The 10th SFLEP
National Foreign Language Teaching Contest

第十届“外教社杯”全国高校外语教学大赛

大学英语（视）听说课组

授课文本

主办：
教育部高等学校外国语言文学类专业教学指导委员会
教育部高等学校大学外语教学指导委员会
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授课文本　C

Unexpected Discoveries

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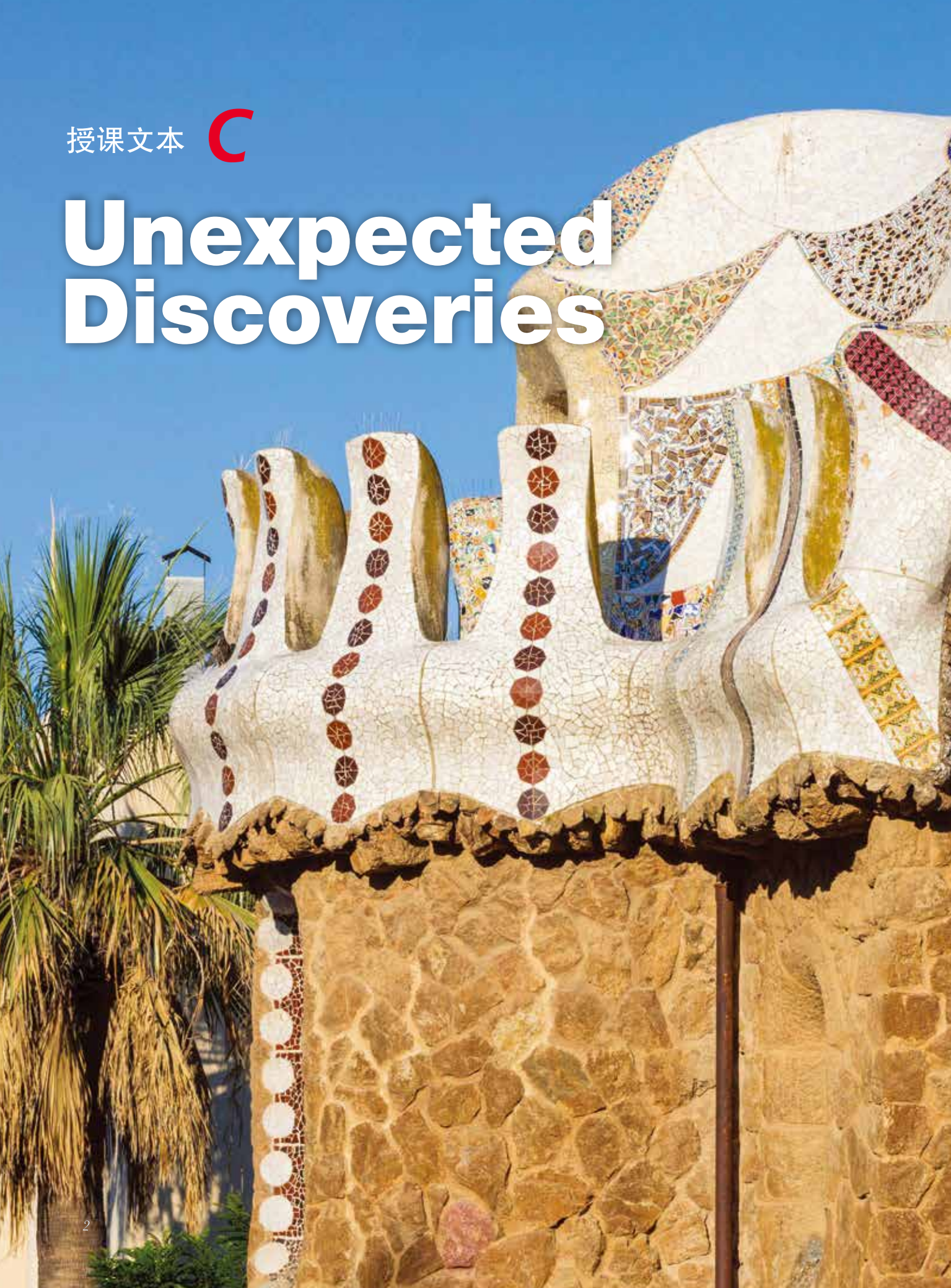
Unexpected Discoveries



A tourist looks out of a window of a house designed by the famous architect Antoni Gaudí in Barcelona, Spain.

THINK AND DISCUSS

1. Read the unit title. Look at the photo and read the caption. How do you think the photo relates to the title?
2. What are some things that people discover? How do they make these kinds of discoveries?

PART 1 LISTENING
Lucky Invention?

Listening Skill
Infer Meaning

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PART 1 LISTENING

Lucky Invention?

BEFORE YOU LISTEN

A **COMMUNICATE** Work with a partner. Discuss these questions.

1. What do you know about the invention of objects that you use every day?
2. Look at the photo and read the caption. What skills or qualities do you think an inventor and this artist might have in common?

A sculpture made entirely of paper clips by the artist Pietro D'Angelo

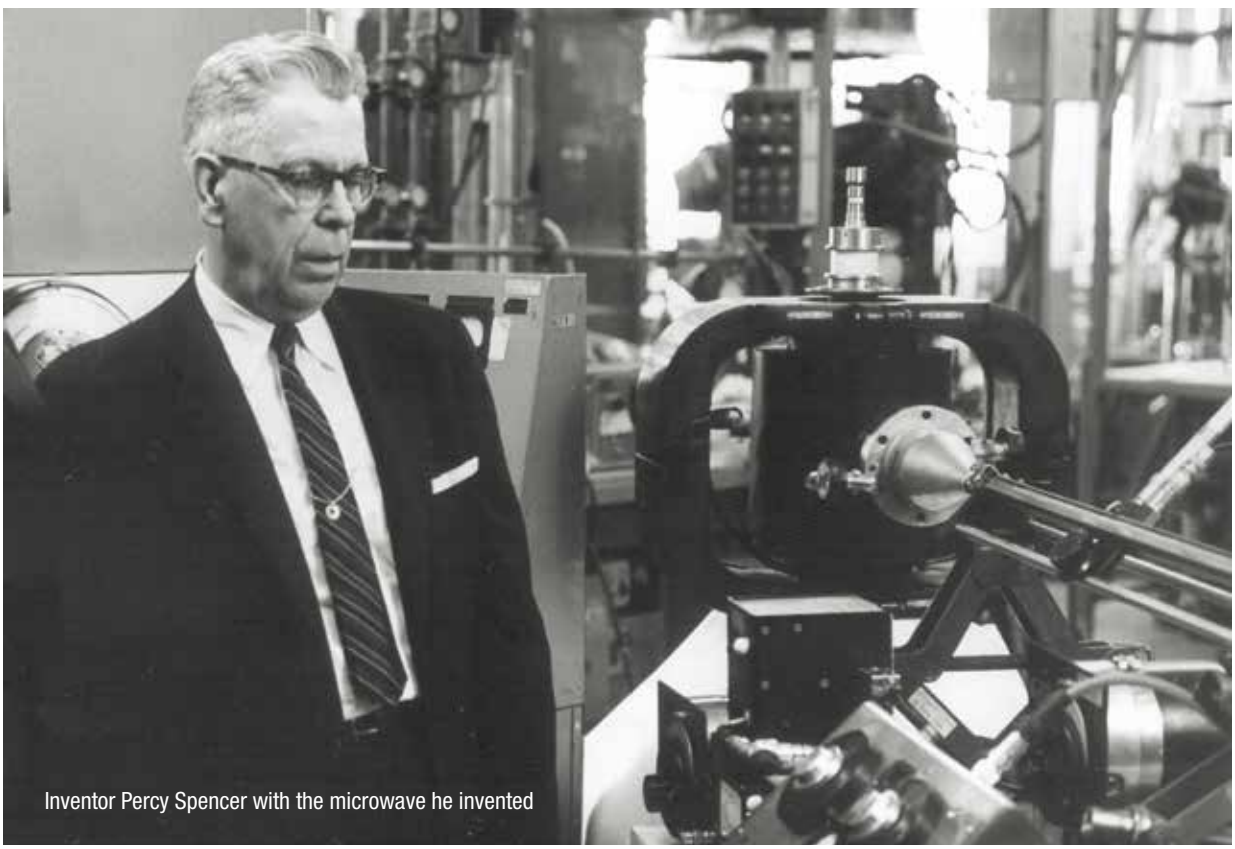
B **VOCABULARY** Listen to the sentences with words or phrases from the podcast you will hear. These words or phrases are listed in the following box. Guess the meaning of each word or phrase. Then write each word or phrase before its definition.

