1 Read Facts about the brain and complete the number of brain cells with numbers from the box.

5 billion 100 billion 20,000 10 billion 100,000

2 Listen and check your answers. Are there any facts that surprise you?

3 Look at the title and the photos below. How do you think they’re connected with the topic of the brain? Then read the article to check your ideas.

Although the human brain is amazingly powerful, most people only use a tiny amount of its power. The brain is like a muscle. If you don’t exercise it, it loses its strength and deteriorates. If you want to develop and improve your mind and make the most of it, you need to do regular mental exercises.

In spite of all our potential brain power, we can easily forget 70% of what we learn in 24 hours unless we make a special attempt to remember it. When we learn something new, it goes into our short-term memory. To move it into our long-term memory, we have to recycle the information before it escapes! In his book *Accelerated Learning for the 21st Century*, educational expert Colin Rose says that it’s a bit like a sheep dog with a flock of sheep. The dog rounds up the sheep and guides them to the entrance of the sheep pen. If it leaves the sheep there, they can run off and the dog risks having to start the whole process all over again. To make certain that they stay there, the dog must get the sheep actually into the pen. It needs to keep them there and stop them from leaving until the gate is shut.

So how can you help yourself to remember things better in the long term? Well, there are several things you can do. One of them is to make sure you pay attention and take in the information properly in the first place. Others are to do with the effort you make to remember it afterwards. One thing experts agree on is the importance of doing frequent revision. The 24 hour deadline means that it’s vital to go over whatever you’ve learned during the day that same evening. Getting a good night’s sleep can make a big difference too; experiments show that sleep boosts memory and helps us process recently learnt information. You should look at the material again the next day, then recycle it again after one week, one month and six months. Don’t wait to revise until exam time – by then it’s too late!
4 What's the general idea of the article? Choose the best description and say why.
A It’s about improving our short-term memory.
B It’s about sheep dogs rounding up sheep.
C It’s about learning more effectively.
D It’s about getting a good night’s sleep.

5 Read the article again. Are the sentences true or false? Justify your answers with evidence from the article.
1 We normally remember 70% of what we learn, unless we revise it.
2 The sheep dog’s main job is to get the sheep into the entrance of the pen.
3 To really learn something, we need to get the information into our long-term memory.
4 Unless we review new information within a day, we’re in danger of forgetting it.
5 Going over what we’ve learnt at regular intervals helps us to retain information.
6 Revision at exam time is more valuable than revision a long time before your exams.

6 Discuss the questions with a partner.
1 Explain the sheep dog metaphor in your own words. Can you think of another metaphor to describe this process?
2 Do you use any of the study strategies suggested in the article or do you leave everything until the last minute?
3 Has reading the article made you want to try out a different approach?

7 Read Word Zone and complete the last sentence with make or do. Then find more expressions like these in the article.

8 Match the words with make or do to form collocations.

9 Tell a partner about yourself using expressions with make and do.

I sometimes make mistakes in my English, but I think I’m making progress!

10 Work with a partner. Put the words in the box into pairs to make expressions. You need to use all the words, and all the expressions must make sense.

| long-term memory, fail an exam ... |
| deadline effective exam fail information long-term material memory pass process recycle short-term strategy test |

11 Check your expressions with another pair. Have you got any different answers? Do they all make sense?

12 Match the words in the box with brain or exam to form two-part nouns.

| Brain: brain power Exam: exam paper |
| damage death drain disorder paper phobia power preparation result revision stress teaser |

13 Choose five expressions from exercise 10 and 12 and write your own sentences.

Brain teasers can help you to improve your memory.

14 Use the words in capitals to form words to complete the gaps.

Memory world champion Dominic O’Brien has an absolutely amazing memory.
He can ... fifty-four packs of playing cards. That’s nearly 3,000 cards!
And he can do this after ... each card only once.
What makes this ... all the more astounding is the fact that O’Brien had ... difficulties as a child.
He suffered from dyslexia, and consequently developed a fear of ... .
His success is due to intensive ... as well as a strong ... to win.
Nowadays, he uses his ideas to help people who have learning ... .

