

G present perfect simple and continuous V illnesses and injuries P /ʃ/, /dʒ/, /tʃ/, and /k/

1 VOCABULARY illnesses and injuries

a Do the first-aid quiz with a partner. As you read the options, try to work out the meaning of the **highlighted** words and phrases.

b **C Communication** Medical myths or first-aid facts? **A p.106**
B p.111 Check your answers to the quiz and explain the reasons to your partner.

c **V p.152 Vocabulary Bank** Illnesses and injuries

d What illnesses or injuries might you get if you are...?

eating out hiking in the mountains
doing sport visiting a tropical country

MEDICAL MYTHS OR FIRST-AID FACTS?

First aid can help treat a minor injury, or even save a life in a medical emergency. However, it's important to know what **NOT** to do. Sometimes, incorrect first aid can actually be more harmful than helpful. So how useful is the advice you've heard? Do our quiz to find out.

For each question, decide which answers are myths (M) and which are facts (F).



1 What's the first thing you should put on a burn?

- a butter
- b cool **running water**
- c an ice pack



2 How should you treat a sprained ankle?

- a put a hot, **damp cloth** on the ankle
- b put an ice pack on the ankle
- c put the leg up, e.g. on a chair



3 What's the best thing to do for someone with hypothermia?

- a **rub** their arms and legs to warm them up
- b give them a brandy or a hot coffee
- c cover them in something warm, e.g. a coat or a blanket



4 What's the first thing to do if someone is choking?

- a stand behind them and **press** their stomach inwards
- b make them continue to cough hard
- c hit them hard on the back



5 What's the best way to stop a nosebleed?

- a **tip** your head forwards
- b **pinch** the soft part of your nose
- c tip your head backwards



6 After you have cleaned a bad cut, what should you do...?


- a put on a **bandage**
- b put on antiseptic cream
- c leave it open to the air

2 PRONUNCIATION /ʃ/, /dʒ/, /tʃ/, and /k/

| | | | |
|---|---|---|---|
| 1  | 2  | 3  | 4  |
| | | | |


a How do you pronounce sounds 1–4 in the chart? Write the words from the list in the correct column.


ache allergic bandage choking
emergency infection injury pressure rash
sick stomach temperature unconscious

b  2.5 Listen and check. Practise saying the words.

c Use the words in a to answer questions 1–3 about the sound-spelling rules.

- 1 What ways can you spell the /ʃ/ sound? Which do you think is most common?
- 2 How do you often pronounce g before i and e?
- 3 Which two ways can ch be pronounced? Which do you think is the more common?

d  p.166–7 **Sound Bank** Look at the typical spellings for /ʃ/, /dʒ/, /tʃ/, and /k/, and more examples. Practise saying the words.

e  2.6 Look at some more medical words. Are they the same in your language? Which sounds in a do they contain? Listen and check.


cholesterol indigestion injection
operation scratch surgeon syringe

3 LISTENING & SPEAKING

a Talk in pairs. What would you do and why?

If you were in the street and saw someone who had a medical problem, what would your immediate reaction be?

- a I wouldn't do anything myself, but I would wait to see if someone else was able to help.
- b I'd call an ambulance and stay with the person until it came.
- c I'd go up to the person and see if I could do any first aid.

b  2.7 You are going to listen to Jane, Daniel, and Alison talking about a time when someone needed first aid. First, listen to some extracts and complete the expressions.

Jane


- 1 ...he didn't have a _____, so I thought he was probably _____.
- 2 ...he took her to one side to _____, because obviously she was _____.
- 3 I kept going until the _____...

Daniel

- 4 ...an old lady stepped off the pavement in front of me and she _____ into the road.
- 5 She'd fallen heavily, but she _____
- 6 It was obviously an effort for her to sit up, it was _____

Alison

- 7 Then all of a sudden, he stopped walking and _____
- 8 Some teenagers in the queue _____...
- 9 ...then they put him on a stretcher and _____

c  2.8 Now listen to their stories. When the incident happened, did they help? Why (not)?

d Listen again and answer the questions for each story.

