1

TECHNOLOGY

READING: previewing
VOCABULARY: word forms
WRITING: writing a main idea and supporting sentences
GRAMMAR: verbs + infinitives (*like*, *want*, and *need*)

GLOBAL SKILLS

CRITICAL THINKING: classifying
CREATIVITY: thinking flexibly about careers

2

Q Unit Question

What is the future of work?

A Discuss these questions with your classmates.

1. What kinds of technology do you see in the photo?
2. What kinds of technology do you like to use?

🔊 1.01 **B** Listen to *The Q Classroom* online. Then check (✓) what kinds of technology the students talk about.

☐ computers   ☐ robots

☐ cell phones   ☐ machines

☐ cameras   ☐ the Internet

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Unit 1 Topic Vocabulary
Check your understanding of some useful words for discussing this topic.

Unit 1   3

Reading

## READING 1 — Robots at Work

You are going to read an article about robots at work. Use the article to gather information and ideas for your Unit Assignment.

PREVIEW THE READING

A VOCABULARY Here are some words from Reading 1. Read their definitions. Then circle the correct word to complete each sentence.

> **creative** (*adj.*) ⚷ OPAL having a lot of new ideas
>
> **efficient** (*adj.*) ⚷ OPAL working well and quickly, without wasting time or energy
>
> **human** (*n.*) ⚷ OPAL a person
>
> **routine** (*n.*) ⚷ the usual way to do things
>
> **skill** (*n.*) ⚷ OPAL the ability to do something well
>
> **solve** (*v.*) ⚷ OPAL to find the answer to a problem
>
> **task** (*n.*) ⚷ OPAL a piece of work you must do
>
> **team** (*n.*) ⚷ a group of people who play or work together

1. There are many differences between computers and **humans** / **teams**.
2. Computers do some things very fast. They are **efficient** / **creative**.
3. Some jobs have the same **routine** / **team** every day. The work never changes.
4. We all have different **skills** / **teams**. One person is good at math. Another person is good at learning languages.
5. This artist is so **efficient** / **creative**. Her art is new and different.
6. Some people like to work alone. Others like to work together in **skills** / **teams**.
7. Writing a paragraph in English is a difficult **task** / **routine**.
8. In technology, there are always new problems to fix. At my job, we work together to **solve** / **task** the problems.

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Unit 1 Vocabulary
Practice 1
Pronunciation 1

B QUICK WRITE What kind of jobs can robots do?

Robots can clean floors.

Good readers **preview** a text (for example, an online article, a report, or a story) before they read every word. They look quickly at different parts of the text to get a general idea of what it is about.

Here are some tips for previewing.
- Read the **title**. The title is the name of the whole text.
- Read the **headings**. A heading is the title of one part of the text.
- Read the **captions** under the pictures. A caption explains a picture.

C   PREVIEW Reading 1 is an article about robots. Preview the article. Then answer the questions.

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Unit 1 Reading
Reading Skill Video
Reading Skill

1. What is the title of the article?

2. Read the headings. How many kinds of jobs are in the article?

3. Read the captions. Where are the robots in the photos?

WORK WITH THE READING

🔊
1.02

A   INVESTIGATE Read the article and gather information about the future of work.

Robots   *at* Work

Many people worry robots will take our jobs. I think that is a great idea! They can do all the jobs we **humans** do not want to do.

THE BORING JOBS

Robots can do the same **routine** *24/7¹*. They never get bored or tired. They don't need to eat or sleep. They don't even take breaks from work! They can do the same thing again and again.

This robot works in a 24-hour store. It has one **task**; it puts drinks on shelves. This robot can put 1,000 drinks on shelves every day.

It works alone inside a cold refrigerator at the back of the store. This way, the human workers can stay warm at the front of the store and help customers.

¹**24/7** (*adj.*): Twenty-four hours a day, seven days a week

This robot puts drinks on store shelves.

THE SLOW JOBS

Hospitals are big places. Nurses need to bring many things to patients. This takes a lot of time. This nurse-assistant robot can bring medicine and meals to patients. Nurses tell the robot what to get and where to go. This way, the nurses can spend time with their patients.

This robot helps nurses in a hospital.

THE DIRTY JOBS

Robots can touch things we don't want to touch. They can do the dirty work.