More practice
GRAMMAR Modal verb review

Modal verbs are verbs that we use to express obligation, necessity, recommendation, prohibition, possibility and permission.

- You mustn't stay up all night revising.
- You mustn’t study every single minute of the day!
- They needn’t stay behind for extra Maths lessons.
- He needs to …
- She needn’t …
- You have to be 18 to see this film.
- You can’t go without your parents’ consent.
- Wearing shoes in the mosque is prohibited.
- You must never put grease on a burn.
- It’s not a good idea to wait until exam time to start revising.
- You shouldn’t …

PRONUNCIATION should, must & ought

1. Should rhymes with would, could and good.
2. Must rhymes with just, dust and fusses.
3. Ought rhymes with bought, thought and caught.

What do these traffic signs mean? Write a sentence to explain each one.

1. Stop
   - You have to stop here.
2. Speed limit 40
3. No cycling
4. No left turn
5. Give way
6. Vehicles
d7. No entry
8. Triangle

Complete the gaps in the leaflet with an appropriate modal verb. Be careful – not all of them are modal verbs.

An epileptic seizure: what to do

An epileptic seizure is caused by a sudden burst of excess electrical activity in the brain. The person often goes stiff, loses consciousness and falls to the ground. Then they shake or jerk movements. What do you do to help them? You … put something under their head, … restrain their movements or … help them breathe more easily. You … make a note of the exact time the seizure started. You … call an ambulance unless the seizure lasts more than two or three minutes, or if the person has a second seizure.

Important: You … ever leave the person on their own: stay with them and reassure them until they …

Discuss the questions in pairs.

1. How do you put someone in the recovery position? Use the pictures in the leaflet to help you.
2. What should you do in the following situations? What mustn’t or needn’t you do?

   - If someone faints
   - If someone is stung by a bee
   - If someone is bitten by a snake
   - If someone has a nose bleed

FAST FINISHERS Draw some more road signs and write explanations.
LISTENING
Interpret information in an interview

1 How many of the languages above can you identify?

2 Work with a partner. What do you think are characteristics of good language learners? Add your own ideas to the lists.
   1 Good language learners tend to be ...  
      ● highly motivated.  
      ● cautious and careful.  
      ● bold and unafraid.  
      ● focused on an exam.
   2 They generally have ...  
      ● short-term goals.  
      ● long-term goals.  
      ● a positive attitude.  
      ● an inquisitive nature.
   3 They ...  
      ● think accuracy is the most important thing.  
      ● take every opportunity to practise speaking.  
      ● find ways of making learning interesting.  
      ● try to learn 100 new words a day.

3 Listen to the interview with Professor Percy and answer the questions.
   1 Which languages does the professor speak?
   2 Which items in exercise 2 does he mention? Do you agree with him?

4 Listen again. What does Professor Percy say about the following? Make notes.

   the advantages of learning a language  exams  how to make learning interesting  speaking practice  making mistakes

5 Choose the best answer, according to the interview. Can you remember without listening again?
   1 According to Professor Percy, learning another language ...
      A is difficult unless you live abroad.  
      B is most useful when you go abroad.  
      C can be useful in many different situations.
   2 Passing an exam ...
      A is a passport to university.  
      B is often a gateway to other things.  
      C will get you a better job.

6 Read the expressions in Face 2 Face. Go to page 146 and put them into the dialogues. Listen and check.

   FACE 2 FACE
   ● That’s all very well, but
   ● enough to get by  
   ● Absolutely!

7 Work in pairs. List the characteristics of a poor language learner.

   YOUR TURN TO SPEAK
   8 In pairs, prepare and act out a radio interview about what makes a poor language learner.

