See Unit 4 Rubric in the Appendix.

OPTION 2 Debate whether cooking should be taught in schools

COLLABORATION SKILL Participate in a Debate

In a debate, two teams discuss a statement or question. One team supports (agrees with) the statement. The other team opposes (disagrees with) it. In a debate, you may have to support an opinion you do not agree with personally.

During a debate, teams take turns speaking and cannot interrupt when it is the other team's turn. Some debates have three parts. First, each team presents their ideas. Then they have some time to prepare a response to the other team's ideas. Finally, they present their response. Another person or team will decide which team wins.

To debate well, speak clearly, give strong reasons, examples, and explanations for your ideas, and explain why you think the other team's ideas are less convincing than yours.

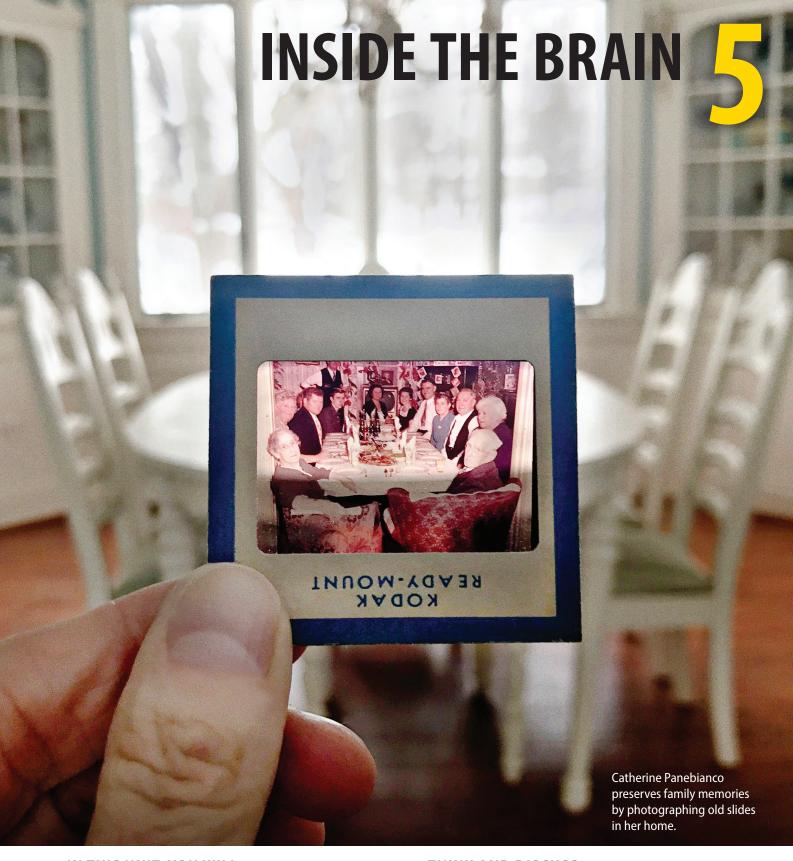
Α	MODEL	Listen to a short debate. Complete the chart.	◄ 》
---	-------	---	------------

1. What is the topic of the debate?	
2. Do the speakers in Team A agree or disagree with the topic? What reasons do they give?	
3. Do the speakers in Team B agree or disagree with the topic? What reasons do they give?	

- B ANALYZE THE MODEL Listen again. Discuss the questions with a partner.
 - 1. Do both teams follow the rules of a debate?
 - 2. Which team won the debate, in your opinion? Why?
- PLAN Work with a partner. Your teacher will tell you to support or oppose the statement below. Remember that this might not be your real opinion. Brainstorm ideas with reasons, details, and examples that support the opinion. Also, think about what your opponents might say so you will be ready to respond to their points.

Cooking should be taught in school.

- **D PRACTICE** With your partner, complete the tasks.
 - 1. Choose the four best ideas from your list and decide who will say them during the debate.
 - 2. Practice saying your ideas. Give each other feedback on how well you present your ideas.
 - 3. Discuss ideas that the other team might mention. Think about how you can respond to them.
- **DEBATE** Form a group with a pair of students that were assigned the opposite opinion. Have the debate. Allow three minutes for each part: presenting, thinking about how to respond, and responding.