Cleaning bottles, cans, and other trash from rivers and lakes is dirty and slow work for humans. This cleaning robot (Jellyfishbot) can cover 1,000 square meters of water and collect 80 liters of waste. It is very **efficient**. And humans don't get dirty picking up trash!
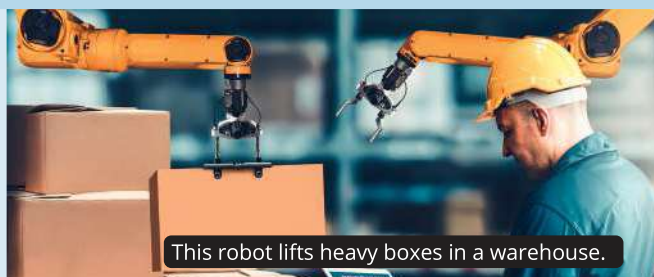

This robot cleans trash from a river.

THE HARD JOBS

Robots can lift and move heavy things.

In warehouses² around the world, robots move boxes for humans. This way, warehouse workers don't hurt their backs or get too tired. The robots do the hard work and the humans work alongside³ the robots.

This robot lifts heavy boxes in a warehouse.

THE DANGEROUS JOBS

Robots can go places we don't want to go. There are many important metals⁴ in the ground, but it is difficult and dangerous to get the metals out.

All over the world, from South Africa to Sweden, and from Chile to Canada, mining⁵ robots do the dangerous work. They work in **teams**. Each robot on the team has a different **skill**. They work together to take the metals out of the ground. This way, humans can stay safe above ground.

THE INTERESTING JOBS

Humans like to think and to be **creative**. We like to work with other humans. We like to **solve** problems together. If robots do all the work we don't want to do, then we humans can do the interesting work.

²**warehouse** (*n.*): a big building where businesses keep products
³**alongside** (*prep.*): next to

⁴**metals** (*n.*): minerals, for example gold or copper
⁵**mining** (*ger.*): digging in the ground to find metals, oil, or rocks

B **IDENTIFY** What is the main idea of this article?

1. ☐ Robots are better workers than humans.
2. ☐ Robots can do jobs humans don't like.
3. ☐ Robots are taking humans' jobs.

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Unit 1 Global Skills
Critical Thinking Video
Critical Thinking Skill

C **CATEGORIZE** Complete the sentences with *Humans* or *Robots*. In some sentences, both words are possible.

1. _____ work in teams.
2. _____ like to work with humans.
3. _____ work underground in mines.
4. _____ like to solve problems.
5. _____ need to take breaks.

6. _____ are creative.
7. _____ get bored.
8. _____ need to eat.
9. _____ can work 24/7.
10. _____ need to sleep.

GLOBAL SKILLS CRITICAL THINKING STRATEGY

Classifying

One way to classify information is to organize it in a chart. You put the information into categories. This helps you understand the information better. When you classify information, you ask yourself, "Where does the information go in the chart?"

D **CATEGORIZE** Read the article again. Where does the information go in the chart? Complete the headings with the words in the box.

alone	in teams	with humans

Robots working _____	Robots working _____	Robots working _____
Warehouse robots	Water-cleaning robots	Mining robots
Nurse-assistant robots	Store assistant robots	

E **CREATE** What are other examples of robots? Where do they go in the chart? In pairs, add more robots to the chart. Tell the class your ideas.

self-driving cars

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Unit 1 Reading
Reading Comprehension

F **EXTEND** Look back at your Quick Write on page 4. Add new information you learned from the article.

Q WRITE WHAT YOU THINK

G **COMPOSE** Discuss the questions below in a group or with a partner. Then choose one of the questions and write a response.

1. Which of the robots in the article is most interesting to you? Why?

2. Do you want any of the jobs that these robots do? Why or why not?

3. Do you want to work alongside robots at your job? Why or why not?

AI at Work

OBJECTIVE ➜ You are going to read an article about artificial intelligence (AI) at work. Use the article to gather information and ideas for your Unit Assignment.

PREVIEW THE READING

A **VOCABULARY** Here are some words from Reading 1. Read their definitions. Then circle the correct word to complete each sentence.