   Student A: You are the interviewer. Prepare an introduction to the programme and make a list of the questions you will ask.
   Student B: You are a professor of Languages. Use your list from exercise 7 to prepare your answers.

Express yourself

   Beginning a question
   What do you think ... ?
   What do you mean when you say ... ?
   What else ... ?
   (Is there) anything else ... ?
   In your view, what ... ?

   Beginning an answer
   That’s an interesting question.
   Well, ...  
   In my opinion / experience, ...
   It’s my belief that ...
   What I’ve found is ...
As a rock producer, Daniel Levitin worked with Stevie Wonder, the Grateful Dead and Chris Isaak. Then he switched to a career in neuroscience: Levitin is now a professor at McGill University in Montreal. As one of the world’s leading experts in cognitive music perception, he has been exploring how our brains process the works of artists from Beethoven to the Beatles and Beyoncé. Why does their music make us feel so good? A reporter from the online technology news website, Wired News, talked to Levitin about his work.

WN: From an evolutionary perspective, why have humans developed music?
DL: Darwin’s view was that music was selected by evolution because it signals intellectual, physical and sexual fitness to a potential mate. Thousands of years ago, if people had time to sing, it meant that they’d already taken care of the more important things like finding food and shelter.

WN: Are there any myths about music that neuroscientists have exposed?
DL: I think we’ve debunked the myth of talent. There doesn’t seem to be anything like a ‘music gene’ that great musicians like Stevie Wonder are supposed to have but nobody else does. There’s no evidence that talented people are born with a different brain structure or different wiring from the rest of us.

WN: You study brain disorders and injuries. Have you learned anything about music perception from this?
DL: Yes. We’ve learnt that musical ability is actually not one ability but a set of abilities. Through brain damage, you can lose one component and not necessarily lose the others. You can lose rhythm, but retain pitch, for example. We see equivalents in the visual domain: people can lose colour perception without losing shape perception.

WN: What have you learnt about the link between music and emotion in the brain?
DL: Music activates the same parts of the brain and causes the same neurochemical cocktail as a lot of other pleasurable activities like eating chocolate or winning a game. Serotonin and dopamine are both involved.

WN: Could music be an antidepressant?
DL: It is already – most people in Western society use music to regulate moods, whether it’s playing something upbeat and energizing in the morning or something gentle and soothing at the end of a hard day. It’s true that it can make you feel less depressed, and it’s a much better alternative to Prozac.

WN: And finally … what is an ‘earworm’?
DL: It’s a song that gets stuck in your head and plays over and over again, and you can’t get rid of it. If it’s really a nuisance, you could try finding an equally annoying song to replace it with!
1 Choose the correct answer, according to the interview.

1 Daniel Levitin ...
   A is a rock producer.
   B used to be an academic.
   C is interested only in the effects of modern music.
   D has become a neuroscientist.

2 Levitin thinks that any talent, including musical talent ...
   A is something a person is born with.
   B has nothing to do with the brain structure.
   C is caused by a special gene.
   D can rewire the brain.

3 Musical ability ...
   A is connected to visual ability.
   B is composed of several skills.
   C is lost when one component is lost.
   D affects how we perceive colour.

4 Listening to music ...
   A isn’t an effective antidepressant.
   B has similar effects on the brain to other pleasurable activities.
   C may be used as an antidepressant in the future.
   D stimulates different chemicals from eating chocolate.

5 How many of the interviewer’s questions can you remember? Write them down. Then go back and add the others.

6 Now use your questions to act out the interview with a partner.

7 Read the box above. Then in pairs, answer the questions.

1 How many adjectives like this can you find in the last two paragraphs of the interview on the previous page?
2 How many more adjectival pairs like this can you think of?

