

UNIT 2

How Long Is It?

Unit Overview

Themes

Experiments

Time

Synopsis

In this unit students will learn about different experiments and ways of measuring time. They will think about the importance of time and how being able to measure time can help people. They will learn about timelines and words to describe time. They will plan and prepare a presentation giving advice about using time and write instructions for an experiment using target language from the unit.



Vocabulary

experiment, float, height, length, measure, pour, scale, thermometer, weight, width

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Think It Over

Review and Reflection

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Explore Language

Future Predictions: *Going to* and *Will*

p. 65

Language Book

Write About It

The process of an experiment
Word building: nouns to adjectives

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Global Citizenship

Why do we measure time?
calendar, century, decade, hour, millennium, minute, month, second, year

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Take the Stage

Presentation: giving advice

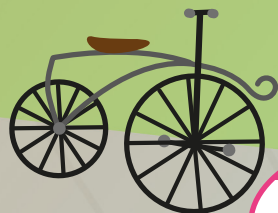
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Explore Language

Future Plans: Present Progressive

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Think Together

How do things change over time?

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Visible Thinking

Think, Pair, Share

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Nonfiction

Informational Text: *Timelines*

Words in Context: *apes, extremely, chain, sundials, mechanical*

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Literacy Book

Fiction

Fantasy: *A World Without Time*
Words in Context: *grumbled, underground, scribbled, cool down, sighed, figure it out*

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Reading Skill

Visualizing

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Spelling Pattern

-le

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Language and Literacy Connections

The connecting theme in Unit 2 is measuring time and how things change over time.

	Language	Literacy
Vocabulary	Set 1: experiments Set 2: time	Fiction: length, measure Nonfiction: length, measure, centur(ies), decade, second, year(s)
Grammar	Future Predictions: <i>Going to</i> and <i>Will</i> We're going to do a science experiment. The stick will go down at one end. Future Plans: Present Progressive What are you doing on Saturday? I'm playing soccer in the morning.	Fiction You'll figure it out. Nonfiction Timelines help us predict how things are going to change. What will come next?
Skills	Pronunciation: word stress	Reading: visualizing Spelling Pattern: -le
International English	scale/scales; schedule/diary	

Vocabulary

Lesson Objectives



- to learn vocabulary to describe experiments: *experiment, float, height, length, measure, pour, scale, thermometer, weight, width*
- to sing a song about doing experiments

Materials

Audio Tracks 15 to 18; Video

Warm Up

Ask students what they recently learned in science class. Ask *What did you do? How did you learn? Did you use objects, or did you read from books?* Then have students discuss with a partner.

 **A TRACK 15 TB p. 214** Listen and find. Which ball bounces the highest? 

- Have students look at pp. 22–23 and say what they can see and where it is happening. Have them find and point to Poppy from the previous unit (she's sitting down, next to the boy with the thermometer). Ask *Does this look like a typical science lesson? Does it look like fun?*
- Play the audio and have students point to the words and pictures as they listen.
- Ask the comprehension question *Which ball bounced the highest?* and elicit the answer. Play the audio again for students to check.
- Remind students of the challenge at the end of Unit 1: *Which after-school club do I go to?* Elicit that Poppy goes to a science club after school.

Answer

the golf ball

 **B TRACK 16 TB p. 214** Listen, say, and number the pictures in A.

- Play the audio and have students point to the pictures and say the words.
- Tell students to listen again and write numbers next to the words in the picture. Do the example together (scale).
- Check answers by calling out a word and having students say the number. Then have everyone repeat the word.

Answers

1 scale 2 length 3 width 4 height 5 weight
6 experiment 7 thermometer 8 measure
9 pour 10 float



International English



Highlight the differences between the two words and elicit *scale* is American English and *scales* is British English. Drill the pronunciation of both and ask *Which one do we use?*



C TRACK 17 TB p. 214 Close your eyes. Listen, visualize, and say. 

- Prepare students for the visualization (see TB p. 21).
- Play the audio, allowing students to visualize the ideas as they listen. Make sure students know not to speak until they hear the word *say*.
- Have students mime a few of their visualizations in pairs. (e.g. holding a hand up for *height*, pouring for *pour*, etc.)

D Look and write. 

- This activity develops critical thinking as students categorize the vocabulary under different headings. Check students know the meaning of *equipment* (objects you need to do something) and *measurements* (to say how big, long, or heavy something is). Elicit one word for each of the columns and then have students finish the activity individually. Have them compare their answers with a friend.
- Draw or project the activity onto the board and invite students to complete one item each in the appropriate column.

Answers

Equipment for experiments: scale, thermometer

Actions: float, pour, measure

Measurements: *height, weight, width, length*

E TRACK 18 TB p. 215 Listen and complete. Then watch and sing.

- Have students turn their books over so they can't see the song lyrics. Tell them the title of the song is *Measure It!* Ask students *What units of measurement do you know?* and elicit suggestions.
- Play the song once, allowing students to listen and enjoy it.
- Have students turn their books back over. Explain that some words in the song are scrambled and they have to unscramble them. Ask *Can you guess what they are?* Encourage them to look at the vocabulary words in the picture dictionary to help them. Play the song again, this time pausing for students to write their answers.
- Check answers as a class.
- Play the song video and encourage students to sing along.

Answers

1 length 2 height 3 weight 4 Measure 5 Measure
6 experiment 7 thermometer 8 width

Cool Down

Play *Running Spelling* (see TB p. 26) with the new vocabulary from this lesson.

Explore Language

Lesson Objectives

- to learn how to talk about the future using *going to* and *will*
- to practice vocabulary for talking about an experiment

Materials

Audio Tracks 19 and 20

Warm Up

Ask students to predict six things they think they will do in this lesson. Write them in note form in a corner of the board and refer to them at the end of the lesson.

A TRACK 19 TB p. 215 Listen and read. What are the students measuring?

- Have students look at the pictures on p. 24 and say what they can see and what they think the people are doing. Play the audio and have students follow in their books.
- Ask the comprehension question *What are the students measuring?* and elicit the answer.
- Ask students *What words about experiments from the previous lesson can you find in the story?* (experiment, weight, measure, scale)

Answer

the weight of air

B Look at A. Complete.