- 1 What was he / she doing when it happened?
- 2 Who needed first aid? Why?
- 3 What did he / she do?
- 4 What happened in the end?
- 5 How did he / she feel a) during the event, b) after the event?

e Talk in small groups.

Have you ever been in a situation where you had to give first aid? Who to? Where were you? What happened? How did you feel?

Has anyone ever had to give you first aid? Why? Where were you? What happened?

Have you ever received any first-aid training? If no, would you like to? In which jobs should people be given compulsory first-aid training?

What could you do if someone...?

- had a severe allergic reaction
- had a high temperature
- got very bad sunburn
- felt faint and dizzy
- got a big blister on their foot
- got food poisoning
- had an epileptic seizure

4 GRAMMAR present perfect simple and continuous



a **2.9** Listen to a conversation between a doctor and a patient and answer the questions.

- 1 What symptoms does the patient have?
- 2 What does he think might be wrong with him?
- 3 What does he think he needs?
- 4 What does the doctor suggest?

b **2.10** Listen to what the doctor and receptionist say after Mr Payne has left. What do they think of him? Do you know the name for someone like this?

c **2.11** Now listen to some extracts from the conversation in a and circle the correct form, present perfect simple or continuous. Are there any where you think both options would also be possible?

- 1 *I haven't been feeling / I haven't felt* well for a few days.
- 2 *I've been coughing / I've coughed* a lot and I keep getting headaches.
- 3 What *have you been taking / have you taken* for the headaches?
- 4 How many tablets *have you been taking / have you taken* today?
- 5 And *have you taken / have you been taking* your temperature this morning?
- 6 Yes. *I've been taking it / I've taken it* five or six times already.
- 7 I think I need a blood test. *I haven't had / haven't been having* one for two months.

d **p.134 Grammar Bank 2A**

e In pairs, use the prompts to ask and answer the questions. The first question should be present simple and the second should be present perfect simple or continuous.

- 1 / often get colds? How many colds / *have* in the last three months?
- 2 / take any vitamins or supplements? How long / *take* them?
- 3 / drink much water? How many glasses / *drink* today?
- 4 / do any exercise? What? How long / *do* it?
- 5 / eat a lot of fruit and vegetables? How many portions / *have* today?
- 6 / walk to school (or work or university)? How far / *walk* today?
- 7 How many hours / *sleep* a night? / *sleep* well recently?
- 8 / be allergic to anything? / ever *have* a serious allergic reaction?

5 READING & SPEAKING

a Look at the title of the article on p.19 and read the first paragraph. With a partner, try to complete the definition of a *cyberchondriac*. Do you think the tone of the article is humorous or serious?

cyberchondriac /sɜːbətʃɒndriæk/ (noun) a person who compulsively searches the internet for information about _____

b Now read the whole article. Complete the summary of each paragraph with phrases a–e.

- 1 When the writer found out that she had a fast heart rate, she **a**
- 2 At the hospital, she discovered that she **b**
- 3 Since she returned from the hospital, she **c**
- 4 It's difficult to know from online information whether a condition **d**
- 5 A lot of online medical information **e**
 - a has been obsessively checking her symptoms online.
 - b googled the possible causes.
 - c isn't very reliable or up to date.
 - d was suffering from a chest infection and cyberchondria.
 - e is rare or very common.

c Match the **highlighted** phrases in the article related to medicine to definitions 1–7.

- 1 _____ the medical treatment of a heart problem that involves an operation
- 2 _____ successful treatments for an illness that was thought to be impossible to cure
- 3 _____ **IDM** not feeling very well
- 4 _____ exaggerated reports in the news that make people worry
- 5 _____ the most terrible situations that could happen
- 6 _____ the speed at which your heart beats
- 7 _____ an illness which could kill you

Confessions of a cyberchondriac

I'm sure that's what I've got...