8 Use adjectives from the words below to complete the short dialogues.
bore stress relax impress

A: What a 1 ... man! He talked non-stop about himself. I was 2 ... out of my mind.
B: Were you? I think being a professional violinist is very 3 ... . At least, I was 4 ... – I can’t even sing a note!
A: I can’t cope. I’ve got three deadlines for Monday morning! It’s so 5 ... . How can you be so 6 ... and laid back?
B: Because there’s no point being 7 ... . It’s not helpful. Tell you what – we’ll do it together. But first, let’s put on some 8 ... music and have a cup of tea.

9 Complete the sentences with the correct form of the verbs in brackets and your own ideas. Then compare with a partner.

1 A song I find really ... is ... (irritate)
2 A singer I’m ... by is ... (inspire)
3 I think ... is very .... (move)
4 I find it ... when I hear ... (uplift)
5 The most ... film I’ve seen recently is ... (disturb)
6 I get ... when people ... (repulse)

10 Match the verbs with the definitions below.

1 search for a word or some information
2 understand and remember something
3 do or have enough to be OK
4 read through again or revise
5 consider something very carefully

11 Complete the sentences with the verbs in the correct form.

1 Don’t answer straight away. Take your time and ... your answer.
2 If you’re not sure how to spell a word, ... it ... in the dictionary or spellcheck.
3 I don’t speak good German – just enough to ...
4 I need to ... my lines for the play again tonight.
5 Stop! I can’t ... so much information all at once!

12 In pairs, turn to page 150 and discuss the questions.
We use the -ing form (gerund) of verbs:
After certain verbs and expressions.
I don’t enjoy getting up early.
I can’t stop thinking about her.
It’s worth watching.
After prepositions.
I’m thinking about becoming a neurologist.
As the subject of a sentence.
Listening to music is a great way to relax.
We use to + infinitive:
After certain verbs.
I decided to learn Polish.
Do you want to study together tonight?
After certain verbs + object (ask, invite, persuade, teach, tell, want, warn, etc).
The professor advised us to learn some new words every day.
After certain adjectives.
It’s impossible to remember everything you learn.

1 Complete the questions using a gerund or to + infinitive. Then think about your own answers.

**STUDY QUIZ**

1. Do you consider yourself … a good student? Why? (be)
2. Do you think it’s worth … a lot of time studying? (spend)
3. How many hours do you think it’s important … in the evenings? (study)
4. Where do you prefer … your homework? At home or in the library? Why? (do)
5. Do you like … music playing while you’re working? (have)
6. What kinds of music do you and don’t you enjoy … to? (listen)
7. What kinds of career are you thinking about … ? (go into)
8. Is it essential … to speak English in that career? Why? (can)

**FAST FINISHERS** Write true sentences for you. I expect … soon. I hate … I want people … Sometimes I struggle …

2 In pairs, ask and answer the questions from the questionnaire in exercise 1.

3 Expand the sentences using a gerund or to + infinitive.
   1. Read / book / help / me / get / to sleep at night
   Read books helps me to get to sleep at night.
   2. I want / people / notice / me
   3. My parents / would like / me / do / well at school
   4. I’m looking forward / to / finish / school / and / go / to university
   5. People / often / ask / me / give / them / advice
   6. I always avoid / revise / too much right before an exam
   7. My friends / convinced / me / get / a tattoo

4 Tick the sentences in 3 that are true for you. Correct those that are not. Compare your ideas with a partner.

5 Can you guess the missing verbs in these English proverbs? Then listen and check.

   1. If a job’s worth … , it’s worth … well.
   2. There’s no use … over spilt milk.
   3. It is better … standing than … kneeling.
   4. It takes a thief … a thief.

6 Discuss with a partner what you think the proverbs in exercise 5 mean. Do you think they’re true? Do you have similar proverbs in your language?