a. in a way	**b.** annoying	**c.** significance	**d.** capable of	**e.** talent
f. eventually	**g.** focus on	**h.** theme	**i.** tune out	**j.** potential

1. _____ (n.) importance
2. _____ (n.) natural ability
3. _____ (phrase) to ignore
4. _____ (a.) causing some frustration
5. _____ (a.) possible
6. _____ (phrase) having the power or skill
7. _____ (ad.) in the end
8. _____ (n.) main topic
9. _____ (phrase) to direct attention to
10. _____ (phrase) it is partly true that

C **THINK CRITICALLY** **Predict.** Work with a partner. Look at the photo and read the caption. You are going to listen to a podcast on the topic of serendipity. Serendipity is when something good happens by chance. Discuss these questions.

1. What do you think serendipity has to do with Percy Spencer and the microwave oven?
2. Do you think inventors like Percy Spencer think differently than other people?



Inventor Percy Spencer with the microwave he invented

LISTEN

D **LISTEN FOR MAIN IDEAS** Listen to the podcast. Check [✓] three statements that you think the hosts of the podcast would agree with.

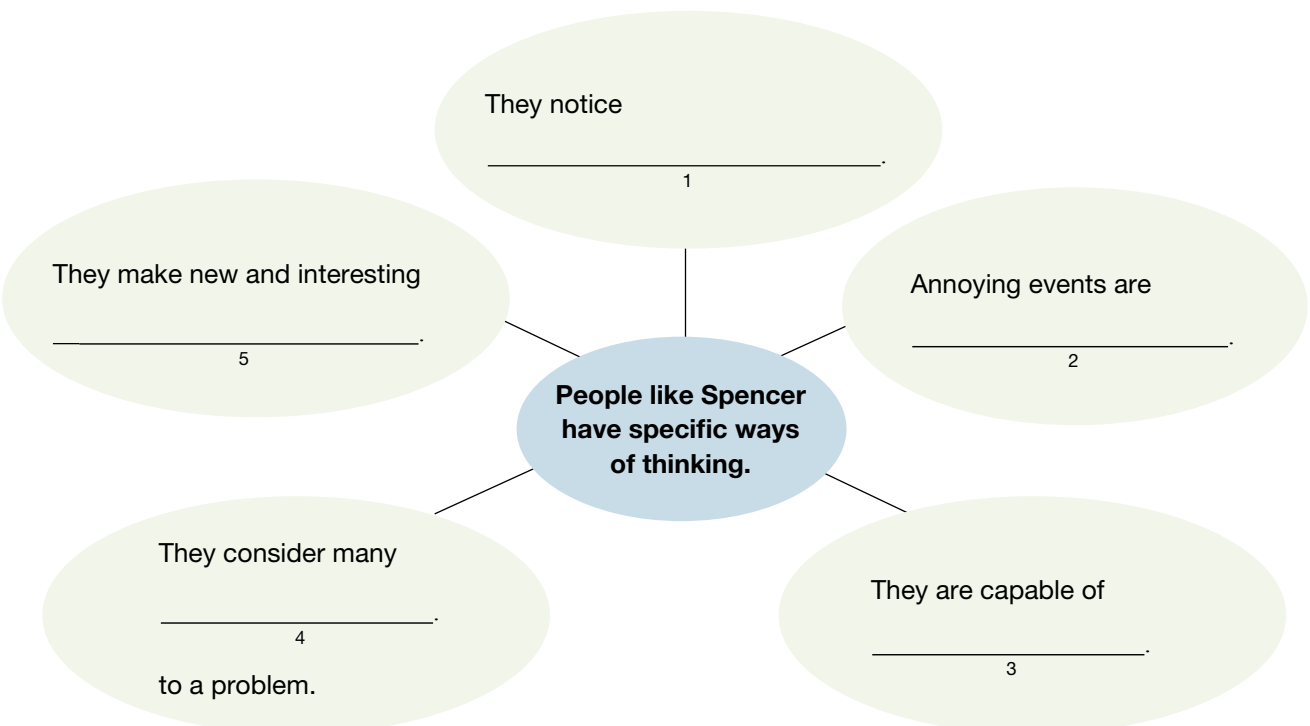
1. ☐ Some inventors have different ways of thinking.
2. ☐ Serendipity is mostly good luck.
3. ☐ Inventions are about 90 percent accidental.
4. ☐ Serendipity is probably only a small part of the process of invention.
5. ☐ Anyone can learn to think more creatively.

E **LISTEN FOR DETAILS** Listen to Segment 1 of the podcast. Put the events of Spencer's life in the correct order from 1 to 5.

_____ **a.** He started working on an idea for a microwave oven.
_____ **b.** He was working with microwaves on a government project.
_____ **c.** He invented the microwave oven.
_____ **d.** He realized that microwaves had uses beyond his government project.
_____ **e.** Microwaves melted a chocolate bar in his pocket.

F **LISTEN FOR DETAILS** Listen to Segment 2 of the podcast. Complete the mind map with the information below. Write the correct phrase in each cell.

a. divergent thinking
b. connections between ideas
c. the beginning of ideas
d. things they were not looking for
e. potential solutions



LISTENING SKILL Infer Meaning

When you listen, you can often make inferences or infer meaning from what you hear. You can guess what the speaker means even if he or she does not say it directly. Good listeners combine information from different sources to make inferences. This information may include the following:

1. What the speaker says and how he or she says it:

   "I won't use a microwave oven!"

   Listeners can infer that the speaker thinks there is something bad about microwave ovens, perhaps that they are dangerous or ineffective.

2. What they already know about the topic:

   "*Spencer's story shows the difference between the terms 'discovery' and 'invention.' First, came the melted chocolate bar. Then came the microwave.*"

   Listeners can infer the meanings of the terms *discovery* and *invention* by their understanding of the events: first, a melted chocolate bar (discovery), and then a microwave (invention).