- 1 A few weeks ago, I was feeling **under the weather**. After days of intensive internet diagnosis, I finally went to see my doctor. After examining me, she told me that my **heart rate** was a bit fast and sent me off to the hospital for some tests. Did I go straight there? Of course not. First I took out my phone, logged on to Google, and found out that the technical term for a fast heart rate is *supraventricular tachycardia*. Then I typed these two words into Google. Sadly, the problem with Dr Google is that he isn't exactly a comfort in times of crisis. One website immediately scared me with a list of 407 possible causes.
- 2 I raced to the hospital, convinced that I probably needed **open-heart surgery**. Four hours later, I got a diagnosis. I had a chest infection...and a bad case of *cyberchondria*. The only consolation for the latter condition is that I'm in good company. A Microsoft survey of one million internet users last year found that 2% of all searches – a not-insignificant number – were health-related.
- 3 Unfortunately, once you have it, cyberchondria can be hard to cure. Since my trip to hospital, I have been obsessively checking my pulse, swapping symptoms in chat rooms, and reading all about **worst-case scenarios**. What if the doctors got it wrong? What if the ECG machine was faulty? It's exhausting trying to convince yourself that you might have a **life-threatening illness**.
- 4 The Microsoft study also revealed another serious problem – that online information often doesn't discriminate between common and very rare conditions. One in four of all articles thrown up by an internet search for *headache* suggested a brain tumour as a possible cause. Although it is true that this **may** be the cause, in fact, brain tumours develop in fewer than one in 50,000 people. People also assume that the first answers that come up in searches refer to the most common causes, so if you type in *mouth ulcer* and see that *mouth cancer* has several mentions near the top, you think that it must be very common. However, this is not the case at all.
- 5 Another problem for cyberchondriacs is that online medical information may be from an unreliable source, or out of date. A recent American study showed that 75% of the people who use the internet to look up information about their health do not check where that information came from, or the date it was created. 'Once something has been put up on the internet, even if it's wrong, it's difficult to remove,' says Sarah Jarvis, a doctor. 'This is a problem, especially with **scare stories**, and also with some alternative remedies which claim to be **miracle cures**, but which may actually do you harm.' Check the information? Sorry, I don't have time – I'm off to buy a heart-rate monitor!



- d Now read each paragraph again carefully and choose a, b, or c.
 - 1 The problem with Dr Google is that the information is ____.
a insufficient b worrying c false
 - 2 Microsoft's survey discovered that ____ searches are to do with health.
a very few
b quite a lot of
c the majority of
 - 3 The information the writer has found since coming back from hospital has ____.
a made her cyberchondria worse
b made no difference to her cyberchondria
c cured her cyberchondria
 - 4 One of the problems with internet searches is that they ____.
a don't rank answers in order of probability
b only focus on common illnesses
c don't always give an answer
 - 5 Most people are unlikely to check ____ health information was posted.
a why and by who
b how and when
c when and by who

- e In small groups, answer the questions. Ask for and give as much information as possible.

- 1 Do you know anyone who you think is a hypochondriac or a cyberchondriac? What kinds of things do they do?
- 2 Do you think people in your country worry a lot about their...?

blood pressure cholesterol level
digestive system liver

Give examples if you can. Are there other things related to health that they worry about?

6 WRITING

W p.115 **Writing** An informal email
Write an email to a friend explaining that you haven't been well, and saying what you've been doing recently.

Glossary

ECG machine electrocardiogram machine, used to test people's heart rate

G using adjectives as nouns, adjective order

V clothes and fashion

P vowel sounds

1 READING & SPEAKING

a Think of an older person you know who seems much younger than they actually are. Circle any of the adjectives below that you would use to describe them.

active brave energetic funny glamorous impulsive
independent lively open-minded sociable

b Describe the person to a partner, and say what they do that makes them seem younger than their age.

c Look at the photo of Dilys and Sian. Approximately how old do you think they are?

The joy of the age-gap friendship

Modern life makes it hard for the old and the young to meet, and even harder to become best friends. What's the secret?

Dilys on Sian

I met Sian at an event where we were both speakers, and we just clicked. I could see she was just a great person, and cleverer than most. She was a glamorous, lively woman, who talked about being an entrepreneur and her love for her father.

She started inviting me to different places. I went to the races with her – not the sort of thing I normally do. She brought fun back into my life when I was working hard to run a charity. The new experiences we share help to keep me alive. When I was ill last Christmas, she really rescued me. She came in like a hurricane, with decorations, firewood, champagne. I was feeling sad and afraid, and she told me that wasn't allowed.