> **communicate** (*v.*) 🔑 **OPAL** to share and exchange information, ideas, and feelings
>
> **data** (*n.*) 🔑 **OPAL** facts and information
>
> **decision** (*n.*) 🔑 **OPAL** a choice you make after thinking
>
> **design** (*v.*) 🔑 **OPAL** to draw a plan that shows how to make something
>
> **flexible** (*adj.*) 🔑 **OPAL** able to change easily
>
> **relationship** (*n.*) 🔑 **OPAL** the way people or groups behave with each other and how they feel about each other
>
> **result** (*n.*) 🔑 **OPAL** something that happens because of something else
>
> **technology** (*n.*) 🔑 **OPAL** machines or equipment, like computers, made using knowledge of science

1. The use of **technology** / **data** like computers and software helps us be more efficient.

2. My schedule is **flexible** / **efficient**. I can work in the morning, afternoon, or evening.

3. Talking and understanding each other makes a **technology** / **relationship** strong.

4. Think carefully before you make a big **decision** / **result**.

5. Some people lose their jobs as a **decision** / **result** of robots.

6. Engineers **design** / **communicate** many different kinds of robots. Some robots look like humans and some look like machines.

7. A computer can read a lot of **data** / **technology** in seconds. Humans take more time to read information.

8. We **communicate** / **design** with each other on our phones 24/7.

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Unit 1 Vocabulary
Practice 2
Pronunciation 2

B **PREVIEW** Preview the interviews.

1. What is the title of the article?

2. What three questions does each person answer?

3. Look at the photos on pages 10–11. What job do you think each person has?

C **QUICK WRITE** What do you know about these jobs? What skills do they need to do their jobs well?

| barber | computer programmer | doctor | lawyer |

A lawyer needs to solve problems.

🔊 1.03 **A** **INVESTIGATE** Read the interviews and gather information about the future of work.

AI at Work

Artificial Intelligence (AI) is changing how we work. We spoke to four people about their skills and the future of their work with this new **technology**.

What do you do?
I'm a computer programmer.

What skills do you need to be a good programmer?
Good computer programmers know a lot of computer languages. We write in computer code[1]. We need to be good with details. We need to be creative and solve problems.

What is the future of your work with AI?
AI writes code better and faster than humans can. We are losing our jobs, but I am **flexible**. I can **design** AI programs for businesses. I listen to businesses. They tell me what they want. I can design the right AI program for them. Then AI can code it all.

What do you do?
I'm a lawyer. I help businesses make good **decisions**. I make sure they follow the law[2].

What skills do you need to be a good lawyer?
I need to know a lot about law and business. I need to be creative and problem solve. I need to **communicate** well.

What is the future of your work with AI?
AI can save me money. It can do the work of a secretary. I can have a small and efficient office. AI can save me time. It can read documents[3] very quickly. It can find information in seconds. It also can describe future **results**. It gives me the information I need to make smart decisions.

I can spend more time with my clients[4]. This is very important. In the future, my work may not pay so well. I may need many more clients to make the same money.
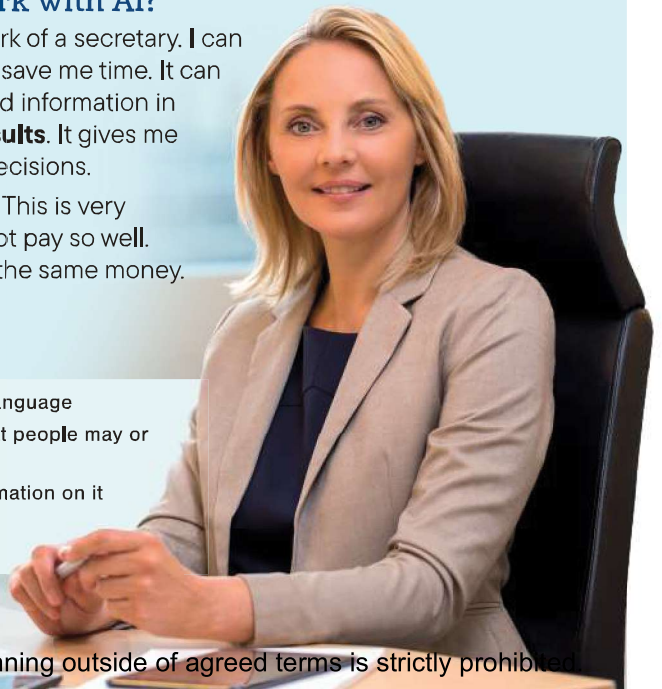
[1]**code** (*n.*): instructions written in computer language
[2]**law** (*n.*): the rules of a country that says what people may or may not do
[3]**document** (*n.*): a paper with important information on it
[4]**client** (*n.*): the person who pays a business for help or services

What do you do?