G **INFER MEANING** Work with a partner. Listen again to excerpts from the conversation. Check [✓] the inference you can make from what the speaker says.

1. "*He realized that the microwaves had done it. That made him think — wow — maybe microwaves could be useful, not just for his government project but for something else.*"
   - **a.** ☐ Spencer realized he was going to make a lot of money.
   - **b.** ☐ Spencer thought microwaves would be useful in cooking.
   - **c.** ☐ Spencer decided to leave the project and work on ovens instead.

2. "*Some people call it serendipity, but it turns out that it's a bit more than just good luck ... First, they notice things that they were not looking for. A lot of us focus on our goals so much that we tune out everything else.*"
   - **a.** ☐ Spencer knew the value of serendipity.
   - **b.** ☐ Divergent thinkers are often unsuccessful.
   - **c.** ☐ We lose opportunities when we focus too much on goals.

3. "*Yes, some people are more likely to notice things and make interesting and new connections between ideas. They recognize opportunities. In a way, they create serendipity.*"
   - **a.** ☐ It is important to recognize these opportunities when they arise.
   - **b.** ☐ Serendipity is all in the imagination.
   - **c.** ☐ We are not all equally likely to experience serendipity.

AFTER YOU LISTEN

H **COMMUNICATE** Look at the graphic below. Then answer these questions with a partner.

1. What happens as we get older, according to the graphic? What might be the reason for this change?
2. What might be the consequences of this change, especially for invention and discovery?
3. Do you think there is a way to increase the percentage of adults who are capable of divergent thinking? Explain your answer.

PART 2 EXTENDED LISTENING

Passages and News Reports

PASSAGE 1

NEW WORDS AND EXPRESSIONS

serendipity /ˌserənˈdɪpɪtɪ/ n. 意外发现，好运气
sheer /ʃɪə/ a. 完全的，十足的
spontaneously /spɒnˈteɪnɪəslɪ/ ad. 自发地，不由自主地
gravitation /ˌgrævɪˈteɪʃən/ n. 万有引力
seed /si:d/ n. 种子
pancreas /ˈpæŋkrɪəs/ n. 胰腺
digestion /daɪˈdʒestʃən/ n. 消化
swarm /swɔ:m/ v. 成群出现，蜂拥而至
urine /ˈjʊərɪn/ n. 尿
diabetes /ˌdaɪəˈbi:ti:z/ n. 糖尿病
secretion /sɪˈkri:ʃən/ n. 分泌物
insulin /ˈɪnsjʊlɪn/ n. 胰岛素
Velcro 维可牢（尼龙粘扣带）

A Read the choices. Then listen to the passage and choose the best answer to each question you hear.

1. **a.** Good luck can always result in a new scientific discovery.
b. Luck and knowledge together may lead to unexpected inventions or discoveries.
c. Luck is essential in making a great scientific invention.
d. Knowledge is the only important factor that contributes to a new scientific discovery.

2. **a.** All of the important scientific discoveries are the result of serendipity.
b. Serendipity is of no use because science is all about intelligence and hard work.
c. Serendipity can directly generate great scientific inventions.
d. Science doesn't rely on serendipity but progress in science cannot do without it.

3. **a.** Only with scientific knowledge and skill can serendipity be meaningful.
b. Even with scientific knowledge, serendipity can still go unnoticed and unacted upon.
c. Luck can help science to progress.
d. Luck is instrumental in science.

B Read the statements. Then listen to the passage again. Write T for *true* or F for *false*. Correct the false one(s).

1. ___ The sight of an apple dropping from a tree led to Newton's laws of motion.

2. ___ A Swiss engineer developed Velcro due to some seeds stuck to his clothes.

3. ___ Removing the pancreas leads to diabetes.

4. ___ Flies are swarming around the dog's urine because of insulin in it.

5. ___ The discovery of insulin, which is used to treat diabetes, was in some sense accidental.

PASSAGE 2

NEW WORDS AND EXPRESSIONS

lithium /ˈlɪθɪəm/ n. 锂
charger /ˈtʃɑːdʒə/ n. 充电器
go-to /gəʊ-tuː/ a. 首选的，可靠的
nanorod /ˈnænəʊrɒd/ n. 纳米棒
voltage /ˈvəʊltɪdʒ/ n. 电压
volt /vəʊlt/ n. 伏特（电压单位）
lifesaver /ˈlaɪfseɪvə/ n. 救星
bacteria /bækˈtɪərɪə/ n. 细菌
circuit /ˈsɜːkɪt/ n. 电路
biodegradable /ˌbaɪəʊdɪˈgreɪdəbəl/ a. 可生物降解的

C Read the choices. Then listen to the passage and choose the best answer to each question you hear.

1. a. New types of smartphones.
b. Current development in electric circuits.
c. Innovative ways to generate power.
d. New ways to make lithium batteries.

2. a. They used bacteria.
b. They used electric circuits.
c. They used nanorods.
d. They used everyday sounds.

3. a. Cotton.
b. Noise.
c. Urine.
d. Music.

D Read the chart. Listen to the passage again and fill in the blanks with the missing information.

Inventors	New and Exciting Ways to Generate Power
Microsoft and the Queen Mary University of London	The sound of (1) _____, (2) _____ or (3) _____ caused nanorods to generate (4) _____. The final product was the size of a(n) (5) _____ and generated about (6) _____ volts.
Researchers at the Bristol Robotics Lab	By using a machine that contains special (7) _____ bacteria, (8) _____ could be used to power (9) _____ circuits. Scientists hope that this technology can be used to create (10) _____ energy in (11) _____ countries.
(12) _____	The Ryden Dual Carbon Battery can be used to power smartphones and even (13) _____. It relies heavily on (14) _____ but doesn't need a (15) _____. Compared to a traditional battery, it charges (16) _____. It is fully (17) _____ and (18) _____.

NEWS REPORT 1

NEW WORDS AND EXPRESSIONS

biofuel /ˌbaɪəʊˈfjuːəl/ n. 生物燃料
biomass /ˈbaɪəʊmæs/ n.（提供动力或能量的）生物质
manure /məˈnjʊə/ n. 粪肥
extract /ɪkˈstrækt/ v. 提取
staggering /ˈstægərɪŋ/ a. 惊人的
Bio-bean 生物豆能源公司
coffee grounds 咖啡渣
Shell 壳牌石油公司
Argent Energy 阿金特能源公司

E Read the choices. Then listen to the news report and choose the best answer to each question you hear.

1. a. A new way to make coffee.
b. An innovative way to extract fuel from vegetables and plants.
c. A new way to grow coffee plants.
d. An innovative way to create biofuel.

2. a. By blending diesel with oil from vegetables and plants.
b. By blending diesel with oil extracted from coffee waste.
c. By blending gas with oil extracted from coffee grounds.
d. By blending gas with oil extracted from animal manure.

3. a. To make better use of the natural resources on earth.
b. To make better use of the fossil fuels.
c. To make better use of coffee.
d. To make better use of resources that would have gone to waste.

F Read the questions. Listen to the news report again and answer the questions.