IN THIS UNIT, YOU WILL:

- Listen to a group discussion about memory
- Watch a video on the brain
- Watch or listen to a podcast on how exercise benefits the brain
- Discuss strategies for learning another language or Present advice to future students

THINK AND DISCUSS:

- 1. What memories does this room have for Catherine Panebianco?
- 2. How do you think Panebianco is related to the people at the table?
- 3. Do you have special memories of a room?

80 UNIT 4 FINAL TASKS OR Present advice to future students 81

EXPLORE THE THEME

Read the information. Then discuss the questions.

- **1.** Do any of the facts surprise you?
- **2.** When might this information be useful? For example, if you are having a terrible day, you might tell yourself you're not likely to remember it tomorrow.
- 3. What would you like to learn about the brain?

Did You Know...?

There is a lot we know about the brain, but so much more that we don't. We know that there are billions of neurons (cells) in our brains making trillions of connections. These connections allow us to remember and learn information, among other things. However, scientists still have many questions, such as: How many different types of neurons are there? How do they communicate with each other? And how do all the parts of the brain work together? As scientists work to answer these questions, consider these amazing facts that we do know.



A Vocabulary

A Listen and repeat. Check the words you know.

connection (n)	long-term (adj)	normally (adv)	process (n)	store (v
function (v)	loss (n)	permanently (adv)	short-term (adj)	wire (n)

B MEANING FROM CONTEXT Listen and write the words you hear. Then think about each word's meaning.

THE MEMORY PROCESS
The memory ¹ involves several steps. First, you get some
information from the environment. For example, you see or hear something. Next, that
information goes into your sensory memory for a very short time. Third, information
you pay attention to moves to your 2 memory. Fourth, through
repetition, the information moves into your ³ memory. You
may remember some information ⁴
once it gets 5 in your long-term memory. When you repeat the
information, you strengthen the ⁶ between neurons, which play
an important role in memory. Neurons ⁷ like
8that send messages throughout your body. If you can make
connections between neurons stronger or create new connections, you are more
likely to remember information. Information ⁹ is also part of
a ¹⁰ functioning memory. Any information that doesn't move
from sensory memory to short-term memory or from short-term memory to long-term
memory is lost.
Sensory memory Short-term memory Information loss Information loss

Co	omplete the se	ntences with th	e correct form of th	ne words from ex	kercise A.
1.	They have a		relationsh	p. They've been	married for 29 years.
2.	Your brain ar sleep enough	•		well if you	do not eat and
3.	He got a(n) _		job in an of	fice. It's only for	six weeks.
4.			ion on my desktop from the company		everything
5.			rrying electricity.	_ to come down	. Be careful not to touch
6.	How can I them anymo		delete these	photos from my	/ phone? l don't want
7.			,		emory u can't remember and learn
8.	steps to com	• •			nonths. There are many leting each application, and
Ma	with it.	ns with the word			n not sure what's wrong with the correct form of a
"	close crossed	function loss	permanently process	short-term store	
1.	This is only a		solution.		
2.	Sadly, there	was significant _		of life.	
3.	The city is try	ring to	elir	ninate pollutior	n.
4.	Our TV does	not	prope	e rly anymore.	
5.	My sister and	l I have a	(connection; we	are best friends.
6.	We got our v	vires	and	did not meet up	
7.	The change of	of seasons is a n	atural	•	
8.	All of the cor	npany's files are		electroni	cally now; we don't keep

84 UNIT 5 LESSON A

A Listening Making Memories

Critical Thinking A

- **PREDICT** You are going to hear three students discuss three topics from their class notes about memories. Discuss these questions.
 - 1. What are three topics about memory that the students might discuss?
 - 2. How do you think the conversation will be organized?
 - a. One person will discuss all the topics.
 - b. Each person will discuss one topic.
 - c. Two people will talk, and one will take notes.
 - 3. Besides summarizing their notes, what else might the students say?

