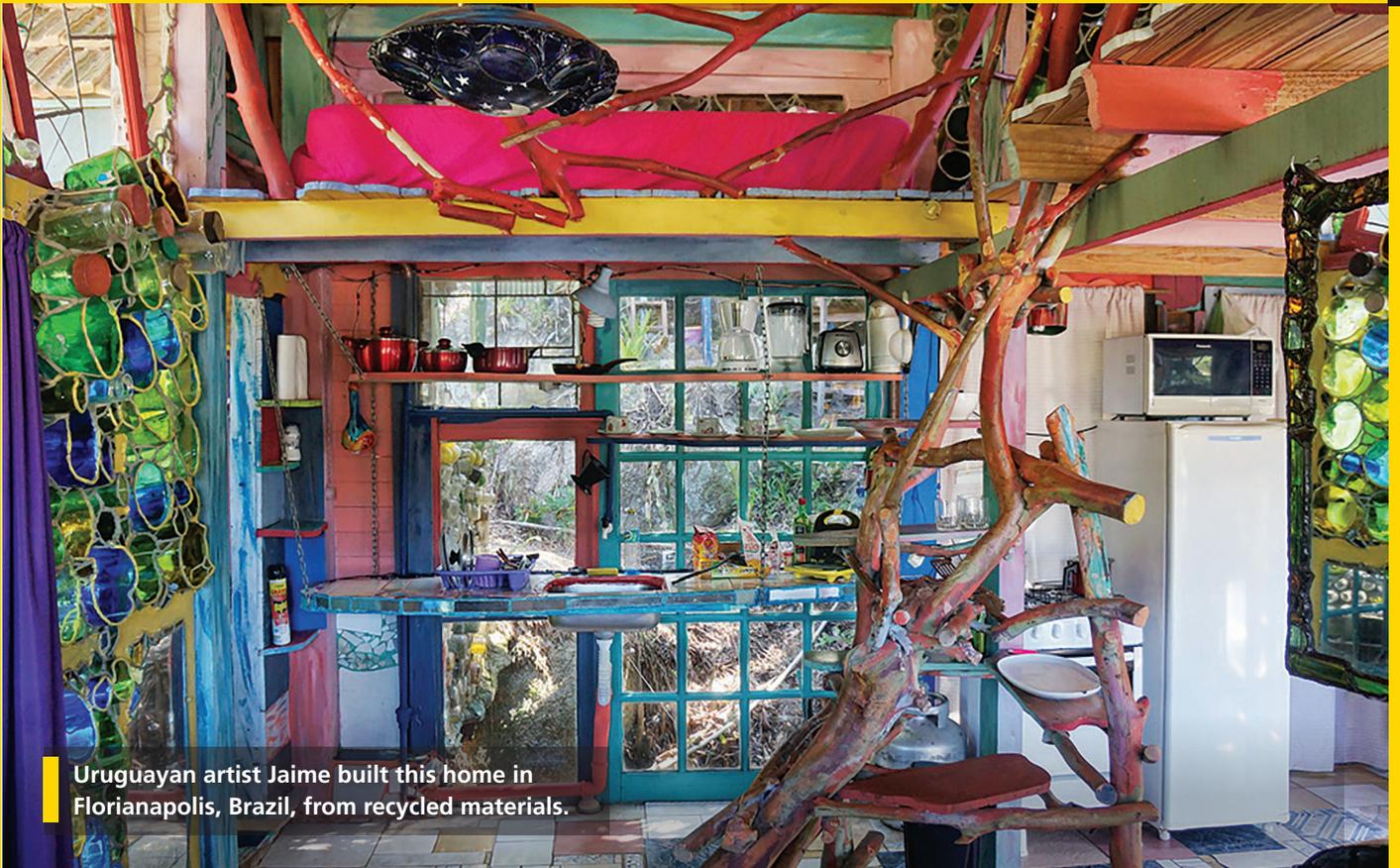


Unit 5 The environment



Uruguayan artist Jaime built this home in Florianapolis, Brazil, from recycled materials.