- Write or project the table onto the board.
- Refer students to the first sentence in the table. Have students find it in the story and complete it in the table. Have students complete the next blank, then ask *Are these sentences about the present or future? How do we know?* (future: *going to* and *will*)
- Have students work in pairs to complete the rest of the table.
- Nominate students to read the completed sentences aloud, and complete the table on the board.
- Ask students *When we use "going to," what always comes first?* (the verb *be*) *What comes after?* (a verb) Ask *What comes after "will"?* (also a verb) Point out that verbs after *going to* and *will* are in the base form. Elicit the negative forms of *are going to* and *will* (*aren't going to* and *won't*). Then highlight the two questions and encourage students to notice the word order (question word + *be* + subject + *going to* + verb; question word + *will* + verb).
- Have students look at the Grammar tip *Remember*. Point out that we don't use *to* after *will*.

Answers

're; going to; will; won't; am; going to; will

C Think and discuss. Then choose.

- Have students work in pairs to read and discuss the sentences. Tell them they can look at the table in B and at the story to help them circle the correct options. Then check answers.

Answers

1 going to 2 will

D TRACK 20 TB p. 215 Listen and say.

- Tell students they will hear some sentences using *going to* and *will*. Play the audio and have students listen and repeat. For ideas on how to vary the drills, see TB p. 23.

E Read and choose.

- Refer students to the example question and answer and elicit why the answer is *'s going to*. (We have information to help us make a prediction.)
- Have students work individually to circle the correct options.
- Check answers and write them on the board.

Answers

1 's going to 2 we'll 3 won't 4 It's going to

F Look and write your predictions. Then compare.

- Have students look at the pictures and say what they can see happening.
- Then refer them to the example sentence. Ask why that prediction is correct (because we can see it about to happen).
- Have students complete the predictions for the other pictures and then compare their ideas in pairs. Encourage pairs to take turns making additional predictions about the pictures; for example, *I think that boy will win; I think the coin will stop; I think he will go to the park; I think he'll go home*. Remind students that they can use phrases like *I agree / I disagree* after their partner makes a prediction.
- Check answers as a class.

Suggested Answers

1 're going to have a race 2 won't stop the coin
3 's going to fall 4 will/won't swim

Cool Down

Refer students to the list of their predictions for this lesson (see the Warm Up). First have them phrase the predictions using *going to* or *will* and then have them say if their predictions were correct or not.

Global Citizenship

Lesson Objectives

- to learn vocabulary for talking about time: *calendar, century, decade, hour, millennium, minute, month, second, year*
- to explore why we measure time and how we experience time
- to practice listening for gist and details


Materials

Audio Tracks 21 to 23; Audio Track B; a world map (D)

Opening Question   

Ask students what time it is and how they know. Ask *How do you tell the time?* (clock, smartphone) *When do you usually check the time?* *Why?*


Then ask the question *Why do we measure time?* Give students time to think before eliciting ideas.

 **A TRACK 21 TB p. 215** Listen to Anton talk to his dad about time. When did people first use clocks?

- Ask students what they can see on the page. Say *Find a month.* (September) *Find a year.* (1629)
- Play the audio and have students point to the words or pictures as they listen.
- Ask the comprehension question *When did people first use clocks?* Elicit the answer; then play the audio again for students to check. See the digital **ETB** for further comprehension questions.

Answer

nearly a millennium ago

 **B TRACK 22 TB p. 215** Listen, say, and number the pictures in A.

- Play the audio and have students point to the pictures and say the words.
- Tell students to listen again and number the pictures in the order they hear them. Do the example together (calendar).
- Write or project the answers onto the board.

Answers

1 *calendar* 2 *millennium* 3 *century* 4 *decade*
5 *year* 6 *month* 7 *hour* 8 *minute* 9 *second*

 **TRACK B TB p. 215 Visualization**

The TTL has a visualization audio track for this vocabulary set. (See TB p. 21.)

C Complete the timeline. Write the measurements of time in order. 

- Draw or project the timeline across the board. Choose two of the words and ask students where to place them.

- Give students time to match the words from A with the numbers on the timeline and then compare with a friend. Invite individual students to come to the board and write a word on the timeline.

Answers

second, minute, hour, day, week, month, year, decade, century, millennium

 **D TRACK 23 TB p. 215** Now listen to Salma and Markus. Which clock is older?  

- Have students look at the two pictures and notice where the speakers are from. Have them find the countries on a map. Elicit what they know about Egypt or Germany already.
- Then ask students what they can see in the two pictures and how old they think the objects are.
- Listening for gist: play the audio and have students listen for the answer to the gist question *Which clock is older?* Elicit the answer.

Answer

The sundial is older.

E Listen again and complete.  

- Listening for details: have students read and complete as many of the sentences as they can. Play the audio and stop after ... *used the sun to tell the time.* Point out the example answer.
- Play the rest of the audio and have students check their answers or complete the sentences. Check answers.

Answers

1 *sun* 2 *sunny* 3 *shadow* 4 *300* 5 *bird* 6 *dance*

Discussion Questions    

- Draw students' attention to the discussion questions: *When does time feel slow for you? Why? How does measuring time help people?* Have students discuss the questions in pairs (see **ETB**).
- Return to the opening question to ask again: *Why do we measure time?* and discuss any further ideas students may have.
- Guide them to the conclusion that measuring time helps us interact with and be respectful of others' plans, and that time often moves slowly when you're not having fun.

Cool Down

Do a time quiz. Read out some unusual definitions of different periods of time for students to guess the time period, e.g. *What is 5,214 weeks long?* (a century) *Thirty-six of these make three years—what are they?* (months) *Some people can run 100 meters in less than 10 what?* (seconds)

Explore Language

Lesson Objectives

- to learn how to use the present progressive for future plans
- to practice using vocabulary to describe time

Materials

Audio Tracks 24 and 25

Warm Up

Ask *What activities do you do after school? What time do you do activities? What time do you do your homework? What time do you have dinner? What time do you go to bed?* Have students discuss their schedules in pairs.

A TRACK 24 TB p. 215 Listen and read. When are the children going to start their project?

- Ask students *What can you see in the picture?* and *What do you think the teacher is giving the children?*
- Play the audio and have students follow the dialogue in their books.
- Ask the comprehension question *When are the children going to start their project?* Elicit the answer.

Answer

now

B Look at A. Complete.