7 Complete the sentences with your own ideas. Use a verb each time. Then compare with a partner.

   1. I often think about travelling to South America.
   2. One thing I’d like … before I’m 20 is …
   3. I really can’t stand …
   4. I’m quite afraid of …
   5. I’d love to learn …
   6. I’m not one bit interested in …
   7. I’m really looking forward to …
   8. I can’t wait …
**CHALLENGE**

Learn and teach a new memory-training technique

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**PREPARATION**

1. Read the article. How do memory champions do it?

When journalist Joshua Foer attended the US Memory Championships, he was amazed at the amount of information contestants could remember: thousands of numbers, names, and cards. Three times champion Ben Pridmore could remember 4,140 binary digits in half an hour!

When Foer asked one of the contestants what it was like to be born with such a powerful memory, he was told that no one has a special memory, just an average one. They train themselves to remember using techniques based on those used 2,500 years ago in ancient Greece. These techniques involve using the visual-spatial part of the brain to transform remote, meaningless, easily forgettable information into something personal, meaningful … and memorable.

2. In pairs, discuss the questions.
   - How good is your memory?
   - Have you ever tried to improve your memory? Describe what you did.

---

**STUDENT A**

1. Read the text. Make sure you understand the memory-training technique.

2. Think of your own story to remember this shopping list:
   - bread, rice, chicken, yoghurts, soap, a toothbrush, two light bulbs, some chewing gum

3. Test yourself. Cover the shopping list and use your story to see if you can remember it.

---

**DO THE CHALLENGE**

3. Work in groups of three. You’re going to learn a memory-training technique, and then teach it to your partners.

**Student A:** Go to the bottom of this page and follow the instructions.

**Student B:** Go to page 123 and follow the instructions.

**Student C:** Go to page 124 and follow the instructions.

4. Work in your groups of three. Take turns teaching each other the memory-training techniques that you’ve learnt. Follow the instructions, one student at a time.
   - Explain how your technique works.
   - Ask the other students if they have any questions, and answer them.
   - Give the other students an example of how the technique works. Use an example from the section that you read, or use your own example.
   - Test the other students’ memory. Did they learn the information successfully?

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**FOLLOW UP**

5. In your groups, discuss the questions.
   1. Which of the techniques did you find most / least useful? Why?
   2. Which school subjects do you think they could be particularly useful for?
   3. Which of the techniques will / won’t you be trying out in other subjects?

---

**Creating a story**

This way of remembering lists of objects comes from Dominic O’Brien, who you read about earlier in this unit. He uses a narrative combined with visual imagery, which is a technique he uses to remember all those cards. If you need to memorize a list of objects, you can weave them into a story – the more bizarre the better. So if you’re going shopping, for example, and need to remember eggs, shampoo, cat food, matches, orange juice and chocolate, you might think of a freshly shampooed cat climbing up an orange tree to find a nest made of matches with chocolate-coloured eggs inside!
1. You're going to hear two interviews for a place on a college course. Before you listen, discuss the advice. Which is good and which is bad? Why?
   1. Smile and relax as soon as the interview starts.
   2. Try to do some research about the college.
   3. Talk about yourself as much as you can.
   4. Avoid asking questions yourself.

2. Listen to the first interview. How would you describe the interviewer and the interviewee? Choose from the following adjectives.
   - arrogant
   - confident
   - enthusiastic
   - intelligent
   - friendly
   - modest
   - shy
   - unfriendly
   - unenthusiastic

3. Listen to the second interview and make a note of the two people's attitudes to examinations.

4. Now listen to both interviews again and answer the questions.
   1. How does the interviewer describe George's exam results?
   2. How does the college feel about his decision to apply for a place there?
   3. What criticism did George's English teacher make?
   4. How does George prefer to study?
   5. What is the interviewer's reaction to the way Daisy enters the room?
   6. What does Daisy think of the college website?
   7. What was disappointing about Daisy's last year at school?

5. In your own words, say what the following expressions mean. Try to find a context when you might use them.
   - I've been churning out stories ever since.
   - We need to jazz the site up a bit.
   - Have I put my foot in it?
   - Let's get down to business.
   - I woke up on the wrong side of the bed that morning.

