % of millennials in Asia own a smartphone while only _____ **b** % have a tablet. The biggest difference is in Western Europe, where a **far** *higher* number of millennials own smartphones (_____ **c** %) than tablets (_____ **d** %). However, the picture is different when comparing laptop to smartphone ownership among millennials. Smartphones are **slightly** *more popular* with millennials than laptops in _____ **e** out of six regions, with the difference in ownership averaging about 6%. The situation changes in _____ **f** and Central and Eastern Europe. In the former, a **much** *bigger* percentage of millennials own laptops than smartphones. In the latter, the difference is **rather** *smaller*, with 64% owning laptops, and _____ **g** owning smartphones.

2 **What part of speech are the highlighted words in the text above? What is the function of the words in bold that come immediately before the highlighted words?**

3 **Use the information in the table in 1 to write sentences comparing your region's ownership of electronic devices with other areas of the world. Use qualifiers where appropriate.**

4 💡 **In pairs. Discuss your generation in comparison with your parents'. Think about the points below. Then present your ideas to the class.**

a use of and familiarity with electronic devices
b use of social media
c level of and interest in education
d familiarity with other cultures
e interest in social justice
f religious tolerance
g belief in the ability of governments to solve social problems

C21 SKILLS

CRITICAL THINKING:
Assessing the credibility of statistics

See page 86 →

FOCUS **Grammar**

Comparatives and modifiers
When we make comparisons between data, we use modifiers to adjust the meaning. We use them:

To show a big difference
Millennials are **considerably/much/far** more concerned about social justice than previous generations.

To show a moderate difference
Millennials are **rather/somewhat** more tolerant of religious differences than their parents are.

To show a small difference
Millennials are likely to get married **slightly/a little** later than previous generations did.

Find examples of the three types in the text in 1.

6B

Cultural artefacts

🎧 💬 Giving an informal presentation

1 **In pairs. Look at the objects in the photos. Discuss the questions.**

a What are they used for?
b Which cultures use them?
c In what way do they relate to the cultural dimensions you studied in section 5C?

2 ▷ **6.1 Listen to a student giving a short presentation about an object that is used in his country. Number the points in the order he mentions them.**

a his name and nationality _____
b what the object is called _____
c what the object is used for, when it is used and by whom _____
d what the object is made of _____
e the history of the object _____
f the cultural dimensions that apply to his country _____
g how the object reflects his culture and its dimensions _____

3 ▷ **6.1 Listen again and complete the sentences.**

a … is a strongly … culture.
b The cultural artefact I have chosen is …
c As you can see, it consists of …
d This one is made with …
e The origins of the … are …
f They are used as …
g So, how do they fit in with … culture?

4 **In pairs. Discuss these points.**

a Did the presentation capture your interest?
b What did you learn from it?
c Was the way it was organized useful and logical?

FOCUS — **Expression**

Giving an informal presentation

In a short, informal presentation, there isn't time to repeat or summarize key points, so it is important to plan your presentation with a logical structure. Try these tips:

- Write each sub-topic on a separate small card or piece of paper. You can then move the cards around until you have the best order.
- Use bullets and notes (rather than full sentences) on your cards. It will help you sound more natural when you speak.
- Include rhetorical questions – questions you ask and then answer yourself. They tell your audience you are changing the sub-topic and that the next piece of information is important.
  Example So how do worry beads fit in with polychronic culture?
  Don't use them every time you move from one sub-topic to the next, however, or they will lose their effect.

5 💡 Choose an everyday object from your own culture. Prepare a short presentation about it. Link the cultural importance of the object to the cultural dimensions on page 175.

C21 SKILLS

COMMUNICATION:
Presentation tips

6 💡 Give your presentation to the rest of the class. Your classmates will listen and fill in the form.

Presentation

Presenter's name _____

Cultural artefact presented _____

Cultural dimension it relates to _____

Content of the presentation:	
Strong points	Could improve
Organization of the presentation:	
Strong points	Could improve
Use of English:	
Strong points	Could improve
Other (e.g., visuals, interaction with audience):	
Strong points	Could improve

6c

Culture shock

Slideshow

1 In pairs. You are going to watch a slideshow called *Culture shock*. Look at the photos from the slideshow. What do they show? Share your ideas with another pair.

2 In groups. Think of 20 words you will hear in the slideshow. Write them in a word map. Then share your ideas with the class.

3 Watch the slideshow. Make notes. How many of the words from your word map did you hear?

4 Discuss in pairs. Think about your country.

What foods are typical of your country? Is there any special food etiquette? Do you have any unique festivals? How do you greet people? What do you talk about with acquaintances? Do you talk to strangers? Are you direct or more indirect? What's your attitude to queuing? How do visitors react to these things? Give reasons.

5 Think about a time when you experienced a culture shock.

What shocked you most – the food, clothes, festivals, the smells, customs or something else? How did you deal with your culture shock? Did you manage to overcome it? If so, how long did it take? Make notes.

6 You are going to write a personal account from a time you experienced culture shock.

Step 1 Make a mind map of your ideas in 5.
Step 2 Plan your personal account and then draft it.
Step 3 Share your draft with another student.
Step 4 Complete your account considering your partner's suggestions.

FOCUS **Expression**

Writing your personal account
- Choose an interesting title.
- Write a short paragraph to introduce the story.
- Tell the story. What happened? Give lots of detail.
- Make it personal. How were you feeling? Why?
- Write a conclusion to summarize the story.

A CRITICAL THINKING: ASSESSING THE CREDIBILITY OF STATISTICS

Statistics, and charts, graphs or tables that present statistics often look impressive, but they are not always reliable. Sometimes figures are inaccurate through poor collection and analysis of the facts. At other times, statistics are deliberately presented in a way that affects people's reactions positively or negatively.

1 Complete the notes about assessing statistics with the words and phrases from the box. If you don't know any of the words, look them up in a dictionary before you start this exercise.

add up   axis   context   data   findings   made up   sample   source   survey

Use common sense when you assess how accurate and useful statistics are. For example, are the numbers correct? If a report claims that 70% of customers prefer product A, and 40% prefer product B, clearly the figures do not _____ª correctly. Sometimes figures are presented out of _____ᵇ. If you see an advertisement that claims 'contains 50 grams less fat', ask yourself 'less fat than what?' Reliable articles or reports quote the organization or author that is the _____ᶜ of their statistics and mention the date when the _____ᵈ was collected. If these details are not included, use the internet to search for other reports or articles with the same information. If you can't find any, the original report or article probably contains statistics that are incorrect, or even _____ᵉ. Reports based on research should always say how many people were involved in an experiment or _____ᶠ. If a psychological experiment reports that the _____ᵍ are based on interviewing 100 students at one university, the results are unlikely to apply to all students at all universities because the _____ʰ of students interviewed was too small. Statistics presented in charts and graphs can show information in a misleading way. A common trick is to start the Y (vertical) _____ⁱ at a number that is not zero. A newspaper headline that says 'Petrol prices rise' accompanied by chart A will have a very different effect on readers from one accompanied by chart B, even though the actual figures are the same.
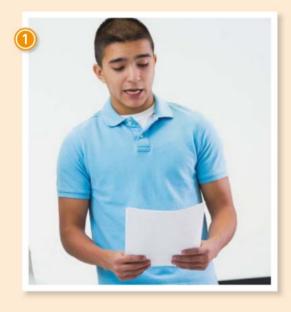
B COMMUNICATION: PRESENTATION TIPS

Giving a good presentation is not only about what you say, but also about how you say it. You need to think about your body language, visuals (charts, graphs, photographs) and ways to get and keep the audience's attention.

1 In pairs. Look at the photos of people giving presentations. Discuss what is good and bad in each photo in terms of:

- where and how the presenter is standing
- his or her use of visuals
- how likely this presenter is to engage the audience's attention.

1 Complete the words used to describe culture.

a t _ _ d _ _ i _ n

b _ t _ q _ e t _ e

c g _ _ e _ _ t i _ n

d v _ _ u _

e _ t t _ t _ d _

f a _ t _ f _ c _

2 Each sentence below describes an example of an item from 1. Write the correct word in the space provided.

a My friends and I are all aged between 19 and 22. _____

b If your phone rings during a dinner party you shouldn't answer it. _____

c This is a football scarf. It's worn by football fans to show their support to the team. _____

d Our company believes in sustainability and the protection of the environment is of utmost importance to us. _____

e Every Sunday, my family goes for a walk in the countryside. We've done it for years! _____

f My friend Ana believes that exercise is an essential part of daily life. _____

3 Complete the sentences with the words from the box. You will need to change the form of most of the words.

behave	celebration	criticism	impact
innovate	prediction	tolerate	validation

a Unfortunately, your certificate has not been _____ by the university.

b I am often surprised by the _____ of young people today. I never acted like that when I was young.

c Most experts _____ that global cultures will become more similar over the next 20 years.

d The government has been _____ for failing to help different cultures to integrate into society.

e Working with people from different cultures can require _____ and understanding.

f There is no doubt that technology has had an _____ on youth culture.

g Last night, millions of people around the world _____ the new year by dancing in the streets.

h The smartphone has been one of the most important _____ of the last 20 years.

4 Read what six students say about moving to a different country. Complete their sentences with an appropriate modal verb.

a Students _____ disagree with lecturers here. In fact, the lecturers seem to encourage it! This is not acceptable in my country.

b You _____ speak German to live in Germany. Almost everyone speaks English.

c The food here is awful. I don't think people in this country _____ cook!

d When I ask for directions, nobody understands me. I _____ be saying it wrong.

e When you arrive at the airport you _____ fill out an immigration form. It's the law.

f People text and chat on their phones during lectures here. They _____ be allowed – it's so disrespectful!

5 You are preparing for a seminar on 'Cultural differences at work'. Follow the steps from section 6A to effectively read part of an online article below. Make notes on any relevant information.

Generational differences in the workplace

While certain cultural differences in the workplace are much discussed, some are not. Probably the most publicly-known cultural differences are connected with nationality or ethnicity, while gender differences also feature heavily in the literature. Much less spoken about, however, are the challenges caused by varying values and expectations between workers of different ages.

Beginning with a slightly abstract difference, older workers will often define themselves by their profession, seeing their job as fundamental to who they are and their place in the world. On the contrary, younger workers are more likely to regard their job as just one, albeit important, aspect of their lives. This attitude is likely to be caused by the more transient nature of employment among the younger generation.

Perhaps connected with the phenomenon described above are the varying expectations around time spent in the office and productivity. These different expectations come into focus sharply when comparing older and younger managers. While a manager from an older generation will tend to be impressed by employees who spend long hours at their desk, younger managers are more concerned with the productivity of their staff, regardless of where that work is being done. With this in mind, it is unsurprising that working from home and teleworking are more accepted practices among the younger generations. And this is a central aspect of the final cultural difference discussed here – the expectation of flexibility. While older workers tend to accept the conditions in which they work, their younger counterparts expect a higher degree of freedom and flexibility with which to achieve a work-life balance.

C21 SKILLS

Life skills
• Personal responsibility

Creativity
• Generating ideas

Study skills
• Knowing your sources

Scan the QR code or
click here to practise key
vocabulary from this unit.

7

A better world?

What do you think are the most serious issues facing the planet at this time? In what ways are people inspired by nature?

Language skills

- **Reading & Speaking:** Environmental problems
- **Reading, Listening & Speaking:** Biomimicry
- **Reading:** Reading to evaluate credibility and identify bias

Vocabulary

- Global issues

Grammar

- Common prefixes
- Articles

7A

Who's responsible?

🅱️🅖 🏭 💬 📖 Common prefixes

1 In groups. Discuss which global issues you think are most important. Give reasons and add your own ideas.

environmental destruction   overpopulation   waste   water shortage

2 Read the text. How relevant is each issue in your country?

Global issues

The population of the planet is reaching unsustainable levels as the world population reaches 7.8 billion, and people and countries compete for resources. Overpopulation is especially problematic in urban areas where the cities' infrastructures often suffer from overuse and overcrowding.

Globally, we generate more than 3.5 million tonnes of waste a day and that figure is rising fast. The issue of waste disposal is often underestimated, but it can cause serious health and environmental problems. Experts believe we need to rethink our relationship with waste – how we generate it and how we dispose of it.

More than 1.2 billion people in the world lack access to clean drinking water and water shortage is a problem that affects every continent.
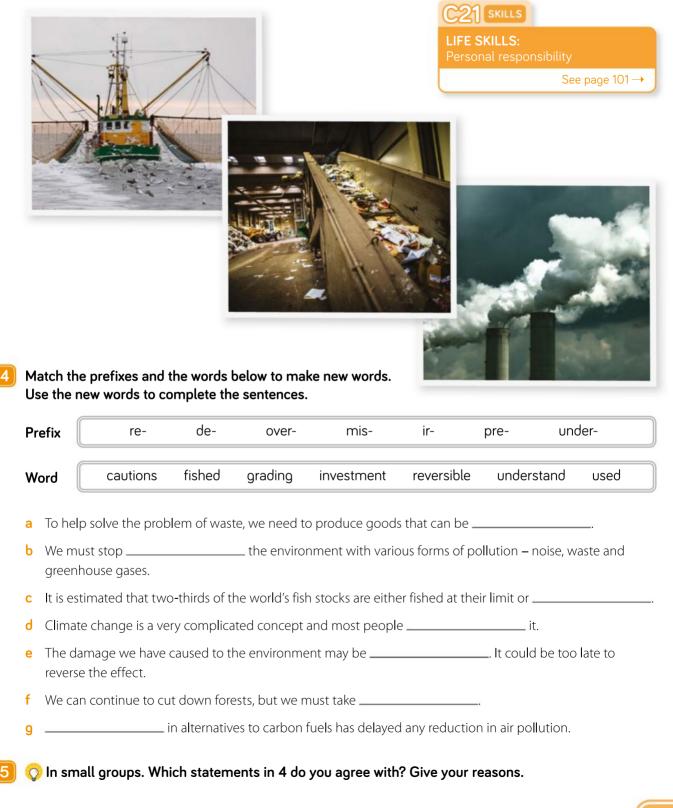
Sometimes it is caused by a lack of water but can also be due to irresponsible use of water and mismanagement of the water resources.

Humans are destroying the natural environment at an incredible rate. Deforestation is just one example of this, with 1.5 acres of forest being cut down every second. Human activity also contributes to the loss of biodiversity, meaning the extinction of many animal species.

3 💡 **In small groups. How can we as individuals and communities help to solve the issues mentioned in the text in 2? Brainstorm ideas for each issue.**

Example We can all reduce the amount of water we use.

4 **Match the prefixes and the words below to make new words. Use the new words to complete the sentences.**

Prefix	re- de- over- mis- ir- pre- under-

Word	cautions fished grading investment reversible understand used

a To help solve the problem of waste, we need to produce goods that can be _____.

b We must stop _____ the environment with various forms of pollution – noise, waste and greenhouse gases.

c It is estimated that two-thirds of the world's fish stocks are either fished at their limit or _____.

d Climate change is a very complicated concept and most people _____ it.

e The damage we have caused to the environment may be _____. It could be too late to reverse the effect.

f We can continue to cut down forests, but we must take _____.

g _____ in alternatives to carbon fuels has delayed any reduction in air pollution.

5 💡 **In small groups. Which statements in 4 do you agree with? Give your reasons.**

6 In pairs. Use a dictionary to look up the meanings of the highlighted words. Then complete the three sentences with your own ideas.

Student A

a The _____ industry would benefit from <mark>deregulation</mark>.

b People who <mark>mistreat</mark> animals should be _____.

c _____ is <mark>underappreciated</mark> by humans.

Student B

a _____ should be <mark>subsidized</mark> by the government.

b Many environmental problems are caused by our <mark>overdependence</mark> on _____.

c There is a lot of <mark>prejudice</mark> against _____.

FOCUS

Grammar

Common prefixes

A prefix is a group of letters added to the start of a word to change the meaning. The most common type of prefix changes the meaning into its opposite form.

Complete the list with words from the article in 2.

Opposite	sustainable	_____ a
	responsible	_____ b
Not enough	estimate	underestimate
Too much	population	_____ c
Wrong	management	_____ d
Again	think	rethink
Remove	forest	_____ e
Below	standard	substandard
Before	history	prehistory
After	war	post-war

Use a dictionary to find more examples of each type of prefix.

7 💡 Take turns to read your sentences and guess the meaning of your partner's words. Do you agree with your partner's statements? Why/Why not?

8 💡 In small groups. Answer the questions below for each of the issues in this lesson. Think about government, business and individuals.

a What has been done in your country to tackle the issues?

b What more could be done to solve them?

7B

Natural solutions

Articles
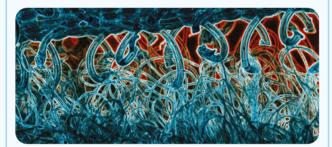
1 Look at the two photos on the right and describe what they show. What do you think the connection is between them?

2 Read a lecture handout about Velcro. Check your answers to 1 and answer the true or false sentences.

a The seeds George de Mestral found had a special quality.   T / F

b Velcro is a natural product.   T / F

c Biomimicry is a complicated idea.   T / F

d Plants and animals can help us solve design problems.   T / F

The invention of Velcro

One day in 1941, Swiss engineer George de Mestral went for a walk with his dog. When he got back, he noticed some plant seeds stuck to the dog's fur. He inspected the seeds more closely to see how they stuck to things so effectively. Using a microscope he saw that each seed had a hook and the hook allowed the seed to stick to anything it touched. De Mestral decided to use the same idea to invent a material which could fasten and attach to things. As a result, Velcro was invented.

The story of Velcro is probably the most famous example of 'biomimicry', the science of copying nature to solve design challenges. The idea behind biomimicry is simple – nature is the best engineer and the plants and animals around us are the perfect models for product designers and scientists to copy.

FOCUS

Grammar

Articles

The articles *the, a* and *an* come at the beginning of a noun phrase. In some cases we do not use an article.

We use *the*:

• when both the speaker/writer and the listener/reader know the thing being referred to

• when there can only be one thing we are referring to

• before a superlative.

Examples Where's Jim? He's in the kitchen.
Neil Armstrong was the first man on the Moon.
You're the greatest!

We use *a* and *an*:

• to refer to something for the first time

• to classify or define something

• after *there is* when referring to a single noun.

Examples I saw a man outside the house.
Velcro is a type of material.
There's a spider in the bath.

We don't use an article with plural and uncountable nouns when we are talking about things or people in general.

Example Scientists sometimes copy nature.

3 Find all the articles in the text in 2 and match them with the rules in the Focus box. Find examples of nouns which do not have an article.

4 Read the sentences from a lecture about biomimicry and look at the photos. How do you think scientists have used these animals to design new products?

a Mosquitoes survive on the blood of other animals. Part of the female mosquito's mouth is used to pierce skin and suck blood.

b A dolphin can receive and recognize sound signals underwater from up to 25 kilometres away.

c The Stenocara beetle lives in the Namib Desert in Southern Africa, one of the driest areas in the world. It collects water from the air using its legs.

d Kingfishers like to sit on a perch by a river and search for fish. When they see a suitable prey, they dive silently into the water and return to the perch.

5 Complete the sentences with *the*, *a* or *an* in the correct places.

a When train enters tunnel, cushion of air builds up in front of it. When train exits tunnel, air expands rapidly. High-speed trains cause very loud noises as they exit tunnels.

b Tsunami is enormous ocean wave which can cause death and destruction on huge scale. Tsunami waves can be detected early in deep ocean, but deep water is one of most difficult environments in which to transmit data.

c Giving injections and taking samples is one of most common and important jobs in hospital. But needles can be painful. This is because needle has smooth surface which makes contact with lot of nerves in skin.

d Countries in Sub-Saharan Africa have dry season. There is lack of water and people don't have enough to drink.

FOCUS **Pronunciation**

There are two ways to pronounce *the*:
1 /ðiː/   same vowel sound as 'tea'
2 /ðə/   same vowel sound as 'fath<u>er</u>'

1 ▷ **7.1 Listen and mark the sounds 1 or 2.**
   a the engineer _____
   b the seed _____
   c the dog _____
   d the answer _____
   e the invention _____
   f the plant _____

2 **Complete the rules.**
   a We use the *stressed / unstressed* pronunciation before vowels.
   b We use the *stressed / unstressed* pronunciation before consonants.

6 Which ideas in 5 do you think are connected to the animals in 4? Look at the photos on page 176 to help you.

7 ▷ **7.2 Listen to the full lecture about biomimicry and check your answers to 6. Evaluate the usefulness of each design.**

a kingfisher   **c** dolphin
b mosquito   **d** beetle

C21 SKILLS

CREATIVITY:
Generating ideas

See page 101 →

8 💡 **In pairs. Discuss two more examples of biomimicry. Student A go to page 177. Student B go to page 186.**

7c

The climate change debate
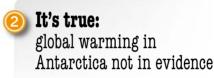
Evaluating credibility; Identifying bias

1 Read three statements regarding climate change. Which one is most similar to your own view?
- **a** Climate change is caused by humans and it is the greatest danger facing the world.
- **b** Changes in the climate are natural and the problems are exaggerated.
- **c** Climate change is being taken seriously and the outlook is positive.

2 Look at three newspaper headlines. Which statement in 1 do you think each article supports? What helped you to choose?

1 Climate change scientist speaks up about deniers – and why he's still hopeful

2 It's true: global warming in Antarctica not in evidence

3 The climate crisis has started – but we're denying it.

3 Skim read an article about climate change and match it with a headline from 2. Then read the article again more carefully. Make a note of the parts that are fact rather than personal opinion.

With climate, it's hard to point to a single year and say 'this was the moment it changed'. But this year, I can say: it has begun. Sometime in the first two decades of this century, the warming of our planet from greenhouse gas emissions went from something models predicted and scientists detected, to something palpable, a clear and present change that no observant person can ignore.

For each of the past eight months, global average temperatures have shattered – not just exceeded, but shattered – the records for that month in the past 150 years. Snow this spring retreated at a blistering pace, and covered less area than in any year since satellites began snapping pictures in the mid-1960s. Sea-ice cover in the Arctic has set a record – the least ice ever seen for the day – nearly every day since 1st April. The evidence could not be clearer.

Yet uncertainty about climate change in the public mind has continued, fuelled by groups that either detest consensus or have a vested interest in the status quo.

There are messages, or web-posted comments or tweets, that seek solely to obfuscate.

'Climate changes all the time.' Quite true, but we've never had seven billion people depending on a moderate climate before. 'It hasn't warmed since 1998.' True … for a few years.

Then we had nine of the ten warmest years on record. After so much exposure to the vague, incoherent arguments of climate change deniers, it long saddened me to think that they collectively might have slowed our progress toward agreements and solutions.

Now, though, I realize there is, in fact, real hope emerging for the problem of climate change, and the reason is innovation and entrepreneurship. Wind power growth has been astonishing because it is profitable. Solar power growth looks similar. The deniers and delayers have lost simply because they could not hide the economic logic of addressing the problem, or convince entrepreneurs not to invent. Today we have many options and, most importantly, we have a global generation of people who understand world climate change and are looking eagerly for ways to mitigate it.

by Ted Scambos

4 💡 Do some follow-up research on the article in 3. Find out information on the author and check any facts and figures presented in the article. Are the article and the author credible?

5 Look at four excerpts from online blogs. In pairs. Discuss why the author chose to use the highlighted words. Then match each excerpt with a feature of bias.

a Despite attempts by experts to explain the science, you still hear members of the government claim that this is not caused by human activity.

b … anyone with common sense can see what's happening …

c … and they have promised that 500 'affordable' homes will be built this year.

d … the public have been brainwashed and it's a tragedy.

Features of bias in articles
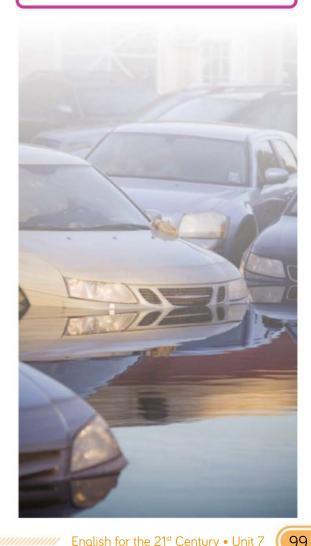
1 Writers often use strong words to create emotion in the reader.

2 Writers carefully choose words because of what they imply. They may use two words that seem similar but have different implications.

3 Look out for certain words and phrases in 'scare quotes'. This is the writer's way of showing they doubt the validity of something.

4 Writers often try to identify with their readers by pulling them into a group.

FOCUS **Expression**

Evaluating credibility

When we say something is 'credible', it means we trust the source and the information.

1 Before reading an article, it is useful to put it into context. Use the internet to research the author and the newspaper, magazine or blog the article appears in.

2 While reading, make notes on the information (not the opinions). Think about what happened, who did it, where and when it happened, and why. Then look at your notes and ask yourself: What information is missing, for example, sources, witnesses and explanations?

3 After reading an article, do some follow-up research. Check facts and figures contained in the article and research any sources quoted, bodies, institutions, etc.

6 Look at the headline for another article. What sort of article do you expect to read? Read the article and check your prediction.

As our government panics about 'global warming', our economy sinks without a trace

Our coal industry is dead and our oil and gas sectors are dying, strangled by miles of 'environmental' red tape. But the truth is that all these crazy regulations are helping nobody but foreign companies who are able to undercut our businesses. Essentially, our national economy is being destroyed on a whim. I mean, what are all these rules for? To save the planet? How ridiculous. A couple of hot summer days and the 'experts' will claim the end of the world is coming. Yet any meteorologist will explain that the weather is always changing and the occasional heatwave is entirely natural. Despite this, our newspapers and televisions are full of barmy old 'climate change professors' trying to panic the public with no evidence to support their claims. Yes, they show us graphs and maps and tell us the seas are rising and the ice caps are melting, but none of their wild predictions seem to come true!

The fact is the average person doesn't care if temperatures rise by a degree or two. As normal, hard-working people, we just want homes, jobs and a good education for our children. We want our government to support national industries and not tie them up with silly regulations. So let's ignore the 'eco-warriors' and the scaremongers and focus on getting our economy back on track.

7 Look at the language used in the article and underline any examples of:

a strong language that creates a negative emotional reaction in the reader
b scare quotes
c the author's use of similar words with different implications
d the author trying to identify with the readers.

C21 SKILLS

STUDY SKILLS:
Knowing your sources

See page 102 →

8 💡 In small groups. Research an article by following the instructions.

a Look for an article that supports one of the statements in 1.
b Evaluate the credibility of the article.
c Read the article carefully and critically for examples of bias.
d Report back to the class on your article.

A LIFE SKILLS: PERSONAL RESPONSIBILITY
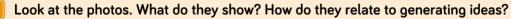
Governments, schools and health services are responsible for many aspects of our lives, but it is still vital that each adult in society takes responsibility for their own well-being. Taking personal responsibility includes admitting your mistakes instead of blaming other people for them, planning ahead, and choosing how you react to events when things go badly.

1 Read the quotes below from six people who are not taking personal responsibility. How would people who *do* take responsibility for themselves act in each case?

a It's not my fault I failed the test. I was sick and off school the day the teacher told us about it, so I didn't revise.

b How was I to know you can't hold your husband's hand in the street? That's not the law in my country.

c Sorry I'm late – I ran out of petrol. My wife forgot to fill the tank up, as usual.

d With my allergy I could easily have died in that restaurant! They should have told me there were peanuts in that dish.

e Both my parents were heavy smokers, so it's not surprising that I smoke.

f Oh no! I've spilled my coffee all over some important papers again! That always happens when the boss is in a bad mood – she makes me really nervous.

B CREATIVITY: GENERATING IDEAS

Many situations, from writing an essay to designing a new product, require creativity. Generating ideas on demand is not always easy, especially if you have an urgent deadline for a task.

1 Look at the photos. What do they show? How do they relate to generating ideas?

C STUDY SKILLS: KNOWING YOUR SOURCES

In the 21st century, we are exposed to more media than ever before, and news stories travel rapidly around the world thanks to social media. Being able to analyze and evaluate different forms of media is crucial.

1 Think about the forms of media you use for keeping up with events. Complete the table.

	Local news and events	National news and events	International news and events
Radio and TV (which station or channel?)			
Print versions of newspapers (which?)			
Online versions of newspapers (which?)			
Social media sites (which?)			

2 Answer the questions.

a Which of the media you have named do you use because you think it is a trustworthy source of news?
b Which do you use because you find it entertaining (but maybe not true)?
c Do you yourself contribute news to any of these media?

3 In pairs. Compare your answers with your partner's. Discuss these points.

- Has your partner identified any sites or media you would not trust as a news source?
- How can you verify which news stories you read are true, and which are fake news or contain 'alternative facts'?

C21 skills

PLANNING AHEAD

Progress

1 Make a list of three things you learnt in this unit and three things to practise.

Things I can do	Things to practise
1	1
2	2
3	3

2 Compare your list with a classmate.

My learning plan for next week

1 Think about next week. How can you improve your English? Write four learning ideas for the next week. How much time do you need for each idea?

Example I plan to learn five new words, and write them in my vocabulary notebook (ten minutes).

	Action: I plan to ...	Time (...) mins	Review after a week
1			
2			
3			
4			

2 Share your learning plan with another classmate.

3 At the end of next week, review your plan. Use these ideas.

• Done   • Not done   • More practice   • Update learning plan

Communication in class

1 How active are you in class? Rate yourself for each point.

2 How can you be more active in your classes next week? Write three ideas.

		Yes	No
a	I ask questions when I don't understand.		
b	I help classmates when they don't understand.		
c	I speak in group tasks a lot.		
d	I answer questions when I know the answer.		

Example Ask classmates or my teacher at least two questions.

_____

_____

_____

3 Share your ideas with a classmate.

Example In my next class, I plan to ask my teacher or classmates two or three questions.

C21 SKILLS

Communication
- Structuring a presentation

Life skills
- Dealing with criticism

Scan the QR code or
click here to practise key
vocabulary from this unit.

8

Do we care?

In what ways has the environment become polluted? Who should be responsible for dealing with pollution – individuals, corporations, governments or international organizations?

Language skills
- **Listening & Speaking:** Presentation signposting
- **Listening, Reading & Speaking:** A project on ocean pollution
- **Writing:** Writing a short report

Vocabulary
- Pollution
- Signalling words: Contrast

Pollution

🅱️🎧💬 Presentation signposting

pollution /pəˈluːʃn/ (noun) — the presence or introduction of something harmful into the environment

1 Read the definition and look at the photo on the right. How many types of pollution can you think of? Which types of pollution are a problem in your country?

2 ▷ **8.1** Listen to part of a lecture about pollution and answer the questions.

a What type of pollution is the lecture about?
b What issues will the lecturer talk about?
c What is the most important point according to the lecturer?
d What is the lecturer going to talk about next?