I'm a doctor.

What skills do you need to be a good doctor?

I need to know a lot about medicine. I need to learn new information every day because medicine is changing every day. I need to communicate well with patients. I need to work well with other doctors.

What is the future of your work with AI?

AI saves time. It can read patient **data**. It can help me find medical problems quickly. It can write reports in seconds. With AI, I have more time with my patients.

With AI, I can be a better doctor. AI finds information for me. It tells me about important new changes in medicine. This information helps me make good medical decisions.

AI can help me be a better doctor, but AI cannot be a doctor. It is not human. It doesn't have feelings. I care about my patients and their families. I have strong **relationships** with them. I listen to them. I can make good medical decisions because I understand my patients.

What do you do?

I'm a barber. I cut men's hair. I have my own business.

What skills do you need to be a good barber?

I need to be creative. I need to communicate well with my clients. I need to build strong relationships with them, so they come back again and again.

What is the future of your work with AI?

AI can help me write my business emails, but AI cannot cut hair. As long as people have hair, I have work!

B **IDENTIFY** Check (✓) the main idea of the article.

1. ⬜ AI is taking away human jobs.

2. ⬜ AI works better than humans.

3. ⬜ AI changes some jobs more than others.

C **INTERPRET** Read what the people say. What do they mean? Circle the correct answer.

1. The computer programmer says, "We are losing our jobs, but I am flexible. I can design AI programs for businesses."
   a. He is losing his job.
   b. He's changing the way he works.

2. The lawyer says, "AI can save me money. It can do the work of a secretary. I can have a small and efficient office."
   a. The secretary is losing his/her job.
   b. The lawyer needs more workers in her office.

3. The doctor says, "AI finds information for me. It tells me about important new changes in medicine. This information helps me make good medical decisions."
   a. AI makes the medical decisions.
   b. AI helps the doctor think about her decisions.

4. The barber says, "As long as people have hair, I have work!
   a. He worries about the future of his job.
   b. He doesn't worry about the future of his job.

D **CATEGORIZE** Complete the chart with the skills from the box.

be creative	have strong relationships
be flexible	make good decisions
care about humans	read data fast
code fast	read documents fast
communicate with people well	solve problems
cut hair	work well with other people
design AI programs	write emails
find information fast	write reports fast

Human skills	AI helps humans	AI skills
be creative	design AI programs	code fast

E **EXTEND** Look back at your Quick Write on page 9. Add new information that you learned from the article.

Q WRITE WHAT YOU THINK

F **COMPOSE** Discuss the questions below in a group or with a partner. Then choose one of the questions and write a response.

1. Which of the jobs in the reading is most interesting to you? Why?

2. The article talks about many human skills. Look at your chart in Activity D. Which of these skills do you have?

Working at Sea

experience (*n.*)
knowing about
something because
you have seen it or
done it

career (*n.*)
a job you learn to do
and then do for
many years

fishing (*n.*)
the business of
catching fish

A **PREVIEW** What jobs do not use a lot of technology?

Resources

Unit 1
Unit Video

▶ Unit 1

B **CATEGORIZE** Watch the unit video. Circle *T* (true) or *F* (false).

1. **T** / **F** Colleen works alone.
2. **T** / **F** Colleen uses a computer to study the sky and water.
3. **T** / **F** The weather and sea change all the time.
4. **T** / **F** Fishing is a career.
5. **T** / **F** A good fisher needs experience.

C **IDENTIFY** Check (✓) the reasons Colleen loves her job.

1. ☐ She likes to be out on the water.
2. ☐ She likes the short work days.
3. ☐ She likes to eat lobster.
4. ☐ She likes to work with her hands.

Q WRITE WHAT YOU THINK

D **COMPOSE** Discuss the question below in a group or with a partner.
Then write a response.

Do you want to be a fisher? Why or why not?

VOCABULARY SKILL WORD FORMS

Some words are both **nouns** and **verbs**. They look the same, but they work differently in a sentence. A noun is a person, place, object, or idea. A verb is an action. Learning to use the same word in different forms helps build your vocabulary.

Word	Noun	Verb
work	There are many kinds of **work**.	I **work** in a hospital.
design	This is the **design** for our new building.	Architects **design** buildings.
plan	Her **plan** is to study engineering.	She **plans** to study engineering.
result	The team worked hard for a good **result**.	Hard work **results** in success.
worry	We have many **worries** about technology.	We **worry** about technology.
report	Doctors write **reports**.	The doctor **reports** on her patient's health.