FEATURES

58 Recycling

The real story behind recycling our trash

60 Managing the environment

Some environmental stories from around the world

62 A boat made of bottles

How one environmentalist is trying to raise awareness

66 Recycling Cairo

A video about how recycled objects are used in Cairo, Egypt

- 1 Work in pairs. Look at the photo and the caption. What do you think of the home in the photo? Would you like to stay there? Which of these materials did Jaime use?

cardboard glass leather metal paper plastic wood

- 2  35 Work in pairs. Listen to part of a documentary about Jaime and the house in the photo. Answer the questions.

- 1 What materials does the speaker mention?
- 2 What did Jaime do with them? Give an example.
- 3 What does Jaime want people to think about?

- 3 Work in pairs. Look at the highlighted expressions for talking about objects. Form similar sentences about the everyday objects in the box below.

A dictionary is made of paper. You use it for looking up words.

an envelope a cell phone a wallet a tin can

- 4 Think of another everyday object. Don't tell your partner what it is, but describe what it's made of and what you use it for. Your partner has to guess the object.

5a Recycling

Vocabulary recycling

1 Work in pairs. What kind of trash do you throw away or recycle every week? What percentage of each type (a–e) is in your trash can?

About 25% of my trash is paper.

- | | |
|-----------------------|-----------|
| a electronics | d metal |
| b glass | e plastic |
| c paper and cardboard | |

2 Match these objects (1–8) to the type of trash (a–e) in Exercise 1. Some items match two categories.

- | | |
|----------------------|-------------------|
| 1 computer <u>a</u> | 5 TV ____ |
| 2 bottle <u>b, e</u> | 6 cereal box ____ |
| 3 jar ____ | 7 magazine ____ |
| 4 aluminum foil ____ | 8 bag ____ |

Reading

3 Work in pairs. Look at the photos with the article. What do you think *e-waste* is? Why is the boy holding part of an old computer?

4 Read the article and check your ideas from Exercise 3.

5 Work in pairs. Read the article again and answer these questions.

- 1 What did Peter Essick find in the markets of Ghana?
- 2 Why do people melt parts of the broken computers?
- 3 Why is recycling the metal dangerous?
- 4 What types of electronic products are environmentally friendly?

Grammar quantifiers

6 Which of these nouns are countable (C)? Which are uncountable (U)? Write C or U.

trash U computer C plastic ____ bag ____
box ____ magazine ____ paper ____ metal ____

▶ QUANTIFIERS

We use *quantifiers* with countable and uncountable nouns to talk about quantity.

Do you ever throw away any electronic waste?

Perhaps you have some old technology that doesn't work.

Essick found a lot of e-waste in Ghana.

The sellers resell a few computers.

They can't sell many computers in the market.

These parts don't have much metal.

There is a little gold inside.

We shouldn't send any e-waste to other countries.

For more information and practice, see page 164.

7 Look at the sentences in the grammar box. Then complete these sentences with the correct quantifiers in **bold** in the grammar box.

- 1 We use some and a lot of in affirmative statements with countable or uncountable nouns.
- 2 We use _____ in questions and in negative statements with countable or uncountable nouns.
- 3 We use _____ to talk about small quantities in affirmative statements with countable nouns.
- 4 We use _____ to talk about small quantities in affirmative statements with uncountable nouns.
- 5 We use _____ in negative statements and in questions with countable nouns.
- 6 We use _____ in negative statements and in questions with uncountable nouns.

8 Circle the correct quantifiers to complete the sentences.

- 1 How *much / many* trash do you recycle?
- 2 I recycle *a few / a little* things, like glass and plastic bottles.
- 3 I don't recycle *many / much* glass.
- 4 I recycle *a few / a little* paper each week.
- 5 Do you have *much / any* recycling bins?
- 6 There are *some / any* old TVs for sale.
- 7 You shouldn't throw away *many / any* paper!
- 8 How *many / much* times can paper be recycled?
- 9 Nowadays, *a lot of / a little* cities and towns have special recycling centers.