3 ▷ **8.2** Listen and complete the sentences which the lecturer uses to help the listeners follow the lecture. Use the sentences to check your answers to 2.

a _____ to give a brief overview of light pollution, and to explain why it is a problem which needs to be addressed.

b _____ establish what we mean by 'light pollution'. _____ move on to why it's a problem, _____ by evaluating some potential solutions.

c But there is a more fundamental issue … _____ … the natural world (including humans) have evolved around the light of the Sun, the stars and the Moon.

d _____ a few solutions to the problem of light pollution.

4 ▷ **8.3** Listen to the introduction of another lecture and tick any expressions in the Focus box that you hear. What is the topic?

FOCUS — Expression

Presentation signposting

During a lecture or presentation, the speaker will often use expressions to help guide the listener. These expressions are called 'signposts' and recognizing them will help you to follow the structure of the talk and identify the most important pieces of information.

Introduce the topic
What I'm going to be talking about today is …
_____

Explain the structure
_____
We'll finish with a discussion of …
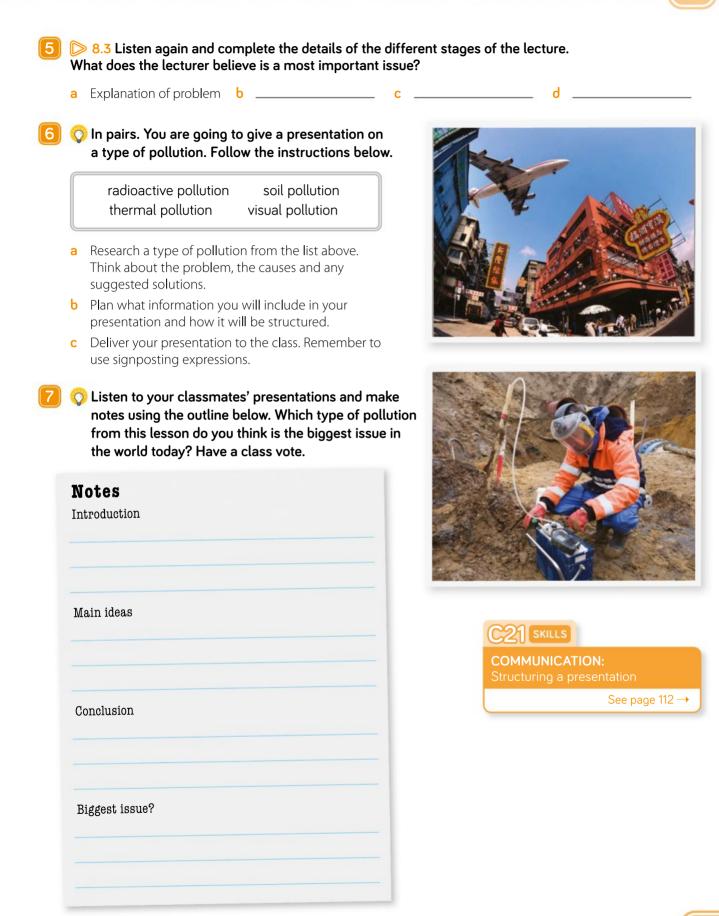
Signal important information
_____
… and that is the key question …

Explain a transition
We're now going to move on to …
_____

Complete the notes above with the expressions from 3.

5 ▷ **8.3 Listen again and complete the details of the different stages of the lecture. What does the lecturer believe is a most important issue?**

a Explanation of problem   b _____   c _____   d _____

6 💡 **In pairs. You are going to give a presentation on a type of pollution. Follow the instructions below.**

> radioactive pollution   soil pollution
> thermal pollution   visual pollution

a Research a type of pollution from the list above. Think about the problem, the causes and any suggested solutions.

b Plan what information you will include in your presentation and how it will be structured.

c Deliver your presentation to the class. Remember to use signposting expressions.

7 💡 **Listen to your classmates' presentations and make notes using the outline below. Which type of pollution from this lesson do you think is the biggest issue in the world today? Have a class vote.**

Notes

Introduction

_____

_____

_____

Main ideas

_____

_____

_____

Conclusion

_____

_____

_____

Biggest issue?

_____

_____

_____

C21 SKILLS

COMMUNICATION:
Structuring a presentation

8B

The Ocean Cleanup project

Presenting a balanced argument

1 ▷ **8.4 Listen to the story of The Ocean Cleanup project, look at the photos and answer the questions.**

   a What is the aim of the project?
   b Whose idea was it?
   c How did the idea develop and spread?

2 **Read the essay title. What sort of information would you include in this essay?**

> Evaluate this statement: 'The criticism of The Ocean Cleanup project from the scientific community is proof that the project is doomed to fail due to deep and unsolvable problems.'

C21 SKILLS

LIFE SKILLS:
Dealing with criticism

See page 113 →

3 **Read three paragraphs opposite from a student's essay based on the title in 2 and answer the questions.**

   a What is the position of the writer?
   b How does the writer acknowledge the opposite position? Find examples.

Whereas most young innovators are encouraged by their communities, Boyan Slat has received criticism from several commentators, who have described The Ocean Cleanup project as 'just a story'. Even so, the project continues to progress, with Slat responding to criticism with evidence-based arguments. For example, despite criticisms from wildlife experts who claim the project could endanger sea turtles, Slat's own feasibility study explains that barriers are used instead of nets. Therefore, the risk to sea life is minimal. However, this is not a reason to be complacent and every effort must be made to ensure wildlife safety.

Much of the criticism aimed at The Ocean Cleanup project seems to be prompted by Slat's youth, inexperience and apparent 'naivety' and to an extent these reservations are understandable. On the other hand, issues such as ocean pollution sometimes need a fresh and innovative problem-solving approach and this is exactly what this project offers.

Slat is attempting something completely new and there will be challenges throughout the process. Nevertheless, it is clearly a worthwhile venture. And while the project must overcome obstacles before it can begin on a large scale, this should not be a reason to cancel it. On the contrary, Slat and his team deserve support from the scientific community.

FOCUS   **Expression**

Presenting a balanced argument

In academic contexts, students are often expected to provide essays that are both 'well argued' and 'well balanced'. This requires the writer to state their position while acknowledging and analyzing both sides of an argument throughout the essay. The following words and expressions can be used to contrast two sides of an argument:

despite	on the contrary
even so	on the other hand
however	whereas
nevertheless	while

Find examples of these words and phrases in the text in 3. Which ones are used in a similar way?

---

4 **Complete the sentences using words and phrases from the Focus box.**

a _____ some critics have claimed The Ocean Cleanup project is unworkable, Slat's own feasibility study has shown it is 'feasible and viable'.

b Some of Slat's ideas may not appear to be new. _____, the idea as a whole is original.

c Slat has received criticism. _____, he has continued work and is determined to make the project a success.

d One criticism was that the moving parts of the platform would be broken due to exposure to the elements. _____, Slat has pointed out that all moving parts will be inside the platform.

e _____ critics highlight Slat's lack of experience, he reminds them that he is only one part of a large team that includes a great deal of knowledge and experience.

f _____ concerns about how a big storm could damage the platform, Slat's own tests have shown that it can withstand extreme weather.

g One critic expressed concern for the welfare of sea turtles, but Slat has claimed that the risk is minimal. _____, I believe that the project will save marine life due to the reduction in plastic pollution.

h Some experts believe Slat will need hundreds of platforms to make the project worthwhile. _____, Slat maintains just one system is able to remove half the plastic from the ocean.

5 💡 In pairs. What do you think of Boyan Slat, his project and the way he responded to criticism?

6 💡 In pairs. Look at two more essay titles and follow the instructions.

a Make a list of the main issues involved in this argument.

b Discuss which side of the argument you are on.

c Research the issues involved. Have you changed your mind?

d Write three paragraphs of an essay. Include evidence you have discovered in your research and use language from the Focus box.

1 The greatest problems facing the world today can only be solved at an individual level rather than through government policy. Discuss.

2 To what extent do you agree that environmental issues will only be addressed seriously when the protection of the environment becomes a profitable business?

8c

Isobar – a cool invention

🎧 💬 📝 Slideshow

1 In pairs. You are going to watch a slideshow called *Isobar – a cool invention*. Look at the photos from the slideshow. What do they show? Share your ideas with another pair.

2 In groups. Think of 20 words you will hear in the slideshow. Write them in a word map. Then share your ideas with the class.

3 Watch the slideshow. Make notes. How many of the words from your word map did you hear?

4 Discuss in pairs.

What do you think of Will Broadway's invention? Do you agree with him, that young people can see things with fresh eyes? Why do you think Will has been so successful in developing his idea?

5 Research an invention that has helped solve a problem.

(For example, something that has simplified communication, saved a lot of lives, improved health or safely, or increased food supplies.) Who invented it? What was the inspiration? How was the invention received – was it an immediate success or did it take some time to be taken up? What impact has the invention had?

6 You are going to write a short report describing and analyzing the invention you researched in 5.

Step 1 Make a mind map of your ideas in 5.
Step 2 Plan your short report and then draft it.
Step 3 Share your draft with another student.
Step 4 Complete your report considering your partner's suggestions.

FOCUS — **Expression**

Preparing to write a short report

All reports must be clear and concise. Follow these steps:

- Gather the relevant information.
- As you take notes, be sure to record the source of the information.
- Decide what to include for the purpose of your report.
- Group points together and organize them as a mind map.
- Then choose an order for your points that is logical and coherent.

A COMMUNICATION: STRUCTURING A PRESENTATION

Presentations need a clearly-defined structure to avoid confusing or frustrating an audience. When preparing a presentation, you should think about how you can most efficiently and effectively follow a clear progression of ideas. Remember to keep your main purpose in mind throughout the planning of your presentation structure. Are you trying to inform, persuade, inspire or entertain?

1 Read the notes for a presentation. They are not in a logical order yet. What do you think the purpose of this presentation is?

a We live in a city which is famous for its history, architecture, universities and festivals.

b Tourists spend around £1.23 billion in our city every year.

c The city attracts about four million visitors a year.

d The city centre is often spoilt by litter and overflowing rubbish bins.

e Last year, tourists got involved in a one-day campaign to pick up litter in the city centre – this is embarrassing.

f We have a combined population of 69,900 university students, all of whom also bring income to the city.

g The streets in residential areas near the universities have litter on the pavements, and are full of uncollected large items of rubbish, such as old furniture and electrical goods.

h Recycling bins exist, but new residents and students are not sure which items go in which bins.

i The town council earns lots of money from students, visitors and residents – they should spend it on making the city cleaner.

j We pay higher local taxes than people living in bigger and wealthier cities, but our rubbish and recycling services are inadequate.

k We need better collection services for large items, better recycling facilities and clearer information about how to recycle.

l Collection services for large items of furniture and other household rubbish exist, but students are either unaware of the fact, or don't care.

m The city centre needs more rubbish bins, especially near fast-food outlets.

2 In pairs. Put the notes for the presentation in a logical order. Complete the table by writing a–m in the correct column.

Introduction	Main ideas • First problem area • Second problem area • Call for action	Conclusion

B LIFE SKILLS: DEALING WITH CRITICISM

Receiving criticism is inevitable, whether it is from friends or family, in an educational context, from superiors at work, or from customers. Receiving negative feedback can be painful so it is useful to learn how to deal with it without getting angry or hurt.

1 Read the four criticisms and choose the best response to each.

a Your presentation today was rather disappointing.

1 I'm sorry to hear that. What aspects of it did you feel were not good enough?
2 Well, maybe it wasn't my best, but I wasn't given enough time to prepare it.
3 Really? I thought it was fine. Nobody else has complained about it.

b You've arrived late at the office every day this week. This is not good enough.

1 Oh, so just because I've been late a couple of times, I'm not good enough for this job, then?
2 Yes, sorry about that. My car's being repaired and the bus service is really bad.
3 I'm sorry – I did warn you last week that I might be late due to family problems, but I should have reminded you on Monday.

c I bought this lamp two weeks ago and I've had to change the bulb in it three times already. It must have some kind of fault.

1 Well, I can exchange it for another one if you've got the receipt, but I can't give you your money back.
2 I'm sorry you're disappointed with the product. May I take a look at it?
3 That's strange. What size of bulb have you been using? It's not meant to take anything more than 100 watts.

d The ideas in your essay are good, but you need to control your grammar better and keep within the word limit.

1 I see. Could you give me some examples of my grammatical errors, so that I can work on those points?
2 Thank you for your feedback. I will try harder next time.
3 Surely the ideas are more important than the word limit! I think this deserves more than a C!

2 In small groups. Explain and justify your choices. Comment on the options you did not choose.

Progress test

1 **Complete the words and match them with the definitions.**

a u _ _ _ _ i _ _ _ s _ _ e n t
b m _ _ u _ _ _ r _ _ _ n d
c p _ _ c _ _ t _ _ n
d u _ s _ _ t _ _ n _ _ l e
e n _ _ s _ _ s e
f i _ _ e s _ _ _ s _ _ l e
g d _ r _ g _ _ _ t i _ _
h o _ _ _ c r _ _ _ e d

1 (n) measure taken in advance to stop something happening
2 (n) removal of regulations
3 (adj) not able to be maintained at current rate
4 (n) situation where less money is spent on something than is needed
5 (adj) filled with more people than is comfortable
6 (v) fail to interpret something correctly
7 (adj) not showing an appropriate level of care or thought
8 (n) something that has no meaning or makes no sense

2 **Choose the best options to complete the text. Do you think your carbon footprint is bigger or smaller than Leon's?**

Every day, we do *the* / – **ᵃ** things which release *an* / *the* **ᵇ** amount of carbon dioxide into –/ *the* **ᶜ** environment. *The* / *An* **ᵈ** amount of CO_2 you release is called your 'carbon footprint' and it can be calculated by monitoring what you do in *the* / *a* **ᵉ** typical day. Let's use Leon's typical day as *an* / *a* **ᶠ** example. Leon wakes up and has *the* / *a* **ᵍ** hot shower before getting dressed. For *a* / – **ʰ** breakfast he usually has *a* / *the* **ⁱ** mixture of fruit from around – / *the* **ʲ** world. He switches on *a* / *the* **ᵏ** dishwasher before leaving his house and driving to – / *the* **ˡ** work in his car. He chose *the* / – **ᵐ** sportiest car he could afford because he loves *the* / – **ⁿ** fast cars. After work, he often drives into town to buy – / *the* **ᵒ** clothes. He loves *the* / – **ᵖ** smart shoes and he always buys *the* / *a* **�q** most expensive ones because he likes – / *the* **ʳ** people to notice them. After driving home, he orders *a* / – **ˢ** takeaway and spends *an* / *the* **ᵗ** evening watching his huge TV.

3 Identify and underline examples of bias in the headlines below. How could you make them more neutral?

a **Now the government wants us to stop driving our cars!**

b **$100 million wasted on 'waste disposal education'**

c **Ministers refuse to acknowledge population problem**

d **Suspicion after new bill 'solves' housing crisis**

e **Hunger charity in chaos after shocking financial revelations**

f **Public outcry over latest impossible climate change targets**

4 Think of reasons for both supporting and challenging the statement below. Write two lists.

To what extent do you agree with the statement, 'All billboard advertising should be banned because it is a form of visual pollution'?

Reasons for supporting:

Reasons for challenging:

5 Write a 200-word essay based on the statement in 4. Remember to present a balanced argument.

C21 SKILLS

Communication
- Avoiding jargon

Study skills
- Categorization

Life skills
- Learning from mistakes

Scan the QR code or click here to practise key vocabulary from this unit.

9 Medicine

Talking point

What are the most significant medical breakthroughs that you can think of? What medical research do you think will be important in the future?

Language skills

- **Listening:** Listening for specific information
- **Listening:** Listening to identify words in context
- **Speaking:** Discussing epidemics and pandemics
- **Speaking, Reading & Writing:** Accidents
- **Reading:** Reading to identify signalling words and phrases
- **Reading & Listening:** Germs and disease
- **Speaking, Listening & Writing:** Antibiotics

Vocabulary

- Medical terminology
- Different types of English

Grammar

- Third conditional
- Third conditional + *might have*
- *should have/ shouldn't have*

Pandemics

Medical terminology; Different types of English

1 **What do you know about pandemics? Are these statements true or false? Pandemics:**

a are outbreaks of infectious diseases   T / F

b spread slowly   T / F

c only affect a small area   T / F

d affect a large number of people   T / F

e include SARS, Ebola, malaria, Zika, influenza and Covid-19.   T / F

2 **Match the dates, the death tolls, the symptoms and causes with each disease and pandemic.**

1346–1353	1816–1826	acute diarrhoea, dehydration, blue skin
at least 50 million	at least 75 million	bacteria in drinking water and bad sanitation
	bacteria transmitted by fleas	fever, headache, coughing blood

Disease/Pandemic	Date of pandemic	Death toll worldwide	Symptoms	Cause
bubonic plague/ Black Death			fever, lumps under the skin that turned black	
cholera/first pandemic		hundreds of thousands		
influenza/Spanish flu	first major outbreak started 1918 – ended 1919			a highly contagious virus

3 **Find words from 2 that match these definitions.**

a the number of people who die in an accident or pandemic   _____

b very sudden and serious   _____

c easy to pass from one person to another   _____

d two different forms of germs   _____, _____

e the state of not having enough water in your body   _____

f a state in which you need to go to the toilet regularly but pass water instead of solid waste   _____

g systems for the safe disposal of human waste   _____

h pass an illness or infection from one animal or person to another   _____

i the sudden appearance of an infectious illness   _____

j the physical signs that you are ill   _____

4 Complete this short article about Spanish flu using words from 2 and 3.

Despite being called 'Spanish flu', it is unclear where this type of flu originated. The first _____ ^a in the United States was at a military station where soldiers were being trained to fight in the First World War. The _____ ^b were similar to any normal flu – fever, tiredness, coughing – but it soon became clear that this flu was much more _____ ^c than other forms. It spread through the army station and was then _____ ^d to soldiers travelling to fight in France, and from there it spread rapidly through Europe. This new European wave of the pandemic was deadly and its effects were so _____ ^e that many victims died within a few hours of being infected with the _____ ^f. Strangely, it affected young, healthy people more than those who were old or already sick. The pandemic ended as suddenly as it had started, sometime between summer and winter 1919, by which time the _____ ^g stood at more than 50 million people.

FOCUS | **Pronunciation**

▷ **9.1 Listen to the words and underline the syllable which is stressed.**

Example a/<u>cute</u>
a   bac/te/ri/a
b   con/ta/gious
c   de/hy/dra/tion
d   di/ar/rhoe/a
e   out/break
f   san/i/ta/tion
g   sym/ptom
h   trans/mit
i   vi/rus

5 💡 **How has your country been affected by modern epidemics or pandemics? How does the government prevent outbreaks of serious diseases, or deal with them if they happen?**

6 ▷ **9.2 Listen to a conversation at a doctor's surgery. Answer the questions.**

a   What does the patient want?
b   Does she get what she wants? Why/Why not?
c   Whom does she understand better – the doctor or the nurse? Explain why.

7 ▷ **9.2 Listen again. Match the everyday language (a–f) with the medical terminology (1–6).**

a   feel worse
b   give a flu shot
c   have the flu shot
d   drink lots of water
e   your nose is runny
f   your throat is sore

1   administer a vaccine
2   your pharynx is inflamed
3   you have copious nasal secretions
4   ingest plenty of liquids
5   have an adverse reaction
6   have the immunization

FOCUS | **Expression**

Different types of English

English is a language with roots in many different languages. Often there are two ways to say the same thing, for example, *originate* (from Latin) or *come from* (from a Germanic language). Medical terminology usually comes from Latin or Ancient Greek roots and is not always easily understood, even by native speakers of English.

8 **In pairs. Can you work out the everyday way to say the medical terms and phrases in italics?**

a   We shall have to *conduct* some tests.
b   During the operation, I will make a small *incision* here.
c   *Absolute compliance with my instructions is needed if* you want to get better.
d   I am referring you to a *dermatologist* for this condition.
e   There is a lot of *inflammation* and *discolouration* in that area.

C21 SKILLS

COMMUNICATION: Avoiding jargon

See page 126 →

9B

Accidents

Signalling words and phrases

1 In pairs. Look at the pictures of situations that might lead to accidents. Discuss what you think might happen and what type of accidents they are.

a   b   c   d   e

2 Read the extract about accidents from a public health textbook. Which paragraph in the text mentions points a–g?

a All accidents are caused by a form of energy being transferred suddenly to a human and causing injury. _____

b Classifying accidents can help to prevent them. _____

c Energy sources are not intrinsically harmful; they only become so when the user becomes unable to control them. _____

d Several factors affect how serious the resulting injury will be. _____

e The energy source requires an agent, or vector, to transmit it to the accident victim. _____

f There are five forms of energy. _____

g This method of analyzing accidents has proved helpful in planning ways of minimizing the harmful effects of these accidental exchanges of energy. _____

1 As a public health problem, accidents have been the subject of detailed study internationally, particularly in North America, where a great deal of work has been undertaken to develop ways of classifying them in a form which helps consideration of how they can be prevented. Fundamental to this is the view that the agent which produces an accident is energy in one of its five forms, that is, mechanical, chemical, thermal, electrical or various forms of radiation (for example, ultraviolet rays, X-rays). It is the sudden and harmful transfer of these types of energy to human beings which causes the injury. For instance, a teenager might get on a friend's motorcycle without any lessons or instruction and crash into a parked car, breaking his leg (mechanical energy); a toddler might open and drink from a bottle of turpentine which his mother is using for decorating and be poisoned (chemical energy); an elderly woman might drop a smouldering cigarette into her lap after she has fallen asleep in her chair and sustain a deep burn on her thigh (thermal energy); a middle-aged man might cut through a cable on his lawnmower and receive an electric shock (electrical energy); the pale-skinned holidaymaker from Britain, with little previous exposure to the sun, might sunbathe on a Greek island and be seriously sunburnt (solar radiation). The size of the transfer of energy, its duration, its distribution and the body's ability to resist it are all factors which determine the type and severity of the resulting injury.

2 All these are examples of incidents which would be readily acknowledged by most people as accidents. In each case, the energy source has caused the injury to the person concerned through a transmitting agent or vector. In the examples given here, the agents were the motorcycle, the turpentine, the smouldering cigarette, the electrical cable and the sun's rays.

3 The individual's susceptibility to being injured by the transmission of the energy is always an important aspect of an accident. Everyone, every day, is in contact with or is using many forms of energy. If the energy source is under control, then it is not usually harmful. However, when it exceeds the ability of its user to control it, then an accident can occur. The balance between an energy source and the human being controlling it is therefore a crucial one. The balance can be tipped in favour of the energy source when it suddenly becomes stronger or more difficult to control. For example, a car skidding on an icy road surface risks causing the driver or the passengers injury as the mechanical energy source becomes more powerful and gets out of control. The balance can also be altered if the person controlling the energy source lacks sufficient skills, the necessary physical attributes or relevant experience to exert full control over it. An elderly woman with arthritic hands who picks up a frying pan full of hot oil risks a scald injury due to her reduced capacity to exert full control over a source of thermal energy. A young, physically-able person would not find such difficulty.

4 This description of accidents as interchanges of energy between their source and a man, woman or child is not just an interesting theoretical idea. It has proved to be an excellent basis for planning comprehensive action to minimize the unfortunate consequences of such impacts.

Source: Essential Public Health, Second Edition (Revised) 2003 by L. J. Donaldson and R. J. Donaldson, pp. 144–145

C21 SKILLS

STUDY SKILLS:
Categorization

3 Read paragraphs 1 and 2 of the extract again. Complete the table.

	Type of energy	Transmitting agent (vector)	Example of accidental injury
a	mechanical		
b			poisoning
c		smouldering cigarette	
d	electrical		
e			severe sunburn

4 💡 In small groups. Discuss how this method of analyzing accidents could result in actions that minimize the risk of accidents and the unfortunate consequences of accidents.

Example Bottles that can't be opened by children minimize the risk of poisoning.

5 Find and underline these signalling words and phrases in the extract in 2.

Signalling word or phrase   Function

a Fundamental to (this is) …   _____

b that is, …   _____

c for example, …   _____

d For instance, …   _____

e All these are examples of …   _____

f (is always) an important aspect of …   _____

g However, …   _____

h therefore   _____

i also   _____

FOCUS   **Expression**

Signalling words and phrases

In order to write clear texts, academic writers use signalling words and phrases. These help to organize the text by, for example, connecting ideas, introducing examples and showing what the author considers important.

6 Match the words and phrases in 5 with the functions from the box.
Then add other signalling words and phrases you know.

> additional points   attitude   cause and effect
> contrast   exemplification   explanation

7 Choose the correct signalling word or phrase to complete each sentence.

a Clear labelling is _therefore / an important aspect of_ the safety of household chemical products.

b Thermal energy, _that is / for instance_, energy in the form of heat, is supplied by many different devices in modern homes.

c Exposure to sunlight is an important source of vitamin D for the body. _Also / However_, too much exposure can result in sunburn.

d An incorrectly wired plug, a frayed power cord, a hairdryer placed on the side of a full bathtub; _all of these are examples of / fundamental to these are_ electrical accidents waiting to happen.

8 Read the summary of ideas that follow on from the extract in 2.
Complete the summary using signalling words and phrases from 5.

In the past, most of the approaches to preventing accidents were based on the idea that accidents are caused by the victims' own carelessness or stupidity. _____ᵃ, tactics that increased a person's sense of responsibility and improved their behaviour, _____ᵇ road safety training, were seen as _____ᶜ accident prevention. _____ᵈ, since the development of the energy transfer theory of accidents, modern methods of accident prevention _____ᵉ take into account product construction, _____ᶠ, designing and making products that contain built-in safety features. Childproof packaging on medicines and chemical products has reduced instances of poisoning; the fitting and use of seat belts in cars have resulted in less serious injuries to drivers and passengers, and non-slip floors now prevent many falls in factories and public buildings. _____ᵍ new approaches to accident prevention and control.

9 💡 Go to page 178 for a writing activity.

9c

Germs

Third conditional; Third conditional + *might have*

1 **In pairs. Discuss the questions.**

a What do you think the photos show?

b What do you know about the sources of and transmission of infectious diseases?

2 **Read an extract from an article about John Snow and the Broad Street pump. What do you think John Snow did next?**

During the 19th century, millions of people worldwide died from cholera. The disease reached London in 1832. During the third cholera outbreak in London, in 1854, over 500 people who lived in a very small area of the city died in a period of ten days.

At that time, most doctors believed the 'miasma theory', which stated that diseases were caused by unpleasant smells in the air. John Snow, a London doctor, suspected that cholera was caused by something in the water that people drank, not by breathing 'bad air'. To test his theory, he plotted the 1854 deaths on a map of the area and discovered that most of the victims lived near a communal water pump in Broad Street.

However, some deaths did not seem to fit this pattern. Only five residents of a nearby workhouse had died, and the workers at the brewery in Broad Street were not affected at all. In addition, one woman who lived a long way from Broad Street had died.

3 ▷ **9.3 Listen to an extract from a lecture on the next part of the story. Did you guess correctly what John Snow did next?**

Grammar

Third conditional

Look at these facts from the story and the sentences that speculate about alternative results. Then complete the rules below.

a John Snow **did not believe** the miasma theory. He **investigated** the deaths in the Broad Street area.

If John Snow **had believed** the miasma theory, he **would not have investigated** the deaths in the Broad Street area.

b The brewery **gave** its employees beer. They **didn't drink** from the Broad Street pump.

If the brewery **hadn't given** its employees beer, they **would have drunk** from the Broad Street pump.

To speculate about alternative results of events in the past, we use the third conditional. The third conditional consists of two parts:

If + a clause with a verb in the _____ _____ tense, followed by a clause with

_____ *have* + _____ participle.

4 Complete the sentences with reference to the story of John Snow and the Broad Street pump with the correct form of the verbs in brackets.

a If 'bad air' _____ the cholera outbreak, everyone in the Broad Street area _____. (cause, die)

b If John Snow _____ the 1854 deaths on a map, he _____ that the Broad Street pump was the source of the infections. (plot, realize)

c If the woman who lived farther away _____ the taste of the water from the Broad Street pump, she _____ cholera. (like, catch)

d More of the workhouse residents _____ if the workhouse _____ its own water pump. (die, have)

e If the authorities _____ the handle of the pump, the epidemic _____. (remove, continue)

FOCUS   **Grammar**
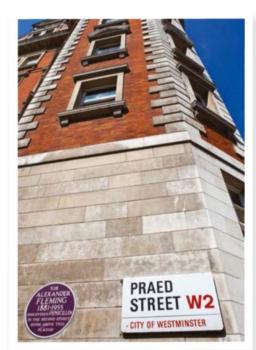
Third conditional + *might have*

Sometimes we are not certain about alternative results of events in the past. Read the examples from the story and complete the rules.

Examples If John Snow ***hadn't demonstrated*** that something in water caused cholera, it ***might have taken*** longer for the germ theory of disease to emerge.
London ***might not have introduced*** clean water supplies if John Snow's research ***hadn't shown*** that dirty water spread cholera.

We use the same *if* clause as the third conditional followed by a clause with _____ *have* + _____ participle.

---

5 Read about more milestones in the development of the fight against germs. Make sentences linking the events. Use the third conditional with *would* or *might*.

a Nineteenth-century surgeons didn't wash their hands between operations. They passed infections from one patient to another. Almost 50% of the patients who survived operations died later of infections.

b In the 1860s, the surgeon Joseph Lister read Louis Pasteur's research into germs and disease. Lister introduced the use of antiseptics during and after surgery. Far more patients survived after operations.

c In 1928, the bacteriologist Alexander Fleming failed to clean several glass dishes containing bacteria that were in his laboratory. Later, he found mould had grown in one of these dishes and the mould had killed the bacteria. In this way, he discovered penicillin.

d Two other researchers built on Fleming's work with penicillin mould. Mass production of penicillin began in June 1944. Many soldiers who were wounded in the last year of the Second World War survived thanks to penicillin.

should have/shouldn't have

should have/ shouldn't have

To express criticism of an action somebody took in the past, we use *should not have* + past participle.

To express criticism of an action somebody did not take in the past, we use *should have* + past participle.

1 💡 **In pairs. What do you know about the use of antibiotics nowadays? Discuss these points. Explain your answers where possible.**

a You *should / shouldn't* take antibiotics if you have a cold.
b You *should / shouldn't* take antibiotics if you have an infection caused by bacteria.
c You *should / shouldn't* use all the antibiotic pills the doctor prescribes for you.
d Antibiotics are *more / less* effective than they used to be.

2 ▷ **9.4 Listen to a conversation between a brother and sister about a trip to the doctor. What do they say about the points you discussed in 1?**

3 ▷ **9.4 Listen again and complete the extracts from the conversation.**

Jim _____[a] antibiotics? He's coughing like crazy, poor kid … We always got antibiotics when we had colds or sore throats as kids.