A **CATEGORIZE** Is the bold word a noun or a verb? Check (✓) *Noun* or *Verb*.

	Noun	Verb
1. The robots **work** all day and all night.	☐	☐
2. AI **results** in new and different jobs.	☐	☐
3. We have a **plan** for the future.	☐	☐
4. He **designs** AI programs.	☐	☐
5. The **report** from school is good.	☐	☐
6. I **worry** about problems at work.	☐	☐

B **CATEGORIZE** Read the paragraph. Write *N* (noun) or *V* (verb) above each bold word.

I want to (1) **work** in green energy. I (2) **worry** about the future of our world. I want to (3) **design** efficient technology. My (4) **plan** is to study energy in university.

iQ Online

Unit 1 Vocabulary
Vocabulary Skill Video
Vocabulary Skill

The future of work is in green energy.

Writing

WRITING SKILL WRITING A MAIN IDEA AND SUPPORTING SENTENCES

	Examples:
A **main idea** is the big idea.	Programmers need many skills.
Supporting sentences give more information about the main idea.	They need to know many computer languages. They need to solve problems.
Be sure the supporting sentences connect to the main idea.	They need to be creative. They work in an office. (**Not** a supporting sentence.)

A IDENTIFY Match the supporting sentences with each main idea.

> They answer customers' questions.
> They have robots that pick vegetables.
> They help customers make decisions.
> They solve design problems in new ways.
> They try new ideas to make a building beautiful.
> They use large machines to plant vegetables.

1. Main idea: Salespeople need to speak English well.

   Supporting sentence: *They answer customers' questions.*_____

   Supporting sentence: _____

2. Main idea: Farmers are changing with technology.

   Supporting sentence: _____

   Supporting sentence: _____

3. Main idea: Architects have creative skills.

   Supporting sentence: _____

   Supporting sentence: _____

B **EVALUATE** Cross out the one sentence that does not support the main idea.

1. There are many jobs in green technologies.
   a. Jobs in green technology pay well.
   b. Architects design efficient buildings.
   c. Farmers grow food with robots.
   d. Engineers build clean cars.

2. People in finance and banking may lose their jobs to AI.
   a. AI is good with numbers.
   b. AI makes fast reports.
   c. AI uses a lot of energy.
   d. AI can read a lot of data quickly.

3. Chefs work in many different types of kitchens.
   a. Some chefs work in hospital kitchens.
   b. Others work in restaurants or hotels.
   c. Some eat at home in their kitchens.
   d. Some cook in university or school kitchens.

4. Lawyers need many skills.
   a. They need to read, write, and speak very well.
   b. They need to work long hours.
   c. They need to make decisions quickly.
   d. They need to solve problems.

C **WRITING MODEL** Underline the main idea in each model paragraph. Write SS at the beginning of each supporting sentence. Cross out the sentence that does not support the main idea.

1. I want to be a nurse in the future. ___ I like to help people. ___ I work well with a team. ___ I communicate well. ___ Nurses need to be kind. ___ I want to make a difference in people's lives.

2. I want to be a builder in the future. ___ I want a big house. ___ I like to work with my hands. ___ I like to be outdoors. ___ I want to build green houses.

3. I want to be an engineer in the future. ___ I like to design things. ___ I like to solve problems. ___ I plan to study at a university. ___ I want to make the world more efficient.

iQ Online

Unit 1 Writing
Writing Skill Video
Writing Skill

D **COMPOSE** Write three supporting sentences for each main idea. Think about what you learned in Readings 1 and 2.

1. **Main idea:**   Robots can do work humans don't want to do.

    Supporting sentences: Robots can _____

                             Robots can _____

                             Robots can _____

2. **Main idea:**   Humans have special skills.

    Supporting sentences: Humans can _____

                             Humans can _____

                             Humans can _____

GRAMMAR VERBS + INFINITIVES (*LIKE*, *WANT*, AND *NEED*)

Like, *want*, and *need* are often followed by a noun phrase or an infinitive (*to* + base form of the verb).

Noun/Noun phrase	Infinitive
I like **my team**.	I like **to work** with people.
I want **a computer**.	I want **to use** a computer.
I need **a good job**.	I need **to learn** more.

A **IDENTIFY** Circle the infinitives and <u>underline</u> the nouns or noun phrases after the verbs *like*, *want*, and *need*.