6. Look at the expressions below. They are all the opposite of remarks in Express yourself. Which ones? Can you imagine a situation where you would say something like this?
   - Well, that's all we have time for.
   - That's one of the most boring things I've ever heard.
   - I have to take issue with you about that.
   - That's a shame.
   - I'm not sure I'm with you a hundred per cent.

7. Discuss the questions in pairs.
   1. What do you think of the interview techniques of the two students?
   2. Which student's study habits are more like yours? Give examples.
   3. What things can go wrong during an interview? How can you get out of those situations?

8. Work in pairs. You're going to role play an interview. Decide together what the interview is for – a college place, a job, a grant, etc.

9. Follow the instructions. Then do the interview.
   **Interviewee:** Think about what you might be asked in the interview. Why do you want this place, job, etc? What are your strengths and weaknesses?
   **Interviewer:** Plan the questions you want to ask the interviewee.

10. Swap roles and repeat the activity.
1 In pairs, read the list of eight ways you can practise your English outside the classroom. For each one, discuss which skill it practises – reading, writing, etc.

1 Watch English-language films and TV programmes – with or without subtitles.
2 Read English-language newspapers, magazines or blogs.
3 Read books or graded readers in English.
4 Listen to audio books (and read at the same time).
5 Listen to radio programmes in English.
6 Listen to songs in English (and read the lyrics at the same time).
7 Form an after-school English Club to do activities in English.
8 Find an English-speaking pen pal. Write to them and chat to them online.

2 Read a report written by one class. What do you think of the recommendations in the report?

The aim of this report is to provide information about what the students in our class do (and don’t do) outside the classroom to practise and improve their English. The report also makes recommendations about what more we could do.

Most of us regularly watch English-language films, although usually with subtitles, and most of us listen to songs in English almost every day. Apart from this, several students reported that they often visit English-language websites, and one student said that he occasionally reads out loud and records himself.

However, we were surprised to discover that nobody in the class practises speaking or writing English outside the classroom, apart from homework. It was a shock to realize that we only ever speak English inside the classroom, so this is something we would like to change.

We would very much like to recommend the creation of an English Film Club. Students would take it in turns to present a film each week. After watching the film, students would discuss it in English and then collaborate on writing a short review together.

We also think it would be an excellent idea to set up a network of pen pals, and would like to request that our English teachers support us in this venture.

3 Complete the table with the activities mentioned in the report and the number of students who do them.

<table>
<thead>
<tr>
<th>Activity</th>
<th>A lot</th>
<th>Not many</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watch films</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4 Find two different expressions for introducing a recommendation in the report. Then think of more ways of recommending something.

5 Write sentences to recommend the following ideas. Use appropriate language for recommending.

- go on a class trip to the UK
- perform songs and poems in English
- read a classic book together in English
- watch the news from an English-speaking country

6 Work as a class. Record the number of students who do the activities in exercise 1 outside the classroom. Use the headings below.

<table>
<thead>
<tr>
<th>All of us</th>
<th>Some of us</th>
<th>One of us</th>
<th>Most of us</th>
<th>A few of us</th>
<th>None of us</th>
</tr>
</thead>
</table>

7 Read the instructions. Then write a report on your results.

Your teacher has asked you to write a report on how students practise their English outside the classroom. You should explain what the most and least popular methods are, and make a recommendation about what students could do to develop this kind of practice even further.

1 Use the report as a model.
2 Use your notes from exercise 6 and the plan below.
3 Remember to use language for making a recommendation from exercise 4.

Paragraph 1 – introduce the report.
Paragraph 2 – write about activities that people do a lot.
Paragraph 3 – write about activities that people don’t do much.
Paragraph 4 – make recommendations.

8 Check and correct your report.

1 Check you used language for making a formal recommendation correctly.
2 In pairs, swap your reports and check each other’s work.