NOTE-TAKING SKILL Organize Notes by Speaker or Topic

Usually during a group or panel discussion, each person talks about a different topic or aspect of a topic. When you take notes:

- Organize your notes by speaker or topic.
- Divide your paper into sections for each person or topic.

Listening for how speakers signal turns can help you organize your notes. Here are some phrases to listen for.

Taking a turn

I'll start/go first. That ties in nicely with my topic.

I guess it's my turn now.

Suggestion to take a turn

Maybe you could start/go first. That leads into your topic. It looks like it's your turn now.

- **B** MAIN IDEAS Listen and take notes. Then answer the questions.
 - 1. Which three topics about memory do the students discuss?
 - a. how memory changes over time
 - b. memory loss
 - c. the memory process
 - d. tips for improving memory
 - e. two types of memories
 - 2. Who discusses which topic? Write the letter of the topic next to the correct student.

 LIZ
 Julia
 Toshi



C	DETAILS Listen again. Write T for <i>True</i> or F for <i>False</i> . ■					
	1 Not everyone thought studying in the group was helpful.					
	2 Important information moves from short-term memory to long-term memory.					
	3 Memories become weaker when they travel down the same pathways in the brain.					
	4 Explicit memories include information you think about a lot and repeat again and again.					
	5 Past experiences are examples of implicit memories.					
	6 Memory loss is also called amnesia.					
	7 Stress can cause amnesia.					
	8 Amnesia can cause some permanent memory loss.					
D	FOCUSED LISTENING Listen to excerpts and write what you hear. What does each phrase signal?					
	1, Liz.					
	2. And Toshi, what you just said—two types of memories: explicit and implicit memories.					
	3. All right,					

INSIDE THE BRAIN 87 86 UNIT 5 LESSON A

Speaking

- **RECALL** Listening A was a study group discussion about memory. Discuss these questions.
 - 1. What kinds of information can you remember easily (e.g., people's names, the words to songs, passwords)?
 - 2. What is one of your earliest memories?
 - 3. Why do you think people sometimes remember the same things differently?

Critical Thinking

RATE Read the questionnaire. Decide how strongly you agree or disagree with each statement (1 = strongly disagree; 5 = strongly agree). Discuss your answers.

QUESTIONNAIRE: What helps you learn and remember?					
It was easier to learn something new when I was younger.	1	2	3	4	5
2. Even with practice, there are some things I can't learn how to do.	1	2	3	4	5
3. I learn from mistakes more quickly than I learn in other ways.	1	2	3	4	5
4. It's easier for me to remember information if I write it down.	1	2	3	4	5
5. It's easier for me to learn something new if someone shows me rather than tells me how to do it.	1	2	3	4	5

See Speaking Phrases in the Appendix.

SPEAKING SKILL Make Suggestions

When you make suggestions, you want them to sound polite and not too forceful. One way to do this is by using the modals could, should, and might.

You **could** ask some classmates to form a study group. Maybe we **should** practice our presentation again before class. You **might** want to take the exam again.

Here are some other words and phrases you can use to make suggestions:

Let's take a break. Why don't you take a break? **I suggest** we take a break.

It's a good idea to review your class notes. It's helpful to review your class notes.

With a partner, take turns asking for suggestions.

What's the best way to ...?

- become famous
- find a job
- · save money
- learn to play an instrument

- pass a job interview
- meet new people
- learn how to cook
- relax

D APPLY Work with a partner. Read the strategies for how to improve memory or learning. Then make suggestions for the students below.

- Study new information within 24 hours
- · Review information frequently (spaced studying)
- Connect new to old information
- Use visuals (note cards, concept maps)
- Use letter or word patterns/associations
- Repeat information you need to remember
- Teach someone else
- Get good sleep
- 1. Sami has a history test next week.
- 2. Paola wants to remember the names of her new classmates.
- 3. Omar is having a hard time remembering all the vocabulary for anatomy class.
- 4. Anh needs to memorize a presentation for work.

