UNIT 9

Looking Ahead

PREVIEW

A DEMOGRAPHIC TRENDS | Listen to a report. What worldwide trend is the speaker describing? What reasons does she suggest might explain these changes?

B ZOOM-IN | Read and listen to a husband and wife discuss the future. Notice the featured words and phrases.

UNDERSTAND A VARIETY OF ACCENTS
Les = American English (regional)
Lena = American English (regional)

Les: Whoa! So listen to this: "In the next five years, more than 20% of all products will have been manufactured, packed, shipped, and delivered without ever having been touched by a human hand."

Lena: That's pretty extreme. Seriously?

Les: Well, that's what it says. . . . They call it "hyper-automation"—robots doing just about everything. So what I'm wondering is, will there be any jobs left for us humans? Seriously, Lena. I'm not being facetious. You're a business professor. What do you think?

Lena: I think that's jumping the gun. We can't know for sure where this "hyper-automation" will lead.

Les: So you don't think it'll lead to massive unemployment?

Lena: Maybe in jobs we know robots can master—things that require manual dexterity, or involve repetitive movements, and just don't need to be performed by humans anymore. It doesn't mean that other kinds of jobs are going to suddenly go poof.

Les: Well, I'm not convinced robots aren't capable of a lot more. Who says they can't invent things, or collaborate with each other? When will we be seeing stories about that?

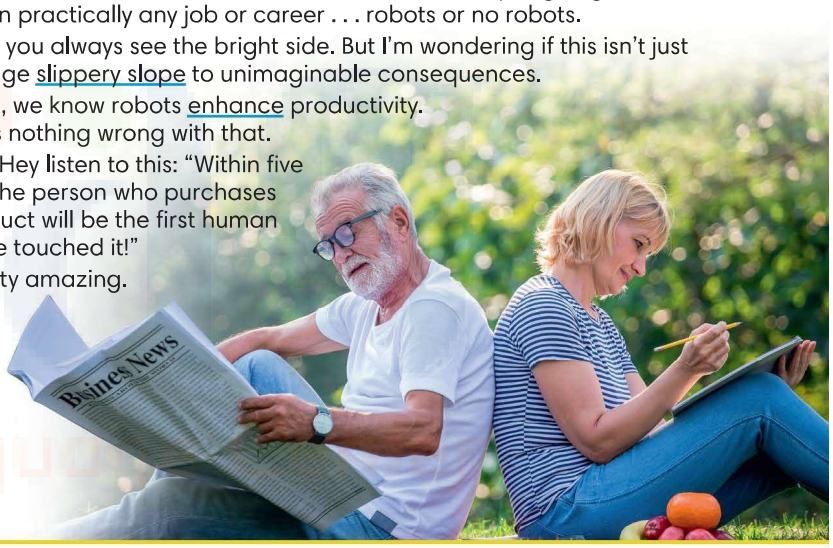
Lena: Not in *our* lifetime. And there's been so much hoopla lately at my college about teaching students the quote unquote "soft skills"… you know: collaboration, teamwork, communication. They're going to need those in practically any job or career . . . robots or no robots.

Les: Lena, you always see the bright side. But I'm wondering if this isn't just one huge slippery slope to unimaginable consequences.

Lena: Well, we know robots enhance productivity. There's nothing wrong with that.

Les: True. Hey listen to this: "Within five years the person who purchases a product will be the first human to have touched it!"

Lena: Pretty amazing.



C UNDERSTAND FROM CONTEXT | Find featured words and phrases in Zoom-In and, with a partner, write an original sentence using each of them.

1 a word that means "excitement and discussion" .....
2 a phrase that means "a state in which huge numbers of people have no jobs" .....
.....
3 a word that means "learn perfectly and be able to do" .....
4 a sentence that means "I'm not kidding" .....
5 a phrase that means "disappear" .....
6 a phrase that means "an event that might lead to negative changes we hadn't anticipated" .....
.....
7 a word that means "improve or increase" .....
8 a phrase that means "coming to a conclusion before knowing all the facts" .....
.....