'She brought fun back into my life.'

Sian's full of energy and warmth. I feel I understand her because she represents my younger self. Mine wasn't a typical path; I always wanted to be a bit different. I was a dancer and taught the art of movement. I got married within six weeks, but divorced when my only son was seven. I've got the life I wanted, but it isn't always easy. I try to offer that perspective to Sian.



▲ Dilys and Sian

Sian on Dilys

I met Dilys in Cardiff, where we both live, at an event called Superwoman. We were both invited to speak and were at the same table. Dilys did a lot of charity work with disabled people, as well as being the world's oldest female solo skydiver. I was there to talk about my media marketing company. We hit it off; I thought she was amazing and the way I want to be as I grow older.

We love to sit with a takeaway and listen to Mozart. We like films and the theatre. She has a huge amount of energy and can dance for longer than me. She even persuaded me to do a skydive, despite my fear of

heights. When we're in a cab, taxi drivers ask how we met, but we never think of our age gap. She advises me on my love life, work, and how to be a better person.

'She's the way I want to be as I grow older.'

I often walk into Dilys's house when I'm stressed and within seconds I'm more relaxed. She calms me down when I'm angry, and teaches me to see things from other people's point of view. Now, she's the first person I ring when anything good or bad happens. My family say how much good she does me.

Glossary

the races a series of horse races that happen at one place on a particular day

Adapted from The Guardian

d Now read the article, where each woman talks about how they met and about their relationship. Who are the following sentences true of? Write **S** (Sian), **D** (Dilys), or **B** (both of them).

- 1 She admires the other person.
- 2 She cheered the other person up on one specific occasion.
- 3 She got on immediately with the other person.
- 4 She has done an extreme sport.
- 5 She has helped the other person to be more open-minded.
- 6 She has introduced the other to things she hadn't tried before.
- 7 She likes cultural activities.
- 8 She manages an organization which helps people.
- 9 She runs a company.
- 10 She's good at giving advice.
- 11 She's very energetic.
- 12 She doesn't like being in high places.

e Look at your answers to d. What do you think is the secret of Dilys and Sian's friendship?

f Now look at the photo of Dave and John. What do you think the age difference is between them?



▲ Dave and John

g **G Communication** The joy of the age-gap friendship
A p.107 B p.111 Read about Dave and John and compare what they say about each other.

h Complete some phrases from the four texts. Compare with a partner and explain what they mean in your own words.

- 1 **Dilys** We just cl_____.
- 2 **Sian** We h_____ it off.
- 3 **Sian** We never think of our age g_____.
- 4 **Sian** She...teaches me to see things from other people's p_____ of v_____.
- 5 **Dave** I've learned never to t_____ sides.
- 6 **John** (He loves cars;) I couldn't c_____ less.
- 7 **John** I l_____ up to him.

i Talk to a partner.

- Are you good friends with anyone who is a lot older or younger than you?
- If yes, how did you meet? Why do you get on well? What kind of things do you do together?
- If no, what advantages do you think there are to having a friend of a different generation?
- Is there a family member from a different generation who you are close to? What do you like about them?



2 GRAMMAR using adjectives as nouns, adjective order

a Look at the sentences in 1 and 2 below and decide if you think they are right (✓) or wrong (X). Compare with a partner and say why you think the X ones are wrong.

- 1 a In general, it's difficult for the old and the young to be good friends.
- b In general, it's difficult for the old people and the young people to be good friends.
- c In general, it's difficult for old people and young people to be good friends.
- 2 a Sian is a lively, dark-haired, Welsh woman.
- b Sian is a Welsh, lively, dark-haired woman.
- c Sian is a dark-haired, Welsh, lively woman.

b **G p.135 Grammar Bank 2B**

c Discuss the statements below in small groups. Do you agree? Why (not)?

- Young people don't respect the old as much as they used to.
- Politicians should be at least 40 years old – the young don't have enough experience for such a responsible job.
- Rich people are often less generous than poor people.
- The unemployed should take any job they can. Any job is better than no job.
- The homeless should be allowed to live rent-free in empty second homes.