SYNTHESIZE Look at the photo and read the caption. Then discuss the questions with a small group.

Critical Thinking

Critical Thinking

- 1. How are these students learning to cook?
- 2. What type of memory are the students' making: an explicit or implicit one?
- 3. A *risk* is the possibility of something bad happening. How is risk a part of learning?

Using superheated woks, students at Shandong Lanxiang Senior Technical School learn how to stir-fry.



See Verbs Followed by Gerunds or Infinitives in the Appendix.

GRAMMAR FOR SPEAKING Infinitives after Verbs

We use infinitives (to + base verb) after certain verbs. Notice the two patterns.

Verbs + infinitive

agree	continue	forget	plan	remember
begin	decide	learn	pretend	try

My son <u>is learning</u> **to ride** a bicycle. He <u>plans</u> **to practice** every day. I <u>forgot</u> **to bring** my notebook to class. Did you <u>remember</u> **to bring** yours?

Verbs + object + infinitive

cause	inspire	remind	teach	warn
encourage	instruct	require	tell	

Stress <u>caused Dave</u> **to have** memory problems.

Please <u>remind me</u> **to order** the birthday cake today.

Some verbs can be used in either pattern, with different meanings.

ask	expect	help	like	promise
choose	get	hope	need	want

I <u>expect</u> **to get** a good grade.
I <u>expect</u> you **to get** a good grade.

F	Complete each sentence with an appropriate infinitive.

1. When I was a child, I wanted . . .

2. Next year, I plan . . .

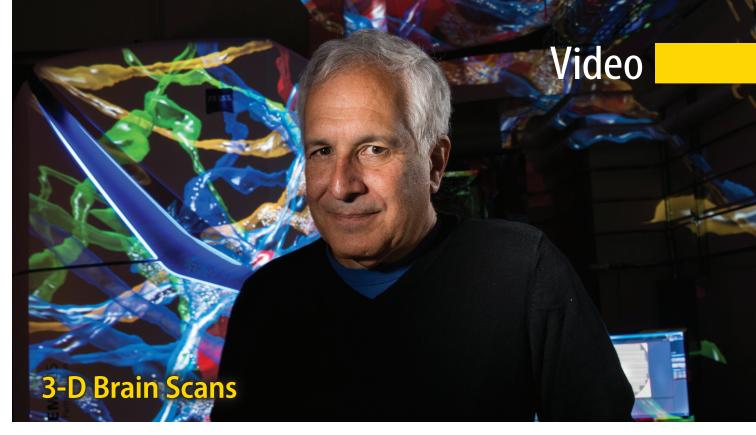
3. In this class, I'm learning . . .

1.	I promise not	too much money on my vacation.	
2.	Pablo tried	$_{ m L}$ his friend John with his homework.	
3.	My daughter sometimes forgets _	her teeth in the morning.	
4.	When Mehmet wants	a new vocabulary word, he writes it down	
5.	Did the Nortons decide not	a new car?	
6.	Lee needs	after class today.	
7.	Do you plan	another English class next semester?	
8.	I really hope	London someday.	
9.	My parents always encouraged me	e my best.	
10.	The teacher warned us not	late for class.	
With a partner, take turns finishing these sentences with infinitives.			

4. I really hope . . .

6. I've decided . . .

5. Yesterday, I forgot . . .



unconventional (adj) unusual **gap** (n) an empty space

manifestation (n) a symptom or signkeep track of (v phr) to know where something is

Dr. Lichtman at his lab at Harvard University

Α	Watch the video. Complete the summary with words you hear.	

Dr. Lichtman believes that there's a lot we don't know about how the brain works because we need to see the ¹________. He and others are working to understand how cells in the brain ²_______ with each other. They create 3-D images of brain cells, and that allows them to see all the ³_______ of every cell in one area.

- B Watch again. Write T for *True* and F for *False*.
 - 1. _____ Dr. Lichtman compares complete knowledge of the brain to one mile.
 - 2. ____ Students thought we had learned very little of everything we need to know about the brain.
 - 3. ____ We have a clear idea of what brains are made up of.
 - 4. ____ In a large number of nervous system diseases, nothing appears wrong with the brain.
 - 5. ____ The colors Dr. Lichtman and his team use in their diagrams have special meanings.
 - 6. _____ Dr. Lichtman believes that knowledge can make you realize what you don't know.