1. When was Bio-bean founded?

_____

2. How many tons of coffee grounds are thrown away each year in the U.K.?

_____

3. How many cups of coffee are drunk each day in the U.K.?

_____

4. How much biofuel energy can Bio-bean produce today?

_____

NEWS REPORT 2

NEW WORDS AND EXPRESSIONS

sensor /ˈsensə/ n. 传感器
canary /kəˈneərɪ/ n. 金丝雀
unconscious /ʌnˈkɒnʃəs/ a. 无意识的，失去知觉的
oxygen /ˈɒksɪdʒən/ n. 氧气
hypoxia /haɪˈpɒksɪə/ n. 缺氧
proverbial /prəˈvɜːbɪəl/ a. 众所周知的
helmet /ˈhelmɪt/ n. 头盔
predictive /prɪˈdɪktɪv/ a. 预言性的
physiological /ˌfɪzɪəˈlɒdʒɪkəl/ a. 生理的
evasive /ɪˈveɪsɪv/ a. 规避的，回避的

G Read the choices. Then listen to the news report and choose the best answer to each question you hear.

1. a. A new system to warn the miners of the impending disaster.
b. A new sensor technology to detect disasters.
c. A new sensor technology to keep pilots safe.
d. A new system to assist pilots' flight.

2. a. The plane is flying too fast.
b. The plane is accelerating too quickly.
c. The pilot's blood flows too slowly.
d. The pilot is accidentally injured.

3. a. It will provide oxygen.
b. It will take control of the plane.
c. It will guide the plane to safety.
d. It will send a message to the plane's mission computer.

LISTENING SKILL Understand Scientific Terms

When you are listening to a news report about science and technology, don't worry about the difficult terms because for most of the time you can find their definitions or explanations from the context. Even if the definition or explanation is general or simplified, it should usually be enough for the listener to get the gist of it and understand the news.

Look at the example:

A lack of oxygen, or hypoxia, reduces the pilot's ability to think and can swiftly lead to unconsciousness as well.

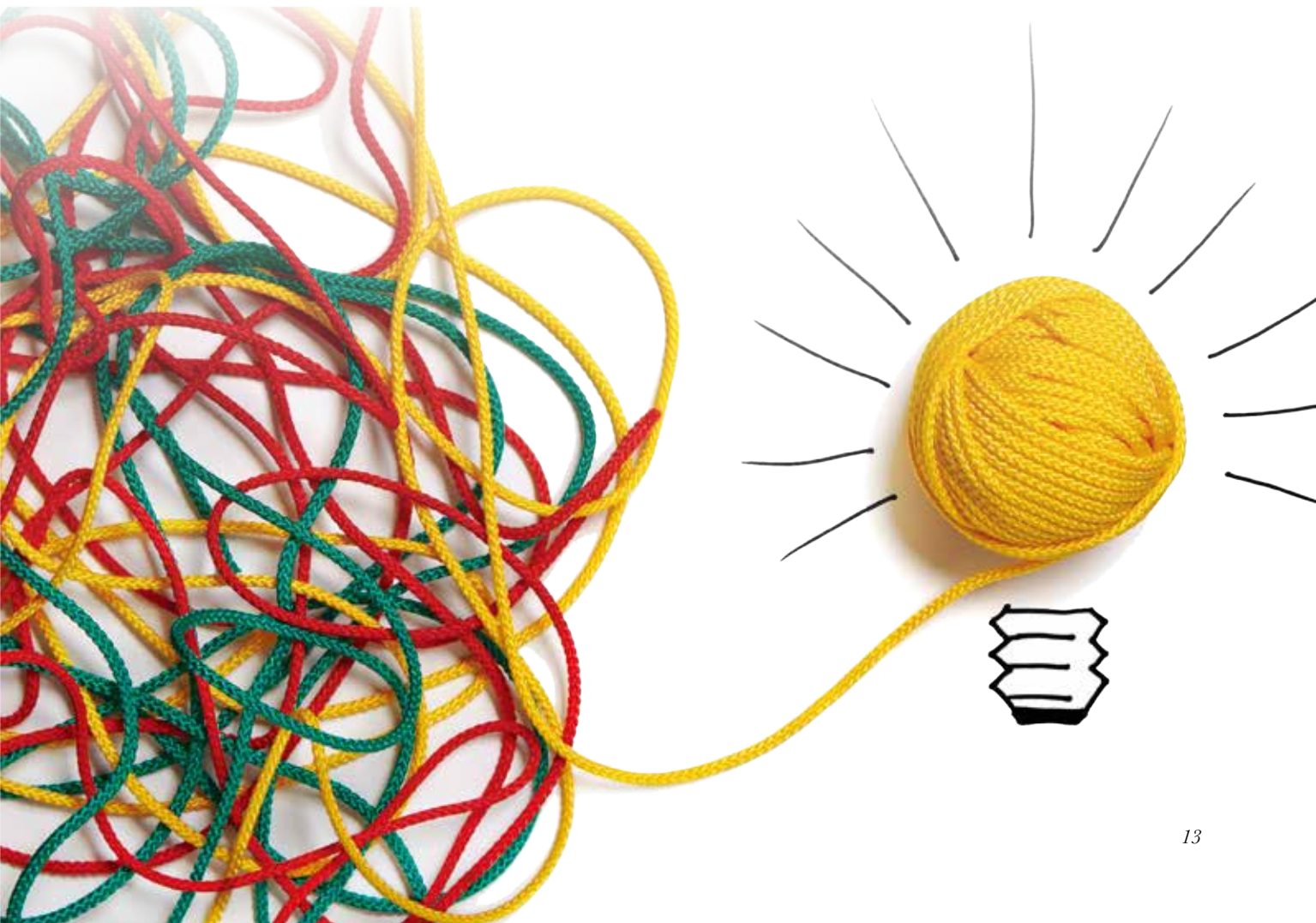
In this case, you might not know the word *hypoxia*, but from the explanation before it, you get to know it means a lack of oxygen.

H Read the questions and the incomplete answers. Listen to the news report again and complete the answers.

1. What are the two reasons for the pilot getting unconscious during a flight?
One reason is that the plane _____ too quickly; the other reason is a lack of _____.

2. What is Canary in the news report?
It is a _____ that is currently designed for use in _____ and works like the proverbial canary in the mine by _____ of impending _____.

3. How does the system take predictive measures?
It detects the physiological state of the pilot while he is still _____ and it can predict if he is going to _____, and then take evasive action.



PART 3 SPEAKING

SPEAKING SKILL Check Your Understanding

There are many ways to check — and get a better understanding of — what someone has just said.

1. If you heard but did not understand the meaning of a word, repeat it with rising intonation:
A: *Some inventions happened because of a lucky break.*
B: *Lucky break?*

2. If you didn't understand part of what the speaker said, repeat the part that you *did* understand.
A: *I think he's a divergent thinker.*
B: *You think he's a what?*

3. To confirm your understanding, use the phrases below:
So, are you saying that _____? / So, what you mean is _____?

4. To clarify what a speaker said, use the following phrases:
What do you mean?
How's that? / How so?
Do you mean ...?
I'm not sure what you mean.
I'm not sure I understand.

A Read the excerpts from the podcast in Part 1. Then listen and complete how the host checked for understanding.

Host: And welcome back to *Conversations*. Today's theme — chance.
Co-host: Actually, the show is really about serendipity.
Host: (1) _____?
Co-host: Right, serendipity.