D LOOK IT UP AND SHARE | Find a word or phrase in Zoom-In that was new to you. Look it up and use it in a sentence. Share your sentence with a partner.

.....

E DISCUSSION | Where in the world do you think hyper-automation will most likely occur? Explain why.

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UNIT 9
COMMUNICATION GOALS

Lesson 1 Discuss the pros and cons of innovative technologies
Lesson 2 Make predictions about science and technology
Lesson 3 Talk about preparing for future pandemics
Lesson 4 Explain social and demographic trends

F TALKING POINTS | Take the survey.

Your **beliefs** about the **future**

Read 10 optimistic predictions. Circle the response that most closely reflects your opinion. (You can circle more than one.)

1 Robots will be a common feature in most people's homes and will enhance our lives.
In my city | In my country | Everywhere | Nowhere | Elsewhere (If so, where? _____)

2 There will be opportunities for me to find a job in my chosen career.
In my city | In my country | Everywhere | Nowhere | Elsewhere (If so, where? _____)

3 Women and men will be paid equally for equal work.
In my city | In my country | Everywhere | Nowhere | Elsewhere (If so, where? _____)

4 Most young people will make more money than their parents and grandparents did.
In my city | In my country | Everywhere | Nowhere | Elsewhere (If so, where? _____)

5 I'll be able to use English regularly in my life.
In my city | In my country | Everywhere | Nowhere | Elsewhere (If so, where? _____)

6 The world will become more peaceful, and there will be fewer armed conflicts.
In my city | In my country | Everywhere | Nowhere | Elsewhere (If so, where? _____)

7 Crime will decrease, and the streets will be safer at night.
In my city | In my country | Everywhere | Nowhere | Elsewhere (If so, where? _____)

8 People will take action to reduce climate change, and the environment will be protected.
In my city | In my country | Everywhere | Nowhere | Elsewhere (If so, where? _____)

9 Pandemics will be prevented.
In my city | In my country | Everywhere | Nowhere | Elsewhere (If so, where? _____)

10 Poverty and unemployment will be reduced.
In my city | In my country | Everywhere | Nowhere | Elsewhere (If so, where? _____)

11 My own prediction: _____
In my city | In my country | Everywhere | Nowhere |
Elsewhere (If so, where? _____)


Will robots be a common feature in homes?


Will the world become a more peaceful place?


Will streets be safer at night?


Will future pandemics be prevented?

START TALKING

PAIR WORK Compare and discuss responses on the survey in Talking Points. Explain your reasoning, including details. Which one of you is more optimistic about the future?

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1 COMMUNICATION GOAL

Discuss the pros and cons of innovative technologies

A VOCABULARY | Expressing and dismissing concern | Read and listen. Then listen again and repeat.

TO EXPRESS CONCERN

- It's a slippery slope.
- It's playing with fire.
- It's like opening a can of worms.
- It's like opening a Pandora's Box.



TO DISMISS CONCERN

- I don't see it that way at all.
- I think that's a little exaggerated.
- I guess I just see things differently.
- Don't you think you might be going overboard?



B LISTEN FOR POINT OF VIEW | Listen to five conversations about innovative technologies and write the correct conversation number next to each technology. Then listen again and choose the word that indicates the speaker's point of view about each technology.

..... **a** genetic engineering
She's (concerned / not concerned) about it right now.

..... **b** remote surgery
She's (concerned / not concerned) about it, but he (is / isn't).

..... **c** reproductive cloning
They're (concerned / not concerned) about it.

..... **d** artificial intelligence
They're (concerned / not concerned).

..... **e** microchip implants
He's (concerned / not concerned) about them.

C LISTEN TO SUMMARIZE | With a partner, write a short summary statement in your own words about one use of each technology, based on what you learned in the conversations. Compare statements with a partner. Listen again if necessary.