Speaking **myLife**

9 Work in pairs. Discuss these sentences (1–4) about recycling. Are they true for you? If necessary, change the words in **bold** so the sentences are true for you.

- 1 I throw away **a lot of** paper every week.
- 2 In my area, **a few** places have recycling bins.
- 3 My school / place of work **doesn't have any** recycling bins for paper.
- 4 **Some** people in my country think recycling is important.

A: How *much* paper do you throw away every week?

B: I don't throw away *any* paper. We recycle it in special green bins.

▶ 36



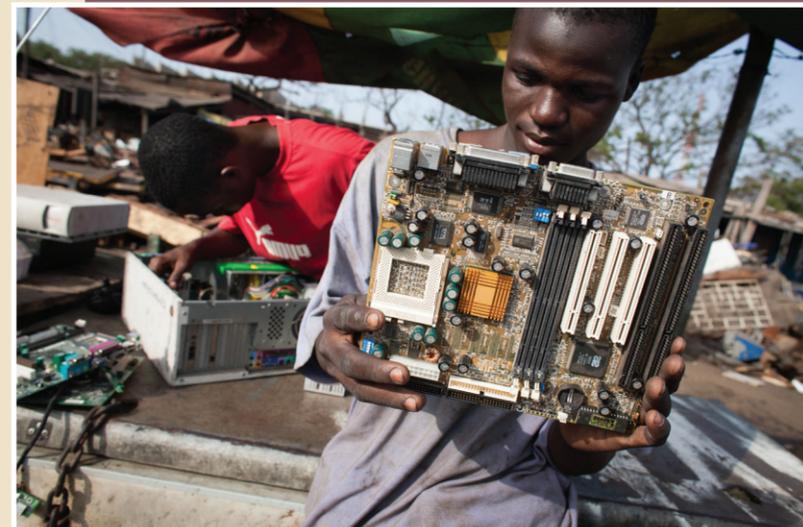
Electronic waste in Agbogbloshie dump, Accra, Ghana

E-WASTE

Do you ever throw away any electronic waste (or *e-waste*)? Perhaps you have some old technology that doesn't work, like an out-of-date phone or a slow computer. But when you throw away these objects, do you know where they go? The reporter Peter Essick has followed this e-waste to different countries around the world.

Essick found a lot of e-waste in Ghana, with thousands of old computers in the local markets. Here, the sellers resell a few computers, but they can't sell many because a lot of them don't work. Instead, the sellers melt¹ some parts of the computers to recycle the metal. These parts don't have much metal, but sometimes there is a little gold inside.

Unfortunately, recycling the metal can be dangerous because it produces a lot of chemicals that are bad for workers' health. As a result, Essick thinks we shouldn't send any e-waste to other countries. It's bad for the environment, and it's bad for people's health. He believes we need to produce more environmentally-friendly electronics in the future; in other words, electronic products that you can recycle safely and in the country where they were made or sold.



¹ melt (v) /melt/ to heat an object until it turns to liquid

5b Managing the environment

Vocabulary results and figures

- 1 Work in pairs. Discuss the questions.
 - 1 How often do you read news about the environment? Is it usually good news or bad news?
 - 2 Do you have any good news about the environment in your country?
- 2 Read a newspaper report about Portugal. Is it good news or bad news?

Portugal powered the whole country using only solar, wind, and hydroelectric energy for **about a hundred** hours last week. **Exactly a year** ago, the country produced **under a quarter** of its electricity from wind power, and **nearly half** of its total energy came from renewable energy. So it's a huge achievement for the country to live off renewable energy for **over four days**.