- Write or project the table onto the board.
- Refer students to the incomplete question in the table and have them find it in A. Elicit the answer and write it on the board. Ask *What kind of word is "are"?* (a verb)
- Have students work in pairs to complete the rest of the sentences.
- To check answers, elicit the completed sentences and fill in the table on the board. Have students notice that all the sentences include *be + going to + verb* and point out that this is the present progressive. Ask students *What do we usually use the present progressive for?* (to talk about things happening now) *Are the sentences in A about things happening now?* (no, the future) *How do we know they're about the future?* (There are phrases that refer to times in the future, for example, on Saturday.)

Answers

are; 'm; playing; are taking

C Think and discuss. Then choose.

- Check that students understand the meaning of *arrangements* (when you plan or agree to do something, often with someone else).
- Have students work in pairs to read and discuss the sentence. Tell them they can look at the table and the dialogue in A to help them circle the correct option. Then check the answer as a class.

- Refer students to the Grammar tip *Watch Out*. Ask them why we don't use *will* in the sentences in A (because we are talking about future arrangements, or plans we have made; *will* is used for making a prediction).

Answer

future arrangements

D TRACK 25 TB p. 215 Listen and say.

- Play the audio and have students listen and repeat. For ideas on how to vary the drill, see TB p. 23.

E Read Sara's schedule and complete.

- Draw or project the schedule onto the board. Refer students to the first sentence and elicit how they can find out the answer.
- Have students complete the sentences individually and then compare their answers with a friend.
- Ask individual students to read their completed sentences aloud and ask if everyone agrees. Write the verbs on the board or project the activity and complete it so everyone can check their answers. Have students check that they all have the verb *be* in their answers.

Answers

1 is practicing 2 are coming 3 aren't meeting; is going
4 isn't flying 5 is arriving



International English



Have students look at both words and elicit *schedule* is American English and *diary* is British English. Pay careful attention to the pronunciation of *schedule* /'skedʒu:l/. Ask *Which word do we use?*

F Write your schedule for Saturday. Then compare. Who is busier?

- Draw a schedule on the board, just for one day—Saturday. Fill in a few activities of your own; for example, 10:00 clean the house, 1:00 lunch with Maria, 3:00 correct homework. Elicit sentences from the class (using *you*) for your schedule; for example, *You're cleaning the house on Saturday morning.*
- Have students write their own Saturday schedule in their notebooks. If they have no arrangements made, they can invent some! Note: if appropriate for your class, you can choose a different day for them to write about.
- Divide the class into pairs. Have two students read aloud the example question and answer. Then have students ask and answer questions about each other's schedules in their pairs.
- Ask each pair whose schedule is busier.

Cool Down

Have pairs write an imaginary weekend schedule for a TV character or famous person, then share one thing their character/person is going to do with the class.

Take the Stage

Lesson Objectives



- to prepare and give a presentation giving opinions and advice about using time
- to recognize and reproduce words with different stress patterns

Materials

Video; Audio Track 26

Warm Up

Have students make a *Word Tree* in pairs (see TB p. 27). Tell them to write the word *Time* at the base and then build their tree. Invite some pairs to share their word trees with the class.

 **A TB p. 238 Watch and listen.** What did Lewis do while he was practicing his talk? 

- Tell students they are going to watch a video of a boy talking about using time well. Have students make some predictions using *will* about what he might say and then watch the video to see if they were correct.
- Introduce the comprehension question *What did Lewis do while he was practicing his talk?* Play the video again and then ask students for the answer. Ask additional questions; for example, *What's Lewis's best advice?* (make a list of things to do) Play part of the video again and have students notice where Lewis is looking while he's giving his presentation.

Answer

He cleaned his room.

B Watch again. Check (✓) the sentences you hear.

- Have students read the sentences.
- Play the video again and have students complete the activity. Read the sentences and have students raise their hands for the ones they checked. Have students read the phrases again and ask them to categorize them into three groups: introducing what you want to say (1, 2), giving advice (3, 5, 7), and ending (8).

Answers

1; 2; 3; 5; 7; 8

Pronunciation Word Stress I

 **TRACK 26 TB p. 215 Listen and say.**

- Read the first phrase from B with the wrong stress on *something and important*: someTHING, imporTANT. Ask students if it sounded right. Read the phrase again correctly and point out that the part of a word we say more strongly can help others understand us.

- Play the audio and have students listen and count the syllables. They should notice that in these words the stress is on the first syllable for two syllable words and on the middle syllable for three syllable words. Play the audio again and have students repeat the words.
- Tell students these words are all in the video. Have them look for other words from the unit that have the same stress patterns in pairs, then elicit ideas and write them on the board in two sections. If they have any difficulty, ask them to place these words in the correct group: *measure, sunshine, prediction, teacher, progressive, circus, opinion*. Drill all the words at the end.

C Plan. Think about advice for using time in the best way. Then complete.  

- Tell students they are going to plan their own presentation about how to use time well.
- Draw or project the *At Home* part of the plan in C onto the board. Give students time to think and then elicit more ideas for planning time at home. Write them on the board.
- Now have students work individually to complete the plan in their book for each of the three categories. Point out that, like Lewis, they should choose four or five important points to present.

D Prepare your presentation. Use your ideas from C and phrases from B.   

- Play the video again as a model and remind students to watch with their own presentation in mind.
- Ask students which phrases from B they can use in the Introduction (1 and 2). Do the same for the Middle (Advice) section and the Ending.
- Have students transfer their ideas from C into the template in D in note form.

E Practice with a friend. Then share with your class.



- Now have students practice their presentation with a friend. Remind students that it is important to look directly at the audience and speak clearly.
- Invite volunteers to come to the front of the classroom to give their presentation. Have the audience give a round of applause after each presentation.

Cool Down

Play *Change It Round* (see TB p. 25) with the following section of Lewis's presentation on the board:

I think it's very important to plan your time. Here are some tips. I find that the best thing to do is to make a list every day. Always do the things you have to do first, and then the things you want to do! So, my advice is do your homework first.

Write About It

Lesson Objectives

- to learn how to use word building to make adjectives from nouns
- to plan and write an experiment

Materials

(Optional) Challenge, Standard, and Support writing printouts, one per student (C and D)

Warm Up

Have students remember the experiment with the two balloons on p. 24. Have them describe the equipment and experiment, with each student saying a few words before you choose someone else to continue.