Example: genetic engineering *Genetic engineering is used to enhance the disease resistance of plants.*

1 genetic engineering .....
2 remote surgery .....
3 reproductive cloning .....
4 artificial intelligence .....
5 microchip implants .....

D GRAMMAR | The passive voice in unreal conditional sentences

In unreal conditional sentences, the passive voice can be used in one or both clauses.

The present unreal conditional

If cancer-preventing chemicals **could be embedded** in foods through genetic modification, that technology **might be** more widely **accepted**.

If I **were offered** an unhackable microchip, I'd get it and store absolutely everything on it.

The past unreal conditional

If remote surgery **had been approved** last year, it **would have been offered** to you when you needed your operation.

If the computer chip **hadn't been developed**, many of our most innovative technologies wouldn't be available to us now.

Remember: Form the passive voice with a form of be + a past participle.

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E GRAMMAR PRACTICE | Using the prompts, write a present or past unreal conditional statement that expresses your own opinion. Use the passive voice in the *if* clause.

Example: Genetic engineering / prohibited

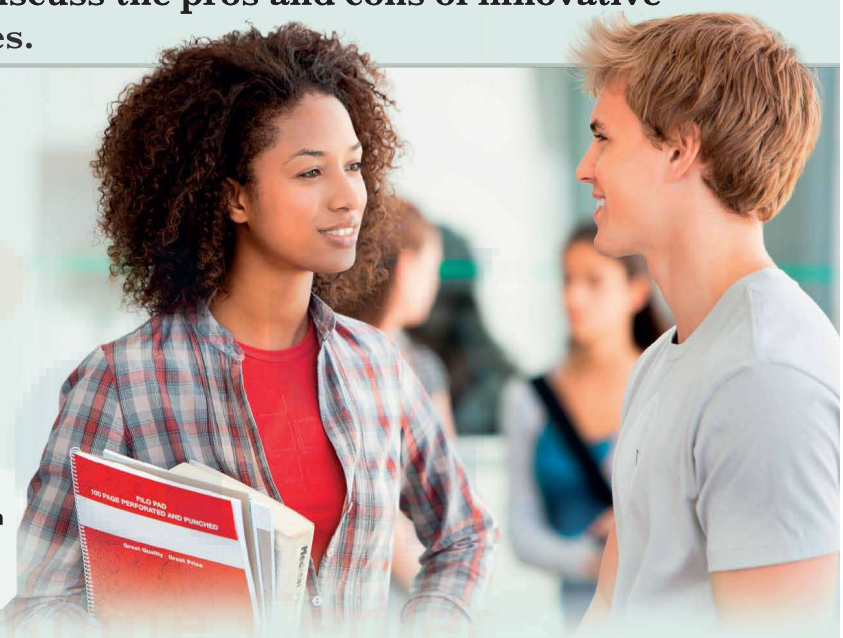
If genetic engineering were prohibited, farmers wouldn't be able to take advantage of the methods that have been developed to enhance crop disease resistance.

1 Cloning of humans / permitted
2 Everyone / trained to use soft skills
3 Surgeries / always performed by robots
4 Electricity / discovered four centuries ago
5 Astronauts / not sent to the Moon in 1969
6 Buses driven by people / replaced by driverless vehicles
7 The way to start fires / not discovered by early humans

F PAIR WORK | Compare the statements you wrote for Exercise E. Explain your opinions and provide examples.

COMMUNICATION ACTIVATOR

Now let's discuss the pros and cons of innovative technologies.



A CONVERSATION MODEL | Read and listen.

A: What do you think about people implanting computer chips under their skin?
B: They do that? Why?
A: Well, they say you could identify yourself instantly just by passing your hand through a scanner. You wouldn't need a wallet, money, credit cards, your driver's license . . .
B: Seriously? That gives me the willies. Nothing's foolproof. Couldn't the chip be hacked?
A: You've hit the nail on the head. If the chip were hacked, your personal information could fall into the wrong hands.
B: Well, I value my privacy. I'd think twice before getting chipped, to tell you the truth.
A: That makes two of us!