C EXPLAIN Discuss why you think it's important to study the brain.

Critical Thinking

90 UNIT 5 LESSON A

Vocabulary

A Listen and repeat. Check the words you know.

chemical (n)function (n)mood (n)signal (n)structure (n)complex (adj)generate (v)perform (v)speed (n)tiny (adj)

B MEANING FROM CONTEXT Listen and write the words you hear. Then think about each word's meaning.

FACTS ABOUT YOUR BRAIN

- 1. Your brain is an extremely ______ organ. It contains over 100 billion neurons that are constantly sending messages. Different neurons send messages at different ______ —some faster and some slower.
- When you exercise, your brain produces a that makes it easier to learn. So, if you're having trouble with your homework, taking a break to do something active

might be a good idea.

- 3. The common belief that we use only a _____ amount (10 percent) of our brains is wrong. Each part of the brain has a ______, so we use 100 percent of our brains.
- Even without words, you can figure out how someone is feeling. A part of your brain called the amygdala lets you "read" other people's faces and understand what kind of ______ they are in.

5.

Every time you think, laugh, or sneeze, chemical and electrical

are moving between neurons. These messages make it possible for your brain to communicate with your body.

6. Learning changes the

———— of the brain. When you learn a new skill, such as playing a musical instrument, your brain cells organize themselves in a new way.

7.

Your brain is extremely powerful. When you're awake, it

between 10 and 23 watts of electricity—enough to power a light bulb.

Your brain accesses and reacts to information incredibly quickly. It faster than a supercomputer.

- C Choose the correct word to complete each sentence.
 - 1. Your brain produces **chemicals** that make you feel happy. These (substances / cells) are dopamine, serotonin, oxytocin, and endorphins.
 - 2. Brainstorming is a good way to **generate** ideas. You can (get / get rid of) ideas that way.
 - 3. When you're riding a bicycle, it's important to use hand **signals**. They allow you to (control / communicate with) other people on the road.
 - 4. My country has a **complex** history. There were (a few / many) people and events that made my country what it is today.
 - 5. The **speed** of your Internet connection can affect how (quickly / safely) you can work online
 - 6. The pineal gland is a **tiny** organ located inside your brain. It is one of the (smallest / largest) organs in the human body.
 - 7. An example of **performing** a task is (responding to / avoiding) an email.
 - 8. Your bones and (height / muscles) are important parts of your body's **structure**.
 - 9. Your **mood** is how you (think / feel) at a particular time.
 - 10. The largest part of the human brain is the cerebrum. Its **functions** or (jobs / abilities) include controlling thought and movement.

VOCABULARY SKILL Words with Multiple Meanings

Some words have more than one meaning. The meanings may be similar but not exactly the same. Use the context to help you understand the different meanings.

You should **store** important documents in the cloud, not on your desktop. (v = to keep information on a computer)

Where do you **store** your suitcase when you're not traveling? (v = to put someplace for later use)

D Choose the best meaning for the words in bold. Use context clues to help.

generate a. (v) to cause to happen or exist; b. (v) to produce	e energy, especially electricity;
c. (v) to produce a large quantity	

- 1. _____ You can **generate** static electricity when you drag your feet across a rug.
- 2. ____ Humans **generate** tons and tons of plastic waste every year.
- 3. ____ The team meeting **generated** some good ideas.

function a. (n) ways of working; b. (n) a large or formal event; c. (n) part of a computer program

- 4. ____ The science department has several **functions** every year.
- 5. ____ The programmer couldn't get one **function** to work correctly.
- 6. ____ The human brain has many different **functions**.