Co-host: Was this a case of serendipity? Partly, but I think it was also Spencer.
Host: Really? (2) _____?
Co-host: Well, other people had noticed that microwaves could melt things, but Spencer was the one who understood its significance.

Host: What (3) _____ thinking?
Co-host: *Divergent.* Divergent thinkers consider many potential solutions to a problem.
Host: Hmm. (4) _____ I follow. Can you give us (5) _____?
Co-host: Sure.

Co-host: But a divergent thinker might see lots of other possible functions; for example, to mark a place in a book, or you could unfold it and use it to punch a hole in something.
Host: I see. (6) _____ some people have a special talent for this? It's not serendipity at all?
Co-host: Yes, some people are more likely to notice things and make interesting and new connections between ideas.

B **COMMUNICATE** Work in pairs. Brainstorm some scientific discoveries. Then take turns telling them to your partner. Your partner is required to check his/her understanding in the dialogue by using phrases in the Speaking Skill box.

MODEL DIALOGUE

A: Did you hear that a computer scientist at the University of Washington has designed a battery-free phone?
B: You mean a cell phone without a battery?
A: Yes. The phone looks like a circuit board, with touch-responsive buttons.
B: I am not sure I understand.
A: Let me see if I can explain it in a simple way. The cell phone can get power from light and radio signals from a nearby wireless base station, so it does not need a battery.
B: How does that work?
A: The phone doesn't convert the analog data it receives into the digital data for the phone. That helps to save energy. And it does not generate its own wireless signals to make calls, either.
B: No wireless signals?
A: No, it just uses radio waves from the base station.
B: Oh, that sounds interesting. I really didn't expect to have a cell phone like that.
A: It is in testing now, but I am sure it will be available on the market soon.
B: Can't wait to have one!

PRONUNCIATION SKILL *Can* and *Can't*

Can and *can't* are both spelled with *c-a-n*, but their pronunciation is often different when they come before a verb in a statement or question.

Pronounce *can* with a reduced vowel /ə/. It sounds as if there is almost no vowel at all:

I /kn/ speak English pretty well.

Always pronounce *can't* with a full vowel sound:

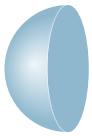
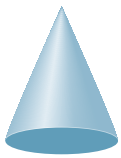
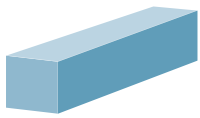
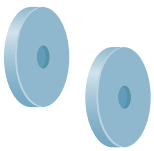
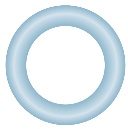
I /kænt/ speak Arabic at all.

C Listen to the following excerpts and choose *can* or *can't*.

1. *What was special about Spencer? This* ***can*****/*****can't*** *be the only example of this. I wondered how often this happens.*
2. *Hmm. I am not sure I follow.* ***Can*****/*****Can't*** *you give us an example?*
3. *So, why* ***can't*****/*****can*** *I do this?* ***Can*****/*****Can't*** *we learn to be better at this kind of thinking?*
4. *Absolutely, there are lots of exercises you* ***can*****/*****can't*** *do to help you notice things and think more creatively. The paperclip example is a good place to start. Try to think of as many new uses as you* ***can*****/*****can't*****.**
5. *We* ***can*****/*****can't*** *actually increase the possibility of serendipity by changing the way we think?*

D Work with a partner. Take turns repeating the excerpts from Exercise C with the correct pronunciation of *can* and *can't*.

E **THINK CRITICALLY** **Apply.** Are you a divergent thinker? Work with a partner. Follow the steps below. Use confirmation and clarification checks to make sure you understand what your partner says. Use correct pronunciation for *can* and *can't*.

 SPHERE	 HALF SPHERE	 CUBE	 CONE	 CYLINDER
 WIRE	 TUBE	 FLAT SQUARE	 BRACKET	 RECTANGULAR BLOCK
 HOOK	 PAIR OF WHEELS	 CROSS	 RING	 HANDLE

1. Choose three of these shapes.
2. Put the shapes together in different ways. Create new objects that could be used in the following ways:
   - **a.** as a piece of furniture
   - **b.** as a tool
   - **c.** as a toy
   - **d.** as a personal item (e.g. a comb, a bookmark, etc.)
3. Draw your new inventions on a piece of paper and share with the class.

PART 4 TEDTALKS

Happy maps

“ [A] journey to work became one thing only: the shortest path. ”

BEFORE YOU WATCH

A Work with a small group. Read the title of the talk and the information about the TED speaker. Then discuss these questions.

1. Do you use maps? When do you use them?
2. What do you think a “happy map” is?

DANIELE QUERCIA Map Researcher

Daniele Quercia is interested in how people interact with their environment, both online and in the real world. He uses social media and large amounts of data to understand this relationship. Quercia wants to use this information to make our lives happier and more satisfying.
Quercia’s idea worth spreading is that the fastest route may be efficient, but not always enjoyable. There are times when taking a different route can be more memorable and joyful.

B **VOCABULARY** Listen to the sentences with words or phrases from the TED Talk. These words or phrases are listed in the following box. Guess the meaning of each word or phrase. Then write each word or phrase before its definition.

a. shame	**b.** commute	**c.** detour	**d.** consensus	**e.** game changers
f. definitive	**g.** recall	**h.** trapped	**i.** emerge	**j.** rob of

1. _____ (n.) broad agreement
2. _____ (phrase) events or items that change a situation dramatically
3. _____ (a.) unable to escape
4. _____ (n.) a longer and less direct route
5. _____ (a.) firm and final
6. _____ (phrase) take away
7. _____ (n.) the daily trip to and from work or school
8. _____ (n.) a bad feeling because of something you have done
9. _____ (v.) remember
10. _____ (v.) appear

WATCH

C **WATCH FOR MAIN IDEAS** Watch the edited TED Talk. Check [✓] the statement that best expresses the speaker's main idea.

1. ☐ Collecting personal data can improve maps.
2. ☐ Mobile mapping apps are likely to improve in the future.
3. ☐ The happy path is better than the most direct one.
4. ☐ You can make surprising discoveries by taking a different path.
5. ☐ The route from A to B is filled with emotion.

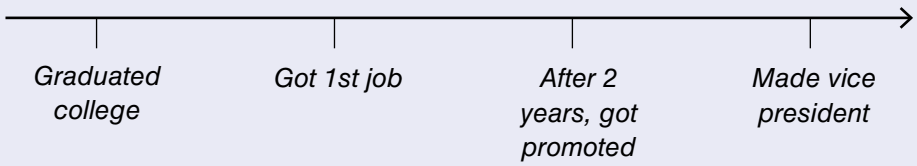
learnmore Mass. Ave. (short for Massachusetts Avenue) is a street that connects Boston to Cambridge, two neighboring cities in Massachusetts. Stores, apartments, and restaurants line the 16-mile street. In addition, many subway stations, bus stops, and crowded sidewalks make Mass. Ave. one of the busiest roads in the city.

NOTE-TAKING SKILL Make a Timeline

Often speakers use chronological (time) order when they describe an event. In other words, they explain what happened first, second, next, and so on. You can use this time order to help organize your notes. Listen for the following references to times and dates:

in + year, *on* + day, *by*
since, ago, when, for
during, before, after
now, then, next, later

You can create a picture of events using a timeline. For example:



D **WATCH FOR DETAILS** Watch Segment 1 of Quercia's edited TED Talk. Listen for the signals of time order below. Check each one as you hear it. Then complete the timeline with the correct information. Watch the segment again to check your answers.