Social language
Agree informally with someone's strong opinion with "That makes two of us!"

B PRONUNCIATION PRACTICE | Listen again and repeat. Then practice the Conversation Model with a partner.

C TALKING POINTS | List two innovative technologies from Exercise B on page 92. Describe a positive or possibly negative application for each.

Innovative technology	Positive (and / or negative) application
1 genetic engineering	develop plants that are unappealing to insects

Innovative technology	Positive (and / or negative) application
1	
2	

D IN YOUR OWN WORDS | Create a similar conversation to the one in Exercise A, using your notes from Talking Points. Start like this: *What do you think about ___?* Be sure to change roles and then partners. (Option: Use the Unit 9 Energizer Worksheet.)

KEEP TALKING! ●●●

- **Provide more reasons why you are for or against a particular technology.**
- **Evaluate the pros and cons of other technologies.**
- **Express and dismiss concern.**
- **Say as much as you can.**

Watch the video for ideas!

RECYCLE THIS LANGUAGE

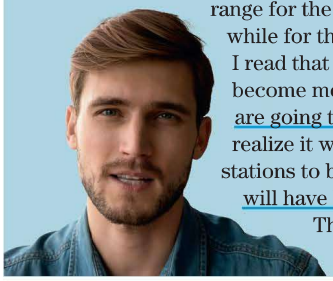
I'm not being facetious.
There's been so much hoopla about [it].
It's a slippery slope.
[Safety] will just go poof.

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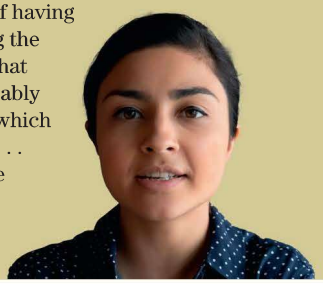
2 COMMUNICATION GOAL

Make predictions about science and technology

A GRAMMAR CLOSE-UP | Read about some predictions. Notice the featured grammar.



Maybe I jumped the gun, but I thought that gas-fueled cars would all be replaced by electric vehicles by now. When the electrics first came on the market, their price was out of range for the average consumer, and it took a while for the price to come down. However, I read that starting this year, prices have become more competitive, and the electrics are going to be sold much more widely. I didn't realize it would take so much time for charging stations to be provided. But it looks like many will have been added by the end of the year. That'll make electric vehicles more appealing to own.



It's interesting that several countries have been sending rockets to the Moon in recent years. Some experts say that by 2035 a human settlement will have already been established there. Apparently, it's not a question of having the right technology, but rather having the will to do it. One article I read noted that the cost of such a venture would probably be shared by more than one country, which would help a lot. One thing's for sure . . . By the time there's a settlement on the Moon, plans will have been created for a settlement on Mars. Now *that's* exciting.

B DISCUSSION | Discuss the questions.

1 Will electric cars ever completely replace gas-fueled cars? Explain your reasons.
2 What do you think the purpose of a settlement on Mars might be? Do you think a settlement on Mars is worth the money it will take to create? Why or why not?

C GRAMMAR | The passive voice: the future, the future perfect, and the future as seen from the past

The passive voice is often used when discussing science and technology.

The future: will be (or be going to be) + a past participle
It's likely that human settlements **will be established** on the Moon in the near future.
Climate change **isn't going to be stopped** unless we do something about it soon.

The future perfect: will have been (or be going to have been) + a past participle
By the end of this century, the world's population explosion **will have been reversed**.
Cures for many of today's major diseases **are going to have been discovered** by 2060.

The future as seen from the past: would be (or was / were going to be) + a past participle
Leonardo Da Vinci correctly **predicted** (that) ships **would be designed** to travel underwater.
No one really **believed** (that) the COVID-19 pandemic **was going to be spread** around the world so quickly.