- 3 Look at the phrases in **bold** in the newspaper report above. Match these phrases with the exact information in a–e below.
 - a 48% _____
 - b 107 _____
 - c from May 7 to May 11 _____
 - d 22% _____
 - e 12 months _____

- 4 Work in pairs. Answer these questions about your life using *over, under, almost, and about*.
 - 1 How much of your day do you spend looking at a screen (e.g., computer, TV)?
I spend about a third of my day looking at a screen.
 - 2 How many hours a week do you spend shopping?
 - 3 How many people live in your town or city?
 - 4 How much money do you spend on buying clothes each month?
 - 5 How many months a year do you spend at school or at work?

Listening

- 5 ▶ 37 Work in pairs. Listen to a news report about two environmental projects and answer the questions.
 - 1 What four deserts does the report mention?
 - 2 Where are the two environmental projects?
 - 3 What type of wall are the countries building?
- 6 ▶ 37 Work in pairs. Listen again and answer the questions.
 - 1 What percentage of the Earth's land is desert?
 - 2 When did the Three-North Shelter Forest Program begin?
 - 3 What is its purpose?
 - 4 How long will the wall be when it's finished in 2050?
 - 5 How many countries are working together on the project in Africa?
 - 6 What are the goals of this project?

Grammar articles

▶ ARTICLES *a/an, the, or no article*

- 1 In 1978, **China** started planting a wall of trees. Now **the wall** has about 66 billion trees.
- 2 It's **the** largest hot desert in **the** world.
- 3 **The** Gobi Desert is getting bigger.
- 4 Countries in **Africa** plan to build a wall.
- 5 **People** know about **the** Great Wall of China.

For more information and practice, see page 164.

- 7 Look at the grammar box. Complete these rules (a–c) with *a/an, the, or no article* (x).
 - a We normally use _____ when we talk about something that isn't specific or when it's the first time we mention something. When we talk about something specific or talk about it again, we use _____.
 - b We also use _____ when something is unique (there is only one), with superlatives, or with the names of some places (e.g., oceans, deserts, mountain ranges).
 - c We use _____ when we talk about people or things in general, and with the names of most places (e.g., continents, countries, cities, lakes).
- 8 Read about another way to manage the environment. Circle the correct options. Circle "–" if no article is needed.



Ice towers

In the spring and summer, there is often a water shortage in ¹ *the* / – Himalayan mountains. So during the winter, ² *a* / – people make ice towers. They put one end of ³ *a* / – long pipe into a river high in the mountains, and then they take the other end of ⁴ *a* / *the* pipe down to a village. The water comes out of the pipe and freezes in a fountain to create ⁵ – / *an* ice tower in the village. When the ice tower melts in the spring, ⁶ *a* / – farmers can use it to water their fields.

9 Pronunciation /ðə/ or /ði:/

- a ▶ 38 Listen to the difference in the pronunciation of *the* before a consonant sound and before a vowel sound.

/ðə/	/ði:/
the wall	the Earth

- b ▶ 39 Listen and circle /ðə/ or /ði:/. Then listen again and repeat.

- | | | |
|----------------------|------|-------|
| 1 the river | /ðə/ | /ði:/ |
| 2 the ice | /ðə/ | /ði:/ |
| 3 the world | /ðə/ | /ði:/ |
| 4 the desert | /ðə/ | /ði:/ |
| 5 the oldest | /ðə/ | /ði:/ |
| 6 the largest | /ðə/ | /ði:/ |
| 7 the Atacama Desert | /ðə/ | /ði:/ |

- 10 Work in pairs. Look at these questions from a general knowledge quiz. Complete the questions with *a/an* or *the* where necessary. Then try to answer the questions.

Around the world quiz

- 1 There is _____ river that flows through parts of _____ Brazil, Colombia, Peru, and Ecuador. What is its name?
- 2 _____ White House is in _____ USA. Who lives there?
- 3 There is _____ natural satellite that goes around _____ Earth every day. What is it?
- 4 In 1998, Larry Page and Sergey Brin set up _____ global search engine. What is its name?
- 5 _____ Arctic Ocean is _____ smallest ocean in the world. Which is _____ largest?

- 11 Check the quiz answers on page 155.