Linda That's true, but we _____[b] them.

Jim I think I stopped taking them after a couple of weeks, after I felt better.

Linda Oh, no! You _____[c] them all.

Jim Great! So I'm an idiot then!

Linda No, it's not your fault. But your doctor _____[d] this to you.

Jim Hold on, Linda, Tommy's woken up and he's coughing like crazy again.
Carol _____[e] off on that business trip; I can't cope with it all on my own.

4 💡 **Make sentences using *should/shouldn't have* + past participle about these situations.**

a Before Joseph Lister, surgeons didn't wash their hands between operations and they didn't use antiseptics. They often wore coats covered in the blood of previous patients. Lots of patients died unnecessarily.

b Since penicillin was first mass-produced in 1944, doctors have prescribed antibiotics in large quantities. They have often prescribed them for illnesses that are not caused by bacteria. Patients have often used antibiotics incorrectly and have not finished all the pills they were prescribed. The use of antibiotics on animals in intensive farming means that people who eat animal products take in extra antibiotics. Resistant 'superbugs' have evolved as a result.

C21 SKILLS

LIFE SKILLS: Learning from mistakes
See page 128 →

5 💡 **Read the case study about Haiti on page 179 and do the activity.**

A COMMUNICATION: AVOIDING JARGON

Special terminology (jargon) is useful as it allows people from the same area of interest to communicate with each other clearly and effectively. However, when experts communicate with the general public, they need to modify their language so that they can be understood by non-experts.

1 In pairs. Match the terms (1–5) with the professional area they are used in (a–e).

1	fulfilment centre	**a**	finance
2	deposit, mortgage	**b**	insurance
3	myocardial infarction	**c**	marketing
4	policy, claim	**d**	medicine
5	prospects, trade fair	**e**	sales and distribution

2 Complete the sentences using words and phrases from 1 (1–5).

a We regret the delay in sending your order. It will leave the _____ tomorrow and you should receive it on Wednesday.

b Your husband has suffered a _____ and will have to spend some time in hospital. Is this the first time he has had a heart attack?

c Attending the _____ was an excellent idea. I met lots of _____ who may be interested in doing business with us.

d The house costs £200,000 and I have saved up a _____ of £50,000 so I will need to ask the bank for a _____ of £150,000.

e My gold necklace was in the suitcase that was stolen. I shall have to make a _____ for it on my travel insurance _____.

3 Explain the words from 1–5 in simple language, avoiding jargon.

C21 skills

B STUDY SKILLS: CATEGORIZATION

Categorization is a skill that we exercise in all parts of our lives, from organizing the files on our computer to prioritizing work tasks, or making decisions and solving problems. Categorizing data can also be a useful way of making sense of large amounts of information and drawing conclusions or new ideas from that data.

1 Work in groups of four. Choose one of these diseases as the topic your group will work on.

Ebola	MERS-CoV	Zika virus

2 On your own. Research the disease you have chosen. Make sure that each member of your group uses different websites to carry out the research. As you do your research:

- make notes of important points
- copy or print out any interesting charts, diagrams, maps, tables that you find.

3 In your group. Look at the list below of typical categories that are used when describing diseases. Look up any of the words you don't know in a dictionary.

Source of the virus	Diagnosis	Complications
Transmission	Treatment	Territories where it exists
Signs and symptoms	Prevention	Fatality rate

4 In your group. Compile all the information you have found. Put it into categories. Use the list above to help you.

5 In your group. Choose three or four of the categories for which you have found information. Make a poster presentation of your information and present it to the class.

C LIFE SKILLS: LEARNING FROM MISTAKES

Everybody makes mistakes in their studies, work or personal lives. People often feel upset when this happens, but mistakes can prompt you to review what you did wrong, learn from your mistakes and do things differently the next time.

1 Complete the extract from a blog with the words from the box.

> admitted   ashamed   blame   correct
> feedback   instructions   lesson   opportunity   wasted

Although many people's upbringing and education have taught them that making mistakes is something to be _____ [a] of, mistakes are actually a great way to get _____ [b] about what we could be doing better. Until recently, my salary usually ran out before the month was over. After doing some accounts, I realized that about 10% of my income was _____ [c] on taking taxis because I was nearly late for work.
This turned out to be a great _____ [d] to make changes in my morning routine and now I walk or catch a bus to the office instead.

Mistakes like those are quite simple to _____ [e], as they don't affect other people. The situation is more complex when others are involved. Some years ago, I worked as an office assistant. A technician came to install a new photocopier and gave me _____ [f] on how to use it. I didn't really pay attention, and a few days later, I loaded the paper incorrectly and jammed the machine. My boss was furious so, at first, I tried to _____ [g] the technician for not explaining how to use the machine. My boss phoned the company that supplied the machine and discovered that I was lying. Now I had made two mistakes; it took a lot of courage, but I _____ [h] that I was wrong in both cases. My boss made me read the 40-page instruction manual for the photocopier from start to finish. Now, before carrying out any task with new technology, I read the relevant section of the handbook or online manual. The _____ [i] I learnt from those mistakes has been exceedingly helpful.

2 In groups. Discuss the questions.

a What advice about learning from mistakes does the blog imply?
b How useful do you find that advice?
c Tell your partners about mistakes you have learnt from.

PLANNING AHEAD

Progress

1 Make a list of three things you learnt in this unit and three things to practise.

Things I can do	Things to practise
1	1
2	2
3	3

2 Compare your list with a classmate.

My learning plan for next week

1 Think about next week. How can you improve your English? Write four learning ideas for the next week. How much time do you need for each idea?

Example I plan to learn five new words, and write them in my vocabulary notebook (ten minutes).

	Action: I plan to ...	Time (...) mins	Review after a week
1			
2			
3			
4			

2 Share your learning plan with another classmate.

3 At the end of next week, review your plan. Use these ideas.

• Done   • Not done   • More practice   • Update learning plan

Communication in class

1 How active are you in class? Rate yourself for each point.

2 How can you be more active in your classes next week? Write three ideas.

		Yes	No
a	I ask questions when I don't understand.		
b	I help classmates when they don't understand.		
c	I speak in group tasks a lot.		
d	I answer questions when I know the answer.		

Example Ask classmates or my teacher at least two questions.

_____

_____

_____

3 Share your ideas with a classmate.

Example In my next class, I plan to ask my teacher or classmates two or three questions.

C21 SKILLS

Creativity
- Paraphrasing

Collaboration
- Volunteering

Scan the QR code or click here to practise key vocabulary from this unit.

10 Making choices

How much choice do you think people have about basic things like where they live, what lifestyle they lead and how successful they are? In what ways can individuals change their lifestyle?

Language skills
- **Reading & Writing:** Avoiding plagiarism
- **Reading & Writing:** Paraphrasing
- **Listening:** Listening to complete a table
- **Listening:** Listening to identify interview tactics
- **Speaking:** Carrying out an interview
- **Writing:** Writing a report

Vocabulary
- Volunteering

10 A

Whose words?

📖 📝 Avoiding plagiarism

plagiarism
(noun)

the act of taking another person's work or ideas and presenting them as your own

cite
(verb)

mention whose words or ideas you use in your own work

1 Read the two dictionary entries. When is it acceptable to copy another person's work? When is it not?

2 Work in groups of four. Student A look at page 133. Student B go to page 180. Student C go to page 187. Student D go to page 188.

FOCUS — Expression

Avoiding plagiarism

Plagiarism is a serious offence when you write essays for college or university. To avoid this, you must:

- paraphrase the ideas from any sources you use for your essay. This means you put the ideas in your own words.
- cite the sources you have used. This means you say where the ideas came from.
- put any phrases you use directly from the source text in quotation marks.

Student A
Reread the paragraph from the text on page 121.
Use the table to help you analyze Anna's attempt to paraphrase the paragraph.

The individual's susceptibility to being injured by the transmission of the energy is always an important aspect of an accident. Everyone, every day, is in contact with or is using many forms of energy. If the energy source is under control, then it is not usually harmful. However, when it exceeds the ability of its user to control it, then an accident can occur. The balance between an energy source and the human being controlling it is therefore a crucial one. The balance can be tipped in favour of the energy source when it suddenly becomes stronger or more difficult to control. For example, a car skidding on an icy road surface risks causing the driver or the passengers injury as the mechanical energy source becomes more powerful and gets out of control. The balance can also be altered if the person controlling the energy source lacks sufficient skills, the necessary physical attributes or relevant experience to exert full control over it. An elderly woman with arthritic hands who picks up a frying pan full of hot oil risks a scald injury due to her reduced capacity to exert full control over a source of thermal energy. A young, physically-able person would not find such difficulty.

Source: Essential Public Health, Second Edition (Revised) 2003 by L. J. Donaldson and R. J. Donaldson, pp. 144–145

Anna's summary

How likely any specific person is to be injured by an energy source is an important aspect of any accident. Everyone comes into contact with many sources of energy in their daily lives, but these are not harmful if the energy source is kept under control. When the user is no longer able to control it, then the energy source becomes harmful. An example of this is a car skidding on an icy road. In that case, the driver may not be able to control the car and someone may get injured. The balance between the energy source and the person can also change if the person doesn't have the skills or the strength to control it. For example, an old lady with arthritic hands cannot control the heat energy of a pan of hot oil, but a young person can.

	Anna	Bill	Carol	Dave
Has paraphrased the ideas in their own words well				
Has cited the source they have used correctly				
Has put phrases from the original text in quotes correctly				
Has added their own examples to illustrate key points				
Might be accused of plagiarism				

3 Work with your partners. Explain your analysis. Justify your choices by showing your partners the relevant sections from the text you studied.

C21 SKILLS

CREATIVITY:
Paraphrasing

See page 138 →

4 💡 **Follow the steps below.**

1 Read the paragraph below.

2 Write the key points in your own words.

3 Check your key points against the original text.

4 Highlight any phrases or sentences you want to use directly from the original text.

5 Make a note of the authors' names and/or the book title.

6 Think of some examples of your own to illustrate the key points.

7 Write your paraphrased paragraph.

As a public health problem, accidents have been the subject of detailed study internationally, particularly in North America, where a great deal of work has been undertaken to develop ways of classifying them in a form which helps consideration of how they can be prevented. Fundamental to this is the view that the agent which produces an accident is energy in one of its five forms, that is, mechanical, chemical, thermal, electrical or various forms of radiation (for example, ultraviolet rays, X-rays). It is the sudden and harmful transfer of these types of energy to human beings which causes the injury. For instance, a teenager might get on a friend's motorcycle without any lessons or instruction and crash into a parked car, breaking his leg (mechanical energy); a toddler might open and drink from a bottle of turpentine which his mother is using for decorating and be poisoned (chemical energy); an elderly woman might drop a smouldering cigarette into her lap after she has fallen asleep in her chair and sustain a deep burn on her thigh (thermal energy); a middle-aged man might cut through a cable on his lawnmower and receive an electric shock (electrical energy); the pale-skinned holidaymaker from Britain, with little previous exposure to the sun, might sunbathe on a Greek island and be seriously sunburnt (solar radiation). The size of the transfer of energy, its duration, its distribution and the body's ability to resist it are all factors which determine the type and severity of the resulting injury.

Source: Essential Public Health, Second Edition (Revised) 2003 by L. J. Donaldson and R. J. Donaldson, pp. 144–145

5 Swap your paraphrased text with a partner. Critically assess your partner's text using the criteria in 2.

10B

Volunteers

(abc) (headphones) (speech) Interviews
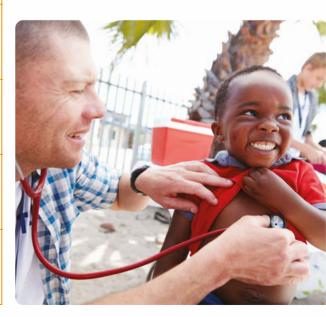
1 Look at the photo on the right. What do you think the person is doing? Who might she work for? In what situations do people like this usually work?

2 ▷ **10.1** Listen to a radio interview with a volunteer who works for Volunteer Doctors Abroad, an international medical relief organization. Complete the table.

Name	Juliette Tremblay
Previous job	
Typical tasks in that job	
Position with VDA	
Typical tasks for VDA	
First posting for VDA	
Feelings about the work	

C21

COLLABORATION:
Volunteering

3 Do you think Juliette is used to being interviewed on radio or TV? Give some reasons and examples.

4 ▷ **10.1 Listen again. Which of the tactics a–g does the interviewer use to keep Juliette on the subject? Find examples of the tactics he uses.**

a He builds rapport by finding things in common.

b He builds rapport by showing interest in what she says.

c He coughs to show she is saying too much.

d He finishes some of her sentences for her.

e He interrupts gently and asks a new question.

f He tells her to keep calm and relax.

g He tells her when her answers are going off the subject.

FOCUS   **Expression**

Showing interest

Your body language is an important way to show interest in what somebody is saying to you – look at the person who is speaking, and smile or nod your head sometimes. You can also show interest with phrases like these:

Is that right?/Is that so?/Really?
That sounds challenging/fascinating/unusual.
That must be very fulfilling/tiring/interesting.

5 **Find out about famous volunteers.**

Student A: See below.
Student B: Look at page 181.

Student A

You are going to do some research on a group of famous volunteers called the White Helmets. Follow these steps.

a Look up the White Helmets on the internet. Make some notes about them and the work they do.

b You are going to interview Student B. First find out his/her opinions about people who volunteer to work in difficult or dangerous situations. Then find out from Student B about a well-known surgeon and medical volunteer called David Nott. Prepare some questions before you start the interview.

c Interview Student B. Use tactics to show interest in what he/she says and to keep the interview going smoothly.

d Now Student B will interview you about the White Helmets.

10c

What's the alternative?

Slideshow

1 In pairs. You are going to watch a slideshow called *What's the alternative?* Look at the photos from the slideshow. What do they show? Share your ideas with another pair.

2 In groups. Think of 20 words you will hear in the slideshow. Write them in a word map. Then share your ideas with the class.

3 Watch the slideshow. Make notes. How many of the words from your word map did you hear?

4 Discuss in pairs.

Have you ever tried an alternative medicine or therapy? Did it help you? Do you think alternative medicines have an important place in modern society? Why do you think they are so popular? Do you think they should be regulated?

5 Do some research on an alternative medicine or therapy. Choose one from the box or choose your own.

6 You are going to write a report on a kind of alternative medicine with the following headings *Background, Evidence, Effectiveness, Regulation* and *Outlook*.

Step 1 Plan your report and then draft it.
Step 2 Share your draft with another student.
Step 3 Complete your report considering your partner's suggestions.

- acupuncture
- chiropractics
- herbal medicine
- homeopathy
- reiki
- reflexology

FOCUS **Expression**

Researching unfamiliar topics online
- Find information from a number of sources, not only one.
- Ensure that the sources you use are reliable.
- Search for videos as well as written texts. YouTube videos often summarize topics clearly in a few minutes, and can demonstrate ideas with visuals.
- Find out who the experts are in the field you are researching, and read their work (or summaries of their work). If they have a blog, read that.

A CREATIVITY: PARAPHRASING

Paraphrasing is rewriting a shortened version of a text in your own words. People paraphrase on a daily basis when they tell other people about instructions they have been given, stories they've been told or conversations they have had. Spoken reports can include the original words that were used, but when you paraphrase in writing in an academic context, it is important to be able to say the same thing in different ways. A broad vocabulary that includes plenty of synonyms is very helpful when doing this.

1 **Identify the phrases in text B that paraphrase the highlighted phrases in text A.**

Text A

In many ways, this preference for auditory processing[a] is to be expected. In remote areas of the island, there are still large numbers of elderly women[b] who didn't attend school, and thus never learnt to read or write[c]. Their informal education consisted of the constant repetition of stories[d] that their elders told after dinner. Nowadays, many of these senior citizens are able to recite the genealogy[e] of each inhabitant of their village, or give detailed accounts[f] of events that happened 60 years ago or more. A substantial number of villagers who are now in their fifties[g] completed primary school but did not continue their education[h] thereafter. Since much of their schooling[i] involved learning passages of text by heart[j], a method that favours internal auditory processing, many of them are still able to recite lengthy sections of prose or poetry[k] that they learnt at school.

Text B

It is not surprising that the islanders prefer to process information as words or sounds. Many old ladies are illiterate, but, thanks to hearing the same stories time after time, they can explain family relationships and narrate events from their youth in detail. Many middle-aged residents in rural areas attended primary school but left after that. As a considerable proportion of their education involved rote learning, many can still quote long sections of text from their primary school days.

B COLLABORATION: VOLUNTEERING

Volunteering internationally is generally considered to be a worthwhile and useful way of helping people whose lives have been disrupted by natural disasters or conflicts. However, in some places, people also do part-time or full-time work as volunteers in their own country. Is this the case in your country? If so, what type of jobs do people do as volunteers? If not, can you imagine what they do in other countries?

Volunteering clearly has benefits for the people who receive help, but volunteers also find that they gain a lot from helping others, whether they do so abroad or in their local community.

1 **Read the list of benefits that people gain by volunteering locally. Which are likely to apply to Nour and Ted?**

a   building your CV
b   feeling proud of making a difference to the lives of others
c   feeling valued and part of a team
d   improving your confidence
e   learning new skills
f   making new friends
g   supporting a cause you care about

Nour

20 years old, unemployed, volunteers daily as a teaching assistant in a primary school

Duties: helps the teacher keep discipline, assists pupils who are having trouble following the lessons

Ted

67 years old, retired accountant, volunteers twice a week in a second-hand bookshop whose profits go to a medical research charity

Duties: sorts and categorizes books donated by the public; serves customers

Progress test

1 Rearrange the letters to make six medical words and phrases.

a ypsmtosm _____

b tabeoruk _____

c rahdreaio _____

d haldoetlt _____

e yotiedahnrd _____

f gocsitanou _____

2 Match the words from 1 with the texts below.

a Coughs and sneezes spread diseases. Please use a handkerchief. _____

b Huge traffic accident kills 13. _____

c I'm afraid I can't come to work today as I have an upset stomach. _____

d Last month, there were no reported cases of TB in this city. Now there
are more than 500. _____

e Sunstroke may cause headaches, dizziness, nausea and vomiting. _____

f I'd been hiking for several hours with no water, and suddenly I collapsed. _____

3 Read about four accidents and use the verbs in brackets to write third conditional sentences.

a Jack died after he fell off a ladder. His wife waited ten minutes before she called an ambulance.
By the time the ambulance arrived, it was too late.
If _____.
(call, die)

b Geraint was on a skiing holiday. Even though he is a beginner, he went down a very difficult route.
He had an accident and broke his leg.
If _____.
(go, break)

c Shanti took some painkillers because she had a headache. But she took twice as many as she was
supposed to take and she had to go to hospital.
If _____.
(take, have)
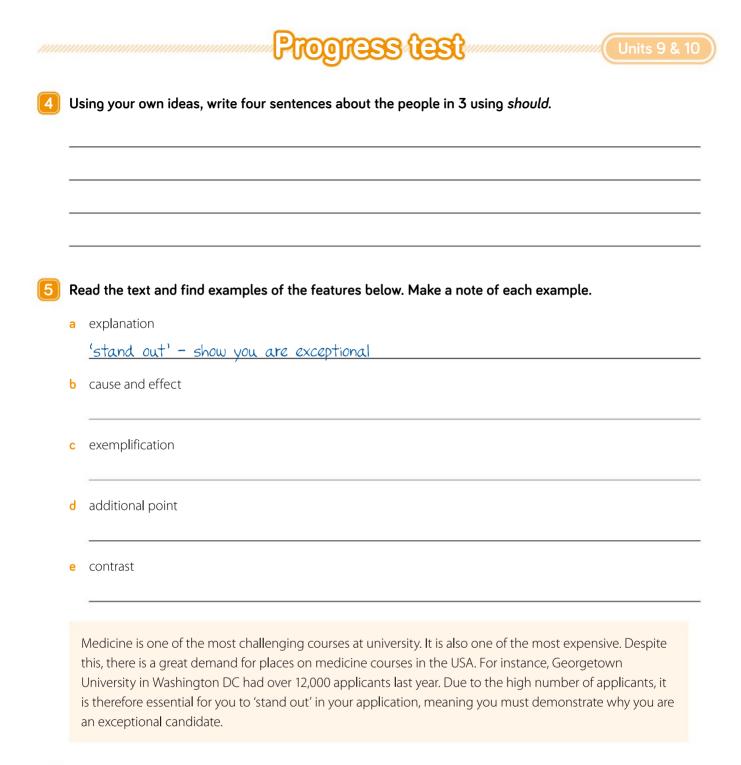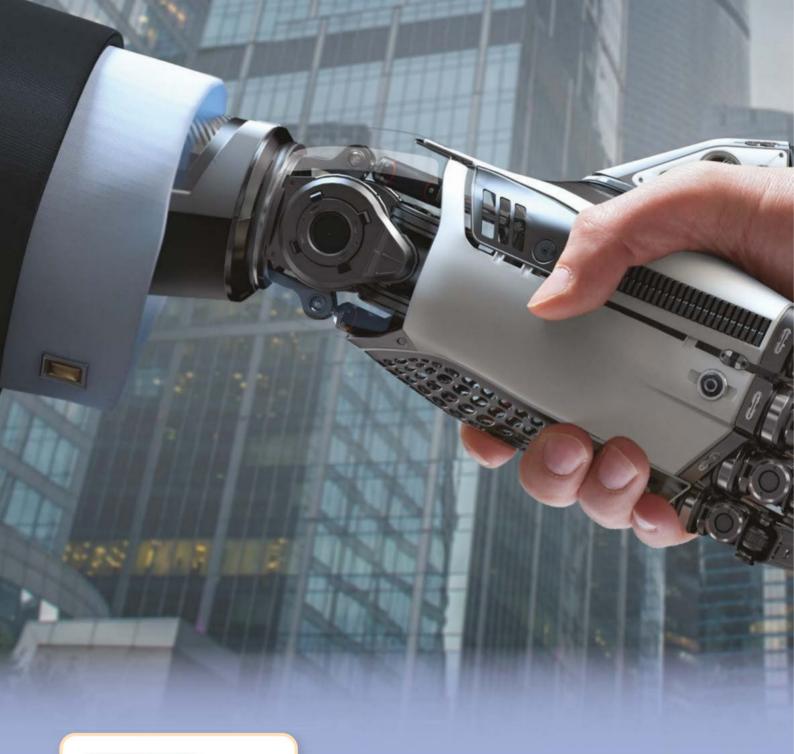
d Pal cycled through a red light and he was hit by a car.
If _____.
(cycle, hit)

4 Using your own ideas, write four sentences about the people in 3 using *should*.

_____

_____

_____

_____

5 Read the text and find examples of the features below. Make a note of each example.

a explanation

'stand out' – show you are exceptional

b cause and effect

_____

c exemplification

_____

d additional point

_____

e contrast

_____

Medicine is one of the most challenging courses at university. It is also one of the most expensive. Despite this, there is a great demand for places on medicine courses in the USA. For instance, Georgetown University in Washington DC had over 12,000 applicants last year. Due to the high number of applicants, it is therefore essential for you to 'stand out' in your application, meaning you must demonstrate why you are an exceptional candidate.

6 Cover the text and use your notes to write a paragraph in your own words.

_____

_____

_____

_____

C21 SKILLS

Communication
- Terminology

Life skills
- Dealing with career uncertainty

Critical thinking
- Continuous improvement

Scan the QR code or click here to practise key vocabulary from this unit.

11

The digitized world

Talking point

Do you think machines can ever be exactly like humans? Would it be a good thing?

Language skills

- **Listening & Speaking:** The effects of digital technology
- **Listening & Speaking:** Automation
- **Speaking:** Discussing targets and predictions
- **Speaking:** Talking about your vision of the future
- **Reading, Listening & Speaking:** Assessment criteria

Vocabulary

- Digital technology

Grammar

- *-ing* and *to* + infinitive
- Future perfect and future continuous

11A

Digital transformation

-ing and *to* + infinitive

Digital technology is developing and spreading faster and more widely than ever before and transforming every aspect of our lives, our industries, and the world in general.

The digital revolution has already brought many benefits and presents some incredible opportunities for the future. However, we cannot ignore the many drawbacks and challenges digital technology also brings.

1 **Read the text. How has digital technology changed daily life during your lifetime? Think of some examples using the ideas below.**

Example The internet allows us to book and manage our holidays online.

Technology

> apps the internet online services
> smartphones social media wifi

Area

> banking education entertainment
> health lifestyle news
> shopping socializing travel work

2 ▷ **11.1 Listen to some people talking about their lives and digital technology. Which of the topics in 1 do they talk about? Are their comments positive, negative or both?**

3 **Complete the sentences from 2.**

a People are able to comment on the news and give their opinions in real time. It's helped _____ a wider selection of voices, ideas and witness accounts to each story.

b Young people are forced _____ social media because they are frightened of missing out on things.

c I hate _____ online hotel booking sites. Every time you leave the site the price goes up and the room you want _____ disappears.

d You risk _____ something that's not actually very good, if you just follow online reviews.

e These days, children prefer _____ through digital technology rather than traditional methods.

f My students expect me _____ lots of multimedia in the classroom.

g I'm a farmer here in Kenya and I use an app called iCow. It reminds me when _____ and helps me monitor my herd's health.

h I think having mobile phone access encourages farmers _____ more organized.

4 Complete the questions with the correct form of the verbs in brackets.

a Does your teacher like _____ (use) digital technology in the classroom?

b Why do health experts advise people _____ (not use) a computer for long periods?

c Do you think social media helps people _____ (socialize) more or less?

d Have you ever forgotten _____ (recharge) your phone?

e In your school or college are people allowed _____ (access) the internet?

f Would you ever consider _____ (buy) clothes or shoes online?

g Could you imagine _____ (go) on holiday without a smartphone?

h Which online news site would you recommend people _____ (visit)?

i Do you use cookery books or apps _____ (help) you _____ (prepare) a meal?

j Do you prefer _____ (use) emails, texts or the phone to contact other people?

5 💡 In pairs. Ask and answer the questions from 4.

6 💡 In groups. Discuss which changes in digital technology you think have improved daily life and which have made life worse. Draw a mind map with your ideas.

Summer holiday

booking holidays online

Pros
cheap, quick, more convenient than booking through a travel agent

Cons
complicated, easy to make a mistake, don't get any advice

FOCUS

Grammar

-ing and to + infinitive

We use -ing or to + infinitive after a verb. There are no set rules, but there are some groups of verbs which are useful to remember.

Verbs followed by -ing
Liking and disliking: *detest, dislike, enjoy, fancy, like, love, prefer*
Saying and thinking: *admit, consider, deny, imagine, suggest*
We also use -ing with other common verbs: *avoid, finish, keep, miss, practise, risk*
Note that we use *would like, would love* and *would hate* with to + infinitive.

Verbs followed by to + infinitive
Plans, decisions and future events: *arrange, decide, expect, hope, intend, plan, want, wish*
Other common verbs: *attempt, fail, forget, help, manage, tend, try*

Verbs followed by object + to + infinitive
Influencing someone or something's behaviour: *advise, allow, enable, force, get, help, invite, persuade, recommend, remind, teach, tell, use*

Find examples of verbs from the three groups in 3.

C21 SKILLS

COMMUNICATION:
Terminology

See page 152 →

11B

Automation

Future perfect and future continuous

1 To what extent are these jobs performed by machines? How is this different to 50 years ago?

architect	bank clerk	chef	engineer
factory worker	photographer	pilot	shop assistant

2 ▷ **11.2 Listen to part 1 of a radio programme about automation and answer the questions.**

a   What is automation?
b   When did automation start?
c   What changes occurred in the 1970s?

d   What is John's prediction for 2040?
e   Which skills should people focus on in the future?

3 Read the list of human attributes and skills. Which of these do you think a machine has/hasn't done or can/can't do? Give some examples.

Attributes: accuracy, creativity, dexterity, emotional intelligence, initiative, sense of humour, stamina, strength

Skills: calculating, communication, decision-making, problem-solving, spelling, teamwork

4 ▷ **11.3** Listen to part 2 of the programme and tick the attributes and skills in 3 that the speakers mention. Which attributes do the speakers think machines have or will have in the future?

5 💡 Do you agree with John's vision of the future? Give your reasons.

6 Read sentences a–d from the radio programme. Which sentences refer to:

1 a continuous action in the future?

2 a completed event before a time in the future?

    a … by 2040, computers will have taken up to 80% of today's jobs.

    b … we don't really know what jobs robots will be doing in the future …

    c … I'm pretty certain that by 2040 robots won't have acquired emotional intelligence.

    d … these are skills that employers will be looking for in the future?

7 💡 Choose the most appropriate tense to complete each sentence. Which statements do you agree with?

a In the future, fewer people will *be doing* / *have done* manual jobs.

b Computers won't *be learning* / *have learnt* how to tell jokes by 2040.

c Employers will *soon be using* / *soon have used* robots to interview job candidates.

d Automation won't *be affecting* / *have affected* my chosen industry by the time I retire.

e In a few years' time, computers will *regularly be making* / *regularly have made* billion-dollar decisions.

f By the end of the 21st century, a computer will *be setting up* / *have set up* its own company.

8 💡 To what extent do you think machines will have taken over the following jobs? Complete the sentences with your own ideas.

a In a few years' time, accountancy …

b In the future, musicians …

c By 2040, taxi drivers …

d By the time I have children, teachers …

FOCUS | **Grammar**

Future perfect and future continuous

We use the **future perfect** to talk about an event that occurs before a point in the future. We often use the future perfect with 'by' and 'by the time'.

Example   By September, I'll have graduated and started a job.

We use the **future continuous** to talk about events in progress at a point in the future. We often use the future continuous with a future time phrase, e.g., *next month*, *in a year's time*.

Example   In 2023, I'll be working for an IT company.
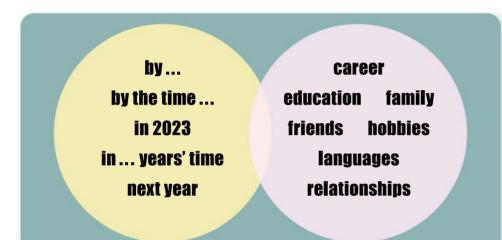
9 ▷ **11.4** Listen to four speakers talking about the future and compare your answers in 8. Put the speakers in order of how concerned they are about the future starting with the most concerned.

10 💡 Think about your future in the areas below. Make a list of targets and predictions.