A Read the instructions. Circle the three adjectives describing the ice cubes.

- Have students read the text quickly and say what kind of text it is. (instructions for an experiment) Ask some questions to check comprehension; for example, *What equipment do you need for this experiment?* (four glasses, four ice cubes, a teaspoon, salt, sugar, sand, stopwatch)
- Check that students remember what an adjective is. Ask students to find three adjectives to describe the ice cubes (all in step 1). Have students join you in using their hands to reinforce the meaning of *wide* (hands spread side to side), *long* (hands spread, one near your body and the other out in front), and *high* (hands spread up and down).

Answers

wide; long; high

B Look at A. Complete.

- Elicit or remind students what a noun is. Draw or project the table onto the board. Have students find the adjective in A that corresponds to the noun width. Elicit the answer and write it in place.
- Then have students complete the rest of the table and compare with a friend. *Height* is not mentioned in A, but students should remember it from the Vocabulary lesson.
- Ask students to come to the board and each write an answer in the table. Check that everyone agrees and that the spelling is correct. Have students read the words aloud and check pronunciation.

Answers

wide; height; long

C Plan. Look at the experiment and think about these questions.

- Ask students to look at the illustrations for the experiment. Ask them to say what is similar to the experiment in A and what is different. (Similar: ice cubes, measurements, glasses, sunny place, melting; different: breaking one ice cube, only two ice cubes.)

- Tell students that they are going to write instructions for this new experiment using the instructions in A as a model. Ask the class the first question and elicit the answer (there are six steps in the experiment). You can hand out the Challenge printouts at this point.
- Have students answer the other questions individually and then compare their answers with a friend.

Answers

1 six 2 two glasses, two ice cubes, a hammer, a stopwatch 3 3 cm. wide, long, and high 4 which ice cube melts first 5 The broken ice melted first. Breaking the ice cube into a few large pieces makes it melt faster.

D Write the instructions and results for the experiment.

- Encourage students to look at step 1 in A and elicit the beginning of the instructions for the experiment in C. (*To do this experiment, you need ...*)
- Have students continue to write the instructions individually in their notebooks. Remind them to use their plan and to look at A as a model.
- Have students self-correct or exchange their work with a friend and peer-correct. You can put a checklist of points for students to look out for on the board (e.g. spelling, commas, capital letters, correct use of nouns and adjectives).
- Have students correct any mistakes and write their final instructions neatly on paper. Alternatively, hand out the Support and Standard printouts from the Resource Bank. Allow them time to illustrate their experiment.
- Have each student compare their instructions with another student and see how similar or different they are. They may find useful phrases they can incorporate into their own instructions.

Suggested Answers

1 To do this experiment, you need two glasses, two ice cubes that are 3 cm. wide, 3 cm. long, and 3 cm. high, a hammer, and a stopwatch. 2 Put one ice cube in glass A and break the other ice cube into pieces with a hammer. 3 Put the pieces of ice in glass B. 4 Put the glasses in a sunny place. 5 Set a stopwatch and wait 30 minutes. 6 Check the ice cubes. Which ice cube melted first? Results: The ice cube in glass B melted first. Breaking it into a few large pieces makes it melt faster.

Cool Down

Play *Simon Says* with the instructions from A (see TB p. 27).

Think It Over

Lesson Objectives




- to review what has been learned in the unit
- to reflect on the unit and their own progress
- to think about learning strategies and how to continue learning at home

Warm Up




Play the *Yes/No Game* (see TB p. 27) with words from pp. 22–23 or p. 26 and some that do not appear in the unit. Ask them to identify when words were in the unit. Suggested words: *thermometer* (Y), *knife* (N), *calendar* (Y), *second* (Y), *shadow* (N), *width* (Y), *speed* (N), *measure* (Y), *decade* (Y), *pour* (Y), *fly* (N), *century* (Y), *scale* (Y), *plate* (N), *month* (Y), *sculpture* (N).

Read the questions and draw or write your answers.

- Give students time to think about and discuss activities in the unit before they complete each question. Explain that they can choose to either write a few words or sentences or to draw a picture. Allowing students to make a personal response will help them retain knowledge and engage with the learning points.

What did I do?   




- Give students a few minutes to look back through the unit at the different activities they did. Ask questions about the unit or write questions on the board for students to discuss in pairs or small groups; for example, *What did you sing about? What stories did you read? Where did you hear about different types of clocks?*
- Encourage students to identify something in the unit that they found challenging or something that was particularly memorable for them, but tell them not to choose their favorite activity yet. Students can draw or write about their chosen activity.

What did I learn?   




- Have students talk to a partner about what they remember from the unit—stories, words, phrases, people, experiments.
- Ask questions about the unit to help students think about what they learned; for example, *Can you find new words that you didn't know before? Can you make new questions or answers? What did you learn about experiments? What else did you learn?* Elicit ideas from the class and discuss them together.
- Tell students to draw a picture or write sentences about their learning outcomes.

What was my favorite part?   

- Have students look back through the unit and decide what they enjoyed the most. Tell them it can be an activity they found fun, a text they enjoyed reading, a favorite character, or a favorite action. They should try to choose just one and draw a picture or write about it. Explain that when we like something, it is often easier to learn.

How well did I do?   

- Ask students to color in the number of thermometers that represents how well they think they learned the content (i.e. the more thermometers they color, the more they feel they have learned). Ask *What do you understand? What do you need to practice more?* Encourage students to look back through the unit to see how much they remember what they did well and what they found difficult.

What can I do next?   

- Brainstorm ideas with the class about what they can do to continue to learn (e.g. watch the videos again, think about the time again and make a sundial, practice word stress, make predictions about friends). Encourage them to suggest their own ideas of things they can do.
- Draw students' attention to the options in the box. Encourage students to think about what they can do at home to improve their English using the verbs in the box as prompts. Suggestions might include: watch English-language programs on TV; share what they learned in class with other friends or family (explaining things to others is a great way to consolidate your learning); sing the song from this unit again with friends (or learn and sing a new song from the radio); find out more about some of the experiments in this unit.
- Ask students to choose one or more activities from the list (watch, share, sing, find out) that they will do to practice their English.
- Once students have completed the page in their books, have them discuss with a friend what they drew or wrote. Did they choose the same activities or different ones?
- Ask students if there is one activity from the unit that they would like to repeat now.