_____ A few years ago	_____ ... one day
_____ ... after ...	_____ After a feeling of ...
_____ After a month ...	_____ After that experience ...

1. Quercia finished PhD in *London*
2. Moved to _____
3. Cycled to _____ every day
4. One day took _____
5. Felt surprised, then felt _____
6. Changed focus of his _____

WORDS IN THE TALK
aesthetics (n.): sense of beauty
aggregate (v.): combine; put together
cartography (n.): map making
crowdsourcing (n.): getting support or ideas from a large number of people over the Internet
data mining (phrase): computer analysis of large amounts of data to find patterns
PhD (n.): the highest academic degree

E **WATCH FOR DETAILS** Complete the summary of Segment 2 of the edited TED Talk. Then watch the segment to check your answers.

Quercia and his colleagues built a crowdsourcing platform, a (1) _____. Thousands of players looked at two city scenes. They had to choose the scene that they thought was more beautiful, quiet, and (2) _____. Based on the players' answers, they are able to see which are the urban (3) _____ that make people happy. In tests, participants found the happy, the beautiful, the quiet path far more (4) _____ than the shortest one, and just by adding a few minutes to (5) _____ time.

F **EXPAND YOUR VOCABULARY** Watch the excerpts from the TED Talk. Fill in the blanks with the phrases you hear and choose their meanings.

1. I just remember a feeling of surprise; surprise at finding a street with no cars, _____ the nearby Mass. Ave. full of cars; surprise at finding a street draped by leaves and surrounded by trees.

a. against
b. very much like
c. different from

2. In this single journey, there was no thought of enjoying the road, no pleasure in connecting with nature, no possibility of _____.

a. being honest and direct with them
b. seeing them clearly
c. understanding them

3. And _____ — mapping apps are the greatest game-changer for encouraging people to explore the city.

a. don't disagree with me
b. don't misunderstand me
c. don't wait too long

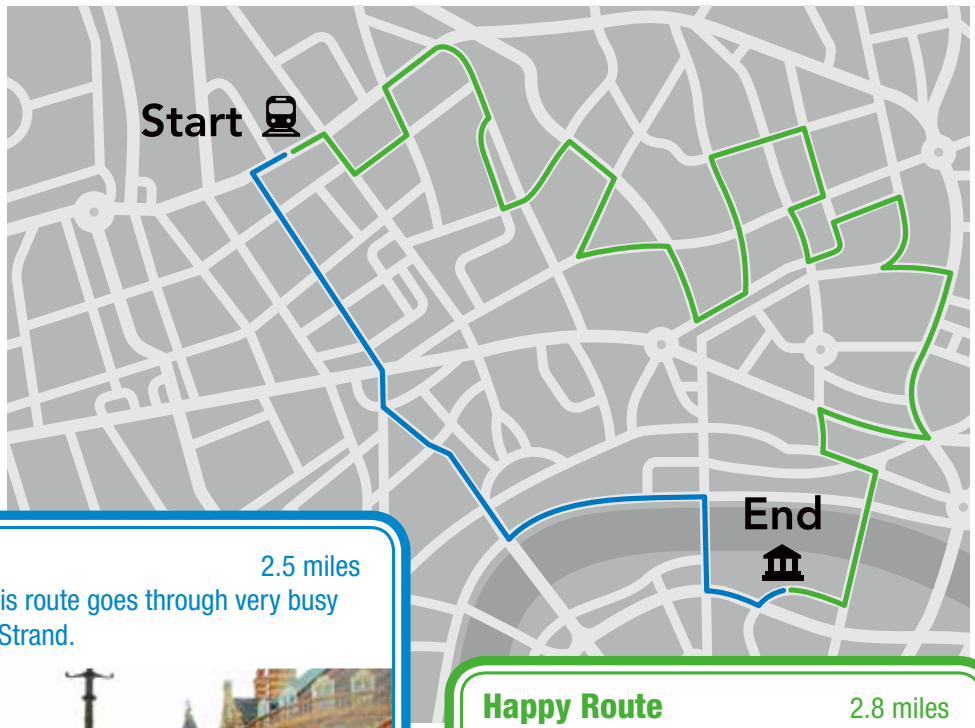
4. After that work, I joined Yahoo Labs, and I _____ Luca and Rossano, and together, we aggregated those winning locations in London to build a new map of the city.

a. join to work with
b. play on the same side as
c. compete with

AFTER YOU WATCH

G COMMUNICATE Discuss these questions in a small group. Then check your understanding of your classmates' answers by using confirmation and clarification questions.

1. Look at the map of London and read the captions. Based on the information, which route would you like to take? Why?
2. Would you take a more beautiful, happier, or quieter route to work or school? Why, or why not?



Fast Route 2.5 miles

Taking 46 minutes, this route goes through very busy streets including The Strand.

Happy Route 2.8 miles

Taking 53 minutes, this route goes through quieter streets including historic Fleet Street.

PART 5 PRESENTATION

ASSIGNMENT: Individual Presentation You are going to create and present your own happy map. Review the ideas in this unit and the listening and speaking skills as you prepare your presentation.

PREPARE

PRESENTATION SKILL Pause

Speaking slowly and clearly during a presentation makes it easier for an audience to understand your ideas. Using pauses gives listeners more time to process and reflect on what they hear.

Listen to how Daniele Quercia pauses briefly but frequently in the following excerpt:
▶ *Imagination will take you everywhere. [Pause] So with a bit of imagination, [Pause] we needed to understand [Pause] which parts of the city [Pause] people find beautiful.*

A ▶ Work with a partner. Watch this excerpt from Quercia's talk and mark (/) where you hear pauses. Then take turns saying it aloud. Check if your partner is pausing frequently enough.

> *"In tests, participants found the happy, the beautiful, the quiet path far more enjoyable than the shortest one, and that just by adding a few minutes to travel time. Participants also love to attach memories to places. Shared memories — that's where the old BBC building was; and personal memories — that's where I gave my first kiss."*

B Prepare for your presentation.

- Make a map of your commute or another route that you often take.
- Try out a different route, one that is more beautiful, peaceful, or exciting.
- Make a map of your new, happy route.
- Make some notes about why the new route is a happy one.
  - o Describe the scene and things you see along the way.
  - o Think about your emotional response to the route.
  - o Compare it to your usual route.
- Include pictures if you can.

C Practice your presentation. Remember to pause and speak slowly but naturally.

D Read the rubric before you present. Notice how your presentation will be evaluated. Keep these categories in mind as you present and watch your classmates' presentations.

The presenter …	Name _____					Name _____					Name _____					Name _____				
1. showed two maps.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2. described the difference between them.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
3. clearly pronounced *can* and *can't*.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
4. spoke clearly and paused effectively.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Overall Rating	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
What did you like?																				
What could be improved?																				

Note: 1 = lowest; 5 = highest

PRESENT

E Give your presentation to the class. Watch your classmates' presentations. After you watch each one, provide feedback using the rubric as a guide. Add notes or any other feedback you want to share.