Example By the time I'm 25, I'll have learnt three languages.

by …
by the time …
in 2023
in … years' time
next year

career
education   family
friends   hobbies
languages
relationships

11 In groups. Discuss your targets and predictions.

12 💡 In groups. Discuss which of the three visions of 2050 below you think is the most likely. Make notes on your discussion and describe your vision of the future to the class.

a Automation will have replaced all manual jobs and humans will not be needed. Robots will have taken over and because they lack empathy they will exterminate humans.

b Robots will have replaced human workers but will treat humans the same way society treats retired people today.

c Humans will have designed enough robots to do all the boring, repetitive work leaving humans free to relax or pursue jobs they enjoy.

11c

Innovation and improvement

📖 🎧 💬 Assessment questions

1 **In pairs. Discuss the questions about apps.**
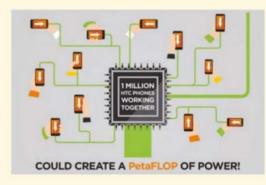
   a What apps do you have on your phone?
   b How are the apps useful?
   c Do any of the apps have flaws? How could they be improved?

2 💡 **Read the article. What do you think of HTC's idea?**

HTC is a Taiwanese company that designs and manufactures mobile phones and tablets. The company's response to the problem of access to processing power was 'HTC Power To Give', an app that allows any spare processing power on people's smartphone to be collected. The spare processing power is then sent to a grid which is made available to a variety of worldwide research projects.

Innovation

Large-scale research projects require enormous amounts of processing power in order to analyze all their available data. Many worthwhile projects cannot perform at an optimum level because they don't have access to 'supercomputers' and therefore don't have enough processing power to carry out effective research.

1 MILLION HTC PHONES WORKING TOGETHER

COULD CREATE A PetaFLOP OF POWER!

3 ▷ **11.5 Listen to Khaled and Petra talking about the Power To Give app and answer the questions.**

   a Why is Khaled not interested in apps?
   b What reservations does Khaled have about the Power To Give app?
   c How does Petra respond to Khaled's reservations?

4 ▷ **11.5** Listen to the conversation again and tick any criteria from the Focus box that Khaled and Petra talk about.

FOCUS   Expression

Assessment questions

In order to assess something, you need to be able to ask the right questions.

For example, when assessing a smartphone app, you might use the following:

Is it	innovative?	Is it an original idea?
	useful?	How much of a difference will it make to people's lives?
	ethical?	Does it do good or harm?
	efficient?	Does it work as well as it should do?
	reliable?	Does it work every time?
	safe?	Will it damage the phone or expose the user to danger?

Think of some assessment criteria for assessing a driverless car.

5 In pairs. Take turns to read a situation from the list below and find an app which provides a solution on page 182.

a Despite their usefulness, smartphones have a serious downside; people can become addicted to looking at them. This causes two problems: a decline in productivity and a lack of appreciation for 'the real world'.

b As consumers we are aware that some businesses use unethical business practices such as child labour. Many of us would like to be 'ethical consumers' and avoid giving money to these businesses but do not have enough information about every company to make an informed choice.

c Hunger is a serious issue for millions of people all around the world. Yet huge amounts of food go to waste, especially in the developed world. People often buy more than they can use, and this extra food usually gets thrown away.

d We spend a lot of time in our homes and offices without knowing the quality of the air around us. Air quality, temperature and humidity can seriously affect our sleep, our energy levels and our general health.

e Most of the 500 million smallholder farmers in the world survive on less than $1 a day. Working in difficult conditions, these farmers could help each other by sharing knowledge and solutions to everyday problems. However, most do not have access to the internet.
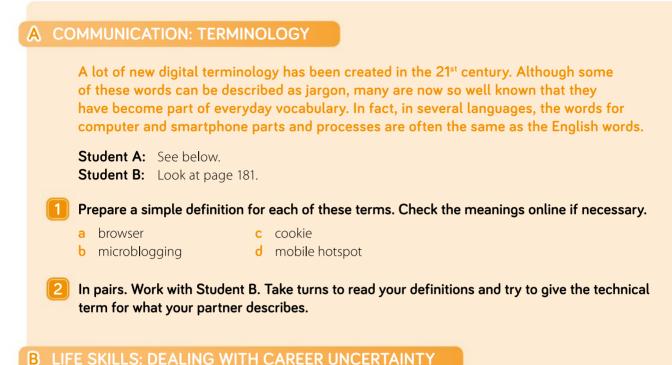
6 Assess the apps on page 182 by using the appropriate questions in the Focus box. Rate the apps from best to worst. Then compare your ratings with other students.

7 💡 In groups. Choose an app you know that you think could be improved. Follow the instructions below.

a Compile a list of criteria.
b Use assessment questions to identify strong and weak points.
c Make a list of areas to improve.
d Brainstorm possible improvements.
e Make a list of new features and changes.

C21 SKILLS

CRITICAL THINKING:
Continuous improvement

See page 154 →

8 💡 Take turns to present your ideas and answer questions from the class. Which is the most improved app and why? Have a class vote.

A COMMUNICATION: TERMINOLOGY

A lot of new digital terminology has been created in the 21st century. Although some of these words can be described as jargon, many are now so well known that they have become part of everyday vocabulary. In fact, in several languages, the words for computer and smartphone parts and processes are often the same as the English words.

Student A: See below.
Student B: Look at page 181.

1 Prepare a simple definition for each of these terms. Check the meanings online if necessary.

a browser
b microblogging
c cookie
d mobile hotspot

2 In pairs. Work with Student B. Take turns to read your definitions and try to give the technical term for what your partner describes.

B LIFE SKILLS: DEALING WITH CAREER UNCERTAINTY

In the past, people often had just one or two jobs throughout their working lives. In the 21st century, however, there is much less certainty and stability in the job market. To deal with career uncertainty, you need to see change as an opportunity rather than a threat. It helps if you stay up to date with your industry's trends and take advantage of training sessions to develop 21st century skills.

1 In pairs. Look at the photos and answer the questions.
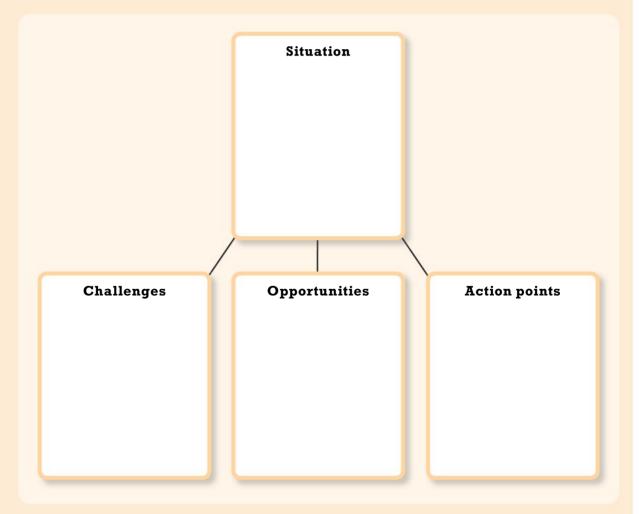
a What job do you think this man does, and where?
b What do you see in photo 2 and how may this affect the man in photo 1?

2 Idris, the man in photo 1, has kept up with trends and is preparing himself for change. Put the phrases in the correct part of the mind map he prepared to help himself deal with and prepare for change.

a Ask the Personnel Manager about other opportunities inside the company.
b Automation is on the rise; similar companies are using drones.
c Find out about government training programmes.
d I could start my own (small) delivery company.
e I may find other types of delivery/driving work.
f I may lose my job.
g I might be able to retrain for a different/better job in the same company.
h I need a regular income to continue buying our flat.
i My company may introduce drones.
j Speak to the bank about loans for starting a small business.
k Yasmin could go back to work and I could look after our son.

Situation

Challenges

Opportunities

Action points

3 Add your own ideas to the mind map, or draw up a similar mind map for a possible career change in your own life or the life of somebody close to you.

C CRITICAL THINKING: CONTINUOUS IMPROVEMENT

One way to see improvement is as a gradual series of changes in your work or business, your education or an aspect of your personal life. It involves the following:
- **Reflection:** Look at how things are currently working and reflect honestly on the process.
- **Identification:** Identify any processes which are wasteful or unhelpful.
- **Reduction and elimination:** Make changes that reduce or eliminate the areas identified.
- **Evolution:** Continue to make small steps and changes to improve the process.

1 ▷11.6 **Listen to three people talking about making improvements in their lives. Which speaker (a, b or c):**

a   is making improvements in a work situation?
b   is making improvements for their own personal satisfaction?
c   is involving other people in the process?
d   is improving their lives by setting small goals?
e   is willing to modify their final goal depending on results?
f   is applying the 'reflect-identify-reduce-evolve' model?

2 **Think of a situation in which you want to make improvements. Which of the approaches in 1 would be useful for you?**

PLANNING AHEAD

Progress

1 Make a list of three things you learnt in this unit and three things to practise.

Things I can do	Things to practise
1	1
2	2
3	3

2 Compare your list with a classmate.

My learning plan for next week

1 Think about next week. How can you improve your English? Write four learning ideas for the next week. How much time do you need for each idea?

Example I plan to learn five new words, and write them in my vocabulary notebook (ten minutes).

	Action: I plan to ...	Time (...) mins	Review after a week
1			
2			
3			
4			

2 Share your learning plan with another classmate.

3 At the end of next week, review your plan. Use these ideas.

• Done   • Not done   • More practice   • Update learning plan

Communication in class

1 How active are you in class? Rate yourself for each point.

2 How can you be more active in your classes next week? Write three ideas.

		Yes	No
a	I ask questions when I don't understand.		
b	I help classmates when they don't understand.		
c	I speak in group tasks a lot.		
d	I answer questions when I know the answer.		

Example Ask classmates or my teacher at least two questions.

_____

_____

_____

3 Share your ideas with a classmate.

Example In my next class, I plan to ask my teacher or classmates two or three questions.

C21 SKILLS

Study skills
- Reading appropriately

Communication
- Readability

Scan the QR code or click here to practise key vocabulary from this unit.

12 Technology

Talking point

On balance, do you think technological innovations benefit humanity, or harm it? Think of examples from the past, present and future to support your ideas.

Language skills

- **Reading:** Speed-reading
- **Reading:** Reading for specific information
- **Reading:** Reading to complete a table
- **Speaking:** Discussing speed-reading techniques
- **Speaking:** Discussing algorithms
- **Reading, Speaking & Writing:** Crowdfunding
- **Writing:** Writing a short review

Vocabulary

- Algorithms

12A

Algorithms

📖 📝 💬 Speed-reading

1 **Read part A of a text on algorithms. Follow the instructions.**

a Read as fast as you can.
b Start a timer when you begin reading.

c Stop the timer when you finish the text.
d Make a note of your time at the bottom of the text.

A **About algorithms**

We hear a lot about algorithms, but what are they and why should we care?

Put simply, an algorithm is a set of step-by-step instructions that is used to solve a problem. The algorithms we hear about in the news, however, are generally in the form of computer programs and are far more complicated. They allow scientists to analyze huge amounts of data and use that information to perform a wide variety of tasks such as predicting climate change or developing medicines. But while these examples are overwhelmingly seen as positive examples of scientific progress, there are many other uses of algorithms that may be cause for public concern. Often they are being used in ways which affect our daily lives far more than many of us realize.

Start time: _____   Finish time: _____

2 **Cover the text and answer the questions.**

a What is an algorithm?
b What do algorithms allow scientists to do?
c What two common uses of algorithms are mentioned in the article?

3 **Go back to the text and check your answers to the questions in 2. Could you have answered the questions better if you had read the text more slowly?**

FOCUS   Expression

Speed-reading

The faster you read, the more time you save, therefore allowing you to read more. Try these techniques and see if they improve your reading speed. But remember to always monitor how your comprehension of a text is affected by how fast you read.

1 Before reading the whole text, read any headings and the first and last sentences. This will give you an idea of the main themes, allowing you to predict the content.

2 As you read, try not to 'hear' each word in your head as this will slow you down. Occupy your mouth with something else like chewing gum or humming. Alternatively, listen to the radio as you read.

3 Don't focus on one word at a time. Try relaxing your face and moving the text slightly further from your eyes. This should allow you to focus on groups of words at a time instead of individual words.

4 Force yourself to read more quickly by pulling a piece of card down the text as you read, covering the lines you have already read. This will stop you from going back to reread sections. The speed at which you move the card will determine how fast you read.

4 Use technique 1 from the Focus box before you read part B of the text on algorithms. Speed-read the whole text and note your start and finish times. Then make notes in the table.

Why algorithms are used	Potential problems	Evidence or examples

B **Using personal data**

Every time we post on social media, search online or use a loyalty card in a supermarket we are building data, and in order to make sense of this data, companies use complex algorithms. A common justification for analyzing the data is that they are creating a more personalized experience for each of us. Whether it's by only showing adverts that are relevant to us, by recommending apps we might like, or by giving us news stories we are interested in, there is no doubt that our shopping and online experiences have become more efficient and tailored to our interests. But is that necessarily a good thing? Some critics argue that we are actually being encouraged to do the same things we have always done, buy the same products, play the same games, follow the same news stories, and chat to similar people, without ever having our views challenged. Ultimately, this could lead to an unrealistic perception of the world.

Another objection relates to the protection of our privacy. It's possible most of us have not appreciated the significance of the data footprints we leave, and how they can be used. Many shopping chains use the data of their customers from their loyalty cards to make very detailed predictions. One supermarket has even found a way to assign its customers a 'pregnancy prediction score' based on the products they have been purchasing. They then send out vouchers for baby products to those customers with high scores. To some this may seem helpful, but to many people it is an invasion of our privacy. And this is likely to be just one example of a growing trend. Corporations are constantly developing algorithms to analyze and use our personal data in different ways.

Yet our data is more than just a record of things we've bought and words we've typed into a search engine; it is, according to one professor, 'a digital extension of our soul'. While we may not be able to stop this data being produced, we should think about who has access to it and how we can regulate the use of it.

Start time: _____   Finish time: _____

C21 SKILLS

STUDY SKILLS:
Reading appropriately

See page 164 →

5 Following techniques 1, 2 and 3 from the Focus box, read part C of the text and time yourself. Then cover the text and complete the table.

Why algorithms are used	Potential problems	Evidence or examples

C **Humans and machines**

In many ways, human abilities are limited; we can only deal with a certain amount of information, we make mistakes, and compared to computers we can be very slow. It is therefore no surprise that algorithms are replacing humans in a wide variety of jobs. Most investment banks, for example, use algorithms to buy and sell currencies. These programs are able to analyze masses of data and can act on perceived changes very quickly. And they are able to do all this with an incredible level of accuracy.

Many of today's aeroplanes also use complex algorithms to program their automated flying systems. This 'fly-by-wire' system will take a human pilot's naturally imperfect movements and translate them into a much smoother, faultless control of the plane. Generally, this has made planes much safer.

But there is a potentially disastrous downside to this sort of algorithmic automation. On the 6th May 2010, there was a trillion-dollar stock market crash lasting just 36 minutes. Stock indexes such as the Dow Jones completely collapsed before rapidly recovering. The reasons behind this 'flash crash' have never been fully explained, but most financial experts believe it was the result of competing algorithms.

Although it seems that in the 'flash crash' example, humans were able to step in quickly and prevent disaster, unfortunately that is not always the case. On the 31st May 2009, an Air France plane flying from Rio de Janeiro to Paris, crashed into the Atlantic Ocean killing all 228 passengers and crew on board. The recording of the pilots reveals that both the autopilot and the fly-by-wire system had stopped working. While this should have meant the pilots simply took control of a difficult situation, the inexperienced pilot in this case was unable to do so successfully. It seems that the problem was not just the algorithms themselves, but the fact that pilots had come to rely on them.

These two stories suggest that when we hand over important responsibilities to an algorithm, we should monitor the situation constantly and be ready to take over when necessary. Otherwise the consequences can be devastating.

Start time: _____   Finish time: _____

6 Turn to page 183 for another reading activity.

7 💡 Go back to texts B and C and the article on page 183 and check your notes in the tables and your mind map. Make corrections and add details if necessary.

8 In small groups. Compare your experiences of speed-reading techniques with each other. Which text did you read the quickest? Which techniques did you find most useful? Will you use any of them again?

9 💡 In small groups. Discuss the questions using the information in your notes and your own ideas. Give a summary of your discussion to the class.

a Have you ever noticed how your online experience is personalized? Give examples.

b How much personal data have you given to other people or companies? Does security concern you?

c Do you agree that we rely too much on technology?

d Which examples of the use of algorithms concern you?

12B

Crowdfunding

📖 💬 📝 Writing for an audience

1 **Read the home page of a crowdfunding website and answer the questions.**

a   Do you know any similar websites and have you ever used them?
b   Why do you think these websites are popular? What are the benefits?
c   What type of project would you be interested in supporting?

🔴🟡🟢 🔍 Jumpstart

Jumpstart – How it works

If you're on this page, we know you're planning something exciting. And we want to help you. The idea behind Jumpstart is simple. You have an amazing idea, but you need money to turn it into reality. You write a description of your idea, decide how much money you need and what you will offer people in return for their money. We put all these details on the website and you watch as the funds come in. Last year, we helped to raise more than $100 million for a huge variety of projects. With Jumpstart, there's never been an easier time to make a dream come true!

2 **Read about a new Jumpstart project. Would you consider supporting the project if you had enough money? Give your reasons.**

🔴🟡🟢 🔍 Open Book

A new page for an iconic bookshop

A bookshop is so much more than a shop. It's a place to meet, have conversations, learn and exchange ideas. Even in this time of amazing technological advances, a good bookshop is vital for every community. The previous owners of Open Book knew this. That's why, when they decided to sell up, they chose us to be the new owners – because they knew our passion for books.

We are a young couple with a combined 15 years' experience working in bookshops and we are incredibly excited to be starting a new adventure with Open Book. We have exciting plans for the shop, including reading classes for both children and adults and book-reading evenings.

The challenge is that we simply don't have enough capital, which is why we are here on Jumpstart. We are hoping to generate £20,000 which will be spent as follows:

- fees associated with the shop purchase (£15,000)
- new stock for the shop (£3,000)
- new Open Book website (£2,000)

With the right backing we estimate the shop will be open for business in just three months' time. We will be regularly updating this page to keep you all informed on our progress. We would be so grateful for any support you can give us.

Many thanks, Karl and Genevieve
Thank you!

In return for your generosity, we'd love to offer you:

- **£20**   a personalized thank-you message on our new website
- **£100**   a limited edition T-shirt featuring the Open Book logo
- **£250**   an Open Book T-shirt and a subscription to our monthly newsletter
- **£500**   an Open Book T-shirt, subscription to our newsletter and your name inscribed on one of the shop's bookshelves!

3 Identify the sections of the text which answer the following questions. Why would a visitor to the website ask these questions?

a Who are you and what is your relevant experience?
b What is your project?
c How will you keep supporters informed and up to date with progress?
d Why is your project important?
e How long will it take to complete the project?
f How much money is needed and how will it be used?
g What rewards are you offering?

4 In pairs. Use the questions from the Focus box to discuss writing tasks a–e.

a a letter complaining about a parking ticket you received
b an online review of a great restaurant you visited
c an email giving instructions on how to get to your house from the airport
d a college essay in your chosen field of study
e a social media post about something funny that happened to you this morning

5 In pairs. Discuss which Jumpstart projects (a–e) you would be most interested in. What would you want to know about each project before you invested in it?

a a film about life as a young person growing up in 2020
b a band recording their first album in a professional studio
c a play café providing free play sessions for children of low-income families
d an engineer who has designed a solar-powered lawnmower
e a campaign to clean up the parks and rivers in your area

6 💡 In groups. Write a crowdfunding webpage. Follow the instructions.

a Choose a project from 5 or think of your own project.
b Research some relevant facts and figures. How much money will you ask for?
c Decide if you will offer any rewards to supporters.
d Decide what information your readers will need and make a list.
e Write the appeal and check that it gives all the information the reader needs.

7 💡 Design your webpage with appropriate photos, etc., and make a poster.

8 💡 Look at other groups' posters. Which projects would you consider supporting?

FOCUS | Expression

Writing for an audience

Every time you write, remember to ask the following questions. This will help you decide on the content and the style (formal or informal) of your writing.

Identify your aims
Why are you writing: to persuade, inform, describe, request or tell a story?
What do I want the reader to do after reading this?

Identify the audience
Who do you want to read it?
Who else might read it?
Why will people read this?
What will the reader already know?
What do they need to know?

C21 SKILLS

COMMUNICATION: Readability

See page 165 →

12c

Ahead of the game

🎧 💬 📝 Slideshow

1 In pairs. You are going to watch a slideshow called *Ahead of the game*. Look at the photos from the slideshow. What do they show? Share your ideas with another pair.

2 In groups. Think of 20 words you will hear in the slideshow. Write them in a word map. Then share your ideas with the class.

3 Watch the slideshow. Make notes. How many of the words from your word map did you hear?

4 Discuss in pairs.

What kind of video games are most popular? Which ones do you and your friends enjoy most? Have you ever played a collaborative game? What examples of gamification have you used? Did they help you reach your goals? Are computer games good or harmful for young people? What evidence supports your view?

5 Think about a video game you've played.

6 You are going to write a short review of a game (500 words).

Step 1 Plan your review and then draft it.
Step 2 Share your draft with another student. Does your partner understand what kind of game it is?
Step 3 Complete your review considering your partner's suggestions.

FOCUS **Expression**

Tips for winning game reviews
- Start your review by writing a couple of sentences describing the game.
- Remember that a game review is always subjective.
- Mention what you really liked and what you really didn't. Areas to consider are gameplay, graphics, sound and replayability.
- Finish your review by summarizing what you thought of the game, and give it a rating out of ten.
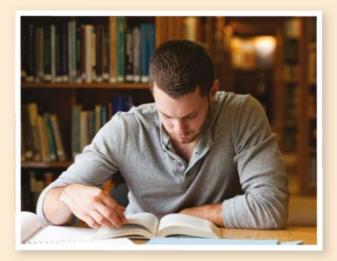
A STUDY SKILLS: READING APPROPRIATELY

When we read, we should find a balance between reading quickly and reading carefully enough to understand as much as we need to. The necessary amount of comprehension depends on what we are reading and why we are reading it.

1 Complete the table. Write a–e in the correct column.

a You read every word carefully and look up words you don't know. You probably read this section more than once.

b You read rapidly, looking at headings, introductions and the start and end of paragraphs.

c Revise material you have studied already.

d Find your name in a long list of names.

e Understand a text in depth and think about it critically.

What you want to do	Reading technique	How it works
	Scanning	You read rapidly and look for specific words.
Get a general idea of a text to see if it suits your needs.	Skimming	
	Active reading	You take notes, make mind maps and ask yourself questions about the text as you read it.
Understand a very difficult section of text.	Close reading	
	Speed-reading	You read the whole text very rapidly. You don't focus on specific words.

B COMMUNICATION: READABILITY

When you write, it is not enough just to have interesting and relevant content. The content needs to be organized and delivered so that a reader can understand your message. One common mistake that affects readability is that the writer has not made a plan before writing and so adds extra thoughts, ideas or corrections afterwards, which makes the writing messy. Lack of planning also leads to badly-structured paragraphs that are either too long or too short. Frequent errors in vocabulary, grammar and punctuation also make ideas hard to follow.

1 **In pairs. Read and assess the extracts from two different student essays. Think about the following points:**

- How easy do you find each extract to read?
- What factors affect the readability of each extract?
- Is the message the student is trying to get across clear? Why/Why not?

Essay A

In the 21st century the rubbish is a problem of huge impact on everyday lives of people in all parts of the world. The rubbish is a problem which is at the front of many issues in today's news and on the headlines. In this paper I will outline way to deal with the big problem of rubbish in the West world.

A big amount of the huge rubbish problem is generated by the west world. But there are campaigns of recycling, many people still don't follow this list of rules. Recycling can be help in making less rubbish and using the waist in a better way. In Germany, it is illegal to not recycling and this makes a big difference in the amount of rubbish that the country generated this year because the rubbish didn't go to the dump but went to the recycling. Things you can recycling are: plastic, paper, wraps and even clothes and shoes which can be given to people who don't have them. The other ways of limiting rubbish is including: companies producing a small amount of packages for their products, people cooking more at home and people making things out of rubbish. These are some ways we as people in the West world can make the rubbish problem slightly smaller in our corner of the world which can have a fantastic impact on our quality of life and that are good solutions in my view.

Essay B

and fertilisers

In addition, the flora and fauna gets destroyed by the monocultures.

The genetically modified products can grow in areas where normal seeds cannot grow, so this leads to bigger yields.

We all have heard from the technology of food production, but how do we really know what it is? All started at the point ~~which~~ where a lot of farmers decided to plant only one single crop, then they developed the chemical pesticides. And now the last years we have also genetically modified seeds.

By ~~From~~ this technology, a lot of problems are caused. At first, there are environmental and health risks. A lot of times bacteria and pests can become resistant to pesticides, which can lead to the lose of the howl crop. Another important point is that genetically modified products may ~~change~~ altre gens of people who consume them.

On the other hand, with the help of this technology we can have a mass production of food. It is also important to say that it is cheaper to produce genetically modified products and so this products are also cheaper to buy.

1   **Read the sentences from advertisements for mobile phone apps. Complete each one with the correct form of the verb in brackets.**

a   Do you want to be more productive? Avoid _____ (waste) time with this great new app.

b   When you decide _____ (do) something, just type it into your phone and the app will support you.

c   If you hate _____ (shop), you'll love this cool new app!

d   'Planahead' is a brand new app which allows you _____ (see) into the future!

e   Download 'SpeakUp' and you can practise _____ (speak) English anytime you want.

f   Do you want _____ (make) the world a better place? Then download the 'Betterworld' app now.

g   We all miss _____ (chat) to our family and friends when we're in a different country. And that's why we all need the 'Chataway' app.

h   This is an app that actually teaches you _____ (sleep) better!

2   **Complete the sentences with either the future perfect or the future continuous form of the verbs in brackets.**

a   We hope that we _____ (raise) £10,000 by the end of the year.

b   Unfortunately, the Council _____ (not fund) the project anymore which is why we need new investors.

c   The band _____ (play) at several venues over the next six months.

d   We predict that the total _____ (rise) to more than £10,000 by August!

e   We _____ (send) emails to all our investors with updates on the progress of the project.

f   Thank you all for your contributions, but sadly we _____ (not reach) our target by tomorrow.

3   **Read the article using the speed-reading skills from section 12A. Then answer the five questions. When you have finished, go back to the text and check your answers.**

a   In what three areas are most of the highest-funded crowdfunding projects based?

b   What is special about *Flow Hive*?

c   How many features of the *BauBax* jacket can you remember?

d   What is special about the new car from *Elio Motors*?

e   How much money has been raised by the three projects mentioned in the text?

From beehives to jackets – some of the most successful crowdfunding projects ever

Every day sees hundreds of new projects being launched on different crowdfunding websites, but what have been some of the most successful projects? Perhaps unsurprisingly, most of the highest-funded projects are either video games or are connected with online data or finance, but not all. Take for example, *Flow Hive*, a new type of beehive which allows people to remove the honey without disturbing the bees. After setting a target of $70,000, *Flow Hive* managed to attract over $12 million of investment!

Or what about the *BauBax*, a travel jacket that comes with more features than you could ever ask for. With built-in neck pillow, eye mask, gloves, earphone holders and drink holder, the *BauBax* has clearly captured the public's attention, raising more than $10 million so far.

But these amounts are nothing compared to the money raised by *Elio Motors* for their new car. So far, more than $100 million has been raised to fund their three-wheel vehicle, noticeable for its price and efficiency. *Elio* plan for the car to do an amazing 84 miles per gallon, and to cost just $7,300.

In short, there doesn't seem to be a magic rule for creating a successful crowdfunding project. But the examples above suggest that projects which are original and innovative certainly stand a good chance of attracting investment.

4 Make a list of assessment criteria for buying a laptop. Then put the criteria in order of importance (1 = most important).

1 _____

2 _____

3 _____

4 _____

5 _____

6 _____

5 You are going to write a review of one of the products below. First, think about who will read the review and why. Then, make a list of the type of information your reader will need.

| car | laptop | smartphone | smartphone app | video game | website |

6 Now write a 200-word review. Check that you have included all the necessary information.

_____

_____

_____

_____

_____

_____

Additional resources

Activities

These activities are an opportunity for you to practise your speaking. Don't worry about making mistakes. Just think about your message and how to interact with your activity partner.

Transcripts

Reading the transcript is another good way to review the language and skills you study. You can make photocopies and write notes on the pages to help you remember the meaning.

Word list

Use the word list to revise. You can translate the words into your own language and add example sentences. You can write your own examples or find examples from the unit.

Activities

1A

You are going to describe a trend to the rest of the class. Follow the instructions.

1 Do some internet research on a topic that you are interested in.
Find a graph which shows a trend related to the topic.

Example A graph showing the average salary in your country over the last five years.

2 Describe the trend using the language from this lesson.
Explain how the trend will affect you and other people.

3 Practise describing the trend and its effects with a partner.

4 Present your findings to the class.

1B

In pairs. You are going to role-play a life coaching session. Follow the instructions.

1 Student A
You are the life coach. Think of questions to ask Student B about their targets, activities and achievements.

Student B
You are the client. Decide on three targets, activities and achievements.

Targets	1	_____
	2	_____
	3	_____
Activity	1	_____
	2	_____
	3	_____
Achievement	1	_____
	2	_____
	3	_____

2 Take turns to be the life coach and the client.

Example
A How have you been?
B Good, thanks. I've been training for a marathon!
A That's great.
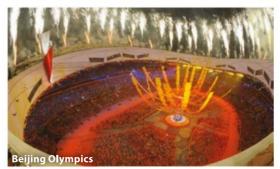
1C

18/04/2020	Smart buildings: Why the Pearl River Tower has been described as 'the most energy-efficient skyscraper in the world'
'Smart tower'	Uses natural forces to maximize energy efficiency
very efficient	58% less energy than trad. build. of same size
How?	Clever, careful design
– Wind	Walls diff. shape – redirect wind through building 4 wind-power turbines – electr.: heat., vent., air-con. systems
– Sun	Solar panels – mechanical blinds
– Double skin	Double skin traps heat – hot water

1C

Student A

a   Tell your partner anything you know about each project.

b   What do you imagine the benefits and drawbacks of each project are/were?

c   Research the projects with your partner and write notes giving details of each project. Include details about the benefits and drawbacks.

d   Present the projects to the class. Discuss the merits of each project and decide which was the most worthwhile investment.

International Space Station

Beijing Olympics

Activities

3A

Student A

Ask Student B these questions.

a   Tell me something about the methodology that was used at your primary school.

b   Are you somebody who picks up new skills easily?

c   Where do you prefer to look up information?

d   Do you need lots of repetition in order to learn new skills?

e   What kind of homework tasks does your current teacher usually set?

f   If you were the Education Minister for your country, to what extent and in what ways would you want the education system to use technology?