3 VOCABULARY clothes and fashion

- a Look at the title of an article about fashion. What's your answer to the question?
- b Look at the photo of the Hoppen family and read the article. Complete the **highlighted** phrases with the clothes in the list.

dress jacket jeans sandals sweater top trainers

Can the same clothes work for all ages?

A recent survey found that 54% of British women borrow clothes from their mothers' wardrobes. One in five also 'share' with their grandmothers. 'It's not about what you "should" wear when you're young or old', says designer Emilia Wikstead. 'It's about finding the things that really suit you, regardless of your age.'



The Hoppen family:
Plum Hoppen (21),
her mother Jenny (60),
her sister Daisy (31)
[= from left to right]

When three women of the same clothing and shoe size live under the same roof, clothes are bound to go missing. 'I remember seeing this girl in the park and thinking, "That's a nice dress; it looks like one of mine."', says Jenny Hoppen. 'And I realized it was Daisy, going to a wedding, wearing my dress and shoes.' But even if they borrow from each other, the same piece looks different on them all.

In the photo, they are all wearing the same ¹ cropped _____ . Plum wears hers with ² a leather _____ and ³ patterned _____ , but they look just as good on Jenny with ⁴ a silk V-neck _____ and ⁵ red velvet _____ , or on Daisy with ⁶ a see-through black _____ worn over ⁷ a black polo-neck _____ . 'The principle we learned from our mother', says Daisy, 'is to have our own sense of style and be adventurous.'

- c Whose 'look' do you prefer? Do you ever borrow clothes or accessories from people in your family, or friends?
- d **V** p.153 **Vocabulary Bank** Clothes and fashion

4 PRONUNCIATION vowel sounds


- a Say the vowel sounds below. Are they short, long, or diphthongs?

1  denim velvet linen striped

2  plain lycra tie tight

3  lace leather waistcoat suede

4  fur scruffy shirt skirt

5  loose shoes suit wool

- b **2.21** Circle the different sound in each group. Listen and check.
- c **2.22** Listen to some phrases describing clothes. Is anyone in the class wearing them, or something similar?
- d Talk in pairs.
What would or wouldn't you wear...?

to a formal interview on the beach
to work or school / university
to a wedding sightseeing in a city

5 LISTENING & SPEAKING

- a Look at the clothes in the photos. What age group do you associate them with?



1 a cardigan and fur slippers

2 a leather miniskirt

3 very short shorts



4 tight jeans and a T-shirt with a slogan



5 a blazer and chinos

b **2.23** Listen to a radio discussion about dressing your age. Match the clothes 1–5 in a to what the journalists say about them, A–F. There is one comment you don't need.

- A 'They never suit an older person.'
- B 'They make younger men look older than they are.'
- C 'A woman in her 70s looked great in one.'
- D 'Middle-aged men tend to wear them a lot.'
- E 'Older people should never wear clothes made of this material.'
- F 'Your grandma probably won't like them as a present.'

c Listen again and mark the opinions **T** (true) or **F** (false). Correct the **F** ones.

Liza thinks that...

- 1 90% of women dress younger than their age.
- 2 teenage girls would never dress older than their age.
- 3 it's fine for older women to wear trendy clothes.

Adrian thinks that...

- 4 very few men admit to dressing younger than their age.
- 5 Mick Jagger looks awful in many of the clothes he wears.
- 6 men normally wear a suit and tie to work.

d In pairs, think about what the journalists said, and try to complete their fashion rules.

Liza Wear whatever you think _____ and makes you _____.

Adrian Dress for the age _____, not for the age _____.

e **2.24** Listen to the end of the discussion and check. Who do you agree with more, Liza or Adrian?

f Work in groups of three, and discuss three of the topics below. Take turns to be the presenter. The presenter chooses the topic and manages the discussion. Try to use the language from the box.

- People should stop buying new clothes and buy more second-hand and vintage clothes.
- Men are just as interested in shopping for clothes as women.
- Nowadays, nobody is prepared to suffer in order to look good. The most important thing is comfort.
- You can tell a lot about someone's personality from the clothes they wear.
- Cheap fashion means exploiting people in less developed countries.

Managing discussions

Let's start with you, (Liza).
(Adrian,) what about...?
Let's go back to...