Writing and speaking **myLife**

- 12 You are going to write five more quiz questions. Work in two pairs in a group of four.

Pair A: Turn to page 153 and follow the instructions.

Pair B: Turn to page 154 and follow the instructions.

- 13 Work in your group. Take turns asking and answering your five questions. Find out which pair has greater general knowledge.

5c A boat made of bottles

Reading

1 Work in pairs. These words and phrases are from the article on page 63. What do you think the article is about?

plastic bottles	special boat	sail
the Pacific Ocean	San Francisco	Sydney

2 Read the article and complete the fact file with numbers about the *Plastiki*.



The Plastiki in facts&figures

Number of crew: ¹ _____
 Number of plastic bottles: ² _____
 Length: ³ _____ m
 Width: ⁴ _____ m
 Weight: about ⁵ _____ kg
 Average speed: ⁶ _____ knots

Distance covered: over ⁷ _____ km
 Number of days at sea: ⁸ _____

Critical thinking reading closely

3 Read the sentences (1–6). Circle the correct option for each sentence.

T = The sentence is **true**. The information is in the text.

F = The sentence is **false**. The information is in the text.

NG = We don't know if it's true or false. The information is **not given** in the text.

- | | | | |
|--|---|---|----|
| 1 The <i>Plastiki</i> is made of the same material as other boats. | T | F | NG |
| 2 Humans recycle most of their plastic bottles. | T | F | NG |
| 3 Plastic in the ocean is killing animals. | T | F | NG |
| 4 The <i>Plastiki</i> is environmentally friendly. | T | F | NG |
| 5 The size of the "Great Garbage Patch" is growing. | T | F | NG |
| 6 The journey took longer than de Rothschild had planned. | T | F | NG |

Word focus take

4 Work in pairs. Find and underline five expressions in the article with the word *take*. Then match the expressions with the uses (1–4).

- 1 transportation: *take a taxi*, _____
- 2 daily routines: *take a walk*, _____
- 3 lengths of time: *take a few days*, _____
- 4 idioms: *take time*, _____

5 Complete the sentences with the correct form of *take* and the words in the box.

a break many days care a plane

- 1 The work was tiring, and the crew sometimes needed to take a break and relax.
- 2 The journey across the Great Garbage Patch was longer than expected—it _____.
- 3 Most people _____ from San Francisco to Sydney, so they don't know about the pollution in the ocean.
- 4 _____ of the environment is a global responsibility.

Speaking myLife

6 Work in groups and discuss these questions.

- 1 Do you think environmental projects like the *Plastiki* can make people change their behavior? Why or why not?
- 2 In your country, does anyone try to change people's behavior in these areas? How do they do this?
 - recycling more trash
 - stopping smoking
 - driving over the speed limit
 - eating too much food
 - anything else?

The government tries to stop people from smoking cigarettes by ...

A BOAT made of BOTTLES

▶ 40

A boat with a difference

- 1 The *Plastiki* looks similar to many other boats in Sydney Harbour. It's eighteen meters long, six meters wide, and it weighs about twelve thousand kilograms. It carries a crew of six people and has an average speed of five knots.¹ However, once you get near the *Plastiki*, you realize there's a big difference: It's made of twelve thousand five hundred reused plastic bottles.

How did the *Plastiki* begin?

- 2 David de Rothschild is an environmentalist who has crossed Antarctica and explored the Ecuadorian Amazon. One day, he was reading some information about all the plastic in the seas and oceans. He couldn't believe what he was reading. For example, humans throw away four out of every five plastic bottles they use, and plastic trash causes about eighty percent of the pollution in the ocean. In addition, scientists think that around one million seabirds die every year from plastic pollution. De Rothschild decided he wanted to get involved in the fight against ocean pollution. To help more people understand the problem, he started building a boat made of plastic bottles.