3B

Read about Dr Mitra's ideas on the future of education. Prepare for a class discussion: 'Should exams be abolished?'

More than his teaching methods, what probably annoys many teachers is Sugata Mitra's sweeping pronouncements about knowledge, education and the internet. In his 2013 TED Talk, he raised the question of whether we are heading for a future where knowing is obsolete. He believes that, with the internet at our fingertips, there is no longer a need to learn facts, dates, multiplication tables, and so on, but that what is required is an education system that teaches children how to retrieve, evaluate and apply the information they can find online.

In a 2016 interview, referring to the fact that smartwatches and eyeglasses could soon be smuggled into exams, Mitra stated that 'Within five years the internet will be inside our heads'. Accordingly, he believes that we should no longer consider it to be cheating if a candidate looks up information on the internet while sitting an exam. In fact, exams should be abolished and new methods need to be developed for assessing students' achievements.

It seems likely that, after nearly two decades of controversy and innovation, Sugata Mitra will continue to excite debate and attract believers or detractors in almost equal proportions.

Activities

3C

Students A and B

1 **Imagine you are teachers using the flipped classroom approach. Match the questions and answers.**

a What do you like best about the flipped approach?

b Do you make your own videos for the homework lessons?

c Do you think that video lessons are really useful?

d Where did you find that great video about long division? Can I use it, too?

1 Sometimes, but it's time-consuming. I try to find good ones online instead.

2 Yes, but I trained the pupils to get the best out of them and to take notes. It's not the same as watching a cartoon.

3 On YouTube. Sure, I'll give you the link.

4 In a flipped classroom, I can spend more time with the pupils that really need help.

2 **Role-play the questions and answers as a conversation in front of the class.**

4A

Students A, B and C

Preparation

You are at a networking event for small business owners in your town. You have already formed a group at the event. Agree some details before you start the role-play:

- What job does each of you do? (Write a business card for yourself.)
- Have any of you met each other before?
- What conversation topic can you all be talking about when Student D joins your group?
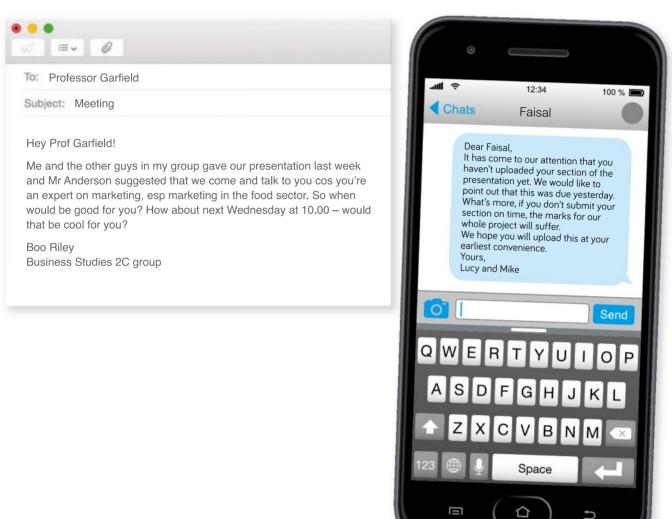
During the role-play

- Talk to each other on the topic you have chosen.
- Welcome Student D into the group.
- Answer Student D's questions.

Any of you can leave the conversation when you want, but you must do so politely!

Activities

4B

In pairs. Rewrite the email and the chat message below, making the style for each one more appropriate.

To: Professor Garfield

Subject: Meeting

Hey Prof Garfield!

Me and the other guys in my group gave our presentation last week and Mr Anderson suggested that we come and talk to you cos you're an expert on marketing, esp marketing in the food sector. So when would be good for you? How about next Wednesday at 10.00 – would that be cool for you?

Boo Riley
Business Studies 2C group

Faisal — 12:34

Dear Faisal,
It has come to our attention that you haven't uploaded your section of the presentation yet. We would like to point out that this was due yesterday. What's more, if you don't submit your section on time, the marks for our whole project will suffer.
We hope you will upload this at your earliest convenience.
Yours,
Lucy and Mike

Activities

Student A

1 With your group, make up four short sentences. Each sentence must include one of these words.

behaviour	innovate	reward (noun)	tolerate

2 Find a partner from group B. Read your sentences to Student B, one by one. Student B must say the same thing, but use a verb if you used a noun, or a noun if your sentence included a verb.

3 Now listen to Student B's sentences and rephrase them. Use a verb if you hear a noun, or a noun if you hear a verb.

Look at the photos. Discuss which aspects of culture you think the photos may show.
How do they relate to your culture?

Activities

Cultural attitudes to time

Monochronic   **Polychronic**

⟵————————————————————————————⟶

Like to make plans and stick to them   Are comfortable without plans
Take schedules and deadlines seriously   Are flexible about deadlines
Dislike unpunctuality   Are tolerant of unpunctuality
Prefer to do one thing at a time   Can do many things at the same time

Other cultural descriptors

Power distance

High score   **Low score**

⟵————————————————————————————⟶

Accept that society is hierarchical   Believe that everyone should have equal opportunities
Have a formal relationship with superiors   Have an informal relationship with superiors
Use titles and surnames   Address people by their first names
Expect orders from their bosses   Expect their bosses to consult with them

Communication style

Low context   **High context**

⟵————————————————————————————⟶

What is said is important   What is not said may be as important
Express ideas, opinions and suggestions directly   Express ideas, opinions and suggestions indirectly
Consider written agreements important   Consider personal promises important

Individual versus group

Individualistic   **Group-oriented**

⟵————————————————————————————⟶
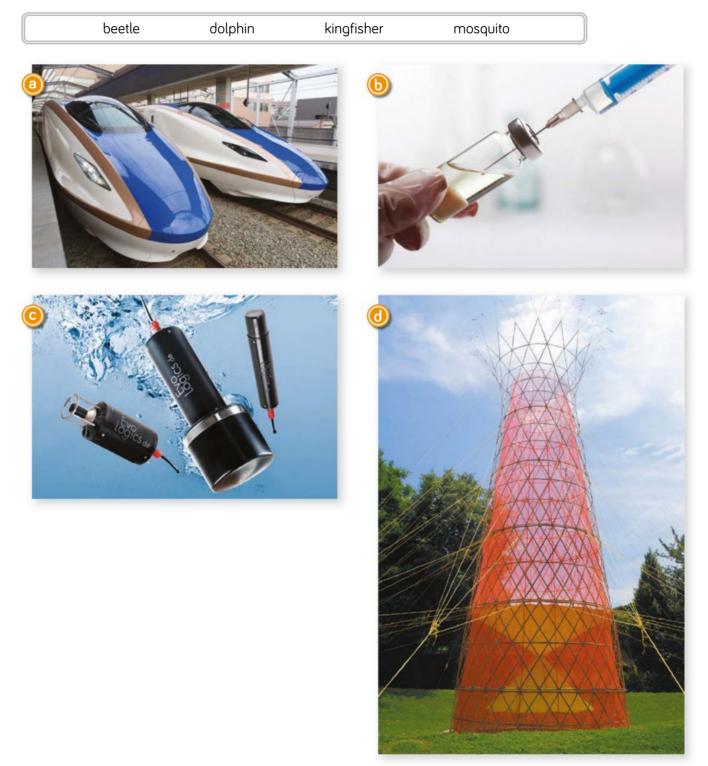
Tasks and rewards are given to individuals   Tasks and rewards are given to groups
Individuals enjoy receiving praise   Individuals hate being praised and want credit for
                                                                   achievements to go to the group

Activities

Here are photos of four inventions which are connected to the animals you have studied.
Match the invention with the animal.

| beetle | dolphin | kingfisher | mosquito |

Activities

7B

Student A

Termites build huge mounds in which they farm a fungus, their main food source. The fungus must be kept at 87 degrees Fahrenheit. The outside temperature ranges from much lower to much higher than 87 degrees. So the termites spend the day constantly opening and closing 'cooling vents' in the mound. Air is sucked in and channelled through the mound.

1. In small groups, brainstorm possible inventions inspired by the termite mound.

2. Discuss the possible inventions with your partner.

Activities

1 Stress is a common health problem in the modern world. Match the factors that can cause stress with the categories in the table.

a family member falls ill	having a disability or impairment
computer problems	having bad acne
crowds	job-hunting
exams	noise
fears and phobias	visiting the dentist
going on a date with someone new	your family moves to a different town

Physical	Mental	Emotional	Environmental

2 Think of more examples for each category. Are any more important than others? Write a paragraph about stress and the factors that may cause it. Include suitable signalling words and phrases.

Activities

9C

Read the case study about Haiti. Discuss it in pairs. Use third conditional forms and *should/shouldn't have* + past participle. Then report your ideas to the class.

The Haiti earthquake

On 12th January 2010 a massive 7.0 magnitude earthquake struck the Caribbean country of Haiti. The epicentre of the earthquake was close to the country's capital, Port-au-Prince, which was home to one third of the country's total population. More than 230,000 people died, 300,000 were injured and one million people were left homeless.

It was the first earthquake the country had experienced for 200 years, so no plans were in place to deal with such a disaster. In addition, a large number of government buildings were destroyed and civil servants were killed during the earthquake, leaving the country without national leadership to deal with the crisis.

Before the earthquake, the supplies of clean water and sanitation in Haiti were very poor. Less than 25% of the population had access to sanitation, and drinking water supplies used poor technology that was rarely maintained. In the decade before the earthquake, water and sanitation facilities were getting worse as a result of a rapid rise in the population. The earthquake made the situation much worse.

International aid agencies intervened immediately after the earthquake, but many of the methods they used to provide clean water and improve sanitation were not fully understood by the homeless people, who were then living in huge camps. Many aid workers did not speak French or Creole and could not communicate with the victims, therefore they did not realize that their suggestions did not fit the cultural expectations of the Haitians. In cases where local public health officials had survived the earthquake, they were not asked for advice or asked to help coordinate the emergency efforts.

As a result of all these factors, the already inadequate drinking water and sanitation facilities became worse and a huge cholera epidemic broke out towards the end of 2010.

Activities

Student B

Reread the paragraph from the text on page 121. Use the table to help you analyze Bill's attempt to paraphrase the paragraph.

The individual's susceptibility to being injured by the transmission of the energy is always an important aspect of an accident. Everyone, every day, is in contact with or is using many forms of energy. If the energy source is under control, then it is not usually harmful. However, when it exceeds the ability of its user to control it, then an accident can occur. The balance between an energy source and the human being controlling it is therefore a crucial one. The balance can be tipped in favour of the energy source when it suddenly becomes stronger or more difficult to control. For example, a car skidding on an icy road surface risks causing the driver or the passengers injury as the mechanical energy source becomes more powerful and gets out of control. The balance can also be altered if the person controlling the energy source lacks sufficient skills, the necessary physical attributes or relevant experience to exert full control over it. An elderly woman with arthritic hands who picks up a frying pan full of hot oil risks a scald injury due to her reduced capacity to exert full control over a source of thermal energy. A young, physically-able person would not find such difficulty.

Source: Essential Public Health, Second Edition (Revised) 2003 by L. J. Donaldson and R. J. Donaldson, pp. 144–145

Bill's summary

In their description of the energy transfer theory of accidents, Donaldson and Donaldson explain that 'The balance between an energy source and the human being controlling it is … a crucial one' in determining if an accident will take place, and how much harm it will cause. A sudden electrical power surge, for instance, could cause a potentially dangerous situation. The skills, strength and knowledge of the human may also determine the result of a hazardous situation. For example, a baby playing with a bottle of household bleach may not be strong enough to get the cap off it, while a toddler may have the strength to remove the cap but lack the knowledge that the chemical inside should not be drunk.

	Anna	Bill	Carol	Dave
Has paraphrased the ideas in their own words well				
Has cited the source they have used correctly				
Has put phrases from the original text in quotes correctly				
Has added their own examples to illustrate key points				
Might be accused of plagiarism				

Activities

10B

Student B

You are going to do some research on a well-known surgeon and medical volunteer called David Nott. Follow these steps.

a Look up David Nott on the internet. Make some notes about him and the work he does.

b You are going to interview Student A. First find out his/her opinions about people who volunteer to work in difficult or dangerous situations. Then find out from Student A about a well-known group of volunteers called the White Helmets. Prepare some questions before you start the interview.

c Now Student A will interview you about David Nott.

d Interview Student A about the White Helmets. Use tactics to show interest in what he/she says and to keep the interview going smoothly.

11A

Student B

1 **Prepare a simple definition for each of these terms. Check the meanings online if necessary.**

    a router
    b cloud computing
    c hashtag
    d wallpaper

2 **In pairs. Work with Student A. Take turns to read your definitions and try to give the technical term for what your partner describes.**

Activities

Olio

The idea behind Olio is simple. If you have spare groceries, just take a photo of your food and this is shared with everyone in the same geographical area. Anyone who wants the food then just sends a message and picks it up. Not only does it tackle the problem of food wastage, but it brings neighbours and communities closer together.

Awair

Awair is a smart app that helps you track and improve the quality of the air in your immediate environment. As well as giving you information on the temperatures and levels of CO_2, humidity and dust in your home or office, it rates the air quality and makes recommendations for how to improve it.

Wefarm

Wefarm is a free service which allows farmers to ask and answer questions and share tips with other farmers around the world. Communication is achieved through SMS messaging and therefore does not require internet access.

Forest

With Forest you 'plant a tree' on your phone and it grows while you focus on life away from your phone. If you check your phone during this time, the virtual tree dies a little each time. The challenge is to grow several trees every day until you have a forest.

Buycott

Buycott helps you to be an ethical consumer. Simply scan the barcode of a product and receive information on the company's history and business practices. Use this information to decide whether to buy the product, then use Buycott to let the company know your decision.

Activities

Read the text using all the tips from the Focus box on page 158. Then close the book. Draw a mind map representing the text, including as many ideas and examples as you can remember.

Helping humans to make decisions
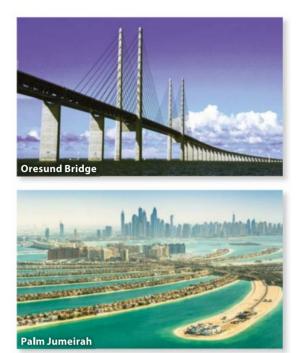
Today there are huge amounts of data available about our previous actions and events, and algorithms are used to analyze this data and make decisions about the future. Not only does this allow experts to make startlingly accurate predictions, but it also takes the decision-making process out of the hands of humans with all their personal biases and subjective opinions, and instead gives the power to logical, calculating computer programs. No longer can a bank manager offer loans to applicants simply because he likes them as people. Instead, each candidate's application is assessed according to information on their circumstances and credit history. While this may seem like a fairer system, it also illustrates a problem with using algorithms for such important decisions. By treating each application exactly the same, to be assessed based only on numbers, the system fails to take into account important information such as the reasons for a person's previous credit problems. In other words, these algorithms are inflexible and do not allow for common sense. This is even more concerning now that they are being used by the state to make decisions on a community-wide level.

Several police forces have recently begun using algorithms to make decisions on where and when to focus their limited resources most efficiently. By analyzing masses of previous crime figures, then adding other data related to the crimes, such as time of day, or even outside temperatures, they can identify correlations in the data and use the information to target specific areas at specific times. While the results from this type of 'predictive policing' have been impressive, concerns have been raised about police bias being amplified. Since the crime statistics are usually based on arrests rather than crimes, there is a risk of it becoming a vicious circle. The police focus on certain crimes by certain people in certain areas. The numbers are therefore very high for these areas and people. Then, because of the algorithms, the police spend more time in these areas, make more arrests, and so on. Ironically, a system which aims to be more objective may actually be reinforcing previously held bias.

Activities

1C

Student B

a Tell your partner anything you know about each project.

b What do you imagine the benefits and drawbacks of each project were?

c Research the projects with your partner and write notes giving details of each project. Include details about the benefits and drawbacks.

d Present the projects to the class. Discuss the merits of each project and decide which was the most worthwhile investment.

Oresund Bridge

Palm Jumeirah

3A

Student B

Ask Student A these questions.

a When you were younger, who provided guidance if you had problems with your homework?

b How would you rate your own digital literacy?

c Do your teachers encourage you to explore new ways of doing things?

d Have you ever had a person who acted as your mentor?

e Are you usually confident when you sit exams?

f If you were the Education Minister for your country, which subjects would you avoid having on the curriculum and which would you make compulsory for students?

Activities

3C

Students C and D

1 **Imagine you are teachers using the flipped classroom approach. Match the questions and answers.**

a What do you think the children like best about flipped classrooms?

b Do your students make a lot of noise when they're working in groups?

c Do you find that sometimes you don't have enough activities ready to fill the hour in class?

d What's the main advantage of the video lessons, in your opinion?

1 Watching the videos helps my students know what to do before they start.

2 Yes, but I think that's a good thing. That means they are interested in the lesson.

3 They love helping each other in class; it makes them feel useful.

4 Yes, I have got that wrong a couple of times, so next week I will plan the group time better.

2 **Role-play the questions and answers as a conversation in front of the class.**

4A

Student D

Preparation

You are at a networking event for small business owners in your town. Why are you there? Are you a business owner yourself, or are you looking for a job? Write some business cards for yourself.

During the role-play

- You don't know anybody at the event, so you will have to join a group.
- Ask lots of questions and show interest in what people tell you.
- If any member of the group can be useful to you, try to get his or her business card, or give him/her one of yours.

Activities

5A

Student B

1 With your group, make up four short sentences. Each sentence must include one of these words.

criticism	predict	schedule (noun)	validate

2 Find a partner from group A. Listen to Student A's sentences and rephrase them. Use a verb if you hear a noun, or a noun if you hear a verb.

3 Read your sentences to Student A, one by one. Student A must say the same thing, but use a verb if you used a noun, or a noun if your sentence included a verb.

7B

Student B

Lotus plants typically live in muddy areas, but they are able to stay clean due to the very rough surface of their leaves. When it rains, droplets of water are created on the leaves. Then, because of the precise angle of the leaves, gravity pulls the droplets off the leaf, taking all dirt particles with them. In other words, the lotus plant cleans itself.

1 In small groups, brainstorm possible inventions inspired by the lotus plant.

2 Discuss the possible inventions with your partner.

Activities

10A

Student C

Reread the paragraph from the text on page 121. Use the table to help you analyze Carol's attempt to paraphrase the paragraph.

The individual's susceptibility to being injured by the transmission of the energy is always an important aspect of an accident. Everyone, every day, is in contact with or is using many forms of energy. If the energy source is under control, then it is not usually harmful. However, when it exceeds the ability of its user to control it, then an accident can occur. The balance between an energy source and the human being controlling it is therefore a crucial one. The balance can be tipped in favour of the energy source when it suddenly becomes stronger or more difficult to control. For example, a car skidding on an icy road surface risks causing the driver or the passengers injury as the mechanical energy source becomes more powerful and gets out of control. The balance can also be altered if the person controlling the energy source lacks sufficient skills, the necessary physical attributes or relevant experience to exert full control over it. An elderly woman with arthritic hands who picks up a frying pan full of hot oil risks a scald injury due to her reduced capacity to exert full control over a source of thermal energy. A young, physically-able person would not find such difficulty.

Source: Essential Public Health, Second Edition (Revised) 2003 by L. J. Donaldson and R. J. Donaldson, pp. 144–145

Carol's summary

Energy sources (mechanical, electrical, thermal, and so on) are not harmful in themselves, and we come into contact with energy sources like these on a daily basis. Things go wrong when the balance between the energy source and our ability to control it is altered. For example, if I am riding my bike and the brake fails, I may not be able to control the energy of the bicycle as I go down a hill and may fall off. Also, the balance can depend on the skill or power of the person controlling the energy source; my young brother has just learnt to ride a bike and so the chances he will have an accident are bigger for him than for me.

	Anna	Bill	Carol	Dave
Has paraphrased the ideas in their own words well				
Has cited the source they have used correctly				
Has put phrases from the original text in quotes correctly				
Has added their own examples to illustrate key points				
Might be accused of plagiarism				

Activities

Student D

Reread the paragraph from the text on page 121. Use the table to help you analyze Dave's attempt to paraphrase the paragraph.

The individual's susceptibility to being injured by the transmission of the energy is always an important aspect of an accident. Everyone, every day, is in contact with or is using many forms of energy. If the energy source is under control, then it is not usually harmful. However, when it exceeds the ability of its user to control it, then an accident can occur. The balance between an energy source and the human being controlling it is therefore a crucial one. The balance can be tipped in favour of the energy source when it suddenly becomes stronger or more difficult to control. For example, a car skidding on an icy road surface risks causing the driver or the passengers injury as the mechanical energy source becomes more powerful and gets out of control. The balance can also be altered if the person controlling the energy source lacks sufficient skills, the necessary physical attributes or relevant experience to exert full control over it. An elderly woman with arthritic hands who picks up a frying pan full of hot oil risks a scald injury due to her reduced capacity to exert full control over a source of thermal energy. A young, physically-able person would not find such difficulty.

Source: Essential Public Health, Second Edition (Revised) 2003 by L. J. Donaldson and R. J. Donaldson, pp. 144–145

Dave's summary

In their description of the energy transfer theory of accidents, Johansson and Johansson explain that the relationship between an energy source and the person who is controlling it is a key factor in determining if an accident will take place, and how much harm it will cause. Although all forms of energy are safely used on an everyday basis, the balance between source and user can tip either when the source unexpectedly becomes more powerful or when the user's strength or understanding are diminished.

	Anna	Bill	Carol	Dave
Has paraphrased the ideas in their own words well				
Has cited the source they have used correctly				
Has put phrases from the original text in quotes correctly				
Has added their own examples to illustrate key points				
Might be accused of plagiarism				

Transcripts

Unit 1

1.1
Graph 1
There are different ways to measure income inequality. We can base it on the richest 10% of the population, the richest 5%, or, as is shown in this graph, on the richest 1% of the population.

We can see from this graph that income inequality rose in many countries around the world between 1980 and 2012. As the graph indicates, the most dramatic rise was in the United States, where income inequality more than doubled between 1980 and 2012. In Australia, the figure also went up significantly during the same period. As can be seen, there was also a sharp rise in income inequality in Sweden and Norway. Income inequality rose only slightly in Denmark, and the smallest rise overall was in France.

So why is any of this important, you might ask? Well, high levels of income inequality seem to go hand in hand with a number of social problems. For example, children in countries with high income inequality score lower in maths, reading and science than in more equal societies. There is also less social mobility in unequal societies and higher crime rates. And interestingly, although there may be some very rich people in an unequal country, this inequality is linked with financial instability, and high levels of debt and inflation.

Graph 2
I should start by giving you a brief explanation of MPI as it is shown in the graph. MPI stands for Multidimensional Poverty Index and it is one way of measuring poverty. Traditionally, poverty was measured simply in economic terms, but more recently there have been efforts to give a more holistic, three-dimensional picture. So, in addition to economic factors, MPI also takes into account a person's education, health and living standards. So, it is clear from graph 2 that poverty levels in many countries fell in the last 20 years or so. And, as you can see, that decrease was very marked in some countries. In Nepal, for example, there was a dramatic decrease in poverty levels between 2006 and 2016. As the graph illustrates, poverty levels fell by around 60%. The biggest decrease was in Bangladesh, where poverty levels went down by about 70% between 2004 and 2019 – though it should be noted that this is the longest period shown for any country. There was also a significant fall in Ghana, of about 60% over a slightly shorter period. In Tanzania, there was also a slighter, but still significant, fall in poverty levels.

So why are these figures important? Well, the implications of poverty are huge. Most important are the effects on the people actually in poverty, which include malnutrition, poor education, or even no education at all, inadequate housing, etc. And for society as a whole, there are strong connections between poverty and crime, and more generally between poverty and social tensions. Which is why these MPI figures have been a cause for celebration in the countries involved.

1.2
1 A So Kay, how have you been since I last saw you?
   B I've been really well. I've lost 9 kgs!
   A Well, that's wonderful news. Because your target is to lose 12 kgs. You're nearly there! And how have you achieved such good results, do you think?
   B Well, last time I saw you, you told me to do more exercise.
   A That's right.
   B Well, I've been swimming a lot lately and I feel much better.
   A Well done, that's exactly the sort of thing I was talking about.
2 A Hi, Alana. I haven't seen you for quite a long time.
   B No, I'm sorry about that.
   A That's OK. But I remember your target was to save money for a new car. Is that right?
   B Yes, exactly.
   A And has that been going well?
   B Yeah, it's been going very well, thanks. I've saved nearly £800!
   A Amazing! How have you saved so much?
   B Well, I've been staying at home more. You told me last time that I needed to be conscious of my behaviour … to think about why I do things.
   A Exactly!
   B And I realized I was spending so much money on going out because I got bored at home just watching TV.
   A Right …
   B So, I've been doing different things at home instead. Reading, drawing … that sort of thing.
   A And so you haven't been going out so much because you're happier at home …
   B Exactly!
3 A So Ali, could you remind me of your target, please?
   B Well, erm, it was just to meet people and make friends, really.
   A OK. And what have you been doing to make that happen?
   B I've been going to parties and talking to people.
   A Well, that's great, Ali. Because I know you're quite shy.
   B Yeah, but you told me last time that I should be open to new experiences.
   A Yes, I did. And how were the parties?
   B Yeah, OK. I've met a couple of nice people.
   A Excellent!
4 A So Sonia, what have you been up to?
   B I've been looking at job vacancies.
   A Very good. Because last time I saw you, you said your aim was to get a new job.
   B Yes, but I had to decide what sort of job I wanted.
   A Of course.
   B And you told me it's important to find out who you are, what's important to you …
   A Yes, I did.
   B And I've decided that education is very important to me … and I want to become a teacher.
   A OK.

B So I've applied for a course.

A Well done! That's a very big step.

B I know. It might not work out, but you told me not to be afraid of failure.

A That's right!

1.3

… and as you can see from this photo, the Itaipu Dam is an absolutely enormous construction. No wonder it's often described as one of the modern wonders of the world. So, it's a hydroelectric dam, the second most powerful in the world. In fact, until very recently it was the *most* powerful hydroelectric dam in the world. But these days that honour goes to the Three Gorges Dam in China. As you will know if you have prepared for this lecture, the Itaipu Dam is built on the Paraná River in South America, on the border of Brazil and Paraguay. And due to its location, the whole project has been shared between the two countries. I will come on to that later.

But first, the construction. Clearly, it is no easy feat to construct something of this size. It takes time and it costs money. To be precise, building started in 1975 and the dam officially opened in 1984. So that's nine years. And the construction process involved around 40,000 workers, and here's a figure for you if you can picture it, 50 million tonnes of earth and rock were moved throughout construction. So it won't surprise you that this cost a lot of money – a staggering 19.6 billion dollars, which makes it one of the most expensive structures on Earth.

So, what did they get for their money? Well, as you would hope for nearly 20 billion dollars, it has some very significant benefits, the most important being the amount of power actually produced. The dam produces an incredible 14,000 megawatts, which, to give you an idea, is enough to power 26% of all the electricity in Brazil and 78% of all electricity in Paraguay. And, of course, this energy is renewable, thereby reducing the global dependence on fossil fuels.

Another less obvious benefit, and I mentioned this earlier, is that the whole project has required a great deal of cooperation between the two countries. True, it hasn't all been plain sailing – there have been some quite high-profile disagreements over the years – but as a binational project, it has helped to build a relationship between Brazil and Paraguay or, at the very least, it has required a lot of communication between the two countries.

Having said all this, the Itaipu Dam has been very controversial, with the biggest issue being the displacement of people living by the river. In fact, some 10,000 families had to be moved from the area around the dam and the decisions on how to compensate these families were not at all simple. And just as important to many environmentalists was the destruction of Guaíra Falls. These waterfalls, as well as the surrounding forest, were destroyed forever to allow construction of the dam to proceed. Ironically, since the dam is considered one of the modern wonders of the world, Guaíra Falls were said by many to be one of the natural wonders of the world. So, as with any project of this size, there are …

1.4

… which brings me on to the Pearl River Tower, the subject of this lecture and a very impressive construction from the perspective of an environmental engineer. So, the Pearl River Tower was designed by the architectural firm, SOM in Chicago. It sits on the Pearl River, hence the name, in the Chinese city of Guangzhou. At first glance it might not strike you as particularly unusual. It has a slightly different look to it, but it doesn't exactly stand out from other skyscrapers in the city or in the country as a whole. But there's a reason it's been described as 'the most energy-efficient skyscraper in the world' and that's because it's essentially a 'smart tower', and by this I mean it intelligently uses natural forces to maximize energy efficiency. And we're talking *really* efficient here. It uses nearly 60% less energy than traditional buildings of the same size, 58% to be precise. And how does it do this? Well, as a general point, it achieves it through clever, careful design. But more specifically, there are three main factors that allow the tower to be so energy efficient. First, there is the way in which the tower uses wind. The innovative design means the walls are a different shape to each other and this allows it to redirect wind that is pulled through the building, doubling the speed of it. This accelerated wind then pushes four integrated turbines inside the building. These wind-powered turbines then generate enough power for the building's heating, ventilation and air-conditioning systems.

So, that's the clever usage of wind. Then there's its use of sunlight. Many buildings make use of solar power, but the Pearl River Tower takes it a step further. Firstly, with impressive forward planning from the designers, the building is positioned to receive maximum sunlight to its solar panels. And then the power generated is used to power metal mechanical window blinds *inside* the windows themselves. These blinds automatically track the sun and open and close to minimize the solar heat.

Finally, there are the double skin curtain walls. What do I mean by double skin? Well, there are two layers of window with a cavity in between and this cavity acts as insulation against the hot sun. So, instead of going into the buildings, the heat is trapped in between the two skins and rises to the top of the building. And as another example of how the building tries to use everything and not waste it, this trapped heat is then used for supplying hot water in the building!

Now, I should say at this point that most of these features are not unique to the Pearl River Tower, but whereas most buildings have used one or two of the features, what makes this tower truly impressive is how it has combined so many energy-efficient devices in such a holistic fashion. And the innovative engineering doesn't finish there. The tower also has …

Transcripts

Unit 2

2.1

a A How did you know about Alexandria?
   B I had been there before when I was a student.
b A What have you had to eat?
   B I've had lots of pasta.
c A Had he solved the problem?
   B Yes, he had solved the problem, but he forgot to tell anyone.
d A Had you met the president before?
   B Yes, I had. A long time ago.

Slideshow – Is it getting better?

Presenter Hello, and welcome to another episode of *Top Chat* – the show that answers all the big questions and lots of the small ones, too. This week, we're discussing a very important question: 'Is the world getting better or worse?' And here to help us answer that question we have Professor Raha Hamadani from the University of New York, and Christopher Brock, a journalist from the *Daily Eye*. Professor Hamadani, perhaps you could begin by outlining your position.
I think we can all agree that the world is changing, and changing fast. But is it getting better or worse?