92 UNIT 5 LESSON B

В

Listening The Exercise-Brain Connection

Critical Thinking

- A PREDICT You are going to hear a podcast about the effects of exercise on the brain. Discuss these questions with a partner.
 - 1. What positive effects do you think exercise has on the brain?
 - 2. Who do you think will talk more about the exercise-brain connection: the host or the guest?
- **MAIN IDEAS** Watch or listen and answer the questions.
 - 1. According to the podcast, which TWO positive effects does exercise have on the brain?
 - a. It helps reduce stress.

c. It improves your mood.

b. It makes your brain larger.

- d. It makes you smarter.
- 2. How does exercise help you to learn?
 - a. It changes your brain structure.
- c. It produces an important chemical.
- b. It makes your heart beat faster.
- 3. According to the podcast, what are TWO things involved in learning?
 - a. chemical and electrical signals
- c. neurons connecting

b. mood

- d. practice
- C DETAILS Listen again. Write T for *True* or F for *False*.
 - 1. ____ Aaron is the expert on the brain.
 - 2. _____ BDNF is the chemical that is produced when you exercise.
 - 3. _____ Neurons move electrical and chemical signals around your body.
 - 4. ____ When neurons get the same message from the brain again and again, it makes their connections stronger.
 - 5. _____ You can get BDNF from your doctor.



LISTENING SKILL Listen for Reasons and Explanations

The reasons and explanations a speaker gives for their ideas helps you to understand and evaluate the ideas.

Listen for these signal phrases speakers use before a reason or an explanation:

The reason for this... Let me explain. That's/It's because... I study in the morning. **That's because** my mind functions best then.

Listen for these words after a reason:

This/That is how/why... ..., so

My mind functions best in the morning. **That's why** I study then.

- D Listen to excerpts from the podcast. Connect the ideas to the correct reason or explanation.
 - Your daily workout can make you smarter because _____
 - 2. You have thoughts or perform actions because _____
 - 3. Practicing something helps you learn because _____
 - 4. BDNF helps neurons connect,
 - so _____

- a. chemical and electrical signals move throughout your body.
- b. it helps forms connections between neurons.
- c. after exercise, your body produces a chemical that helps you learn.
- d. this is how it makes it easier for us to learn.

PRONUNCIATION Recognize Linking

In English, speakers do not usually pronounce each word separately. They join, or *link*, words together. Learning to recognize linking will help you understand what you hear. Here are two common types of linking.

Consonant sounds to vowel sounds

It's amazing! (It sounds like the /s/ moves to the beginning of amazing.)

Consonant sound to same consonant sound

He learns something new every day. (The /s/ is said a little longer.)

- Listen and complete the sentences from the podcast with the linked words you hear.
 Our ______ is Jocelyn Taylor.
 You probably know that your brain _____ electricity.
 But the ______ electrical device.
 - 4. BDNF helps neurons connect, so ______ how it makes it easier for us to learn—to bring this back to my earlier point.

INFER Work with a partner. Listen and answer the question. How might Aaron expect to get BNDF from a doctor?

Critical Thinking

Speaking

Critical Thinking

A APPLY Listening B was about how exercise can improve our ability to learn. In a small group, discuss how these groups of people might use the information in the podcast.

employers parents students teachers

PERSONALIZE Work with a small group. Read the information below. Then discuss what experiences you have had with group work or group projects.

Research has shown that working in a group on a complex task can improve students' learning for several reasons. One reason is that they share the information they need to complete the task, and another reason is that groups provide an essential social element. However, research has also shown that some individuals remember less when they work in a group than when they work alone.

CRITICAL THINKING Evaluate Pros and Cons

It can be helpful to think about the pros (positive aspects) and cons (negative aspects) of a topic to understand it better. Sometimes we may see only the pros or cons of something, but trying to see the other side can help us gain a new perspective.

At first I could only see the negative aspects of an e-reader: the light from the screen and not being able to turn real pages. But then I considered how much easier it is to take out books from the library with an e-reader. That one positive aspect made me decide to buy one.

Critical Thinking

With your partner, brainstorm a list of benefits and possible problems with group projects. Write your ideas in the T-chart. Are you more or less willing to do a group project now?