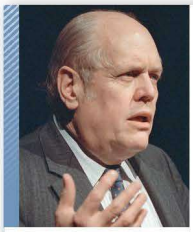
Remember: Use a by phrase when it's important to name the agent (the performer of the action).
Our lives will be enhanced **by new technology.**

GRAMMAR EXPANDER p. 131
When to use the passive voice

D GRAMMAR PRACTICE | Read the predictions. On a separate sheet of paper, change them from active to passive voice.

1 Technicians will use robots to mine the Moon's natural resources.
2 India is going to surpass the U.S. as the world's second largest economy by 2050.
3 If climate change isn't addressed, the ocean will flood low-lying island nations such as Fiji.
4 Robots are going to perform the majority of microsurgeries.
5 A 3D printer will make replacement car parts for you at home.

E GRAMMAR PRACTICE | Read each prediction. Then complete the statement below it, using would be or was / were going to be + a past participle.



Computers are never going to be used in the home.

1 In the 1970s, Kenneth Olsen, CEO and founder of Digital Equipment, predicted that computers .....
.....



General Motors will mass-produce self-driving cars by 2025.

2 General Motors CEO Mary Barra announced in 2020 that self-driving cars .....
.....
.....

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No online database will replace the newspaper.

3 In 1995, American astronomer, author, and teacher Clifford Stoll predicted the newspaper .....

.....



Over-farming and logging will destroy the world's rainforests.

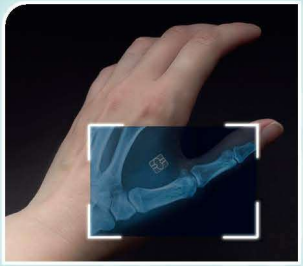
4 Primatologist Jane Goodall argued that the world's rainforests .....

.....

.....

F **GRAMMAR PRACTICE** | **Read about four travel innovations. Write your own prediction for each one, using the future perfect in the passive voice.**

Example: *By the second half of the 21st century,. . .*



1 Getting your passport stamped may be a thing of the past. Customs agents will require a card with an electronic chip that can be swiped. Or they may rely on implanted microchips for ID.

2 How would you like to stay in a space hotel with a spectacular view? Decades of space travel innovations have made the construction and maintenance of the International Space Station a reality. It won't be long before you can buy tickets for the vacation of a lifetime. When will the first space hotel be built?





3 Tired of arriving at airports far outside the city? Transportation alternatives such as the Hyperloop may replace those long trips to and from airports. A Hyperloop pod runs through a tunnel at about the same speed as an airplane and takes you to and from the heart of the city.

4 Imagine if your car could sense your emotions and calm you down, perhaps preventing you from going ballistic when another driver cuts you off. Or imagine that this same car could keep you awake when you get drowsy. Cars of the future might be equipped with AI technology called "affective computing," which is said to be a promising safety feature that can even be programmed to adapt to the different ways people from different cultures express emotions.



COMMUNICATION ACTIVATOR

Now let's make predictions about science and technology.

A **TALKING POINTS** | **Write at least three predictions in the passive voice about science and technology. Use will, be going to, or the future perfect.**

In the future . . .	By 2050 . . .	By the end of the century . . .

B **DISCUSSION** | **Share your predictions from Talking Points. Which of your classmates' predictions do you think are likely to come true? Do your predictions paint an optimistic or pessimistic view of the future? Explain.**

KEEP TALKING! ●●●

- **Ask your classmates questions about their predictions.**
- **Provide reasons for why you think a prediction will or won't come true.**
- **Say as much as you can.**

Watch the video for ideas!

RECYCLE THIS LANGUAGE

It's like opening [a can of worms / a Pandora's Box].
It's playing with fire.
It gives me the willies.
It isn't foolproof.
I'd think twice before I ___ .
That makes two of us.
I'd take that with a grain of salt.
I'm not being facetious.
You've hit the nail on the head.
You're jumping the gun.
Don't you think you might be going overboard?
I guess I just see things differently.
I think that's a little exaggerated.