Looking Forward

- Draw students' attention to the character at the bottom of the page. Ask *Who's this?* and elicit what they remember about him. (Mr. Sim appears in the Vocabulary and Explore Language 2 lessons; he is the science teacher.) Ask *What's under Mr. Sim's table in his classroom?* Ask students to make predictions about what's under the table and what Unit 3 is about. Tell them they will find out in the first lesson of the next unit.

Put It Together

To further review and recycle the language in Units 1 and 2, play the game, *Give a Reason!*, on pp. 34–35. See TB p. 206 for teaching notes.

Get Ready to Read

Lesson Objectives

- to activate prior knowledge about time
- to encourage students to observe and interpret through a Think, Pair, Share VTR
- to preview the reading skill of visualizing changes

Materials

(Optional) VTR printout from the Resource Bank (A, B, C); (optional) strips of paper and glue or staples for students to make their own Möbius strip

Warm Up

Write the word *time* in the middle of the board and draw a circle round it. Ask students to think of all the words that can go before the word *time* to make mini-phrases. Give the examples *good time* and *lunchtime* and write the words *good* and *lunch* around the central word on the board. Give students time to think, then invite them to the board to write more answers. Possible answers include: home time, bedtime, free time, spend time, breakfast time, dinnertime



Think, Pair, Share

A Look at the picture. How does the artist represent time? Think about it.

Students are going to do a Think, Pair, Share VTR to explore the image of the Möbius strip on pp. 24–25.

- Start by asking students what they can see in the picture. Encourage them to use adjectives, such as colors and shapes. If students don't know a word, ask them to describe it so that you can provide it in English.
- Then write the question *How does the artist represent time?* on the board. Check that students understand this means how the artist shows time in this picture. Give students one or two minutes to think silently, so that they form their own ideas. Tell them to cross their arms when they have thought of some ideas.

B Discuss with your partner.

- Ask a volunteer to read the first speech bubble. Ask students *Do you agree with this person?*
- Divide the class into pairs and have students share their ideas. Encourage them to discuss any questions they might have and to think of possible answers together.
- Circulate and encourage students to expand on their ideas by asking *What makes you say that?* Remind students to use phrases like *Me, too* and *Really? I don't think so*, and *Yes, I agree* to help the conversation feel more natural. Provide vocabulary where necessary.

C Share your ideas with the class.

- Ask pairs to share their ideas about the picture with the class. Encourage students to use *we*, as they are talking about their partner's opinion, too.

Here's an example of this part of the routine.

Teacher: (Student A), what do you and your friend think?

Student A: We think the broken body parts represents time.

Teacher: That's interesting! Can you tell us more?

Student B: Things break and change after years.

Teacher: Great. Any other ideas?

Student C: We think the strip shows time.

Teacher: In what way?

Student C: There's no end and no beginning.

Student D: It shows time goes round in a circle like a clock.

Transition

Draw the infinity symbol ∞ on the board and ask if students have seen it before and if they know what it means. Elicit or give the word *infinity*. Point out that it looks like the Möbius strip and ask if they can guess the meaning. (Like the Möbius strip, it doesn't finish and just goes around and around.)

D Make lists. What words do we use to talk about time? What do we use to measure time?

- Draw or project the table onto the board. Elicit one or two examples for each column and write them in the table. You can include the word *infinity* in the *Measure Time* column. Give students time to discuss ideas in pairs and then invite students to come to the board and write more words in each column.

Suggested Answers

Talk About Time: *early*; day; long; morning; afternoon; night
Measure Time: *hour*; second; minute; watch; clock; sun; phone

E Think and discuss. Look at the first two pages of *A World Without Time*. What is the problem? Imagine one way to fix the problem.

This is a preview of the reading skill of visualizing changes.

- Have students look at the picture on pp. 26–27 (you could project them onto the board) and discuss what they think the problem is. (People don't know what time it is, as there's no sun.) If necessary, ask some prompt questions: *Do you think it is night or day? How do you know?* Tell students it always looks like this in the town because it is underground.
- Give students time to imagine a solution. Have them discuss in pairs and then as a class.

Now read **A World Without Time**

Fiction: *A World Without Time*— Fantasy

Lesson Objectives

- to read a fantasy story about an underground world
- to make a personal connection to the reading

Materials

Audio Tracks 10 and 11; Video

Warm Up

Divide the class into groups of three. Ask the groups to think of as many words as possible to describe the picture on pp. 26–27. They should classify all of their words under the headings *Objects*, *People*, and *Adjectives*. Elicit examples for each category; for example, *Objects*: houses, bridge, road, lamp; *People*: old man, construction workers/man driving a steamroller, people waiting at a bus stop; *Adjectives*: dark, angry, tall. Then ask *Do you think this would be a good place to live?*



TRACK 10 TB p. 228 Reading Approach

First Reading: Engage with the Text

- Have students look at the pictures and title and ask students the prediction questions *What's Ooleck's problem? What do you think he's going to do?* Elicit answers.
- Play the video or audio and pause after each character's name is mentioned. Have students pronounce the names then find and point to them in their books.
- Play the video/audio to the end and ask if anyone's predictions were correct.
- Then look at the Words in Context.



TRACK 11 TB p. 229 Words in Context

- Play the audio and have students repeat the words.
- Have a word race to find the words in the story.
- Remind students they can sometimes **think about whether the new word is a noun, verb, or adjective to figure out meaning** (see TB p. 22). Have them discuss their ideas with a partner, using LI if necessary.

grumbled (p. 26) Ask students *What's happening? How do you think Ooleck feels? What does his voice sound like?* Have them grumble the line *Working time already?*

underground (p. 27) Ask *Where do they live? Can they see the sun? What animals do you know that live underground?*

scribbled (p. 29) Ask *Is it a noun, an adjective, or a verb? (a verb) Ask: What do you think Ooleck is doing? (writing/drawing) Do you think his writing is slow and careful or quick and not very tidy? (quick) Have students either mime scribbling their name or ask them to scribble it in their notebook and say if it looks neat.*

cool down (p. 30) Ask *When tea cools down, does it get hotter or colder?*

sighed (p. 31) Ask *Is tired a noun, verb, or adjective? (verb) What does it tell us about the way Ooleck is feeling when he says, "I still can't solve it"?* (he is tired, disappointed, sad) Have students sigh while saying the phrase.