F **THINK CRITICALLY** **Evaluate.** In your group, discuss the feedback you received. As a class, discuss what each presenter did well and what might make each presentation even stronger.

REFLECT

Reflect on what you have learned. Check [✓] your progress.

I can

- ☐ infer meaning.
- ☐ check my understanding.
- ☐ pronounce *can* and *can't*.
- ☐ take notes using a timeline.
- ☐ pause effectively.

I understand the meanings of these words and can use them.
Circle those you know. Underline those you need to work on.

annoying	detour	in a way	significance
capable of	emerge	potential	talent
commute	eventually	recall	theme
consensus	focus on	rob of something	trapped
definitive	game changer	shame	tune out

SCRIPTS

PART 1 LISTENING

B VOCABULARY

a. The work of many different scientists contributed to this invention. **In a way,** it was a team effort, not the work of a single inventor.
b. The noisy students in the library were **annoying,** but I was able to finish my assignment anyway.
c. Many people did not understand the **significance** of the discovery, but Spencer realized that it could lead to big changes in our lives.
d. Engineers are **capable of** looking at a problem from several different perspectives.
e. Some people have a **talent** for understanding mechanical things. They enjoy fixing cars and other machines.
f. The project took a long time, but we **eventually** finished it.
g. We need to **focus on** this task for now. We can't start thinking about the next one yet.
h. The **theme** for this year's conference is "Discoveries in the New Century."
i. When I have to really concentrate on my work, I **tune out** everything else that is going on around me.
j. There are many **potential** uses for this new technology, but it will take time to develop it.

D LISTEN FOR MAIN IDEAS

Segment 1

HOST And welcome back to Conversations. Today's theme — chance.
CO-HOST Actually, the show is really about serendipity.
HOST Serendipity?
CO-HOST Right, serendipity. In other words, discovering something, or something happening by chance — something good, that is.
HOST Like the guy who invented the microwave.
CO-HOST Exactly! For the folks who don't know this story: Back in 1939, a scientist named Percy Spencer was working with microwave technology for a government project. One day, he noticed that a chocolate bar in his pocket had completely melted. He realized that the microwaves had done it. That made him think — wow — maybe microwaves could be useful, not just for his government project but for something else. He started working on the idea and eventually, he developed the first microwave oven. Was this a case of serendipity? Partly, but I think it was also Spencer.
HOST Really? How so?
CO-HOST Well, other people had noticed that microwaves could melt things, but Spencer was the one who understood its significance. Why does this story end with the invention of the microwave oven instead of just a melted chocolate bar and a dirty shirt? What was special about Spencer? This can't be the only example of this. I wondered how often this happens.
HOST And what did you find out?

Segment 2

CO-HOST Some people call it serendipity, but it turns out that it's a bit more than just good luck. People like Spencer think in two very specific ways. First, they notice things that *they were not looking for*. A lot of us focus on our goals so much that we tune out everything else. For other people, the melted chocolate would just be annoying, but for Spencer, it was the beginning of an idea. Second they are capable of divergent thinking.

HOST *What* kind of thinking?

CO-HOST *Divergent*. Divergent thinkers consider many potential solutions to a problem.

HOST Hmm. I am not sure I follow. Can you give us an example?

CO-HOST Sure. If I show you a paper clip and ask you how it can be used, you will probably say, "to clip papers together." But a divergent thinker might see lots of other possible functions; for example, to mark a place in a book, or you could unfold it and use it to punch a hole in something.

HOST I see. Are you saying that some people have a special talent for this? It's not serendipity at all?

CO-HOST Yes, some people are more likely to notice things and make interesting and new connections between ideas. They recognize opportunities. In a way, they create serendipity.

HOST So, why can't I do this? Can we learn to be better at this kind of thinking?

CO-HOST Absolutely, there are lots of exercises you can do to help you notice things and to encourage divergent thinking. The paper clip example is a good place to start. Try to think of as many new uses as you can.

HOST I think I get the idea. We can actually increase the possibility of serendipity by changing the way we think?

CO-HOST Exactly.

PART 2 EXTENDED LISTENING

PASSAGE 1

Serendipity may be the word we use to describe a fortunate accident, but to many scientists, the word holds much greater meaning. The importance of luck can be seen when one thinks about the sheer number of scientific discoveries that seem to have been made spontaneously when something unexpected occurs. In one of the most famous examples of such serendipity, the chance sight of an apple dropping from a tree led to the eventual development of Newton's law of gravitation. In another, the appearance of small seeds stuck to his clothing after a hike led to a Swiss engineer developing Velcro.

Even if they don't lead to new inventions, new discoveries are important because they form the basis on which future knowledge is built.

In 1890, two doctors were researching the role of the pancreas in digestion. When they removed a dog's pancreas, they were surprised to find flies swarming around the dog's urine a few days later. This unexpected discovery led to the realization that the removal of the pancreas had led to the dog developing diabetes, as evidenced by the sugar in the urine. Other scientists eventually discovered the pancreatic secretion, insulin, and were able to use this knowledge to treat diabetes.

Some people believe that it is a combination of both luck and intelligence that leads to a true discovery. As Louis Pasteur once said, “Chance favors only the prepared mind.” Without scientific knowledge and skill, what is serendipitous may instead go unnoticed and unacted upon. Both luck and knowledge are instrumental in helping science to progress.

Questions:

1. What is the passage mainly about?
2. Which of the following is true about serendipity in science according to the passage?
3. What can we learn from Louis Pasteur’s words?

PASSAGE 2

Lithium batteries and chargers are still the go-to option when it comes to powering our smartphones today, but they might soon be a thing of the past as researchers worldwide concentrate their efforts on finding new and exciting ways to generate power.

In 2014, Microsoft worked with researchers from the Queen Mary University of London to create a smartphone charger that worked by using everyday sounds. The sound of traffic, music or chatter caused nanorods on the device to generate a voltage. The final product was the size of a smartphone and generated about 5 volts — enough to charge a phone. If you spend plenty of time chatting on the phone or working in a noisy environment, this invention could be a lifesaver.

Researchers at the Bristol Robotics Lab in England have also found an innovative way to generate power. By using a machine that contains special waste-consuming bacteria, scientists demonstrated how urine could be used to power electric circuits. Portable restrooms at the Glastonbury Festival have been showcasing this technology since 2015. The scientists hope that this technology will make its way to poor countries where it can be used to create clean energy.

Another interesting invention is the Ryden Dual Carbon Battery. This Japanese invention can be used to power smartphones and even electric cars. Although the battery relies heavily on cotton — a plant with a large water footprint — on the plus side, it also maintains a constant temperature which eliminates the need for a cooling system, charges faster compared to a traditional battery, and is fully renewable and biodegradable.

Questions:

1. What’s the main idea of the passage?
2. What did Microsoft and researchers from the Queen Mary University of London use to create a charger?
3. Which of the following can be used to generate power according to researchers at the Bristol Robotics Lab?

NEWS REPORT 1

Biofuel can be an attractive option for transportation industries looking to reduce carbon emissions. These fuels, processed from biomass such as plants, vegetable oils and gas derived from animal manure, may provide a greener alternative to traditional diesel.