So, to sum up...
Can you let (Liza) finish?
Sorry. Go ahead.

Politely disagreeing

Sorry, but I don't agree.
True, but...

I'm not sure about that.
I agree up to a point, but...

6 WRITING

a Imagine you have decided to sell two items of clothing on eBay. Write detailed descriptions, using the example below as a model. Set a starting price.



Blue and white striped cotton shirt – Size M
Condition: New without tags
"Never worn! Would look great with jeans. Perfect for the summer."
£4.50

b Now read some other students' adverts. What would you like to bid for?

7 VIDEO LISTENING



- a Watch an interview about the Hiut jeans company. What do you think is the unique selling point (USP) of their jeans?
- b Watch the interview again. Then make notes under the following categories.

| Description of jeans | |
|----------------------|--|
| 1 | Material: <i>denim</i> |
| 2 | Style: |
| 3 | Celebrity wearer: |
| History of company | |
| 4 | When David and Clare started it and why: |
| 5 | Who they employ: |
| 6 | How many pairs of jeans they produce per week: |
| 7 | How they try to make their jeans environmentally friendly: |

c Would you like to have a pair of Hiut jeans? Would you be prepared to join the no-wash club? Why (not)?

GRAMMAR

a Complete the sentences with one word.

- 1 What were you and Sarah talking _____?
- 2 You didn't like her latest novel, _____ you?
- 3 My father loves opera and so _____ my mother.
- 4 **A** I've been to India twice.
B _____ you? I'd love to go.
- 5 What have you _____ doing since last week?

b Circle a, b, or c.

- 1 Could you tell me what time ____?
a the bus leaves b leaves the bus
c does the bus leave
- 2 How many people ____ this computer?
a do use b use c does use
- 3 You're not eating much. ____ like the food?
a You don't b Don't you c Aren't you
- 4 **A** Why didn't you call me?
B I ____, but your phone was switched off.
a do call b did called c did call
- 5 My parents are both blonde but my sisters ____.
a don't b aren't c are
- 6 ____ three cups of coffee already this morning.
a I've been having b I've had c I have
- 7 That was probably the worst film ____!
a I've ever seen b I've never seen
c I've ever been seeing
- 8 I met ____ at my language class today.
a a Swiss b the Swiss c a Swiss girl
- 9 Some people think that ____ don't pay enough tax.
a the rich b the rich people c rich
- 10 I got a ____ bag for my birthday.
a beautiful leather Italian
b Italian leather beautiful
c beautiful Italian leather

VOCABULARY

a Complete the compound adjectives.

- 1 My boss is very bad-_____. When things go wrong, he starts shouting at everyone.
- 2 I'm very _____-minded. I tend to forget things.
- 3 I think Paul is a bit tight-_____. He never spends money unless he absolutely has to.
- 4 Sylvia won't have any problems at the interview – she's very self-_____.
- 5 That dress is very old-_____. It looks like the kind of thing my granny would wear.

b Write words for the definitions.

- 1 bl_____ (verb) to lose blood from an injury
- 2 sw_____ (adj.) bigger than normal, especially because of an injury or infection
- 3 b_____ (noun) a piece of cloth used to tie round a part of the body that has been hurt
- 4 t_____ (noun) a pain in one of your teeth
- 5 r_____ (noun) an area of red spots caused by an illness or allergy

c Circle the correct verb or verb phrase.

- 1 I *have / feel* a bit dizzy. I need to sit down.
- 2 She *burnt / sprained* her ankle when she was jogging.
- 3 It was so hot in the room that I nearly *fainted / choked*.
- 4 This skirt doesn't *fit / suit me*. It's a bit too big.
- 5 Can I go in jeans? I don't feel like getting *dressed / changed*.

d Circle the word that is different.

- 1 striped spotted plain patterned
- 2 silk cotton fur smart
- 3 collar sleeveless hooded long-sleeved
- 4 lycra scarf vest cardigan
- 5 fashionable scruffy stylish trendy

e Complete with one word.