(+) Pros	(-) Cons
more people = more ideas	some people don't do any work

- **D** APPLY Work in a group. Decide which tasks would be better to do in a group or alone.
 - 1. Brainstorming ideas for a research project
 - 2. Doing research
 - 3. Organizing ideas from research into a presentation
 - 4. Editing a presentation
 - 5. Practicing a presentation
- **E SYNTHESIZE** With the same group, decide on rules for group work. Write down the top five rules. Practice using infinitives and language for making suggestions.

Critical Thinking

Critical Thinking

>	Everyone	needs	to	partici	pate.
---	----------	-------	----	---------	-------

> The work should be divided equally.

1.	
2.	
3.	
4.	



Review

Final Tasks

SELF-ASSESS How well can you . . . ? Very well. OK. I need improvement. use the key vocabulary recognize linking use infinitives after verbs make suggestions

VOCABULARY Check the words you can use.

chemical (n)	function (v)	mood (n)	process (n)	store (v)
complex (adj)	generate (v)	normally (adv)	short-term (adj)	structure (n)
connection (n)	long-term (adj)	perform (v)	signal (n)	tiny (adj)
function (n)	loss (n)	permanently (adv)	speed (n)	wire (n)

- 1. Look up any word you didn't check in a dictionary. Then write a sentence with the word.
- 2. Complete each question with a word from the unit.
 - a. What is the ______ between memory and learning?
 - b. How do you approach a _____ task at school?
 - c. How do you ______ ideas for a writing assignment?
- **PRONUNCIATION** Underline the words that you expect to be linked. Then say the sentences.
 - 1. We can trick our brains in many ways.
- 3. I have a good short-term memory.
- 2. There are different types of memories.
- 4. My brain doesn't function in the morning.
- **GRAMMAR** Say sentences with infinitives or object + infinitives.
 - 1. I want . . .
- 2. I encourage ... 3. You should always try ... 4. Let's agree ...

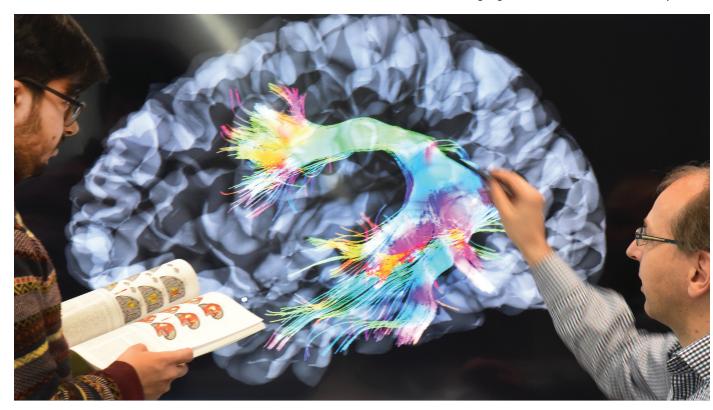
- **SPEAKING SKILL** Give suggestions for each situation.
 - 1. A: I have a new job, and it's hard for me to remember the names of my new coworkers. B:...
 - 2. A: I want to learn another language, but I don't have time to take classes because of work. B:...

RE-ASSESS What skills or language still need improvement?

OPTION 1 Discuss strategies for learning a language

- **A BRAINSTORM** List some strategies that have helped you learn English. Think about the following categories:
 - Vocabulary
 - Grammar
 - Skills
- B Work in a small group. Use your notes from exercise A to discuss the best strategies for learning another language. As you discuss, consider the following:
 - What strategies does everyone use that are similar?
 - What strategies do you or other people use that are different from everyone else?
 - What strategies worked for someone else but not for you?
 - What strategies do you want to try?

▼ Scientists research what changes take place in the brain during language learning and how a language can be learned most effectively.



INSIDE THE BRAIN 99 98 UNIT 5 REVIEW

See Unit 5 Rubric in the Appendix.

OPTION 2 Present advice to future students

PRESENTATION SKILL Describe Images

Images or visuals are effective ways to express a message and engage your audience. Sometimes you may want to describe an image to clarify why you are using it. Use the simple present or present continuous to describe an image.