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3 COMMUNICATION GOAL Talk about preparing for future pandemics

A READING | Read the article. What are the three main points the writer makes?

How will we stay safe when the next pandemic hits?

When Chinese scientists identified COVID-19 in 2019, and the virus began to spread across the world like wildfire, experts warned world leaders of the need for an immediate, united response to contain it and save lives. Instead, the response was slow and chaotic, and millions of people died. The pandemic's shock waves brought the global economy to its knees. It had a devastating impact on tourism and the hospitality industry, caused a catastrophic rise in unemployment, and forced countless businesses to close forever. While some countries fared better than others, most were woefully unprepared for an event of this magnitude and were compelled to take drastic measures to try to contain the spread.

The COVID-19 pandemic was a global wake-up call. Since we know that COVID-19 won't be the last pandemic, how can we do better next time?

Improve warning systems

Countries in East Asia, where 87% of the deaths from the SARS epidemic in the early 2000s occurred, had learned from that experience. As soon as their first COVID-19 cases were confirmed, they were able to respond quickly with a system of digital contact tracing—a procedure for containing and isolating the virus by identifying all the people who had had contact with infected individuals. Those people were then quarantined to ensure they didn't infect anyone else. From that experience, it is clear that all countries should follow that proactive model and make testing kits abundantly available to better inform authorities of critical decisions they must make, such as when and how to impose a lockdown in schools, nursing homes, and non-essential businesses and whether, when, and how to mandate social distancing and the use of masks.

Restore public trust

COVID-19 revealed political and social tensions in a number of countries. Inadequate government responses and the lack of adequate medical facilities led to dramatic increases in COVID-19 deaths. Some national leaders downplayed the seriousness of the disease in spite of its well-known deadliness, causing a massive loss in public trust. In some countries, the spread of misinformation caused people to keep their loved ones at home rather than take them to the emergency room. In the future, world leaders must have a plan to ensure adequate hospital space and must prevent a breakdown in public trust by identifying experts who can provide fact-based public information. False conspiracy theories posted on social media will have to be swiftly and clearly refuted, and penalties assessed against people and sites that promote lies.

Ensure the supply chain of necessities

In the early days of the pandemic, people were shocked to see how quickly basic necessities, such as toilet paper, cleansers, and frozen vegetables vanished from supermarket shelves. Manufacturers struggled to keep up with the sudden increased demand. Even more concerning was the dilemma faced by health workers, who put themselves at risk to care for others. Basic medical supplies such as personal protective equipment (PPE) became more and more difficult to locate, and a number of nurses, doctors, and other key staff came down with the disease themselves—some fatally. While development of a vaccine was successfully achieved in record time, early distribution was confusing and difficult, and there were injustices in the availability of vaccines between richer and poorer regions and countries. In the next pandemic, shortages of consumer and medical supplies can be anticipated and prevented by intelligent planning. And plans for distribution of vaccines will ensure that countries with less developed economies won't be left behind.



Basic necessities disappeared early in the pandemic.

B UNDERSTAND WRITER'S PURPOSE | Which of the following is the purpose of the article?

1 To present all the things that went wrong in the response to the COVID-19 pandemic.
2 To identify ways that the world can be better prepared for the next pandemic.
3 To help governments prevent the breakdown in public trust.

C UNDERSTAND FROM CONTEXT | Paraphrase each statement containing a word or expression from the article.

1 Contagious diseases often "spread like wildfire."

.....

2 This country's economy was "brought to its knees."

.....

3 The COVID-19 pandemic was "a wake-up call" to countries around the world.

.....

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4 Initially, some government leaders "downplayed" the seriousness of COVID-19.

.....

5 Conflicting information and governmental advice caused a "breakdown" in public trust.

.....

6 All kinds of consumer products quickly "vanished" from store shelves.

.....

7 The spread of misinformation over social media is extremely "concerning."

.....