- 1 My mother had very bad flu last week, but she's beginning to get _____ it now.
- 2 Please lie _____ on the couch over there.
- 3 I'm feeling sick. I think I'm going to _____ up.
- 4 Do we really need to dress _____ for the party tonight?
- 5 Please _____ up your clothes in the wardrobe.


PRONUNCIATION


a Circle the word with a different sound.

1  ache choke checked matches

2  unconscious rash fashion suede

3  injury striped silk blister

4  allergic burnt wear fur

5  cough flu suit loose

b Underline the main stressed syllable.

- 1 in|cre|di|bly 3 an|ti|bi|o|tics 5 fa|shio|na|ble
- 2 big|hea|ded 4 swim|suit

CAN YOU understand this text?

- a Read the article once. Do the scientists who have studied Scott Kelly agree about the effect of space travel on the human body?
- b Read the article again and choose a, b, or c.
- 1 Scientists expected that, after spending a year in space, Scott Kelly would be...
 - a more intelligent.
 - b taller and lighter.
 - c younger.
 - 2 Telomeres prevent...
 - a ageing.
 - b radiation.
 - c damage to our chromosomes.
 - 3 Scientists are afraid that astronauts...
 - a will not want to do long space flights.
 - b will have a lot of long-term health problems.
 - c won't be able to travel further than Mars.
 - 4 In space, astronauts...
 - a are made to use the gym twice a week.
 - b exercise more than when they are in training.
 - c are not allowed to eat whatever they like.

▶ CAN YOU understand these people?

🔊 2.25 Watch or listen and choose a, b, or c.



1 Sean 2 Harry 3 Maria 4 Tom

- 1 One of the questions Sean was asked at a job interview was _____.
 - a whether he liked working in restaurants
 - b which his favourite team was
 - c who his favourite superhero was
- 2 In the house where Harry grew up, there is a ghost which _____.
 - a all of her family have seen
 - b all of her family have heard
 - c all of her family are afraid of
- 3 Maria gave her little brother first aid when _____.
 - a her mother was not at home
 - b his older brother had hit him on the head
 - c he fell off the sofa and cut himself
- 4 Tom's friend _____.
 - a is 16 years older than him
 - b works as an actress
 - c makes him laugh a lot

Astronaut returns from space younger than his twin



American astronaut **Scott Kelly**, and his identical twin **Mark**, also a retired astronaut, may be the most studied siblings in the history of science. Each time one of them went into space while the other remained on Earth, both men would carry out dozens of experiments, including cognitive exercises, genetic sequencing, and testing for bacteria on their bodies. When Scott landed in Kazakhstan last year, after 340 days in space, he came back two inches taller, fifteen pounds lighter, and with a strong desire to jump into a swimming pool. Changes like these were predictable and temporary. Now, however, scientists have found the first signs of a change that no one expected - during his year on board the International Space Station, Scott's body had become younger.

One of the genetic indicators of human ageing is the length of our telomeres. Telomeres are the caps at the end of each strand of DNA that protect our chromosomes, like the plastic tips at the end of shoelaces. Normally, telomeres get shorter as we age; they are about 11,000 molecules long when we are born and only about 4,000 long in old age, and this means that our DNA is increasingly vulnerable to damage as we get older. However, an analysis of Scott Kelly's cells, led by Susan Bailey, professor of radiation cancer biology at Colorado State University, showed that the 52-year-old astronaut's telomeres got longer while he was in space, before shrinking back again after returning to Earth.

In theory, expanding telomeres indicate the reversal of part of the ageing process. However, they are also strongly linked to cancer. NASA is aiming to send humans to Mars and beyond, but many scientists worry that long-haul trips into space could cause astronauts to suffer from chronic and severe health problems. So this is definitely not good news, and it could have serious implications for the future of space travel.

Christopher Mason, assistant professor of physiology and biophysics at Cornell Weill Medicine in New York, takes a different view. Professor Mason's team also found changes in Scott Kelly's genes while he was in space. But he thinks this may be less a result of simply being in space, and more due to the intense NASA fitness regime. 'On Earth, you might go to the gym on Tuesday and then decide you can't be bothered on Thursday and go to the pub, but on the space station, the astronauts exercise extremely regularly, and all food and exercise are very controlled.'

Glossary

15 pounds almost 7 kilos