Designing the *Plastiki*

- 3 In addition to building the boat with recycled plastic, it was important to make the boat environmentally friendly and user-friendly. The boat uses renewable energy, such as wind power and solar energy. The crew can make meals with vegetables from the small garden at the back of the boat. They can take a break from work and get some exercise by using the special exercise bicycle. The energy from the bike provides power for the boat's computers. And if anyone needs to take a shower, the boat's shower uses saltwater from the ocean.

The journey

- 4 De Rothschild sailed the *Plastiki* across the Pacific Ocean from San Francisco to Sydney. That's more than fifteen thousand kilometers. On the way, he took the special boat through the "Great Garbage Patch." This is a huge area in the Pacific with 3.5 billion kilograms of trash. You can see every kind of human trash here, but the worst problem is the plastic. It kills birds and ocean life.

How well did the *Plastiki* survive the journey?

- 5 The journey wasn't always easy, and de Rothschild and his crew had to take care during storms. There were giant ocean waves, and winds of over one hundred kilometers per hour. The whole journey took one hundred and twenty-nine days. Originally, de Rothschild thought the boat could only travel once, but it lasted so well that he is planning to sail it again one day.



¹knot (n) /nɒt/ a measurement of speed at sea (1 knot = 1.8 km/hr)

5d Online shopping

Reading

- 1 Work in pairs. Do you normally go to stores or do you prefer shopping online? Why?
- 2 Look at the website and email order. What did the customer order? What is the problem?

WWW.TECOART.COM

HOME MY ACCOUNT SHOPPING CART CHECKOUT

We have lots of different clocks, and they are all made from recycled computers!



Computer Hard-Drive Clock with Circuit Board.
\$39.00



Apple iPod® Hard-Drive Clock on a Circuit Board.
\$35.00

Order number: 80531A
Order date: March 20

Thank you for your order. Unfortunately, the model you ordered is currently not available. We expect more stock to arrive in seven days. We apologize for the delay. For more information about this order, speak to a customer service representative at 555-1754.

Item Number	Description	Quantity	Price
HCV1N	Hard-drive clock	1	\$39

Real life calling about an order

- 3 **▶ 41** The customer is calling customer service about her order. Listen to the conversation. Work in pairs and answer the questions.
 - 1 What information does the customer service representative first ask for and check?
 - 2 Why does the customer want the clock quickly?
 - 3 What does she decide to do?
 - 4 What will the customer service representative email her?

- 4 **▶ 41** Look at the expressions for calling about an order. Then listen to the conversation again. Circle the sentences the customer service representative uses.

▶ CALLING ABOUT AN ORDER

Telephone expressions
 Good morning. How can I help you?
 I'm calling about **an order for a clock**.
 Can I put you on hold for a minute?
 Is there anything else I can help you with?

Talking about an order
 Do you have the order number?
 Would you like to order **a different product**?
 Would you like to cancel the order?
 Would you like a refund?
 Would you like confirmation by email?

Checking and clarifying
 Is that **A** as in **America**?
 Let me check.
 So that's **F** for **Freddie**?
 That's right.

5 Pronunciation sounding friendly

- a **▶ 42** Listen to these sentences from a telephone conversation. Does the speaker sound friendly (F) or unfriendly (U)? Circle your answers.
 - 1 Good morning. How can I help you? F U
 - 2 Can I put you on hold? F U
 - 3 Is that A as in America? F U
 - 4 I'm calling about an order. F U
 - 5 Is there anything else I can help you with? F U
 - 6 Do you have the order number? F U
- b **▶ 43** Listen to the sentences again. This time, they are all friendly. Work in pairs. Listen and repeat with a similar friendly intonation.

- 6 Work in pairs. Practice two phone conversations similar to the one in Exercise 3.

Student A: Turn to page 153 and follow the instructions.

Student B: Turn to page 154 and follow the instructions.

*A: Good morning. How can I help you?
 B: Hello. I'm calling about some clothes I ordered online. I received an email saying ...*

5e Emails about an order

Writing emails

- 1 Read the correspondence between a customer and a customer service representative. Put the emails (A–E) in order (1–5).