Professor Hamadani Thank you. Well, in almost all criteria that we are able to measure, the world, as a whole, is getting better. Perhaps the most obvious factor to consider is life expectancy.
All around the world, people are living longer – in some cases, much longer – than they were in the past. And this is thanks to a number of factors including improved medicine, diets and access to sanitation and health services.
But life expectancy is just one area where things are improving. The world as a whole is getting richer and there has been a huge decrease in global poverty. And, of course, there are the issues of democracy, human rights and equality. Take gender equality, for example. Not so long ago, women were treated as second-class citizens. Around 150 years ago, no country in the world allowed all its women to vote. Today, women can vote *almost* everywhere. I would call that incredible progress. Each of these factors can be measured, and the results for each criterion point to the same thing – that the world is becoming a better place.

Presenter Christopher Brock, Professor Hamadani makes a strong argument. How would you respond to the points she has made?

Christopher Brock Well, I wouldn't argue with the professor on the facts she has stated. I trust that she has statistics to support what she says. But I would like her to explain something to me.
Why is it that when the general public are asked exactly the same question we are discussing today, they overwhelmingly respond negatively? In one recent survey, 72% of respondents said the world was getting worse. I would suggest it's because of things we *cannot* measure so easily. Take employment, for example. The figures may tell us that more people are in work than before. Fine, but there's more to life than just having a job. In the past, people did proper jobs that meant something. They made cars, fixed shoes, built houses. Today it's all call centres and sales assistants; there's no sense of purpose.
And, of course, there's loneliness and isolation. More people living alone instead of with their families, no sense of community, a lack of belief …

Presenter *[interrupting]* … Professor Hamadani, would you like to come in here?

Professor Hamadani Thank you, yes. Well, first of all, I dispute your claim that the majority of us think the world is getting worse.
While that is true for people in the developed world, it is, in fact, absolutely *not* true for those in developing countries. I will leave you to speculate as to why that might be the case. But I challenge you to demonstrate, with evidence, one way in which the world is deteriorating.

Christopher Brock Of course. Would you agree that the world has a limited supply of resources?

Professor Hamadani Well, yes, I suppose …

Christopher Brock And do you accept that rapid population growth is a serious problem?

Professor Hamadani Potentially, yes.

Christopher Brock Then could I ask you to look at this graph, which shows population growth in the last 12,000 years, and explain to me and the audience how this is not a worrying development.

Professor Hamadani Well, … it's interesting that you chose such a timeline. I mean, 12,000 years is an awfully long time and obviously a lot has changed in that time. This is

a perfect example of how people can choose statistics to support almost any argument. I would like to counter your graph with another.

First of all, this graph shows the population growth from 1955 up to today. As you can clearly see, although the population continues to grow, it is growing at a much slower rate than it was in the past, both in richer and poorer countries. Furthermore, on the right-hand side of the graph we see a projection of population growth over the next 80 years. It clearly illustrates a continued deceleration.

Christopher Brock Well, that hardly disproves my point, which was that there are too many people in the world. Anyhow, I'd like to address an issue you have carefully avoided so far, and that is pollution and the environment. If we look at this graph, we can see the rise in CO_2 emissions since the 18th century. The increase in emissions since the beginning of the industrial revolution is staggering! Do you accept that CO_2 emissions are a problem?

Professor Hamadani Yes, of course I do. I'm certainly not suggesting that everything is perfect in the world, and I would agree that we have serious environmental concerns that we need to address. But do you know what the biggest environmental problem in the world is?

Then I'll tell you. It's *indoor* air pollution. Every year, over four million people, mostly women and children, die from exposure to household air pollution. This is usually the result of people using solid fuels, such as wood or charcoal, for cooking or to heat their homes. It is generally a problem in developing countries and it's closely related to poverty. The good news is that it is on the decrease, as can be seen in this graph. Since 1980, the use of solid fuels has decreased in every area of the world, with the levels in South East Asia falling spectacularly.

Christopher Brock Well, I will admit that you've taught me something there. Though I am glad you've conceded the environmental threat. Now, perhaps you could offer your views on the rise of electronic communication.

Clearly, the internet serves all sorts of useful functions, but would you agree that there is a downside?

Professor Hamadani Actually, yes, I would. As you say, there have been huge benefits, particularly in how technology has enabled millions of people in developing countries to climb out of poverty. But yes, of course it hasn't all been positive.

In fact, if I could go back to your original question about why many people seem to think the world is getting worse when most observable trends suggest the opposite … there is a theory that the internet is to blame. What I mean is that people may think the world is getting worse, but it's actually just that our *information* about bad things is getting better. A hundred years ago, if something terrible happened in a neighbouring town, it could be weeks before you knew about it. Today we know instantly when something happens on the other side of the world. And we don't just *read* about it, we *experience* it through photos and videos. This constant stream of bad news reinforces the perception that the world is falling to pieces.

Presenter But wouldn't that apply to good news as well as bad?

Professor Hamadani Well, I think we all know that the news is full of negative stories, not positive ones. Perhaps, as a journalist, Mr Brock could explain the reason for that …

Unit 3

3.1

A Do you feel that the flipped approach has been a success?

C Without a doubt. The pupils' marks have improved a lot.

D And they seem to enjoy the classes much more than before.

A That's excellent! I believe the introduction of flipped classes was an experiment for the school. Will you continue using flipped methods next year?

D Well, that's the head teacher's decision, but I certainly hope we will.

C Yes, I hope so, too.

B So why have these improvements taken place?

D I think the main reason is that the pupils can learn at their own pace. In the past, we had limited time to present new material in class. The good students generally picked up new things rapidly, but the weaker ones often got lost.

C That's true. But with videos, the students can go back and watch again if they need to. This learning of new material takes place in their own time, not class time, so that there is plenty of time in class for practice.

3.2

B Do the pupils always do the video homework you give them?

C That's a good question. These days, they generally do the homework, but at the start of the flipped classroom experiment some of them didn't watch the videos.

B So what did you do in that case?

D We sent them to the computer room to watch the videos, but then they missed the group practice.

C Since they enjoy the classroom sessions because they can work in groups with their friends, the problem of them not doing the homework has disappeared in general.

A I would imagine some children don't have internet access at home, though. Where do they watch the videos?

D Well, if they have a computer but no internet connection and the homework is a video we have recorded ourselves, we give them a copy on a data stick or DVD. If it's a YouTube video, the pupils can stay and watch the video in the computer room after school hours.

B I see. So you use materials that exist already and you create your own. How do you approach finding or creating materials for the video lessons?

C Well, I'm afraid we can't go into the details …

D I can tell you that it's a lot of work making our own videos. It's very time-consuming.

C … but rewarding, and we will be able to use them again next year so it won't be so much work then.

3.3

E So how did the interview go? What did they ask you?

C Well, first of all they asked if we felt that the flipped approach had been a success, and they wanted to know if we would continue using flipped methods.

D And we said we would. At least we hoped so.

E OK, what else?

C Well, we mentioned the improved marks and student satisfaction and they asked why these improvements had taken place. We explained the basic method and then …

D They wondered if the students always did their homework.

C Yes, right. So we explained that they generally do now, but they hadn't always and so the trainee teachers asked what we had done in that case.

D Then they asked about pupils who didn't have internet access and they wanted to know where they watched the videos.

C Then finally they wanted to know more about the process of finding and creating materials.

D But we didn't go into details about that.

E I see. Well, thank you both for dealing with that. I'll be interested to see what they say about us, though I believe their report won't be ready for a while; I hear they're visiting lots of different schools in the area.

Unit 4

4.1

Laura So, now that you're all about to enter the job market, networking is going to be a really important skill for you. I know lots of you hate the idea, but that's why we're having this seminar to help you. You can't get by in today's business world unless you are good at networking, I'm afraid. Anyway, I'd like to hear your ideas and your worries before I start. What tips have you read about for networking?

Faisal I think it's important to dress appropriately, and to have business cards, though that seems a bit pointless when you're not in business yet.

Laura Well, you're absolutely right about dress. You aren't going to impress anyone if you turn up in the outfit you wear for going to the gym. As far as business cards are concerned, yes, they're useful. It's easier for a potential business contact or employer than expecting them to write all your details down. Just list your name and your contact details – email, mobile phone number and web address if you've got one. What else?

Gina I've got a worry, a big one. I actually went to a networking event last summer and it was awful. I hung about for 15 minutes and nobody talked to me. In the end, I felt so embarrassed I just left.

Laura I'm sorry to hear that, Gina. We're going to discuss ways to deal with that problem soon, so I hope that will help you. But first, any other tips or ideas?

Mike I think you should put your mobile phone on silent. People will find it rude if you're talking to them and then you take a call.

Laura Yes, I agree entirely. Keep the phone on silent unless there is something serious going on, like a family health emergency.

Rachel I have read lots of pages online about networking, but the information is kind of vague. I think I need some specific tips about how to get into conversations with people you don't know. After that first step, I think I'd be OK, as I'm a pretty sociable person.

Laura Great. Well, that's what we're going to do now. How do you choose who to approach? And yes, you've got to take the first step; you can't just hang about waiting for people to come to you, as Gina found out. So, when you enter the room where the event is taking place, look around and notice how people are standing – alone, in pairs, in threes or in larger groups. Who do you approach?

Gina I think I'd choose a woman on her own.

Laura OK, that's understandable, it's a safe choice as you're a female alone, too. And you may meet someone really nice, but you could end up stuck with each other throughout the event, and the point is to meet as many people as you can. Mike, what would you do?

Mike I think I'd choose a group of three. If you approach two people, they might be having a really important

private conversation and you would not be popular for barging in.

Laura Good thinking, three is the right answer. But which three? It seems people quite often end up in threes at these events, so which group do you choose? Have a look at this slide.

Rachel I don't know. Maybe the ones on the left?

Laura OK, look at the body language. If they're standing close together in a triangle all facing in towards each other, that means they're having a good conversation and it won't be easy to break in. You need to find a group that is standing in a more open shape like a 'V'. That's a group that will be happy for other people to join it. Oh, and choose a group that has at least one woman in it. Research shows that, in groups, women are more welcoming to outsiders than men.

Rachel Wow, that really makes sense.

Faisal OK, but what do you say when you go up to them?

Laura It's simple. You just say 'Hi, I'm Laura. May I join you?'

4.2

Laura OK, so we have identified which group of people you are going to join. Now let's listen to two different people who join a group that has already formed at a networking event. I'll take your comments after we've heard both short dialogues. Here's the first one …

– It's certainly child-friendly with all those play areas and faster lanes through the security check.
– Well, I think they've catered too much for families travelling with children …
– And not enough for business people?
– Yes, exactly. After all, we travel more regularly and …
– Hi. May I join you?
– Certainly. We were just talking about the new terminal at the airport. Have you seen it?
– No, I'm afraid not, but I have heard mixed opinions about it. What do you think?
– Well, I was just saying that it has been designed more for people travelling with children than for business people.
– And I agree entirely.
– I see. So do you all travel a lot on business?

Laura And here's the second …

– It's certainly child-friendly with all those play areas and faster lanes through the security check.
– Well, I think they've catered too much for families travelling with children …
– And not enough for business people?
– Yes, exactly. After all, we travel more regularly and …
– Hi. May I join you?
– Certainly.
– Thanks. My name is Michelle Franks and I've just opened a catering business in town, right in the heart of the business district. We make sandwiches and salads and we can deliver straight to your office, or you can come to us and take food away.

We also do catering for parties and special events. Here, let me give each of you one of my business cards.

4.3

Laura So, which do you think was better?

Rachel I liked the woman in the second example. She didn't waste time, and she was really clear about who she was and what she was selling.

Gina I disagree. I think she risked making everyone else angry. They were in the middle of a conversation about the airport and she just came in and dominated everything. She didn't even find out if those people worked in the business district.

Faisal I agree. I think she was rude. The young man was polite and interested in other people's opinions.

Rachel Yes, but he said nothing about himself.

Mike I don't think that's important. People think you're nice if you listen to what they're saying. And they may give you a job or buy your products if they like you.

Laura Well, I think this is a situation in which one's culture is very important. I can't speak with authority about other countries and cultures, but I do think that, in Britain, we appreciate people who show interest in other people. In other words, we tend to like and trust people who ask questions and listen to the answers before talking a lot about themselves. And, as Mike said, if you can get people to like and trust you, they may offer you a job later or want to buy whatever it is that you're selling.

4.4

Laura OK, so finally, what do you do if you've been talking to somebody at a networking event for a long time, and you want to end the conversation? I'm going to play you three different recordings. Here's the first.

– … but then we found that if we just adjusted the size of the packaging slightly, by that I mean 5 mm narrower on the top edge, and made it 8 mm longer from top to bottom, then it was possible to solve that problem.
– I see. Oh, excuse me, somebody seems to be calling me. My phone's in my pocket and I felt it vibrate. Let me see. Yes, this is a really important call, I've got to go … sorry!

Laura This is the second.

– … but then we found that if we just adjusted the size of the packaging slightly, by that I mean 5 mm narrower on the top edge, and made it 8 mm longer from top to bottom, then it was possible to solve that problem.
– Well, I'm glad to hear you worked it out in the end. So, Tom, it was a pleasure to meet you. I need to talk to some other people, too, but I'd like to continue our conversation some other time. May I have your business card and I'll give you a call within the next couple of days?

Laura   And the third.

– … but then we found that if we just adjusted the size of the packaging slightly, by that I mean 5 mm narrower on the top edge, and made it 8 mm longer from top to bottom, then it was possible to solve that problem.

– Well, I'm glad to hear you worked it out in the end. So, it's been a pleasure chatting to you, but I'm sure you want to meet some other people, and I need to mingle, too. I hope you enjoy the rest of the day.

4.5

So, Tom, it was a pleasure to meet you. I need to talk to some other people, too, but I'd like to continue our conversation some other time. May I have your business card and I'll give you a call within the next couple of days?

Well, I'm glad to hear you worked it out in the end. So, it's been a pleasure chatting to you, but I'm sure you want to meet some other people, and I need to mingle, too. I hope you enjoy the rest of the day.

4.6

a   I think I'd be OK, …
b   So, when you enter the room …
c   OK, that's understandable, …
d   OK, so we have identified which group …
e   So, it's been a pleasure chatting to you …

4.7

Diego   Hi Misaki, how did your interview for the internship go?

Misaki   Not very well, I think. It didn't last very long – I was out of the interview room within 20 minutes.

Sarah   That's strange. You are so well qualified for that position, I was sure you'd do well.

Misaki   There were three people interviewing me. I hadn't expected that, and it made me feel very nervous. So maybe I didn't make a good first impression.

Diego   You know, I was reading an article online a couple of days ago about first impressions. It said you've only got seven seconds to make a good impression when you first meet people at interviews or networking events.

Sarah   Yeah, I read something similar, but it said three seconds. That's even worse.

Diego   Whatever. Anyway, it's a very short time.

Misaki   Did they give any tips for making a good first impression?

Sarah   Let me think. Well, they said you should smile and shake hands with everyone.

Misaki   I did that, I think. At least I remember shaking hands with them all. I don't know if I smiled or not, I was so nervous.

Diego   The article I read said that smiling is really important, but I know it isn't easy in that situation.

Sarah   True, and another thing I read was that you should make good eye contact with the person who is speaking to you. That makes you seem self-confident.

Misaki   Oh dear, I definitely didn't do that! I tried not to look the interviewers in the eye at all, to show respect for them. In Japan, we generally avoid looking directly at people when we talk to them, especially bosses or interviewers.

Sarah   Oh, no. For us Americans, not having eye contact looks like you're unreliable or not confident. I'm sorry Misaki, we should have told you this before. I never knew that. You usually make eye contact with me, maybe not as much as my American friends, but still …

Misaki   Well, you're my friend and I've known you for a long time.

Diego   OK, let's not get too upset about this. Maybe you did better than you think you did, Misaki. I mean, 20 minutes is not such a short time, and maybe they had lots of candidates to interview. Come on, let's go for a coffee before our next lecture.

Slideshow – Different class

If you were asked to imagine a school, what would you see? Perhaps something like this? A fairly ordinary, unremarkable building. Inside the school there may be several classrooms, with desks in neat rows. A teacher stands at the front and controls the class. But not all schools are like this. In fact, there are schools of all different shapes and sizes around the world. Often these schools have to be different due to their economic situation or the environment they're in. For example, look at these children playing basketball in their school playground. In 1984, due to a lack of money to build a conventional school, villagers in a remote area of China opened a school in the middle of a cave. It was popular with the local families, and at one time had 186 students. However, it was closed in 2011 by the Chinese government, which objected to the cave school and the image it projected of the country.

Another example of schools adapting to their environment comes from Bangladesh. Some areas of Bangladesh regularly suffer from flooding, and the local infrastructure is badly affected. As the waters rise, vital services like hospitals, transport and schools are shut down. Or at least they were, until someone had the clever idea of starting up a school on a boat! These days, there are dozens of these floating schools, so while everything else comes to a standstill during the floods, the local children can still receive an education.

And how about the Green School in the middle of the jungle on the island of Bali? It was described by the former secretary general of the United Nations, Ban Ki-moon, as 'the most impressive school I have ever visited'. It is made entirely from bamboo, local grass and mud, with perhaps the most impressive feature being a 22-metre bamboo bridge that crosses the Ayung River. The school's founder pointed out that as well as serving a useful physical function, this bridge acts as a symbol for something important – the bridge from an idea to reality. As you might have guessed from its name, the Green School places a strong emphasis on environmental education, with a particular focus on sustainability. The aim is to produce the 'green leaders' of the future – people who will grow up

with the knowledge and skills to tackle the environmental problems the world faces. And because the school is immersed in the jungle, the students are able to explore their relationship with the environment every day. This encourages them to consider the effect of all their actions on the future of the planet.

The Green School may seem unusual, but it is far from being alone when it comes to teaching what some may call unconventional subjects.

In many schools in Japan, for instance, children learn admiration for nature. They are taken into the countryside and taught to appreciate and value the natural world outside the classroom, rather than their computers or smartphones. As with more traditional subjects, they are even graded on their ability to appreciate nature.

While the nature classes may sound fun, that's nothing compared to one of the subjects taught to children in Hawaii. That's right – these lucky children get to jump into the ocean for surfing lessons! Teenage World champion surfer and Hawaiian, Carissa Moore, believes it's good preparation for life, saying, 'Surfing and riding a wave is so much like life. You fall down over and over again, but you keep picking yourself back up until you ride one all the way to the beach.'

Another unusual outdoor class takes place in the Republic of Bashkortostan, and it's one that must have the children buzzing with excitement. Beekeeping! This might seem a strange choice of subject, but the rationale behind it is interesting. As well as teaching children how to harvest honey, educators argue that beekeeping requires patience, attentiveness and accuracy – all useful skills for later in life.

Finally, in the USA, it's common for children to study scientific discoveries in a very hands-on way. Students often spend a whole year researching and designing their own inventions. And at the end of the year, they present their inventions to the rest of the class. What skills do you think this course helps children to develop?

Looking at all of these unconventional subjects, as well as the more traditional ones like maths, English, biology and art, it makes you wonder what the purpose of education is. It's a question people have been asking for centuries, and not everyone can agree on the answer. In 1982, one expert – Mortimer Adler – suggested that education has three aims. First, there's development of citizenship – teaching children about their rights, decisions and responsibilities. Then, there's personal growth – which could be anything that helps children to develop as people. Non-academic subjects like art, music or drama might fit into this category. And finally, there is occupational preparation – in other words, preparing children for the job market, teaching them the skills they will need to get a job. Which of these things do you think is most important?

Let's finish by looking at another school with a difference. The Brooklyn Free School in New York takes a surprising approach to rules and curriculum … they don't have any! Instead, the children make the decisions, they choose what they want to study, and they don't even have to go to any classes if they don't feel like it! There are no tests, no compulsory homework

and no grades. There aren't even teachers. Instead, there are adults who act as advisors, but it's the children who manage classes, lead discussions and call meetings. Although the school has been criticized for its lack of structure, it has also been praised for allowing children to find their own way and develop important skills needed in later life. And, unsurprisingly, the kids seem to love it!

Unit 5

5.1

a That's strange. I can't access the internet.
   What's happened to my internet access?
b How are you going to celebrate your birthday this year?
   What kind of celebration are you having for your birthday?
c Thanks to new media, shopping habits in different cultures are converging.
   Shopping habits worldwide are showing a convergence thanks to new media.
d New technology has impacted on cultural values in this area.
   New technology has had a big impact on cultural values in this area.
e He pioneered the study of cultural differences.
   He was a pioneer in the field of cultural studies.
f What does this symbol signify?
   What is the significance of this symbol?
g British people are often stereotyped as being polite, but cold.
   The stereotype of British people is that they are polite, but cold.
h She surveyed 500 people to get data for her project.
   She carried out a survey of 500 people to get data for the project.

5.2

Federico Hi, guys. I'm Federico. I'm a student in my third year, and I also work for the university radio station. You look like a bit of a mixed bunch. Oh, that sounded rude. I mean you look like you come from lots of different countries.
Maria Well, I'm from Italy. My name's Maria.
Federico Cool, me too! Ciao, Maria.
Maria Ciao, Federico. And this is Mei-Ling, my roommate. She's from Shanghai in China.
Federico Hi, Mei-Ling.
Omar I'm Omar. I'm from Dubai, and these are my classmates, Takis from Greece and Julia from Brazil.
Federico Great. So can I interview you all for my radio show?
Julia That depends. What do you want to ask us about?
Federico About cultural differences. What do you find strange or interesting about living in Britain? What is different from home?
Maria That sounds fun. Let me think …
Julia That's OK, I guess.

Omar	I think British girls should wear more clothes. You see them walking around the streets in the snow and rain with bare legs that are turning blue!
Maria	That's true. It's really weird. They must feel very cold.
Omar	And it's not modest. Where I come from, women must cover their arms, legs and hair when they leave the house. And, talking of modesty, couples mustn't kiss in public.
Julia	Well, I don't agree with that at all. I think women ought to be free to choose.
Federico	OK, guys, I'm recording now. Let's get back to the subject of the British for now, OK?
Takis	I find something very strange. My parents own a restaurant in Greece. Often customers turn up quite late at night. My mum and dad don't have to keep the restaurant open, but business is business, so they prepare a meal for the customer, of course. But here, OK, it's not so bad in the city, but if you go to smaller places you can't get anything to eat except at the times the restaurant owner decides.
Mei-Ling	I know, you're right! But I think it might not be the owner who decides; there could be laws about it. Once I was in a little village in England and went to a café at about two, wanting lunch. They said to me, 'We're sorry, but you have to wait until five and then we may serve you a meal.'
Maria	Oh, yes, and the classic British 'I'm sorry'.
Julia	I think they are hypocrites. They are always saying sorry, but they don't really mean it. It's like somebody says, 'I'm sorry, I didn't catch what you said', when really they just weren't paying attention.
Maria	I think that's unfair, Julia. In fact, it's sometimes quite sweet when they say sorry. A guy accidentally kicked my suitcase at the train station the other day and he said 'I'm sorry' to it!
Omar	You can't be serious! He apologized to a suitcase? He must be crazy.
Takis	Either that, or he wanted an excuse to get talking to Maria.

5.3

This week's lecture is the first on a very broad topic – cultural differences and how to deal with them. Today I'll be giving you an overview of some of the key theories about cultural differences and intercultural communication. In subsequent lectures we shall examine these in more detail.

I looked at the class register earlier today and I can see that you are a pretty culturally diverse group, so I expect that you have already noticed differences in behaviour between people here, people in your own culture and your classmates from other countries.

This slide shows what is known as the 'Iceberg Model of Culture'. As you probably know, 90% of an iceberg is below the surface of the sea and so cannot be seen. This analogy is commonly used to describe culture because the majority of what constitutes culture is below the surface – in other words

unseen, and often subconscious and taken for granted. The 10% that is visible is behaviour – the way that people dress, what and when they eat, their dances and literature and traditional celebrations, and so on. Below the surface, here at the bottom of the iceberg, are the core values of a culture – the things that are widely considered to be good or bad, right or wrong, acceptable or unacceptable. These core cultural values have been shaped by the history, religion and political background of a specific country or culture, and are passed on by education, the family and the media. Slightly higher up the iceberg we have attitudes that grow out of these core values.

These could be attitudes to gender roles, care of the elderly, work versus family, punctuality, showing affection in public … a host of different things. For example, if a core value of your culture is respect for your elders, this could result in an attitude in which young people put the needs of older generations before their own. This in turn could result in behaviour such as giving up a career to care for an ageing relative at home, or following a career you do not really like in order to please a parent.

As I said before, this analogy is frequently used in the field of cross-cultural studies and is now so widely accepted that there is disagreement about when it was first formulated and who actually originated the model. The general consensus is that it was most probably Edward T. Hall, about whom you will hear more later in this lecture.

5.4

So, bearing in mind that what lies below the surface in the iceberg model is not only unseen but also often subconscious and taken for granted, much of the research in cross-cultural issues is based on the idea that understanding your own and other people's unexpressed values and attitudes – the submerged section of the iceberg – will pave the way to better comprehension and, hence, to improved interactions between people from different cultural backgrounds.

The most prolific researcher in this field was the Dutch professor, Geert Hofstede, who carried out his first survey of cultural values while working for the multinational company IBM in the period 1967 to 1973. His data covered employees of IBM working in 70 different countries, though the original analysis he developed and published as *Culture's Consequences: International Differences in Work-related Values* covered only the 40 largest of these countries. He carried out several other studies, the most recent being in 2013, and listing data for 76 different countries.

Hofstede's model originally covered four dimensions of culture as it manifests in the workplace, and the countries he surveyed were mapped onto these dimensions depending on how high or low they scored for each. He named the first of these dimensions power distance. Power distance refers to the degree to which the less powerful members of organizations within a country accept that power is not distributed equally. To put this in other words, in a country with a high power-distance score, people accept that everyone has a place in

society and that there is a hierarchy. Subordinates expect their bosses to tell them what to do and centralization of power is normal. In contrast, countries that score low on this dimension put stress on equal opportunities for everybody and employees expect their bosses to consult with them before taking a decision. Saudi Arabia is an example of a country that scores very high on the power-distance dimension, while Denmark scores very low. Next, we have …

… Those were Hofstede's original dimensions; he later added two others, but we shall look at those next week.

I must point out that a number of criticisms have been voiced about his work. One of these is that it assumes that national borders and cultural borders are always the same, which is not, of course, the case. Another is that, being originally based on questionnaires completed mainly by male engineers, it is not representative of all groups in society. Nevertheless, his work was groundbreaking and many subsequent researchers have validated his original findings and expanded upon them.

5.5
… Another early researcher in the field was Edward T. Hall, an American anthropologist whose interest in cross-cultural issues began when he was hired to train American diplomats in the 1950s. Hall's approach differed from Hofstede's in that he didn't seek to analyze underlying values, but instead looked at differences in how cultures behaved and communicated, and the underlying attitudes that caused their behaviour. Hall pioneered the study of proxemics – that is, how the physical closeness of people is shaped by culture. He was also the originator of important theories of communication styles, which we shall look at next week.

Today, I shall briefly introduce Hall's theory of time, which he published in his 1983 book, *The Dance of Life: The Other Dimension of Time*. Hall observed that cultures structured and perceived time differently and that this led to different behaviours. In monochronic societies, time is considered as a commodity that must be used well. To do this, monochronic societies assign tasks to specific times and like to complete one task before moving on to the next. Polychronic societies, in contrast, see time as flexible and unlimited. These societies are happy with a large number of tasks being carried out simultaneously. These fundamental differences in attitude result in behaviour that can irritate others – for example, a person from a monochronic culture will be upset by a polychronic person's lack of punctuality. A person from a polychronic society may be surprised or irritated by a monochronic person's insistence on taking their lunch break at a specific time because that is the time they always take their lunch.

As with Hofstede, the work of Hall has been extremely influential and has led to many practical applications in the area of communication skills training for people working in international business and diplomacy. His original theories have been confirmed by subsequent research and have been developed and adapted by other theorists, most notably Lewis, who …

5.6
a   As I said before, this analogy is frequently used in the field of cross-cultural studies and is now so widely accepted that there is disagreement about when it was first formulated and who actually originated the model. The general consensus is that it was most probably Edward T. Hall, about whom you will hear more later in this lecture.

b   I must point out that a number of criticisms have been voiced about his work. One of these is that it assumes that national borders and cultural borders are always the same, which is not, of course, the case. Another is that, being originally based on questionnaires completed mainly by male engineers, it is not representative of all groups in society. Nevertheless, his work was groundbreaking and many subsequent researchers have validated his original findings and expanded upon them.

c   As with Hofstede, the work of Hall has been extremely influential and has led to many practical applications in the area of communication skills training for people working in international business and diplomacy. His original theories have been confirmed by subsequent research and have been developed and adapted by other theorists, most notably Lewis, who …

Unit 6

6.1
Hi, I'm Takis. Most of you know me by sight at least, as we're in the same class, but you may not all know that I come from Nafplio, a small town in Greece. Now, Greece is a strongly polychronic culture and, as we have been learning, time in polychronic cultures is seen as something that is in infinite supply. In contrast, time in monochronic cultures is thought of as something that is in short supply. This difference impacts on the language that people use to talk about time. At home, in Greece, the main verb we use when talking about time is 'to pass your time', implying that time is infinite and sometimes the problem is to find things to do to fill it. In contrast, here in a monochronic culture, people are always worrying about wasting time, not having much time, arriving on time, spending time wisely, and so on.

So the cultural artefact I have chosen is a set of worry beads, known in Greek as a 'kombolói'. I have one here to show you, but it's rather small, so you can also see a photo of it here on this slide. As you can see, it consists of 19 beads on a cord, or string, that is joined at the top with a silver piece, which we call the shield. This kombolói also has an extra bead at the end for decoration, and a long tassel. This one is made with amber beads and the cord is silk, so this is quite an expensive set of worry beads, but it is also possible to get ones that have synthetic beads and metal chains, which are, of course, much cheaper. The number 19 is not a set number, but all Greek worry beads have an odd number of beads on the string – this makes them hang better when you hold them by the tassel, or by the single bead at the end.

The origins of the kombolói are a bit obscure. Some people say they are adapted from the ropes that Greek Orthodox monks used to wear round their waists. They tied knots in these rope belts as a way of helping them to remember all the prayers they had to say. Other people believe the kombolói was adapted from Muslim prayer beads some time during the long period when Greece was part of the Ottoman Empire. They believe the Greeks adapted those sets of beads, which are strung together tightly, by removing some of the beads so that they could move on the cord. Maybe both explanations are partly true.