1. I want to be a chef in a restaurant. I like to work with people. I like good food. I don't want to work in an office.

2. I want to be a green farmer. I want to grow food for the world. We need to solve our problems with new technologies.

3. I want to be a fashion designer. I like beautiful clothes. I want to do creative work.

4. I want to be a nurse. I like the schedule. I like to take care of people. I want to use my science skills.

B **COMPOSE** Complete each sentence with your own ideas about jobs. Use a noun phrase or an infinitive with each verb.

I like to use computers.

1. I like _____

2. I like _____

3. I don't like _____

4. I don't like _____

5. I want _____

6. I don't want _____

7. I need _____

8. I don't need _____

iQ Online

Unit 1 Grammar
Grammar Video
Grammar 1
Grammar 2

Unit Assignment

Q Write about a job you want in the future

OBJECTIVE ➜ In this assignment, you will write sentences about a job you want in the future. You can use the unit activities and **iQ Online** to prepare, plan and write the Unit Assignment.

CONSIDER THE IDEAS

A **SYNTHESIZE** Think about the Unit Question: "What is the future of work?" Organize the ideas you learned from the texts and video activities. Use the questions below to guide you.

1. What jobs did you learn about in this unit?
2. What kinds of technology did you learn about in this unit?
3. How do robots make our work better?
4. Do you want to work with AI? Why or why not?

B **WRITING MODEL** Find a model for this Unit Assignment in iQ Online.

iQ Online

Unit 1 Global Skills
Creativity

GLOBAL SKILLS CREATIVITY

Thinking flexibly about careers

Planning for your future career isn't easy because the world is changing fast. The best way to prepare for the future is to think flexibly about the types of career you could have. This means understanding yourself, your skills, and what is important to you. This will help you to be open to new opportunities and find new ways to be useful as the world changes. Find out more about this in **iQ Online**.

PLAN AND WRITE

A **BRAINSTORM** Discuss the questions below in a group. Then complete the chart.

What job do you want in the future?	Why do you want this job?	What skills do you need for this job?

B **PLAN** Choose a job from your list in Activity A. Answer the questions.

1. What job do you want in the future?

   I want to be a(n) _____.

2. Why do you want this job?

   I want/like to _____.

3. What skills does a person need for the job?

   A [job title] needs to _____.

WRITING TASK ➔ **C** **WRITE** Write sentences about a job you want in the future. Consider the points below.

1. Review the Writing Skill on page 15 and the Grammar of *like to* and *want to* on page 17.

2. Use the questions above as a guide to writing the main idea and supporting sentences.

3. Look at the Self-Assessment checklist on page 20 to guide your writing.

REVISE AND EDIT

A **PEER REVIEW** Read your partner's sentences. Then use the Peer Review worksheet. Discuss the review with your partner.

B **REWRITE** Based on your partner's review, revise and rewrite your sentences.

C **EDIT** Complete the Self-Assessment checklist as you prepare to write the final draft of your sentences.

SELF-ASSESSMENT	Yes	No
Do you have a main idea?	☐	☐
Do the supporting sentences connect to the main idea?	☐	☐
Did you use the verbs *like*, *want*, and *need* correctly?	☐	☐
Does every sentence begin with a capital letter and end with a period?	☐	☐
Do your sentences include vocabulary from the unit?	☐	☐
Is your spelling correct? Check a dictionary if you are not sure.	☐	☐

D **REFLECT** Discuss these questions with a partner or group.

1. What is something new you learned in this unit?

2. Look back at the Unit Question: "What is the future of work?" Is your answer different now than when you started the unit? If yes, how is it different? Why?

TRACK YOUR SUCCESS

Unit 1
Vocabulary List

Check (✓) the skills and strategies you learned. If you need more work on a skill, refer to the page(s) in parentheses.

READING   ☐ I can preview a text. (p.5)

VOCABULARY   ☐ I can recognize and use words that are both nouns and verbs. (p.14)

WRITING   ☐ I can write a main idea and supporting sentences. (p.15)

GRAMMAR   ☐ I can recognize and use verbs + infinitives (*like*, *want*, and *need*). (p.17)

GLOBAL SKILLS   ☐ Critical Thinking: I can classify information from a reading. (p.7)

☐ Creativity: I can think flexibly about careers. (p.18)

OBJECTIVE ➜   ☐ I can gather information and ideas to describe the job I want in the future.