A Dear Mr. Martinez:
 I would like to inform you that the e-book reader you ordered is now in stock. I would be delighted to deliver this item immediately. Please reply to confirm you would still like to purchase this item.
 Charlotte Lazarro

B Dear Sir or Madam:
 I recently ordered an e-book reader online. However, I received an email that said this was not currently available. Please refund my money back to my credit card.
 Yours sincerely,
 Carlos Martinez

C Thanks, but I bought the same product at a store yesterday. Therefore, please cancel the order and, as requested, send me my refund.
 Carlos

D As requested, here is the order number: 80531A

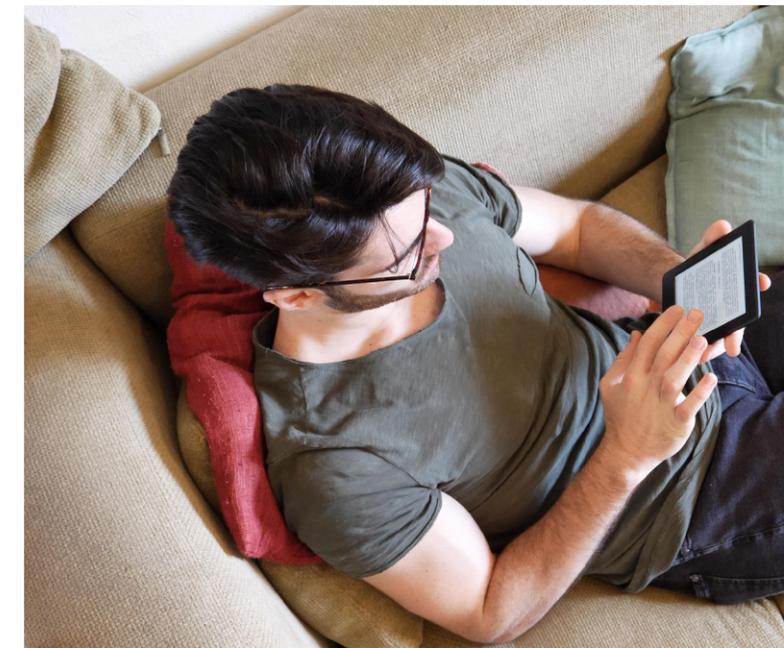
E Dear Mr. Martinez:
 Thank you for your email. I apologize for the difficulties with your order. In order to provide you with the necessary assistance, could you please send me the order number?
 Best regards,
 Charlotte Lazarro
 Customer Service Representative

- 2 Read the emails in Exercise 1 again. Underline any phrases and expressions that ask for something or give instructions.

3 Writing skill formal words

- a The language in the emails in Exercise 1 is quite formal. Match the formal language in the emails to these less formal words (1–9).

1 got	received
2 happy	_____
3 asked for	_____
4 give	_____
5 give back (money)	_____
6 help	_____
7 say sorry	_____
8 tell	_____
9 want	_____
- b Work in pairs. Make these sentences more formal.
 - 1 I want my money back.
 - 2 I'm writing to tell you that I didn't get the delivery.
 - 3 Do you want any help?
 - 4 Please give us your credit card details.
 - 5 Sorry, but I can't give you your money back.
- 4 Imagine you ordered a printer online two weeks ago. You paid for delivery within 24 hours, but it hasn't arrived. Write an email to the supplier and request a refund.
- 5 Work in pairs. Read your partner's email. How formal is the language?



5f Recycling Cairo

Using Egypt's greatest natural resource on the rooftops of Cairo



Before you watch

1 Key vocabulary

Match these words and phrases with the pictures (1-6).

water tank ____ solar panel ____ goat ____
satellite dish ____ rooftop ____ garbage ____



2 Work in pairs. You are going to watch a video about using recycled objects in Cairo. What do you think is the connection between the words and phrases in Exercise 1?