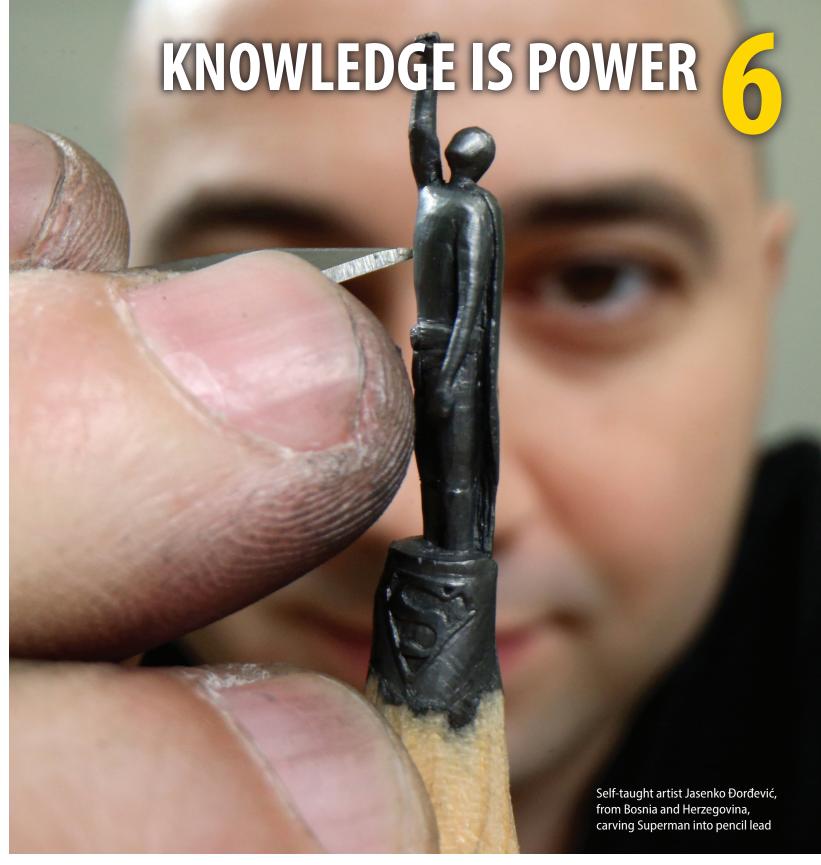
This is a photo of a stack of notebooks. The notebooks are the kind that you write in with a pen or pencil, not the digital kind. Learning English is a complex process, and writing things down helps me to remember information better.

ONLINE To share an image during a video meeting or when you are giving a presentation online, you will need to share your screen. It's important not to share the screen the whole time. During your introduction and closing, stop sharing and talk to the camera directly.

Α	MODEL Listen to someone present a meme that gives advice to future students of this class.
	Complete the chart.

What is the picture of?	
What does the text say?	
How does the advice relate to learning?	

- **ANALYZE THE MODEL** Listen again and write what you hear. With a partner, identify the vocabulary or grammar from the unit and any phrases for making suggestions.
 - 1. And the text says, "You ______ buy a lot of these."
 - 2. ... our teacher ______ several different notebooks.
 - 3. Learning English is a ______...
 - 4. Some students may not want to have so many notebooks,
 - but I _____ they have at least two.
- **C PLAN** Use the chart from exercise A to create your meme.
- **D PRACTICE AND PRESENT** Practice presenting your meme to a partner before you present it to the class.



IN THIS UNIT, YOU WILL:

- Watch or listen to a podcast about teaching yourself
- Watch a video on a self-taught programmer
- · Listen to a conversation about choosing a major
- Discuss sayings about education or Present on something you want to study

THINK AND DISCUSS:

Đorđević creates tiny sculptures on pencils. He believes that people can also be reshaped throughout our lives.

- 1. How long do you think it took Đorđević to learn how to make pencil sculptures?
- 2. How does Djordjevic's knowledge make him powerful?

100 UNIT 5 FINAL TASKS