Whatever the truth is, nowadays worry beads have no religious significance in Greece at all – they are used as a kind of toy to relieve stress and pass the time. There are different ways of playing with them – for example, you can run them slowly through your fingers, one at a time, or flick and turn them rapidly like this *[sound effect of worry beads clacking]*. If you have ever been to Greece and sat for any time in a village café, you will surely have seen and heard old men playing with their worry beads and making that clacking noise. It used to be considered inappropriate for women to use worry beads. These days, however, some women can be seen using them, and worry beads are also becoming more popular with young people than they used to be. This may be because the financial crisis has left 50% of young Greeks unemployed, so they have lots of time on their hands.

So, how do they fit in with polychronic culture? I said before that in such cultures, time is considered to be unlimited and so worry beads are one way to help you pass the time. The feel of the beads in your hand is soothing, the noise they make is satisfying, and you need to play with them for a long time to learn to be proficient. Another feature of polychronic people is their love of doing lots of things at the same time, and it is not unusual to see Greek people in cafés drinking coffee, chatting to friends, carrying on a conversation on the cellphone, smoking a cigarette and playing with a kombolói all at the same time. And polychronic people are often late, so having a set of worry beads in your pocket is a good way to pass the time until your friend shows up.

So that was my cultural artefact, the Greek kombolói. Thanks for your attention.

Slideshow – Culture shock

Presenter In the 21st century, increasing numbers of us are spending time in foreign countries. This allows us to experience different cultures, obtain new perspectives and meet people we would never otherwise have met. But spending time in an unfamiliar culture can pose problems, too.
An expression you may have heard before is 'culture shock' – the experience of disorientation and confusion people often feel when they find themselves in an unfamiliar culture. On this week's *Top Chat* we're going to look at some examples of culture shock and hear from some people who have experienced it for themselves.

The way we dress is an obvious expression of culture. Although much of the world today has become more similar than it used to be, with young people from Azerbaijan to Zimbabwe wearing jeans, T-shirts and trainers, there is still a huge variety in the way people present themselves. Being suddenly surrounded by people dressed very differently to what you are used to can seem strange.
The same is true for houses. While you may be used to the privacy of space between you and your neighbours, in many parts of the world it is traditional for people to live very close together. One central part of any culture is food. The expression 'you are what you eat' can have more than one meaning, and cultures are often very proud of their cuisine, believing it represents part of their character.
But when you spend time in a different culture, it's not just what people eat that can surprise you, it's also how they eat. Here's Joe from England.

Joe Where I'm from everyone's in a hurry. During the week, people eat lunch at their desks. Or sometimes we just have a snack, as we're walking from one meeting to another. And for dinner, I often just collapse in front of the TV and eat a pizza. But when I spent a year studying in France, I couldn't believe how seriously they took their meals.
We would go to a café for lunch and spend an hour or even two hours eating and chatting. At first, I found it really strange and thought, 'Can't we just grab a sandwich from the supermarket?' But then I started to appreciate the social aspect of it. How it wasn't just about filling your stomach, but it was a chance to have a proper conversation, something the French seem to value very highly.

Presenter Another of the most obvious ways in which cultures express themselves is through celebrations and rituals, like the colourful Holi festival in India.
Sometimes these, too, can be surprising and confusing, like San Fermin in Pamplona, Spain. Every year, six bulls are released onto the narrow streets of the town and hundreds of people run in front of them. It can be very dangerous, and people are often hurt.
Some festivals can even be shocking for outsiders. Take, for example, the vegetarian festival in Phuket, Thailand. Here, people have sharp instruments put through their cheeks and other body parts. The participants are in a trance-like state and receive no anaesthetic, while doctors perform the procedure. As well as demonstrating their religious devotion, the trance is said to increase focus and concentration for several weeks after the festival. Generally, it pays to find out more about a festival and the reason behind it. This can help to explain

Monica ... why people are doing what they are doing. Here's Monica from Mexico.

Monica Our biggest festival is El Dia de los Muertos – or, in English, The Day of the Dead. You've probably seen it in films. But people are often confused about El Dia de los Muertos. A lot of people think it's supposed to be frightening, because of the skeleton masks and everything, but that's completely wrong. We are not afraid of death here in Mexico. In fact, we laugh at it.

And that is something else that foreigners are sometimes shocked by. I had a friend visit from Europe, and he couldn't understand why people were dancing and laughing when we were talking about death. He thought we were being disrespectful, but he missed the point. When we're at the cemetery laughing and dancing, we're laughing because we're telling funny stories about our loved ones who have died, remembering funny things they used to say and do. We are celebrating their lives.

Presenter There are also obvious differences between how cultures behave on a day-to-day basis, the customs and unspoken rules of behaviour. What people do when they meet each other, for example – shake hands, kiss, embrace, or even high five!

Or the way in which people wait in shops or for a bus can vary from culture to culture. If you come from a culture that prizes orderly queues, it can be disorientating and annoying to have to deal with a very different system. And the same applies to driving, where rules can vary, and in some cases can seem like there aren't any rules at all! Timekeeping is another potential problem. Some cultures believe punctuality is a sign of respect and professionalism, while others have a more fluid sense of time. And then there's money. It's not just dealing with things in a different currency or knowing whether or not to haggle in markets that can cause problems. There is also the tricky issue of tipping. Here's Maciek from Poland.

Maciek I was in New York on a business trip last year and everything went really well, apart from in restaurants. When I walked in, the waitress would be so friendly. She'd smile as she took my order and brought me my food. I'd think, 'Wow, what nice people they have here.' But then, when I paid the bill and stood up to leave, their attitude would change completely!

They seemed so angry. In the end, a colleague told me that you should pay at least 15% of the bill extra, as a tip for the waiting staff. That's how they earn enough money to live! Once I started doing that, everything was fine, but I still think it's a crazy system. Why don't they just pay people enough in the first place?

Presenter Finally, there is the issue of communication. And it's not just the different language that can be confusing. There are also subtler differences in the way people communicate. Firstly, there is the question of what it is acceptable to discuss. Money? Politics? Religion? Some cultures encourage open conversation about most subjects, while others expect people to stick to less personal, less controversial topics. And then there is the question of directness. Here's Adrie from the Netherlands and Bijan from Iran.

Adrie People know us for our windmills and our bikes, but Dutch people are also famously direct. If we don't like something, we say so.

If you come into work with a really bad haircut, I'm going to tell you it looks awful.

Bijan That's interesting. We wouldn't do that in Iran. Forgive me, but it sounds a little bit … rude.

Adrie No, it's not rude. It's honest. We value sincerity very highly in the Netherlands, and we like people to be honest about their feelings and opinions. That way there are no misunderstandings.

You know, when I went to Iran I had some problems understanding what people meant. It was very confusing.

Bijan Ah, yes. It can be difficult for foreigners to understand. In Iran we have something called *Taarof*. It's a … a way of behaving that shows respect. For example, a shopkeeper may say something is worthless and you don't need to pay for it …

Adrie Yes! That's what happened to me!

Bijan But of course you should pay.

Adrie Oh.

Bijan He may even say it three times, that you can have this thing for free. But he expects you to pay. Everyone in Iran understands this. It's the same when someone you don't know very well invites you to their home for dinner.

Adrie Aha, yes! That happened to me, too.

Bijan But, of course, they don't really want you to go to their house.

Adrie Oh.

Bijan I know that in the west 'yes' means 'yes'. But in Iran 'yes' sometimes means 'yes', but it can also mean 'maybe'. And, often, it actually means 'no'.

Presenter How … awkward! So, while there is no definitive way to prevent culture shock, a good bit of advice is to get to know the ways of the new culture and understand it as much as possible. The better you understand a culture and the reasons why people behave in a certain way, the more easily you will be able to adjust to it.

Unit 7

7.1
a   the engineer
b   the seed
c   the dog
d   the answer
e   the invention
f   the plant

7.2
Eiji Nakatsu was one of the chief engineers for the Shinkansen rail network in Japan, the network of 'bullet' trains in Japan that connects Tokyo with other major cities. One of the challenges Nakatsu had to solve was a problem of noise caused by the high-speed train. When a train enters a tunnel, a cushion of air builds up in front of it. And when the train exits the tunnel, the air rapidly expands. The cushions of air created by the Shinkansen trains caused such a loud noise as they exited tunnels that they disturbed residents a quarter of a mile away.

While trying to find a solution to this problem, Nakatsu thought back to a lecture on birds he had been to some years previously, and in particular he remembered what he had learnt about kingfishers. When a kingfisher spots a fish, it leaves its perch and dives into the water at great speed. You might think that this sudden change in pressure would cause a loud splash and scare the fish away. But, a kingfisher's beak is pointed, wedge-shaped in fact, which allows it to enter the water with almost no splash. There is very little noise at all.

The science, Nakatsu realized, was very similar. It was all about the change in pressure. So, he designed the front of the Shinkansen trains in the shape of a kingfisher's beak. The front of the train is nearly 50 feet long. Consequently, the trains make a lot less noise.

My next example of biomimicry is also from Japan, where microengineers have created a minute needle just one millimetre long and with a diameter of 0.1 millimetre. Not only is the needle incredibly small, but it has been designed in a way which makes it painless. And how did these engineers come up with the design? They imitated the mouth of a mosquito. You may think that a mosquito bite is painful, but that is actually just the irritation caused by the mosquito's saliva which it injects into you. You don't actually feel anything as it pierces your skin. If you did, you would simply brush it off, or kill it. The mosquito is able to bite you without you noticing due to the intricate, serrated design of its mouthparts.

From the mosquito to a very different animal. Did you know that dolphins can communicate with each other up to distances of 25 kilometres? They do this by employing several frequencies to transmit signals to each other. A company called EvoLogics studied dolphin communication for eight years and developed a way to detect underwater earthquakes and transmit the information as part of a tsunami warning system. Small transmission devices called modems are now being used as an early warning system for tsunamis in the Indian Ocean.

And finally, from the Indian Ocean to an environment with very little water. Some of the poorest areas in the world also suffer from severe water shortage, and finding a way to provide water to the people of these countries is one of the world's biggest challenges today. One animal that has been forced to overcome a similar challenge is the Stenocara beetle, which lives in the Namib Desert in Southern Africa. This beetle copes in these very dry conditions thanks to the unique nature of its shell, which is covered in tiny bumps. These bumps collect humid air from the desert's morning fog which become droplets of water. These droplets then roll down the beetle's neck and into its mouth. This remarkable design has been copied by many companies hoping to solve the challenge of harvesting water in dry areas. One example is Warka Water, a company that has designed nine-metre-tall structures which collect fog and in ideal conditions can collect 100 litres of water overnight.

Unit 8

8.1
Welcome everyone and thank you for coming. The purpose of today's lecture is to give a brief overview of light pollution, and to explain why it is a problem which needs to be addressed.

First of all, I'll establish what we mean by 'light pollution'. Then I'll move on to why it's a problem, and I'll finish by evaluating some potential solutions.

So, what is light pollution? Well, there are various definitions, but for the purpose of this lecture let's say it is the *excessive* introduction, by humans, of artificial light into the environment. Most of us contribute to this, of course, through residential lighting or car lights, but that is only part of it. Next time you walk through a city at night, notice all the different light sources you see – from shops, restaurants and bars trying to attract your custom, from electronic advertising boards, and from street lights. Then there are big constructions that emit huge amounts of light into the environment – airports and sports stadiums, for example.

So, why is any of this a problem? Well, there's the waste of energy for a start – did you know that in the USA, 8% of the total energy is produced simply for outdoor lighting? Then there is the lack of dark skies for us to look at. For millions of years, we have looked up and seen the stars, the Milky Way, and the connection with the universe that gave us cannot be overlooked. But in any city in the world today, we simply cannot see much in the sky.

But there is a more fundamental issue … and this is important … the natural world (including humans) have evolved around the light of the Sun, the stars and the Moon. For example, birds use the Moon and stars to navigate, but today, because of light pollution, these animals are dying in their thousands.

And if the plight of animals is not enough to move you, think about the effects of light pollution on humans. For example, there is the strain on our eyes from constant artificial lighting,

and then there is our sleep, which scientists have shown is being disturbed because artificial light is playing havoc with our biological clocks.

Now I'd like to discuss a few solutions to the problem of light pollution.

8.2

a The purpose of today's lecture is to give a brief overview of light pollution, and to explain why it is a problem which needs to be addressed.

b First of all, I'll establish what we mean by 'light pollution'. Then I'll move on to why it's a problem, and I'll finish by evaluating some potential solutions.

c But there is a more fundamental issue … and this is important … the natural world (including humans) have evolved around the light of the Sun, the stars and the Moon.

d Now I'd like to discuss a few solutions to the problem of light pollution.

8.3

Hello, and a very warm welcome to all of you. Thank you for coming to this short talk on what I believe is a very important issue. What I'm going to be talking about today is noise pollution – what constitutes noise pollution, why it's a serious issue and how we can combat it. To give you an idea of what we'll cover today, first of all, I'll give a brief explanation of the problem … detailing who noise pollution affects, using a few examples to illustrate the problem … then I'll list the causes of noise pollution, breaking down these causes into four main groups. Then I will tell you of some suggested solutions to the problems of noise pollution. And these solutions will be a mixture of governmental policy and some smaller fixes that we can all implement individually. And finally, I'll analyze each of the suggested solutions – by which I mean I will assess their feasibility as well as listing the potential drawbacks.

So, we're now going to move on to the first section of the lecture, which, as I say …

8.4

It was the summer of 2011 when the then 16-year-old Boyan Slat was diving in Greece and realized he found more plastic bags than fish.

Being asked to write a high school science paper, he then used that time to investigate the plastic pollution problem, and why people claimed it was nearly impossible to clean up.

He first floated The Ocean Cleanup concept in 2012 in a TEDx Talk, which rapidly went viral, being watched millions of times. A crowdfunded, crowdsourced team of voluntary scientists and engineers then stepped up to help develop the idea.

The Ocean Cleanup was officially founded in 2013. The basic idea is to use the ocean currents and advanced technology to clean up the garbage that collects in the sea. There are five very large garbage patches in the world's oceans that contain around five trillion pieces of plastic. Most of the rubbish consists of small plastic particles suspended at or just below the surface. Potentially, the system could remove about half of the Great Pacific Garbage Patch, which is about the size of Texas, in ten years.

Slideshow – Isobar – a cool invention

Presenter A 'vaccine' is a substance that is injected into the blood to protect people from a particular disease. In the last few decades, huge advances have been made in developing vaccines to combat deadly diseases such as HIV, measles, Hepatitis A and Hepatitis B. Every year, these vaccines save millions of lives in developing countries.

However, there's a problem. Most vaccines need to be kept cool, (but not too cool – four degrees Celsius is perfect) otherwise they won't work. And this is a huge problem, because the places that most need vaccination programmes are also some of the most difficult to reach for medical staff. On top of that, the ice coolers currently being used are unreliable, meaning life-saving vaccines are often spoiled before they reach the people that need them.

For this week's *Top Chat*, I was lucky enough to speak to the inspirational Will Broadway. While still at university, Will came up with an invention that could solve this problem, and in so doing, save millions of lives. His invention, the Isobar – a reliable, cooling system that fits in a backpack and can keep vaccines fresh for up to 30 days – won the James Dyson Award – an international design award that celebrates, encourages and inspires the next generation of design engineers.

The first question I asked Will was: 'What is the Isobar, and what's the thinking behind it?'

Will Broadway Isobar is a very small, vaccine refrigerator, in essence. It's able to maintain stable temperature control for around six days during transportation. This can be extended using recharging methods, up to 30 days. But its primary function is to maintain stable temperature control.

So if you look at your normal fridge, it will turn on and off when it gets too hot and too cold. And when it turns on, it regulates that temperature … to make sure that your food stays at that really, really good 4°C.

And that's not been achieved in this last-mile distribution. For the last mile, right at the end of the … almost the walking phase towards the last clinic, in the far reaches of the world. So, this is a very, very small system. So, it's only got a very small number of parts, none of which are moving, which means that its able to safely deliver that vaccine

very consistently without problems from things like fans and complicated devices that break down very quickly and become very expensive to maintain.

So having something that's very small and portable, is very easy for people to carry, is very essential. And that's why iceboxes have been very good, for some instances, if they're maintained properly.

Because they're very cheap, they're very easy to bring around, they only weigh five or six kilograms, and you need something that's under about 8 kg for somebody to carry for about six miles. So, that's the size that it needs to be, and that's why Isobar is that way.

Presenter Next, I asked about the technology … how does the Isobar actually work? Things get a bit technical here, so don't worry if you don't follow all the details!

Will Broadway Yeah, so, way back in 1929, I believe it was, Albert Einstein helped a friend patent an ice cooler using a chemical technology.

So, instead of pressure … there's two different ways you can cool things. You can cool things using a refrigerant and pressure, or you can just straight up pump things …

So, if you look at the analogy of an aerosol can, when you press the aerosol can, that's a high-pressure area going into a low pressure area. And you feel the tip of it is very, very cold. That's exactly what happens in most fridges, but most of the fridges require a lot of pumping and a lot of different fluids to be able to get that to work properly. Isobar uses this, in a mixture of ammonia and water, which are naturally some of the strongest refrigerant systems in the world.

But they're not as normally efficient as big fridges because they don't have all of these inner workings and pumps, which make it more efficient in the modern day. But if you need something portable, it needs to be very small … and this works with no moving parts.

So, you boil the ammonia and it separates from the water. It has a lower boiling temperature than water, so the ammonia separates off into a separate chamber.

In that separate chamber, when you allow the ammonia to come back into the water, it's naturally drawn because it's got pressure with it so the pressure forces it to go into a low pressure area … the substance is very, very attracted to water, and so when ammonia turns from liquid to gas, that does the same thing as when your aerosol can sprays … and it releases a cold spurt.

And I can control that cold spurt, and make sure that the temperature is met within an insulated box.

Presenter So, the key for Will's invention is to use chemistry to create a powerful refrigerator that is very reliable and easy to carry around. Next I asked about how Will works in the laboratory.

Will Broadway So, I have a couple of, basically mentors, now, in the World Health Organization and PATH … They have guidelines for what they need us to meet … the specifications that we need to be able to achieve.

And then I have a small group of people that, erm, we work together to figure out problems day to day. So, it's very, very hands-on … it's working with new materials such as aerogel, for insulation. Which is a phenomenal new inspiration by scientists. I recommend anybody who's looking into this kind of thing, look up 'aerogel'.

It's a very, very new material and very, very good at insulating. So, we research new materials. We don't just assume things. We have to prove all these things work.

We have to test multiple times. You know, even the stupid ideas, you have to see if that's going to work. Being so small, with a small group of people, means you can be agile and you can rethink the way things are done … rather than having a huge device that's really complicated, you can come up with something that's very nimble and actually only solves the issue that it needs to. So bringing it to mass manufacturing, and thinking about all of the different materials that we've got to put into it, and all of the work that goes into that, will be the next challenge.

We're going ahead with some funding, and moving forward with the development in a positive way. So, yeah, we're really excited about it.

Presenter Next, I asked Will if he was working to make the Isobar cheaper to produce. As Will explains, even though the coolers are quite expensive to make, they will save money in the long term.

Will Broadway We're looking to get to mass production with these. I mean, if we only have a small number of them in working life, they'll still provide value for a long period of time. You know, if you have 1,000 units daily working – they'll provide value day in, day out … The original idea came from not how can we make this the most effective cheap box, but how can

we make this the best vaccine delivery unit in the world?

Really thinking about that end user and making sure that … because in rural villages, the connection between the two is quite lost. There's people at the end who don't receive the vaccines, and they may have walked ten miles to go to the clinic.

So they don't trust the system to turn up when they need to turn up because the vaccine hasn't been able to make it. So they've had to turn back and go and get some more. So it's very specifically targeted at the worst-hit regions, and so you can save organizations money with the device.

Presenter The next thing I asked was: 'How does it feel to know that your invention will potentially save a lot of lives?'

Will Broadway It's quite overwhelming. I just really want it to get out there, and try it out and it feels very, very good. But, it's just, this is the way it should be done … it's not for me to take the glory of it. I'm very happy for other people to take the idea and work with it. Because this is the way I believe it should be done. Rather than, you know, shielding it away from the world. It feels very good, but I just need to keep working hard.

There's a lot of people working in this industry that have done a lot, lot more for the world than I have. And they're working day in, day out to make sure the vaccine gets there. And so it really does fall to them to … we'll work together to hopefully make this a really good outcome.

Presenter Finally, I asked Will about how he came to enter the James Dyson Award, and how he felt when he won first prize.

Will Broadway I presented my work at my university, and somebody informed me about this prize. And it fit the brief very well with what I wanted to do with my project. There were a couple of rounds where you have to make a video, and demonstrate very clearly the idea, and how it's going to help people.

It's a very good award for, you know, innovative thinking and creativity. And I really like these kind of prizes that really encourage young people to think creatively, because young people can think the most creatively. When you get ten years in the industry, it's very, very hard for older people to think in a fresh and new way. And things like the James Dyson Award … open … you know … if you're given the opportunity to have some money for developing your project further, it gives you that encouragement to do it. Often

these things fall by the wayside – 'Oh, that was just a school project' – but if you work very hard at it, you can actually get it to work.

And you can get it into the real world to people, and make the difference that you were actually seeking to do at the beginning of the project.

Presenter So there we go – you heard from the man. If you have a good idea and work hard to achieve your goals, you really can make a huge difference to the world. And that's a very nice message to take away from this podcast. That's all for this week – see you next time for some more *Top Chat*.

Unit 9

9.1
a bacteria
b contagious
c dehydration
d diarrhoea
e outbreak
f sanitation
g symptom
h transmit
i virus

9.2
Nurse Hello, Mrs Carlyle. Are you here for your flu shot?
Mrs Carlyle Yes, that's right.
Nurse Oh dear, you don't sound very well.
Mrs Carlyle Yes, I'm feeling a bit poorly, I must say.
Nurse In that case, you should see the doctor first. I can't give you a flu shot if you're not well. Come, I'll take you down the corridor to see him. Dr Black, Mrs Carlyle is a bit poorly and I don't want to give her a flu shot if she's unwell. Could you examine her first?
Mrs Carlyle *[sniffs loudly]*
Dr Black Yes, come in. Sit down. Mmm, yes, you have copious nasal secretions. Please take a tissue. So, I'll take your temperature and while I'm doing that, open your mouth, please. Say 'Ah'.
Mrs Carlyle Ah.
Dr Black Your pharynx is a bit inflamed.
Mrs Carlyle Oh dear, is that serious?
Nurse No, it just means you've got a sore throat.
Dr Black Very well. I don't think it's anything to worry about – just a heavy cold. But don't have the immunization yet. It wouldn't be wise for me to administer a vaccine when a patient is unwell. You could have an adverse reaction. Go home, keep warm and make sure you ingest plenty of liquids.

Mrs Carlyle	So I don't need the flu shot.
Dr Black	No, as I explained, not now. Come back in two or three weeks.
Mrs Carlyle	Oh, I see. Thank you, doctor.
Nurse	Come with me, Mrs Carlyle. Did you understand what the doctor said?
Mrs Carlyle	Not really. What did he mean about nasal secrets?
Nurse	Nasal secretions … he meant you have a runny nose.
Mrs Carlyle	That's true.
Nurse	And he told you to drink lots of water.
Mrs Carlyle	Really, I don't remember him saying that.
Nurse	Well, that's what he meant, though. And no shot until you're better. You might feel worse after the shot since you're not well now.
Mrs Carlyle	OK, so in two or three weeks?
Nurse	Yes, that's right.

9.3

Accordingly, John Snow decided to investigate further. He interviewed people in the area and discovered that the workhouse had its own water pump, and that the brewery employees were given beer to drink while at work and so did not drink from the communal pump. The woman who lived far from Broad Street had preferred the taste of the water from the Broad Street pump to that of her local pump and had sent her son to fetch a bottle of it every day.

Dr Snow deduced that the source of infection was in the water from the Broad Street pump and arranged for the handle of the pump to be removed. The epidemic ended soon after.

Although Snow's research did not determine exactly what substance it was in the water that caused cholera, his investigations prepared the way for the 'germ theory' of diseases and for the introduction of clean water supplies and better sanitation in London and other cities.

9.4

Linda	Hi Jim, how did you get on when you took Tommy to the doctor?
Jim	Oh, thank goodness you rang, Linda. I'm not pleased at all. She looked at him, took his temperature, checked his ears and throat, then told me he just had a bad cold and I should make sure he drank plenty of liquids and kept warm.
Linda	Well, that's OK, then. Nothing to be worried about.
Jim	I don't agree. Shouldn't she have prescribed antibiotics? He's coughing like crazy, poor kid.
Linda	No, if she'd prescribed antibiotics, they would have been completely useless.
Jim	What are you talking about? We always got antibiotics when we had colds or sore throats as kids.
Linda	That's true, but we shouldn't have had them.
Jim	What do you mean? And how do you know all this?
Linda	Well, I'm bringing up three kids, Jim. Colds are caused by viruses. And viruses don't respond to antibiotics. It is pointless giving antibiotics for a cold.

Jim	What about that really bad chest infection I had a couple of years ago? Antibiotics really helped me then.
Linda	Well, that's probably because it was an infection caused by bacteria, not a virus. You did take all the pills, didn't you?
Jim	How am I supposed to remember? Oh, actually, come to think of it, they gave me masses of pills. They would have lasted three weeks or so. I think I stopped taking them after a couple of weeks, after I felt better.
Linda	Oh, no! You should have taken them all.
Jim	Is that right? What have I done wrong now?
Linda	If you had taken all the pills, you would have killed off all the bacteria that were making you ill. Since you didn't, those bacteria that were not killed will have become stronger and evolved to be resistant to that antibiotic. There are more and more infections that just can't be cured nowadays due to antibiotic resistance.
Jim	Great! So I'm an idiot then!
Linda	No, it's not your fault. But your doctor should have explained this to you.
Jim	Hold on, Linda, Tommy's woken up and he's coughing like crazy again. Carol shouldn't have gone off on that business trip; I can't cope with it all on my own.
Linda	Would you like me to come over to your place and help out?
Jim	Oh yes, please, Linda! That would be wonderful.

Unit 10

10.1

Interviewer	Good evening, and welcome to this week's edition of *Caring Society*. Today, Juliette Tremblay is joining us. She is a volunteer with the international organization Volunteer Doctors Abroad. Good evening, Juliette.
Juliette	Good evening.
Interviewer	So, Juliette, some of our listeners may not be familiar with Volunteer Doctors Abroad. Can you tell us a bit about the organization before we hear about how you yourself got involved?
Juliette	Yes, of course. I'd just like to say that it's a fantastic organization, they do really great work all over the world, and I'm really proud to have been involved and also really excited about this opportunity to go on air and tell everyone about it.
Interviewer	Sure. So tell us about the actual work they do.
Juliette	Yes, well, Volunteer Doctors Abroad, as you can probably tell from the name, is a medical organization that works overseas. All the staff are volunteers, so they give their time without payment, usually for about six to nine months at a time. They provide medical support in places that have been struck by natural disasters or conflicts. The organization operates in more than 50 countries and was founded in …

Interviewer	And how did you get involved, Juliette?
Juliette	Well, it's a long story. When I finished school I decided to take a gap year. I ended up in Australia, working on a sheep farm, way out in the outback. I was meant to be helping with shearing the sheep, you know, removing the wool, but I hated it and I was useless at it.
Interviewer	Is that so? I can imagine that's a tough job.
Juliette	It certainly was. But what I turned out to be good at was running the logistical side of the farm. I would plan the meals for all the workers – there were a lot of them – drive into the nearest town to buy food and other supplies like medicines, organize the cooking and cleaning schedules, that sort of thing. I stayed three years in the end.
Interviewer	So you're not medically trained at all?
Juliette	No, not at all. I had intended to do a nursing course after I returned to Britain, but then I saw this ad for VDA and …
Interviewer	OK, so what is it that you do with Volunteer Doctors Abroad?
Juliette	Logistics. When you're working in the field, in a combat zone or at the scene of a natural disaster, you still need all the stuff you would need in a normal hospital here – electricity, equipment, beds, medicine, and, of course, it's not like here where you can just nip out to the chemist's and pick something up like if, like, erm, you know …
Interviewer	… if there's none left.
Juliette	If there's none left, right. We need to have all the equipment and medication and make sure we've got enough of it. And it's my job to make sure it's all there when it's needed.
Interviewer	Wow! It sounds challenging! But I can see how your experience on the sheep farm was relevant.
Juliette	Exactly – all the same sort of skills, just used in a different place.
Interviewer	So where was your first posting?
Juliette	To Niger in Africa, in August 2012. I think one reason they sent me there is that having a French mother I'm pretty much bilingual and, of course …
Interviewer	… they speak French there. Was that a conflict zone at the time?
Juliette	No, we were there because of a natural disaster. The country experienced six months' worth of rainfall in the space of 24 hours. The River Niger burst its banks and flooded houses and fields, destroying all the food crops and leaving about 125,000 people homeless. People had found temporary shelter in schools and it was our job to get basic supplies to them, such as water bottles, blankets, that sort of thing, and, of course, food and medicine, too, so …
Interviewer	How has doing this work changed you as a person?

| Juliette | Of course, there are things that are disturbing, especially if you're working in a war zone, and I think it's probably much more shocking for the medical staff, the surgeons, and so on, who are actually working with wounded patients. But it's incredibly rewarding to see people's spirit, how they manage to face disaster and survive, and to know that you're helping them to do that. |
| Interviewer | I can imagine. That must be very fulfilling. |

Slideshow – What's the alternative?

What do you do when you feel unwell? Perhaps you lie in bed and rest, waiting for it to pass. Or perhaps you turn to a trusted, home-made remedy that experience tells you is the best way to get better.

Or, maybe, you go to your local health centre and explain your symptoms. Your doctor may give you a prescription for some medicine, or they might refer you to a specialist. But millions of people are choosing another option.

They are bypassing conventional medical advice and going down the route of so-called 'alternative therapy' or 'alternative medicine'. There is some disagreement over the best definition of 'alternative' in this sense, but it could be described as 'any remedy or intervention that is not accepted by mainstream medical professionals'.

One example of an alternative therapy is reflexology. Reflexologists apply pressure to certain points on the patient's hands and feet. They believe these points can be manipulated to heal corresponding points in the rest of the body. They use charts like this one.

Another alternative medicine commonly used is homeopathy, where patients are given a highly diluted substance in the belief that it will cause the body to start healing itself.

But how popular is alternative medicine? While global statistics are not readily available, we know that it is a huge industry. In the United States alone, the public spend around $30 billion each year on alternative medicines and therapies. This number is a small fraction of the total healthcare costs. But it is nevertheless an extraordinarily high figure, when you think of all the advantages that mainstream medicine has: cutting-edge science, the brightest minds in the field and, of course, the billions of dollars spent on medical research and development. And yet more and more people seem to be turning away from doctors and hospitals, and towards unproven treatments like reflexology and homeopathy. So why is alternative medicine so popular?