figure it out (p. 31) Ask *Do you think Zeena means he will give up or he will find a solution? How do we know? (She says the answer is under his nose.)*

Second Reading: Analyze the Text and Features

- Now allow students to read the story silently. Remind them not to worry if there are parts of the text they don't understand. To keep them focused, ask them to count how many ideas Ooleck suggests. Elicit answers.
- Ask some comprehension questions to check understanding: *Why were some people working and some people still sleeping?* (They had no way to know the time.) *How will a way to tell the time help them?* (People won't be late or early—they'll do things at the right time.)
- Discuss the questions in the blue boxes.
- **Making Connections** (p. 27): *Why is it important to measure time?* Elicit students' opinions and ask what problems it causes the people living in Undergroundia when they can't measure time. What problems would they have if they couldn't tell what time it was?
- **Language Focus** (p. 30): *Why does Zeena repeat the word silly several times?* Give students some thinking time and then ask for their suggestions. (She's probably getting impatient.)
- **Language Focus** (p. 31): *What does right under your nose mean? Do you know a similar expression in any other language?* Ask students if they can explain the expression. (It's something you should be able to see easily but for some reason you can't see it!) Ask students if they know a similar expression in their own language.

Third Reading: Interact with the Text

- Play the video again and have students repeat all of Ooleck's direct speech when he grumbles (p. 26, p. 29), thinks (p. 30), and sighs (p. 31).
- Divide the class into pairs, designate a role for each student (Zeena or Ooleck), and have them act out the story. Remind them they only need to say the direct speech.

Cool Down

Have students imagine all the things they couldn't do if they lived in Undergroundia and didn't have sunshine, and then share their ideas with the class. Make a list on the board and decide which are essential for quality of life.

Explore the Reading

Lesson Objectives

- to understand and analyze *A World Without Time* through reading comprehension activities
- to explore the SEL competency of self-management through setting plans and working toward goals
- to identify and practice words ending in *le*

Materials

(Optional) Video (A); Audio Tracks 10 and 12; handwritten cards with quotations from the story (WU)

Warm Up

Play *Who Said It?* (see TB p. 27) using these sentences: *I need to invent a way of measuring time.* (Ooleck) *Good idea.* (Zeena) *Don't be so silly.* (Zeena) *It's taken seven candles so far.* (Ooleck) *The answer is probably right under your nose.* (Zeena)

A Read and answer.

- Before students open their books, find out what they remember from the story. Ask *Where do the people in the story live?* (underground in Undergroundia) *What is their problem?* (They have no way to tell the time.) *Who is Ooleck?* (an inventor) *How do you think Ooleck will find the solution?* (He will realize he can use candles to measure time.) Play the video or audio again to check answers.
- Refer students to the first question and elicit the answer. Ask them to find something in the text that shows this answer. (*In the giant cave outside ...* (p. 26), *Undergroundians spent their whole lives underground* (p. 27).
- Have students complete the activity. Check answers as a class and have students say where they found each answer.

Answers



1 Ooleck and Zeena live in a cave underground / in Undergroundia. 2 Ooleck wakes up because he hears the noise of the workers. 3 The tooth scraper and the two-wheeled cycle. 4 Ooleck shares three ideas: beard time, tea time, and cycle time. 5 Ooleck burns seven candles.

B Think and write. What is Ooleck like?

- Refer students to the example answer and ask why Ooleck is silly. (Some of his ideas are a bit crazy!)
- Have students think about more adjectives or phrases that can describe Ooleck. Ask students to consider what he decides to do and how he does it.
- Write or project the activity onto the board and have students write new words or phrases around his name. Encourage students to notice that Ooleck is organized (he uses a brainstorming technique) and determined (he doesn't give up even when the problem is hard).




Suggested Answers

silly; smart; creative; motivated/determined; organized

- C Think and discuss. What solution does Zeena have for telling time? Why doesn't she tell Ooleck?  
- Ask students what they think Zeena's solution for telling time was and why she didn't tell Ooleck. Have students work in pairs and look back at the reading for ideas.
- Elicit suggestions from students. Encourage them to justify their answers with reference to the reading.

Suggested Answer

Zeena's solution is to use melting candles to measure time. She doesn't tell Ooleck because she wants him to figure it out on his own.

- D Think and discuss. What does Ooleck need to do to reach his goal of measuring time? What do you do to reach your goals?   

This activity addresses the SEL competency of self-management by having students reflect on how they set plans and work toward their own goals.

- Ask guiding questions to draw out Ooleck's working method and why it is a good one; for example, *What's his method for thinking about the problem?* (He sits down and starts making notes of ideas.)
- Ask students to think about what they do when they have a goal they want to achieve. Give them time to think and then have a Group Time discussion (see TB p. 21). Ask *Do you think you can use Ooleck's way of working to help you achieve your goals?*



TRACK 12 TB p. 229 Spelling Pattern –le

Listen and write. Then check your answers.

- With books closed, point to something purple in the classroom. Ask them what color it is and write the word on the board. Say the word, underline the letters *le*, and have students repeat it.
- Play the first part of the audio and have students repeat each word. Then have them open their books. Play the first part of the audio again and have them complete as many words as they can.
- Play the second part of the audio and have students check their spelling and complete any missing words. Have students underline *le* and notice that it appears at the end of each word.
- Have students find more words with the *–le* ending in the reading. Invite students to read the words aloud, then have them write all the *–le* words from the lesson in a word cloud.

Answers

1 handle 2 whale 3 trouble 4 purple 5 castle
In the reading: whole, candle, cycle

Cool Down

Play *How Many Words?* with sentences from the reading. (See TB p. 26.)

Get Ready to Read




Lesson Objectives

- to practice the reading skill of visualizing changes
- to activate prior knowledge about how people and things change
- to encourage students to consider how visualizing can help us predict the future

Warm Up


Ask students to look around the classroom and say how it has changed since the beginning of the school year (maybe there are new pictures, new pencils, or different displays).

Ask students *What other changes do you think can happen in this room? What can make it better?*



A Think, draw, and share. Ooleck visualizes a man standing in the town square growing a beard. Draw the man's face as it changes over time.   

Students are going to practice the reading skill of visualizing changes.