While you watch

- 3 5.1 Watch the video. Were your predictions in Exercise 2 correct?
- 4 5.1 Watch the video again. Work in pairs and answer the questions.
- 1 How does the narrator describe the streets of Cairo?
 - 2 How does he describe the rooftops of Cairo?
 - 3 What is Thomas Culhane helping Egyptians to do?
 - 4 What is Egypt's great natural resource?
 - 5 What is the new solar hot water system made of?
 - 6 The new solar heaters provide hot water, so what do they reduce?

After you watch

5 Vocabulary in context

5.2 Watch the clips from the video. Choose the correct meaning of the words and phrases.

6 Write a short summary of the video (about 100 words). Use these phrases.

People in Cairo use the rooftops for ...
Thomas Culhane is helping some local people to ...
They make the solar water heaters out of ...
The new heaters provide ...
Culhane thinks the solar heaters demonstrate that ...

7 5.3 Work in pairs. You are going to be the narrator of the video. Watch a shorter version of the video with no sound. Your teacher will play this video twice. As it plays, take turns reading your summary from Exercise 6 to your partner.

8 In the video, Thomas Culhane says, "One man's garbage is another's goldmine." What does he mean by this? Circle a, b, or c.

- a Everyone thinks the garbage is worth a lot of money.
- b Some people think the garbage is useless, but other people think it's very useful.
- c You can sell the garbage for a lot of money.

9 Work in pairs. List some things people often use and throw away that other people could recycle or reuse.

UNIT 5 REVIEW AND MEMORY BOOSTER

Grammar

- 1 Circle the correct options to complete the article about recycling.

Recycling around the World

A new report looks at recycling in different countries and what they can learn from each other.

Japan

¹ A / The Japanese have different types of recycling bins, so local people only throw away ² a little / a few household items. For example, they recycle about 100% of their drink cans, which is a lot higher than some countries in ³ - / the Europe.

USA

Overall, ⁴ - / the USA doesn't recycle as ⁵ many / much trash as Japan, but it has introduced ⁶ a lot of / any new projects in recent years. This year, it recycled 48% of its paper, 40% of its plastic bottles, and 65% of its cans.

Senegal

Senegal recycles ⁷ a few / a little of its waste industrially, but people generally don't throw away ⁸ any / much items that they can use for something else. For example, you can buy shoes made from old plastic bags, and drinking cups made from cans.

- 2 >> MB Work in pairs. Look at the photos. Answer these questions for each photo.

- 1 What project does the photo show?
- 2 What is the purpose of this project?



I CAN

use quantifiers and articles

Vocabulary

- 3 Work in pairs. What materials are these objects made of?

book	bookshelf	bottle	can
jar	magazine	cell phone	radio

- 4 >> MB Work in pairs. Think of two more objects for each material in Exercise 3.

- 5 Look at the percentages in the article in Exercise 1. Match the percentages to these phrases (1–4).

- 1 a full amount _____
- 2 just over a third _____
- 3 about two-thirds _____
- 4 almost half _____

- 6 >> MB Write the percentage of time you spend doing these things each day. Then work in pairs. Explain how you spend your time to your partner.

- at work or at school _____
- sleeping _____
- texting friends _____
- watching TV _____
- eating _____

I spend over a third of my day at school.

I CAN

talk about materials

talk about results and figures

Real life

- 7 Work in pairs. Practice making a telephone call about an order. Take the roles of someone who works for the company (A) and a customer (B). Use these ideas.

A: Hello. How can / help / ?

B: calling / an order / a clock. It hasn't arrived.

A: Do you / order number?

B: It / AG-100234L.

A: Sorry, can / repeat / ?

B: Yes, it's / .

A: Let / check. Is / A / America?

B: That's correct.

A: Sorry, this product / currently not in stock.

Would / change / order?

B: No. I'd like / refund.

A: That's fine. Would / like confirmation / email?

B: Yes, please.

A: Is / anything else / can help you with?

B: No / . Goodbye.

- 8 Practice the conversation again, but this time Student B closes their book. Then change roles.

I CAN

call about an order