Firstly, there is the belief that many people have that 'natural' means 'safe and healthy', while 'artificial' means 'imperfect and maybe even dangerous'. Secondly, people have had negative experiences with mainstream medicine – for example, a painful procedure that didn't alleviate symptoms or nasty side effects from a drug – and they want to try something different. Finally, alternative therapies often seem so intuitively attractive that we just really want them to work!

A good example of an attractive treatment is dolphin therapy. Dolphin therapy has become very popular in the last few decades, with over 100 programmes around the world. These

programmes claim a number of benefits, such as improving communication in children with autism, lengthening concentration spans and reducing stress and depression. The claim is that the ultrasound waves emitted by dolphins have special healing powers. It's a beautiful idea … but not one that's supported by much evidence. In fact, critics claim that any positive results are likely caused by wishful thinking and the positive effects of experiencing something as wonderful as swimming with dolphins.

In fact, time and time again, research into alternative therapies fails to find any compelling evidence for their medical benefits. This has led some scientists to suggest that there is no such thing as alternative medicine. They argue that if something can be studied and shown to be effective, it becomes part of mainstream medicine. If it can't, it's not medicine at all! However, some argue there are exceptions and that some alternative therapies seem to have genuine, proven benefits for certain conditions.

First, there is acupuncture. There is a wide range of approaches to acupuncture, but generally it involves the patient lying still while between five and 20 needles are inserted into their skin. The needles are normally left in the skin for ten to 20 minutes. Acupuncture has been shown to be effective in relieving some types of pain, especially in the knee. So how does it work? It was originally based on a theory that there is an energy – or life force – which flows through our bodies. When this free flow is interrupted, problems arise. Many advocates of acupuncture believe it helps to restore the free flow of this energy. However, some Western acupuncturists have a slightly different explanation for the effectiveness of the therapy. They believe that sensory nerves under the skin are stimulated by the needles, prompting the body to release natural substances such as endorphins, which can help to relieve pain.

Another alternative to conventional medicine is tai chi. This ancient Chinese martial art is now practised worldwide as an exercise routine and is described as 'the perfect exercise for the elderly'. Not only can it reduce stress and blood pressure, and increase stamina, it can also improve balance. This means it reduces the risk of older people having falls.

Many alternative therapies such as tai chi and acupuncture are centuries old. They are quite well known around the world. There are, however, other practices suggested as medically beneficial, which you may not have heard of before, and which may seem unlikely.

Most experts agree that laughing is good for you, reducing stress and boosting the immune system. But don't we need to find things funny to make us laugh? Not according to laughter therapy practitioners. They organize sessions where everybody is asked to start laughing. Often, this fake laughter turns into real laughter. Advocates of the therapy report several health benefits.

While laughter therapy might sound fun, apitherapy certainly doesn't. Apitherapy can involve a patient being stung hundreds of times by bees. Supporters of this bee-sting therapy claim a whole host of health benefits. Once again, though, none of these are supported by medical research.

So, it seems that alternative medicine does not stand up to scientific scrutiny. But is there any harm in it? Well, problems can arise when patients only use alternative medicine, as they are likely to be missing out on vital conventional medicine. And then, of course, there is the cost. A course of dolphin therapy, for example, costs thousands of dollars. So let's finish with two exercises that are totally free and you can do right now! Academics at McGill University in Canada have designed a game that has proven effective at combating stress. A player looks at a series of screens like this one, showing people's faces with different expressions. On each screen, players are asked to click on the smiling face. This brings up another screen of faces, and again the player clicks the smiling face, and so on. The theory behind the game is that by moving away from the frowning faces and towards the smiling ones, people are creating a healthy mental habit. This habit will then transfer into everyday life. Thus, when the person has a negative experience, they will automatically move on to think about something more positive. Clever stuff!

And, finally, this is Mount Fuji in Japan. Beautiful, isn't it? One man claims that just staring at a photo of the mountain is enough to cure you of mild depression, or at least lift your spirits. Why not try it for a few moments. Notice anything?

Unit 11

11.1

a A What do you think of social media sites like Twitter and Facebook?

    B I think it's great that people are able to comment on the news and give their opinions in real time. It's helped to bring a wider selection of voices, ideas and witness accounts to each story.

    A And what do you see as the biggest problem with social media?

    B Well, you could argue that young people are forced to use social media because they are frightened of missing out on things.

b A Are you going on holiday soon?

    B Yes, next week.

    A Have you booked a hotel yet?

    B No. I don't know what to do. I hate using online hotel booking sites. Every time you leave the site the price goes up and the room you want to book disappears.

    A You could just call the hotel?

    B That's true.

    A Have you started your packing?

    B Not yet. I haven't got a suitcase. I was thinking of buying one online, but you risk buying something that's not actually very good, if you just follow online reviews.

    A Yeah, but you've not got much time left.

c A Do teachers still use blackboards?

    B Generally, no. These days, children prefer learning through digital technology rather than traditional methods.

A How about you?

B Well, my students expect me to use lots of multimedia in the classroom. I honestly prefer books and getting the students to write using a pen, so I do a bit of both.

d I'm a farmer here in Kenya and I use an app called iCow. It reminds me when to milk and helps me monitor my herd's health. A lot of farmers in the area do the same. They all have mobile phones like me. I think having mobile phone access encourages farmers to be more organized.

11.2

A So, today I'll be talking about automation with the chief designer for a well-known computer company. We'll be exploring what automation means for us in the future. So, John, perhaps you could first define automation for us and put it into a historical context.

B Certainly. By automation, we mean the automatically controlled operation of a machine or a process, particularly when it is in place of human labour.

A So, robots building cars in factories, that kind of thing?

B Yes, or more interestingly, computers designing the robots that build the cars.

A Right. And you say we are at a point in history when we should be talking seriously about automation. But it is not a new phenomenon, is it?

B Absolutely not. There are various claims to the first example of automation. For example, the waterwheel was invented thousands of years ago. Then there was the first industrial revolution in the 18th century, which completely changed the nature of manufacturing, introducing factories and mass production. Then, in the 19th century we have electricity and the start of the assembly line. And, since the 1970s, of course, we have had information technology and computers doing all sorts of jobs.

A So, there is a long history of automation and yet you are suggesting we have reached a crucial stage.

B That's right. In a few years' time, digital technology will have completely changed the job market.

A But hasn't automation always been an ongoing process?

B Yes, of course. And throughout history, people have worried about machines taking their jobs. But the sheer scale and speed at which automation is currently happening makes this like a new industrial revolution. I predict that by 2040, computers will have taken up to 80% of today's jobs and robots will be performing tasks we haven't even imagined.

A You're painting a rather bleak picture of the future! What can people do to protect themselves?

B Well, we just have to think carefully about which skills we should be focusing on. By this I mean we need to concentrate on developing skills and attributes which are distinctly human.

11.3

A Could you explain what you mean by 'distinctly human skills'?

B Perhaps I can answer that by talking about skills which are *not* distinctly human. If we go back to past stages of automation, before the first industrial revolution, strength and stamina were important. People did all the hard work like digging and cutting.

A Right.

B Then machines came along and these attributes became a lot less valuable. Machines did all the hard work.

A And how about skills like sewing or planting crops? Jobs that require more dexterity.

B As machines became more sophisticated, they started to take over these kinds of jobs as well. So people became machine operators rather than doing the work themselves.

A And how about basic mathematic skills. These were very important …

B Yes, before the calculator, anyone working in banking, for example, had to be able to do calculations without a machine.

A Of course nowadays, computers can calculate far quicker than any human.

B That's right. And spelling. A very important skill for a long time, and then along comes the word processor with spell checking, and suddenly good spelling wasn't so important.

A So, what does this mean for today's young people?

B Well, we don't really know what jobs robots will be doing in the future …

A So how can we prepare?

B Well, I'm saying it's not enough to learn a skill like driving a truck or designing a house and assume that this guarantees us a job. Because computers are learning these sort of skills at an incredible rate.

A We already have driverless cars!

B Exactly. So we don't know which of today's skills computers will have learnt. But there are some things that I believe they will never learn.

A For example?

B If I try and picture the world in 2030, or even 2040, I can confidently say that robots will not be solving complex problems.

A How can you be so sure?

B Because they won't have learnt how to think critically.

A Interesting. Are there any other skills you think are 'future proof'?

B Well, I'm pretty certain that by 2040 robots won't have acquired emotional intelligence. So they won't be managing people in the way that humans can.

A It sounds as if you're describing high-level cognitive skills.

B Exactly!

A And you're saying that these are skills that employers will be looking for in the future?

B Yes. Because they are the qualities that only humans can offer.

A I suppose that skills like decision-making and creativity would also be included in this.

B Ah! Well, decision-making probably not, actually.

We can already see that computers are tremendously good at weighing up future possibilities and making good decisions.

A Oh.

B But creativity, creative thinking, yes, that is absolutely the sort of thing people should be focusing on.

A Well, it's a fascinating view, thank you. In the next part of the programme we'll be hearing from some listeners. They'll be telling us how they feel about the possibility of automation in their industries. But first …

11.4

1 Yes, I am a bit worried actually. I mean, I've just started a career in accountancy, but by the time I've done all my exams, the job will have changed a lot. Accountancy is fairly repetitive and it's all about numbers, so I expect computers will be doing most of the day-to-day tasks soon.

2 Listen, musicians have always adapted to new technology, whether it's electric guitars, drum machines or synthesizers. And I'm sure that in a few years' time, someone will have invented a machine that can write songs, but so what? These machines won't replace people because music is about heart and soul – it's a very human experience. Believe me, people won't be queuing up to watch robots perform on stage!

3 Let's be honest, this job won't be around for much longer. In 20 years' time, driverless cars will have become more common than cars with drivers. People will be using an app to call a cab, then getting in a driverless car fitted with a GPS that will take them to their destination. They'll pay by swiping a card and nobody will speak to anyone. It's a real pity, I think. Anyway, I'm going to change career, move into something more future-proof.

4 I don't really think about it too much. I'm certainly not complacent about the threat of automation. Teaching has already changed so much over the last few years, with online learning, and so on. And I expect teachers will be using digital technology more and more in the future. But schools won't have ceased to exist by 2040! So much of teaching is about making an emotional connection and adapting to the needs of each individual student. I don't think computers will ever be able to replicate that.

11.5

Petra I was just reading an article about the best apps out there at the moment.

Khaled Oh, I don't bother with apps anymore. Most of them are just a waste of time. Games and stuff. There are more important things in the world.

Petra Yeah, but some apps *are* about important things.

Khaled Really? Like what?

Petra Well, there's this 'Power To Give' app which uses your phone's spare computer power to help important research projects.

Khaled Is that an original idea?

Petra Yes, no one's tried it before. It's really innovative.

Khaled How much more power can a few phones generate?

Petra Well, that's the thing. The more people who use the app, the better the results. Potentially, if millions of people download it, the grid will have access to more power than a supercomputer. That's what the website says anyway.

Khaled OK, fair enough, but does this app actually do any good? I mean, I do want to help but not if it's supporting research into something bad or a waste of time like looking for extraterrestrials.

Petra Actually, extraterrestrial research is just one of the projects. You can choose which project you support. There's cancer research, climate change research …

Khaled Oh, I didn't realize that. That's good then. But is it reliable? I hate it when these things go wrong. It drives me mad!

Petra Well, I haven't downloaded it yet, but I've had a look at the reviews. There are a few people saying they've had problems.

Khaled Right, so it's not very reliable.

Petra Well, I don't know. Nothing's perfect, is it?

Khaled And is it safe?

Petra What do you mean?

Khaled Well, my phone's got all sorts of data on it – bank details, passwords, and this app connects my phone to some grid somewhere. Who's going to have access to it?

Petra Ah, no I checked that because I was a bit worried about it, too. Only HTC accesses the processing power, it doesn't touch any of your data.

Khaled OK. Well, it sounds pretty good I suppose. I'll have a look.

11.6

a For years, I resolved every January that that was the year I would exercise more. Every year until now I've failed. I realized that I was setting myself an unrealistic goal – to go from next to no exercise, to expecting to go to the gym three times a week. This year, I am doing things differently. I started out by deciding to do five minutes of exercise a day. That was easy, so I did that every day for two weeks. Then I made it ten minutes a day, and did that for three weeks. Now I am on 15 minutes a day. I feel fitter already and the change has been easy.

b I left school without any qualifications. It hasn't really been a problem so far, as I make good money, but I can see that at some point in the future I won't be able to progress any further. I would really like to become an engineer, but I'm not sure if I have the brains for that. So, at the moment, I'm taking distance learning classes in maths and physics at school-leaving level. If I succeed in those, I will find out what other subjects I need to study engineering. If I don't succeed, I'll try something else. Maybe I have a talent for languages, or art – who knows? I'm young, so I have time to try lots of things.

c   I run our company's canteen. I noticed that the kitchen helpers were spending a lot of time cleaning up after every meal, so we all decided to look at ways of changing the process to save time. First of all, we installed a conveyor belt that carried trays with used plates and cutlery into the kitchen and we asked the staff to put their used trays on the belt, instead of leaving them on the tables. That improved things a lot. Then one of my workers suggested we could work even faster if the staff removed all the rubbish – napkins, plastic cups, sugar packets, and so on, from their trays before putting them on the conveyor belt. We have put rubbish bins next to the conveyor belt and are now monitoring to see how much difference that has made.

Unit 12

Slideshow – Ahead of the game

Video games haven't always had a good reputation. The stereotype of a gamer is probably something like this: a bored and lonely teenage boy wasting his life in front of his computer, rather than being out with friends.

And then there is the image of angry people playing violent 'shoot 'em ups' in order to take out their real-world frustrations. But while both of these scenarios might be based in reality, in recent years gaming is being seen in a more positive light.

This is partly due to a changing demographic in gamers. No longer is gaming the preserve of young men. In fact, as this pie chart shows, almost as many women as men play video games today. And this chart suggests gaming has become popular with all ages. This is probably not that surprising, when we think that the first popular video games came out in the 1970s. The teenagers who played them back then now have quite a lot of experience on their side …!

But there are other reasons why the perception of video games is improving. For instance, there is increasing scientific evidence that suggests several cognitive benefits to playing video games. One study even shows that parts of the brain – the parts responsible for spatial navigation, memory formation and strategic planning – can get bigger after playing! In other words, the parts of the brain we use to be aware of the space around us, to remember things and to solve problems, all grow after playing games.

Although these benefits of video games may surprise you, perhaps they shouldn't. After all, computer games provide the opportunity for one of the most basic aspects of human behaviour: play. Experts have known for a long time that playing is an essential part of human development.

As well as encouraging physical activity and stimulating children's creativity and imagination, play has a vital role in developing social skills. But until recently, most people were sceptical about video games having similar benefits. However, not only does the research suggest cognitive benefits to video games, it seems they can also have positive effects on our behaviour.

One study shows that 'gamers' are likely to be better at multitasking effectively. Another study suggests that video game music is the best type to listen to while we work. It seems the music is designed specifically to allow for maximum focus and concentration.

There are also lessons and ways of behaving in the gaming worlds that we can use in our 'real world' life. 'Gamification' is a word you may have heard recently.

It refers to the idea of harnessing the enjoyment, motivation and concentration we experience when playing games and applying them to non-game contexts. Health apps that give you points when you exercise, for example. Language-learning programs often require you to overcome challenges, climb leaderboards and win prizes.

But more recently, people have started to 'gamify' other aspects of their lives, too. Whether you want to save money, quit smoking or study harder, there are hundreds of apps that put you into a game scenario and help you to reach your goals. For example, you might be a knight trying to kill a monster, and every time you do something good in your real life, you win a weapon or a bag of coins. But every time you waste some time in front of the TV, or eat some junk food, your character in the game loses health points. These task management apps have been shown to be very effective at encouraging efficiency and creating good habits.

Perhaps the most important benefits of playing video games are the apparent improvements they can have on our mental health. As many of us can testify, games can be very effective at reducing stress. But they have also been shown to help with depression.

And amazingly, it seems they can even help as therapy for people who have suffered a traumatic event. Scientists have shown that playing the popular game Tetris can help to heal people who have experienced trauma by completely erasing bad memories.

But it's not just scientific research into the effect games have on us that has improved the reputation of the genre. It is also because of the changing face of gaming itself. While there are still plenty of 'traditional' games played by millions around the world, there are also games that encourage anything but a solitary existence.

In fact, some are taking collaboration to a new level. Take a recent experiment on the video platform 'Twitch'. In 2014, millions of gamers logged on and played a game together. Typing in commands and building on what other players did, together they managed to complete the game after more than 16 days of continuous play!

Even more surprising is that 70 million people have watched the experiment on YouTube! Of course, this is an extreme example, but collaboration is increasingly common in the gaming world. This has allowed millions of people to communicate, and work and play with people they would never otherwise have met.

And there's one final myth around video games that we can dispel. Because no longer are gamers exclusively found indoors. One of the fastest growing genres of games uses technology called 'augmented reality'.

This involves taking elements of the digital world and introducing them to the real world. One of the first uses of augmented reality was in the field of medicine. A digital image of a patient's veins can be superimposed onto the skin, allowing a nurse to give injections more efficiently.

Soon, other industries began using the technology. For example, architects are able to see exactly how a building will look in a certain situation, before it has been built.

And now, the world of video games has latched on to the augmented reality technology. For example, for a few months in 2016, it seemed as if the whole world was playing Pokémon GO. In this game, which uses GPS, players have to find and catch virtual creatures. On the phone screen, these creatures look as if they are part of the real world.

The game became highly popular, with over 650 million downloads worldwide. Although not everyone welcomed the game and the many players walking around towns looking at their phones, there were undoubtedly advantages. As well as encouraging people to be active, the game brought people to areas they wouldn't normally visit.

Museums and art galleries, for example, reported an increase in visitor numbers due to the game, and many other businesses reported an increase in sales. And finally, Pokémon GO players often bumped into each other while playing the game. In other words, augmented reality games have become a way of making new friends.

So, from the cognitive and mental health benefits, to the potential for physical activity and social interaction, perhaps it's time to stop thinking of video games as fundamentally damaging. Instead, with the potential for collaboration, problem-solving and goal-setting, perhaps it's time to start seeing video games as tools we can use to develop some very 21st century skills.

Word list

Word	Section	Word type

Unit 1

Word	Section	Word type
academic	B	*adjective*
achievement	B	*noun*
activity	B	*noun*
approach	B	*noun/verb*
benefit	C	*noun*
client	B	*noun*
construction	C	*noun*
controversial	C	*adjective*
dam	C	*noun*
decrease	A	*verb/noun*
development	B	*noun*
displace	C	*verb*
double	A	*verb*
double	C	*adjective*
dramatic	A	*adjective*
dramatically	A	*adverb*
drawback	C	*noun*
drop	A	*noun/verb*
emotional	B	*adjective*
equal	A	*adjective*
ethical	B	*adjective*
fall	A	*noun/verb*
holistic	B	*adjective*
hydroelectric	C	*adjective*
income	A	*noun*
increase	A	*verb/noun*
inequality	A	*noun*
information	A	*noun*
investment	C	*noun*
lately	B	*adverb*
least	A	*determiner*
life coach	B	*noun*
megaproject	C	*noun*
most	A	*determiner*
physical	B	*adjective*
poverty	A	*noun*
predict	C	*verb*
professional	B	*adjective*

Word	Section	Word type
recently	B	*adverb*
renewable	C	*adjective*
rise	A	*noun/verb*
significant	A	*adjective*
significantly	A	*adverb*
slight	A	*adjective*
slightly	A	*adverb*
social	B	*adjective*
target	B	*noun*
trend	A	*noun*
unequal	A	*adjective*

Unit 2

Word	Section	Word type
ballpoint pen	A	*noun*
change	B	*noun*
communication	A	*noun*
computer	A	*noun*
however	A	*adverb*
illiteracy	A	*noun*
influence	A	*noun*
internet	A	*noun*
invention	A	*noun*
literacy	A	*noun*
mobile phone	A	*noun*
newspaper	A	*noun*
printing press	A	*noun*
radio	A	*noun*
reflective	B	*adjective*
solve	A	*verb*
telegraph	A	*noun*
telephone	A	*noun*
television	A	*noun*
transition	B	*noun*
typewriter	A	*noun*
watershed	A	*noun*

Word list

Word	Section	Word type

Unit 3

Word	Section	Word type
autonomous	B	*adjective*
collaboration	A	*noun*
contact	B	*verb*
create	C	*verb*
creativity	A	*noun*
critical thinking	A	*noun*
digital literacy	A	*noun*
digital technology	A	*noun*
direct speech	C	*noun*
distance learning	C	*noun*
education	A	*noun*
educational	A	*adjective*
educationalist	B	*noun*
environment	B	*noun*
experiment	B	*noun*
flip	C	*verb*
guidance	A	*noun*
illiterate	A	*adjective*
improvement	C	*noun*
knowledge	B	*noun*
material	C	*noun*
mediator	B	*noun*
mentor	A	*noun*
methodology	A	*noun*
obsolete	B	*adjective*
pace	A	*noun/verb*
problem-solving	A	*noun*
radical	B	*adjective*
rapidly	C	*adverb*
reference	B	*noun/verb*
remote	B	*adjective*
repetition	A	*noun*
reported speech	C	*noun*
slum	B	*noun*
success	C	*noun*

Word	Section	Word type
technology	A	*noun*
terminology	A	*noun*
time-consuming	C	*adjective*
traditional	A	*adjective*
video	C	*noun*

Unit 4

Word	Section	Word type
abbreviation	B	*noun*
apology	B	*noun*
appropriately	A	*adverb*
body language	A	*noun*
business card	A	*noun*
collaborate	A	*verb*
collaboration	A	*noun*
contact	A	*noun*
conversation	A	*noun*
emoticon	B	*noun*
employer	A	*noun*
event	A	*noun*
excuse	A	*noun/verb*
formal	B	*adjective*
impression	A	*noun*
informal	B	*adjective*
lack	B	*noun*
mingle	A	*verb*
networking	A	*noun*
outfit	A	*noun*
politely	A	*adverb*
potential	A	*adjective*
project	B	*noun*
rapport	A	*noun*
register	B	*noun*
relationship	A	*noun*
seminar	A	*noun*
team leader	B	*noun*

Word list

Word	Section	Word type

Unit 5

Word	Section	Word type
access	A	*verb/noun*
artefact	A	*noun*
artistic	A	*adjective*
assume	C	*verb*
attitude	A	*noun*
behave	A	*verb*
behaviour	A	*noun*
celebrate	A	*verb*
celebration	A	*noun*
commentary	C	*noun*
conduct	C	*verb*
controversial	C	*adjective*
converge	A	*verb*
convergence	A	*noun*
criticism	A	*noun*
criticize	A	*verb*
cross-cultural	C	*adjective*
culture	A	*noun*
custom	A	*noun*
deduction	B	*noun*
educated	A	*adjective*
etiquette	A	*noun*
formulate	C	*verb*
generation	A	*noun*
groundbreaking	C	*adjective*
iceberg	C	*noun*
impact	A	*verb/noun*
influential	C	*adjective*
innovate	A	*verb*
innovation	A	*noun*
intellectual	A	*adjective*
monochronic	C	*adjective*
nevertheless	C	*adverb*
obligation	B	*noun*
originate	C	*verb*

Word	Section	Word type
permission	B	*noun*
pioneer	A	*verb/noun*
polychronic	C	*adjective*
possibility	B	*noun*
practice	A	*noun*
prediction	A	*noun*
proxemics	B	*noun*
recommendation	B	*noun*
researcher	C	*noun*
reward	A	*verb/noun*
schedule	A	*verb/noun*
significance	A	*noun*
signify	A	*verb*
stereotype	A	*verb/noun*
survey	A	*verb/noun*
theory	C	*noun*
tolerance	A	*noun*
tolerate	A	*verb*
tradition	A	*noun*
transcend	A	*verb*
transcendence	A	*noun*
validate	A	*verb*
validation	A	*noun*
value	A	*noun*

Word list

Word	Section	Word type

Unit 6

Word	Section	Word type
considerably	A	*adverb*
dimension	B	*noun*
far	A	*adverb*
global	A	*adjective*
millennial	A	*noun*
much	A	*adverb/pronoun*
obscure	B	*adjective*
origin	B	*noun*
overcome	C	*verb*
rather	A	*adverb*
somewhat	A	*adverb*
statistic	A	*noun*
worry beads	B	*noun*

Unit 7

Word	Section	Word type
beetle	B	*noun*
bias	C	*noun*
biodiversity	A	*noun*
biomimicry	B	*noun*
brainwash	C	*verb*
claim	C	*verb*
climate change	C	*noun*
credibility	C	*noun*
debate	C	*noun*
deforestation	A	*noun*
degrade	A	*verb*
deregulation	A	*noun*
destruction	A	*noun*
disposal	A	*noun*
dispose	A	*verb*
dolphin	B	*noun*
doubt	C	*verb*
emotion	C	*noun*
environmental	A	*adjective*
evaluate	B	*verb*
exaggerate	C	*verb*
explain	C	*verb*
extinction	A	*noun*
generate	A	*verb*
global	A	*adjective*
implication	C	*noun*
infrastructure	A	*noun*
irresponsible	A	*adjective*
irreversible	A	*adjective*
kingfisher	B	*noun*
lotus	B	*noun*
mismanagement	A	*noun*
mistreat	A	*verb*
misunderstand	A	*verb*
mosquito	B	*noun*
needle	B	*noun*
overcrowding	A	*noun*

Word list

Word	Section	Word type
overdependence	A	*noun*
overfish	A	*verb*
overpopulation	A	*noun*
overuse	A	*noun*
pollution	A	*noun*
precaution	A	*noun*
prejudice	A	*noun*
problematic	A	*adjective*
responsible	A	*adjective*
reuse	A	*verb*
shortage	A	*noun*
signal	B	*noun*
subsidize	A	*verb*
termite	B	*noun*
tragedy	C	*noun*
tsunami	B	*noun*
underappreciate	A	*verb*
underestimate	A	*verb*
underinvestment	A	*noun*
unsustainable	A	*adjective*
validity	C	*noun*
Velcro	B	*noun*
waste	A	*noun*

Word	Section	Word type
Unit 8		
criticism	B	*noun*
despite	B	*preposition*
even so	B	*phrase*
feasibility	B	*noun*
feedback	B	*noun*
innovative	B	*adjective*
innovator	B	*noun*
ocean	B	*noun*
on the contrary	B	*phrase*
on the other hand	B	*phrase*
purpose	A	*noun*
radioactive	A	*adjective*
signal	A	*verb*
signpost	A	*noun*
soil	A	*noun*
solution	A	*noun*
structure	A	*noun*
thermal	A	*adjective*
valid	B	*adjective*
venture	B	*noun*
visual	A	*adjective*
whereas	B	*conjunction*
while	B	*conjunction*

Word list

Word	Section	Word type
Unit 9		
accident	B	noun
acute	A	adjective
administer	A	verb
adverse	A	adjective
affect	A	verb
antibiotics	C	noun
bacteria	A	noun
categorize	B	verb
cause	C	verb
chemical	B	adjective
cholera	A	noun
communal	C	adjective
compliance	A	noun
dehydration	A	noun
dermatologist	A	noun
diarrhoea	A	noun
discolouration	A	noun
disease	A	noun
electrocution	B	noun
epidemic	A	noun
fever	A	noun
flea	A	noun
germ	C	noun
headache	A	noun
immunization	A	noun
incision	A	noun
infection	A	noun
infectious	A	adjective
inflame	A	verb
inflammation	A	noun
influenza	A	noun
investigate	C	verb
jargon	A	noun
mechanical	B	adjective
medical	A	adjective
outbreak	A	noun

Word	Section	Word type
pandemic	A	noun
patient	A	noun
penicillin	C	noun
plague	A	noun
poison	B	verb
prescribe	C	verb
pump	C	noun
radiation	B	noun
sanitation	A	noun
symptom	A	noun
toll	A	noun
transmit	A	verb
vector	B	noun
virus	A	noun
Unit 10		
cite	A	verb
paraphrase	A	verb
plagiarism	A	noun
volunteer	B	noun/verb

Word list

Word	Section	Word type

Unit 11

Word	Section	Word type
accuracy	B	*noun*
app	A	*noun*
assess	C	*verb*
attribute	B	*noun*
automation	B	*noun*
calculate	B	*verb*
challenge	A	*noun*
decision-making	B	*noun*
dexterity	B	*noun*
digital	A	*adjective*
efficient	C	*adjective*
elimination	C	*noun*
emotional intelligence	B	*noun*
evolution	C	*noun*
identification	C	*noun*
improvement	C	*noun*
initiative	B	*noun*
innovation	C	*noun*
manual	B	*adjective*
online	A	*adverb/adjective*
opportunity	B	*noun*
prediction	B	*noun*
problem-solving	B	*noun*
processing	C	*noun*
recharge	A	*verb*
reduction	C	*noun*
reflection	C	*noun*
reliable	C	*adjective*
reservation	C	*noun*
revolution	A	*noun*
risk	A	*verb*
robot	B	*noun*
safe	C	*adjective*
spelling	B	*noun*
stamina	B	*noun*
strength	B	*noun*

Word	Section	Word type
teamwork	B	*noun*
transform	A	*verb*
uncertainty	B	*noun*
useful	C	*adjective*

Unit 12

Word	Section	Word type
algorithm	A	*noun*
analyze	A	*verb*
audience	B	*noun*
automated	A	*adjective*
backing	B	*noun*
calculating	A	*adjective*
complex	A	*adjective*
consequence	A	*noun*
content	B	*noun*
crowdfunding	B	*noun*
data	A	*noun*
devastating	A	*adjective*
fund	B	*noun*
inform	B	*verb*
privacy	A	*noun*
raise	B	*verb*
readability	B	*noun*
request	B	*verb*
speed-read	A	*verb*
stock	B	*noun*
support	B	*noun/verb*
supporter	B	*noun*

Acknowledgements

C21

ENGLISH FOR THE 21st CENTURY

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C21 is a five-level skill- and task-based course designed to prepare the 21st century learner to use English effectively in social, educational and professional contexts. *C21* is a unique research-based programme that has been developed in line with the latest educational trends and strategies. These include:

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▷ the key language skills that learners need to engage socially, academically and professionally with their surroundings.

Language skills: Vocabulary
Grammar
Four skills – listening, speaking, reading and writing

21st century skills: Collaboration, Communication, Creativity, Critical thinking, Study skills and Life skills

Key features:

C21 follows an integrated approach to introducing and providing learning opportunities that emphasize 21st century skills together with communication skills; a combination that is now recognized as vital for success in the 21st century.

▷ skill- and task-based course

▷ targeted specifically at college and university students

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Workbook
Progress tests

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