- Ask students to remember Ooleck's silly ideas for measuring time—measuring a man's beard growing, timing someone cycling around Undergroundia, and timing a cup of tea cooling. Tell them they will think about the beard idea now.
- Project the three pictures of the man onto the board. Ask students to think about how the man's face and beard change over time. Give students time to complete the three pictures. While they are doing this, draw your own changes onto the projected pictures on the board.
- When students have finished, have them compare their pictures with a friend. Then show them your pictures and see how different they are.
- Refer students to the skills box about *visualizing*. Point out that this is something very useful for us to do while reading as it helps us imagine the story, how things might look, what the characters are like, and the setting. This all helps us make predictions about the story and understand it. It also helps us to feel involved in a story, making reading a more interesting, exciting, and personal experience.

B Think, draw, and write. Choose something that changes over time. Visualize the changes. 

- Elicit some suggestions for things that change over time—if necessary, you could prompt students to think about children growing, plants producing flowers, the weather changing with the seasons, food cooking, and so on. Write their ideas on the board.
- Ask students to choose one of these and try to visualize what changes will take place. They should draw the changes in the spaces provided and write a suitable time reference at the top of each picture.
- Then divide the class into pairs and have them tell each other about the changes they visualized. Ask *Do you think your partner's visualizations were realistic?*
- Ask if any students would like to share their ideas with the rest of the class.

C Think and discuss. Look at the timeline on the next page. What changes does it help you visualize?  

- Have students look at the timeline at the beginning of the text. First, ask students *What can you see?* (animals, plants, dinosaurs, monkeys, humans, etc.) Check students understand that the events on the left of the timeline were longer ago than the events on the right.
- Now have students discuss with a partner what changes the timeline shows and if there is anything that they don't understand on the timeline or that is new information for them. One thing that may surprise students is that dinosaurs and people are so far apart. Many people believe that they lived at the same time, but the dinosaurs died about 65 million years before humans appeared.
- Ask students to share any doubts or questions they have. Tell them that the reading may help answer their questions.

Suggested Answers

I see a lizard/dinosaur/ape/person. The timeline tells me about how animals have changed over many years.

Cool Down

Have students visualize, then act out the following: a dinosaur dancing; a lizard playing soccer; a frog swimming; a fish singing; a bird eating breakfast; a monkey climbing a tree.

Now read **Timelines**

Nonfiction: Timelines— Informational Text

Lesson Objectives

- to learn about chronology through timelines
- to read an informational text about timelines
- to practice the reading skill of visualizing change
- to make a personal connection to the reading

Materials

Audio Tracks 13 and 14

Warm Up

Draw a timeline on the board with key years from your life, e.g. the year you started school, the year you finished your studies, the year you started teaching, and so on. Have students guess what happened in each year. Write in the facts when they guess correctly.

TRACK 13 TB p. 229 Reading Approach

First Reading: Engage with the Text

- Have students close their books. Write the following on the board: first life on earth, people, dinosaurs, primates, amphibians, reptiles. Explain any words that students don't understand. Ask *Which came first? Which came next?* and have students guess the order.
- Then play the audio while students follow along in their books. Stop after *Human beings appear* and check the timeline against the earlier predictions.
- Play the audio to the end, then look at the Words in Context.

TRACK 14 TB p. 229 Words in Context

- Play the audio and have students repeat the words.
- Have a race to find the words in the text.
- Play the audio again and tell students to **use pictures in the reading to help establish the meaning of the new words**. Have them discuss their ideas with a partner, using LI if necessary.
- Then bring the class together and use these discussion points to confirm the meanings.

apes (p. 35) Have students look at the pictures. Ask *How are monkeys, apes, and humans different?* (Apes are bigger than monkeys and have no tails. Both have hair on their bodies, which is different from humans.)

extremely (p. 36) Ask *Do you think the bikes were very bumpy or not at all? What word gives us a clue?* (the name Boneshaker) *Do you think extremely is stronger than very or not as strong?*

chain (p. 36) Elicit that a chain is part of the bike and have them find it in the picture.

sundials (p. 37) Ask *What is this object used for?* (telling the time) *Does it go inside or outside?* (outside) *What gives us a clue about how it works?* (the word sun at the beginning).

mechanical (p. 37) Elicit that *mechanical* is an adjective, which describes the clock. Ask *What other objects are mechanical?* (wind-up toys, robots, etc) *How are these mechanical objects similar?* (They are all machines, they all have moving parts.)



International English



Have students notice the different spelling of the words. Point out that they are pronounced the same.

Second Reading: Analyze the Text and Features

- Now give students time to read the text silently and find which timelines show the longest and shortest periods of time (longest: history of life on Earth, pp. 34–35; shortest: history of bikes, pp. 36–37). To check understanding, ask *When did life start on Earth?* (3.8 billion years ago)
- Have students answer the questions in the blue boxes.
 - **Making Connections** (p. 34): *What different ways can we show time passing?* Invite suggestions from students—they will now have ideas from the previous reading and from this one.
 - **Fact** (p. 36): *John Dunlop invented rubber wheels filled with air in 1888. Biking became more comfortable.* Ask students why it was more comfortable (the air acted like a cushion). Do they think this was the most important change to happen to bikes? Why or why not?
 - **Personalization** (p. 37): *Which timeline do you think is most interesting? Why?* Have students discuss their ideas with a partner. Then have students vote for the most interesting timeline.
- Discuss the text focus: *A timeline shows us events in the order they happened. What is the benefit of seeing the **chronology** of events?* Give students some thinking time, then have them discuss the question in pairs.

Third Reading: Interact with the Text

- Ask students to visualize traveling back in time to use either the draisine bike or the sundial. Encourage them to think about what would be good and bad about each experience. Have them share their ideas in pairs, then compare and contrast the draisine bike with the smart bike or the sundial with the smart watch. Which pair found the most similarities/differences?

Cool Down

Work as a class to build a timeline on the board. Ask students to think of all the ways that people wrote before the modern pen, from making marks on stones with other stones to using chalk, pencils, and feathers and ink, and what might happen in the future.