8 Some countries in the less developed world were "left behind" when richer countries quickly received vaccine supplies.

.....

D **ACTIVATE LANGUAGE FROM A TEXT** | **With a partner, discuss the meaning of each of the following words and phrases. Use each of them in your own original sentence.**

1 contact tracing .....
2 a lockdown .....
3 social distancing .....
4 misinformation .....
5 a quarantine .....
6 a conspiracy theory .....

PRONUNCIATION LESSON p. 142
Reading aloud

COMMUNICATION ACTIVATOR

Now let's talk about preparing for future pandemics.

A **TALKING POINTS** | **With a partner, identify what you think were the three most important ways in which the world was unprepared for the COVID-19 pandemic.**

1

2

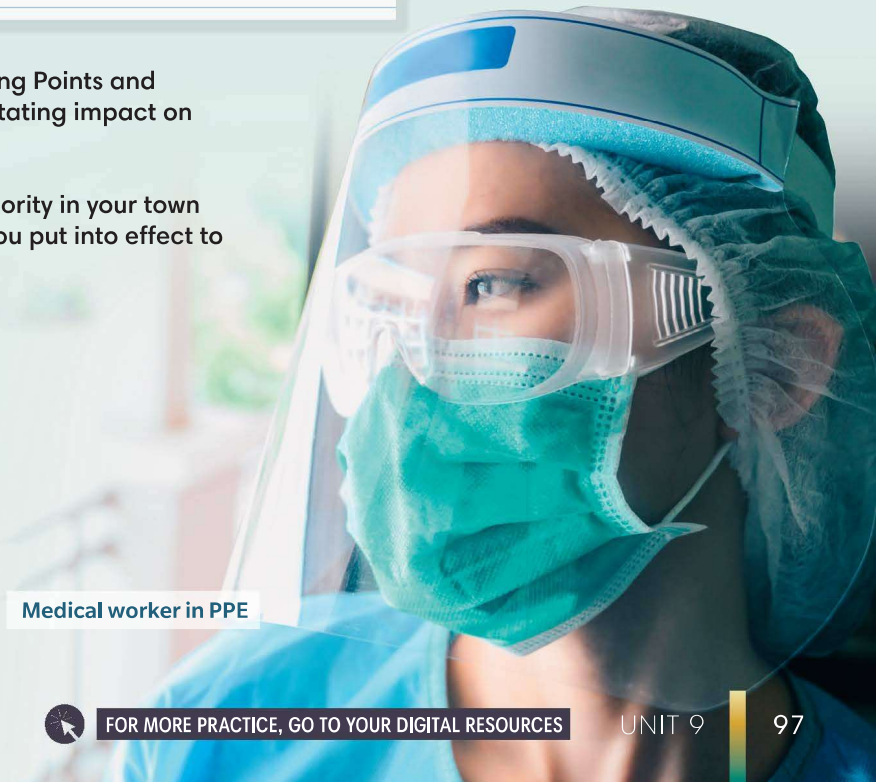
3

B **GROUP WORK** | **Compare your lists from Talking Points and explain why each item on your list had a devastating impact on the situation. Ask and answer questions.**

C **DISCUSSION** | **If you were in a position of authority in your town or national government, what policies would you put into effect to prepare for the next pandemic, if one occurs?**

Topics to consider

- working remotely from home
- learning remotely
- virtual visits with doctors
- social distancing
- vaccine development and distribution
- treatment development
- financial support of businesses that have to close
- early warnings
- screening and testing
- travel restrictions
- other



Medical worker in PPE

Language Center

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4 COMMUNICATION GOAL Explain social and demographic trends

A VOCABULARY | Demographic and social trends | Read and listen. Then listen again and repeat.