In London, one enterprising company is working closely with Shell and Argent Energy to create a new type of biofuel from coffee. Founded by Arthur Kay in 2013, Bio-bean transforms waste coffee grounds into a new and valuable resource. According to the firm, 500,000 tons of coffee grounds are thrown away in the United Kingdom each year. By creating a biofuel that blends diesel with oil extracted from coffee waste, Bio-bean aims to make better use of resources that would have gone to waste otherwise.

The company's innovation may have come at the right time, too, as the country's coffee consumption continues to rise. According to figures released by the British Coffee Association in 2018, a staggering 95 million cups of coffee are drunk in the country each day. Today, with grounds that make just over two and a half million cups of coffee, Bio-bean is able to produce enough biofuel to power a London bus for an entire year.

Questions:

1. What's the main idea of the news report?
2. How does Bio-bean create the new biofuel?
3. What is Bio-bean's aim?

NEWS REPORT 2

Defense company, Elbit Systems, has developed a new sensor technology that can help to keep pilots safe. "Canary" is a system that is currently designed for use in fighter jets. When a plane accelerates too quickly, blood moves away from the brain and causes the pilot to become unconscious. A lack of oxygen, or hypoxia, reduces the pilot's ability to think and can swiftly lead to unconsciousness as well. Over the years, these two problems have led to the injuries and deaths of many fighter jet pilots.

Elbit Systems' Canary works like the proverbial canary in the mine by warning of impending disaster. A sensor in the pilot's helmet will alert the pilot when a threat is approaching. If it senses that the pilot is unconscious, it will send a message to the plane's mission computer, which will then take control of the plane and guide it to safety.

The system also has a predictive function. In an interview with Reuters, Yaron Kranz, a former fighter pilot and the current research and development director at Elbit Systems, said, "The system detects the physiological state of the pilot while he is still in control and it can predict if he is going to lose consciousness, giving enough time to take evasive action."

Questions:

1. What is the news report mainly about?
2. What may cause a pilot to become unconscious during flight?
3. What will the system do if it senses the pilot is unconscious?

PART 3 SPEAKING

A

HOST And welcome back to *Conversations*. Today's theme — chance.
CO-HOST Actually, the show is really about serendipity.
HOST Serendipity?
CO-HOST Right, serendipity.

CO-HOST Was this a case of serendipity? Partly, but I think it was also Spencer.
HOST Really? How so?
CO-HOST Well, other people had noticed that microwaves could melt things, but Spencer was the one who understood its significance.

HOST What kind of thinking?
CO-HOST *Divergent*. Divergent thinkers consider many potential solutions to a problem.
HOST Hmm. I am not sure I follow. Can you give us an example?
CO-HOST Sure.

CO-HOST But a divergent thinker might see lots of other possible functions; for example, to mark a place in a book, or you could unfold it and use it to punch a hole in something.
HOST I see. Are you saying that some people have a special talent for this? It's not serendipity at all?
CO-HOST Yes, some people are more likely to notice things and make interesting and new connections between ideas.

PART 4 TED TALKS

B VOCABULARY

a. People often feel a sense of **shame** after they have done something stupid or wrong.
b. My **commute** to work usually takes an hour — even longer if there is a lot of traffic.
c. The road is closed for repair so we have to take a **detour**.
d. An effective team listens to everyone's idea and then tries to come to a **consensus**.
e. Map apps on smart phones were real **game changers**. Not many people use paper maps anymore.
f. There is not enough data to make a **definitive** conclusion, but we can make a very good guess.
g. I could not **recall** the location of the office, so I used my map app.
h. Following a big snowstorm, some motorists were **trapped** in their cars for hours.
i. We interviewed a lot of people about the traffic problems and, slowly, a solution began to **emerge**.
j. Always taking the quickest route may **rob** you **of** the chance to see the beautiful countryside.

C WATCH FOR MAIN IDEAS

Segment 1

A few years ago, after finishing my PhD in London, I moved to Boston. I lived in Boston and worked in Cambridge. I bought a racing bicycle that summer, and I bicycled every day to work. To find my way, I used my phone. It sent me over Mass. Ave., Massachusetts Avenue, the shortest route from Boston to Cambridge. But after a month that I was cycling every day on the car-packed Mass. Ave., I took a different route one day. I'm not entirely sure why I took a different route that day, a detour.

I just remember a feeling of surprise; surprise at finding a street with no cars, as opposed to the nearby Mass. Ave. full of cars; surprise at finding a street draped by leaves and surrounded by trees. But after the feeling of surprise, I felt shame. How could I have been so blind? For an entire month, I was so trapped in my mobile app that a journey to work became one thing only: the shortest path. In this single journey, there was no thought of enjoying the road, no pleasure in connecting with nature, no possibility of looking people in the eyes. And why? Because I was saving a minute out of my commute.

Now let me ask you: Am I alone here? How many of you have never used a mapping app for finding directions? Most of you, if not all, have. And don't get me wrong — mapping apps are the greatest game-changer for encouraging people to explore the city. You take your phone out and you know immediately where to go. However, the app also assumes there are only a handful of directions to the destination.

It has the power to make those handful of directions the definitive direction to that destination.

After that experience, I changed. I changed my research from traditional data-mining to understanding how people experience the city.

Segment 2

Einstein once said, "Logic will get you from A to B. Imagination will take you everywhere." So with a bit of imagination, we needed to understand which parts of the city people find beautiful. At the University of Cambridge, with colleagues, we thought about this simple experiment. If I were to show you these two urban scenes, and I were to ask you which one is more beautiful, which one would you say? Don't be shy. Who says A? Who says B? Brilliant. Based on that idea, we built a crowdsourcing platform, a web game. Players are shown pairs of urban scenes, and they're asked to choose which one is more beautiful, quiet and happy. Based on thousands of user votes, then we are able to see where consensus emerges. We are able to see which are the urban scenes that make people happy.

After that work, I joined Yahoo Labs, and I teamed up with Luca and Rossano, and together, we aggregated those winning locations in London to build a new map of the city, a cartography weighted for human emotions. On this cartography, you're not only able to see and connect from point A to point B the shortest segments, but you're also able to see the happy segment, the beautiful path, the quiet path. In tests, participants found the happy, the beautiful, the quiet path far more enjoyable than the shortest one, and just by adding a few minutes to travel time.

Participants also love to attach memories to places. Shared memories — that's where the old BBC building was; and personal memories — that's where I gave my first kiss. They also recalled how some paths smelled and sounded. So what if we had a mapping tool that would return the most enjoyable routes based not only on aesthetics but also based on smell, sound, and memories? That's where our research is going right now. More generally, my research, what it tries to do is avoid the danger of the single path, to avoid robbing people of fully experiencing the city in which they live. Walk the path through the park,

not through the car park, and you have an entirely different path. Walk the path full of people you love and not full of cars, and you have an entirely different path. It's that simple.

F EXPAND YOUR VOCABULARY

1. I just remember a feeling of surprise; surprise at finding a street with no cars, as opposed to the nearby Mass. Ave. full of cars; surprise at finding a street draped by leaves and surrounded by trees.
2. In this single journey, there was no thought of enjoying the road, no pleasure in connecting with nature, no possibility of looking people in the eyes.
3. And don't get me wrong — mapping apps are the greatest game-changer for encouraging people to explore the city.
4. After that work, I joined Yahoo Labs, and I teamed up with Luca and Rossano, and together, we aggregated those winning locations in London to build a new map of the city.

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