Explore the Reading

Lesson Objectives

- to understand and analyze *Timelines* through reading comprehension activities
- to practice the reading skill of visualizing change and predicting the future
- to learn about measuring time through CLIL (math): exploring how timelines can help us predict change
- to make a personal connection to the reading

Materials

Some images of futuristic developments to project or show students (WU)

Warm Up

Project onto the board or show students pictures from the internet of some futuristic predictions (e.g. a flying car, a robot teacher, teleportation, or time travel with people watching dinosaurs). For each one, ask students *Do you think it will be possible in the future?* and *When in the future do you think it might happen?*

A Read and complete.

- Before students open their books, find out what they remember from the reading. Ask *How many different timelines did the reading show?* (three) *What were they about?* (life on Earth, bikes, measuring time) *When did the first bike appear?* (1816) *Why did bikes become more comfortable?* (James Dunlop invented rubber wheels filled with air) *In which century did smartwatches appear?* (the 21st century)
- Refer students to the completed example sentence and ask them to find where this information is in the reading (p. 34, at the beginning of the first timeline).
- Have students complete the activity, referring to the text to justify their answers. Then have students compare their answers with a partner.
- To check answers, project the activity onto the board and invite students to come and complete one space each or ask students to read a sentence aloud. Ask if everyone agrees.

Answers

- 1 3.8 billion years ago 2 370 million years ago
 3 200,000 years ago 4 running along the ground
 5 decade 6 Atomic

B Think and discuss. Think about the future. Predict what will happen.

- Remind students of the pictures you showed them in the Warm Up and point out that people are inventing or imagining new things every day! Ask the class for possible ways to finish the prediction about bikes; for example, In the future, bikes will ... (not have wheels—they will float above the ground).

- Ask students *What do you think will happen in the future?* Give them some time to look at the three timelines and imagine what might happen next for each. Then have them compare their ideas with a friend. Ask if any pairs would like to share any ideas that were particularly interesting, probable, or funny! Try to elicit at least one or two ideas for the future, for every timeline.

C Think and write. Look at the timeline below. Add your predictions from B.

This activity draws on the math focus of looking at how timelines help us predict change. It also encourages students to connect the reading to their own predictions.

- Draw or project the timeline in C onto the board. Ask students for one of their predictions about the future from B and where to place it on the timeline.
- Have students do the activity in their books and then compare their timelines in groups. Ask *Are your timelines the same?*

D Think and write. Look at the timeline above. When were you born? When were your parents and grandparents born? If you don't know, make a guess!

- Mark one line on the timeline on the board for when your parents were born. Show it to students and have them guess what happened then. Confirm the answer and next to the line write the sentence *My parents were born.*
- Have students mark lines on the timeline in C to show when they, their parents, and their grandparents were born. Then have them show and tell in pairs.
- Ask if any students would like to share their dates with the class. Find out how many students had the same events in these years. Ask *How is life different now from when your grandparents were born?* Give students a minute to think, then elicit one idea from each student.

Cool Down

Make a short quiz based on the information about timelines. Divide the class into two teams, or groups of four, and have them raise their hands to give an answer and win a point for each question. Alternately, this can be played with the whole class to see how much students remember.

Possible questions: *True or false: Life appeared on Earth 4.8 million years ago.* (False; 3.8 billion years ago) *What type of animals are snakes and lizards?* (reptiles) *When did human beings develop?* (200,000 years ago) *What was the name of the bike invented in 1867?* (Boneshaker) *What did people start to make in the 1920s?* (children's bikes) *Who were the first people to use sundials?* (the Egyptians) *Which nationality invented mechanical clocks?* (Italians) *True or false: Smartwatches became popular in the 1990s.* (False; the 2010s)

Think Together

Lesson Objectives

- to make connections between the readings
- to explore the key concept: How do things change over time?
- to reflect on the unit and provide personal thoughts and opinions

Warm Up

Have students look back at the VTR image on pp. 24–25 and ask *Do you now have any new ideas about the image? Are there things you can see in the image that you now think are more important?*

Have students compare their ideas in pairs and then ask for suggestions.

A Look at the pictures. How do things change? Draw.

- Project the two pictures onto the board and ask students *What can you see?*
- Have students look back at the story on pp. 26–31 and remember how the story ended. Ask them *Do you think Ooleck was close to finding a solution?* Have students draw a picture illustrating what they think happened next.
- Have them draw a picture of the latest development in the bike timeline in the other box and then compare their drawings with a friend.
- Ask students if their pictures were very similar or very different. If different, ask them to explain how.

B Think and write. Make a timeline of your life.

- Draw a timeline on the board and insert some key dates from your life or the life of someone famous. (born, started school, started university, became a teacher, moved to a different place, etc.)
- Have students make their own timeline, showing key events in their life. They should label it with short phrases and illustrate it with small pictures if they have time. Give them a minute to reflect on their finished timeline to consider how their own lives have changed over time. Have them look at their finished timelines and consider how their own lives have changed over time.

C Think about the timeline of your life. What events did you put on it? Do a Three-Step Interview.

- Ask two students to read the example sentences in the speech bubbles. Have students suggest how they could complete the second bubble. Then elicit some follow-up questions they could ask, e.g. *When did it happen? What happened after that? What happened next? How did you feel?*

- Set the class up for the Three-Step Interview cooperative learning routine (see TB p. 20). Remind students they need to listen carefully when they interview their partner, as they will tell the other students in their group what they have learned.
- After students have shared what they learned in their groups ask *Did you learn anything interesting about your partner?* and invite students to share any interesting information with the class.
- Introduce the key concept question: *How do things change over time?* Ask students to remember all the changes they learned about in the readings or about each other's lives. Encourage them to expand their thinking to changes they know about elsewhere in their lives, e.g. places that have changed. Have them also consider how ideas change over time as people learn from what has gone before. How have their ideas changed over the course of the unit? Have students discuss their ideas in small groups. Circulate and give students praise for good thinking.

My Reading Journal

What do you want to learn more about? Choose something from one of the readings.

This question focuses on personalization and encourages students to start taking responsibility for their own learning. Give students some thinking time to consider their answers. You can give an example answer of your own first.

Have students write their own sentences and then discuss their answers in pairs or small groups.

Example Answer

I want to learn more about smartwatches, because I think they will be more important in the future.

Cool Down

Play a version of *Find Someone Who* (see TB p. 25). Ask students to think about one thing they enjoyed doing in this unit. Have them circulate and talk to as many people as possible about their chosen activity. When they find someone who liked the same activity, they should stop and have a conversation about why they liked it. Did they like things for the same reasons or different reasons?