the fertility rate the average number of births per female in a particular place or population *(e.g., The 2020 fertility rate in the U.K. was 1.75 births per adult woman, an increase of .06% over the year before.)*

the birth rate the average number of births during a particular period of time in a particular place or population *(e.g., The 2020 U.K. birth rate was 11.4 births per 1000 people, a decrease of 49% from 2019.)*

the mortality rate the average number of deaths that occur during a particular period of time in a particular place or population

the divorce rate the average number of divorces that occur during a particular period of time in a particular place or population

the crime rate the average number of violent crimes or crimes against property that occur during a particular period of time in a particular place or population

the literacy rate the average number of people in a particular population who can read and write

a demographic a part of the population that is considered as a specific group within a population, such as people over the age of 65, ethnic minorities, teenagers, etc.

a trend a general tendency in the way a situation is changing or developing

a statistic a single number which represents a fact or measurement

B UNDERSTAND THE VOCABULARY | Write whether each example is a demographic, a statistic, a rate, or a trend. Explain your choices.

1 Even before the pandemic, more and more people began watching movies at home rather than in movie theaters. .....
2 The majority of social media site Pinterest's users are women. .....
3 The number of births per family is lower in richer, more developed nations and regions. .....
4 Fifteen percent of people over the age of 65 in the U.S. are living in poverty. .....

C LISTEN TO ACTIVATE VOCABULARY | Listen to four conversations about rates and trends. Complete each statement with the name of the rate. Then listen again and circle the trend.

1 The ..... rate has (risen / fallen).
2 The ..... rate is (rising / falling).
3 The ..... rate has (risen / fallen).
4 The ..... rate has been (rising / falling).

D LISTEN FOR FACTS AND FI GURES | First read the questions. Then listen to a lecture on demographic trends and answer the questions. Listen again to confirm your answers.

1 What has been happening to the world's population since 1804?
2 By 2030, what country will have the largest population?
3 What recently happened to the percentage of the world's population living in rural and urban areas?
4 What is happening to the percentage of the world's population that are seniors?



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E LISTEN TO DRAW CONCLUSIONS | **Complete each statement by drawing a conclusion from the information in the lecture. Support your answers with reasons, based on the lecture.**

1 The greatest need for resources in Africa, based on the predicted demographic, will be in the (agricultural / educational / health) sector.
2 China's economy might suffer from the rise in the (older / younger / poorer) demographic because there will be (fewer / more / the same number of) people in the workforce.
3 The largest percentage of Nigeria's population will most likely be (children / seniors / working-age citizens).

F SUPPORT AN OPINION | **Which of the demographic trends mentioned in the lecture concern you the most? Explain your reasons to your classmates.**

COMMUNICATION ACTIVATOR

Now let's explain social and demographic trends.

A TALKING POINTS | **Make notes about social and demographic trends taking place in your country and their possible benefits or consequences. Check the ones that concern you.**

- [x] Marriage and divorce: *People are getting married later than before. Families will probably get smaller.*
- [ ] Marriage and divorce
- [ ] Education
- [ ] Family life
- [ ] Seniors' quality of life
- [ ] Children's social interactions
- [ ] Other:

B GROUP WORK | **Compare notes from Talking Points. For the trends you are concerned about, discuss the consequences you have noted. Explore possible solutions. Then present the ideas you discussed to your classmates. (Option: Use the Unit 9 Soft Skills Booster, p. 162.)**

> "If families continue to decrease in size, fewer schools will be needed."

RECYCLE THIS LANGUAGE

It's a slippery slope.
I'm not being facetious.
That makes two of us.
I think that's a little exaggerated.
I guess I just see things differently.
You've hit the nail on the head.
That gives me the willies.

WRITING HANDBOOK p. 152

- **Skill:** The thesis statement in a formal essay
- **Task:** Write a formal essay about future trends

PROGRESS SELF-CHECK

NOW I CAN

- [ ] Discuss the pros and cons of innovative technologies.
- [ ] Make predictions about science and technology.
- [ ] Talk about preparing for future pandemics.
- [ ] Explain social and demographic trends.

For more practice . . . Unit Review / *Connect TV* Test-Taking Skills Booster

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