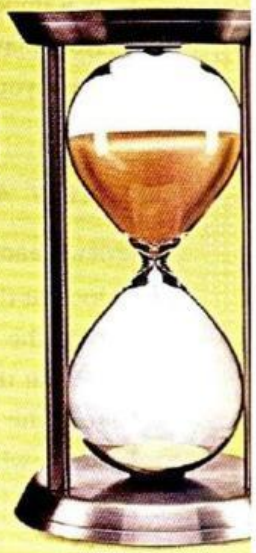
UNIT 2

It's About Time



In this unit, you will

- read about the history of telling time and the development of time-keeping devices.
- review previewing.
- increase your understanding of the target words.

READING SKILL Pronoun References

Self-Assessment

Think about how well you know each target word, and check (✓) the appropriate column. I have...

TARGET WORDS	never seen the word before	seen the word but am not sure what it means	seen the word and understand what it means	used the word, but am not sure if correctly	used the word confidently in *either* speaking *or* writing	used the word confidently in *both* speaking *and* writing
accurate						
appear						
confuse						
develop						
difference						
feature						
shift						
AWL similar						
system						
AWL vary						

AWL Academic Word List
Oxford 3000™ keywords

Outside the Reading What do you know about time?
Watch the video on the student website to find out more.

LIVEWORKSHEETS

READING 1

Before You Read

In small groups or with the whole class, discuss the following questions.

1. Is it important for you to know what time it is? If so, why?
2. How many clocks and watches do you have?
3. Have you ever seen a clock that did not need electricity or batteries to work?

REVIEW A SKILL Previewing (See p. 2)

Preview Reading 1 before you begin reading it. Remember to

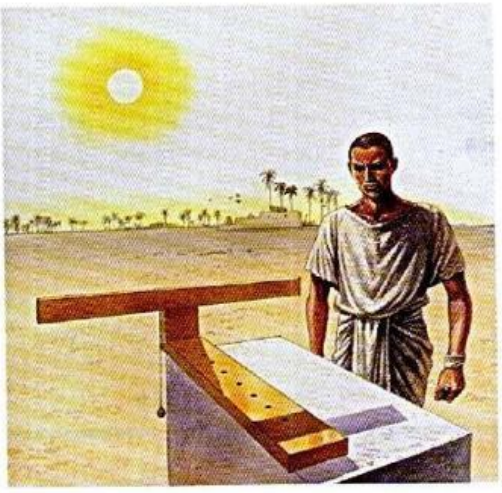
1. look at the title;
2. read the introduction;
3. look at the pictures;
4. read the words under the pictures;
5. guess what the article will be about.

Read

This information is from a science magazine. Use your dictionary to find the meaning of words you do not know.

What Time Is It?

Early humans did not need clocks. They did not need to know the time of day. They woke up when the sun **appeared**. They hunted or fished or farmed while the sun was shining. They ate when they were hungry and went to bed when darkness came. Measuring time became important when people lived in towns and cities. People needed clocks so they could work together.



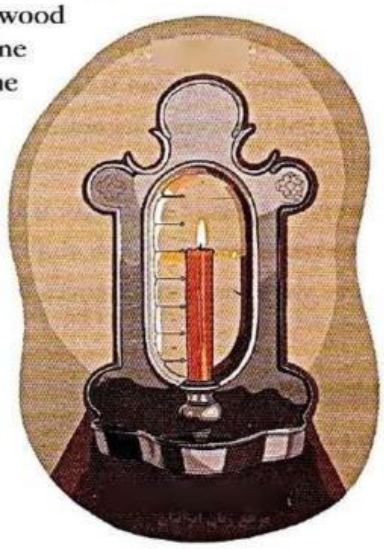
Early clocks used the sun's shadow to mark time.

LIVEWORKSHEETS

THE EARLIEST CLOCKS

About 4,000 years ago, ancient Egyptians **developed** a 12-hour time **system**. They divided the day into 12 hours. The earliest clocks used sun shadows to show the hours of the day. A long piece of wood was marked into hours. A short piece of wood was put at one end of the long piece of wood. As the sun **shifted** across the sky, the short piece of wood created shadows on the long piece. These shadows showed the hours. This method of showing time was useful, but not very **accurate**. Later, round sundials were **developed**. They used sun shadows, too, but they were more **accurate** than the wood clocks. Sundials could measure time on sunny days. However, they did not work at night or when the sun was hidden by clouds. Also, people were **confused** to see the time on sundials **vary** with the seasons.

Over many years, **different** kinds of clocks were created to measure time during the day and at night. Candle clocks were used in ancient China, Japan, and Iraq. A candle holder was divided by marks into hours. As the candle burned, the marks showed how many hours had passed. Greeks used water clocks made of two glass bowls. The bowls were connected by a small hole. The top bowl was filled with water. The water slowly ran into the bottom bowl through the hole. The bottom bowl was marked into hours that measured time. Hourglasses worked in a **similar** way. The **difference** was that sand **shifted** from the top bowl into the bottom bowl. Water clocks and hourglasses functioned very well to measure time.



A candle divided by marks into hours functioned as a primitive clock.



An early mechanical clock.

THE DEVELOPMENT OF MODERN CLOCKS

Soon clocks **developed** into wonderful art objects. Clocks were put into beautiful wooden boxes. The boxes were painted with flowers and birds. About 1,000 years ago, an Arab engineer added mechanical **features** to water clocks. He used the falling water to turn gears that opened doors and rang bells. These mechanical **features** gave later engineers the idea to **develop** mechanical clocks.

Mechanical clocks first **appeared** in China about 800 years ago. The idea spread to other places. A mechanical clock had to be wound with a tool every day. It had a complex system of springs and gears inside. The gears turned a dial on the front of the clock. The earliest mechanical clocks had one dial that showed only the hour. Later another dial was added to show minutes.

Most modern clocks are powered by batteries or electricity. They show hours, minutes, and seconds. Knowing the exact time is important in our complex world. ■

LIVEWORKSHEETS

Reading Comprehension

Mark each statement as *T* (True) or *F* (False) according to Reading 1.

___ 1. Early humans needed to know the exact time that the sun appeared.
___ 2. Egyptians developed a 12-hour time system about 4,000 years ago.
___ 3. People were confused when the time on sundials varied with the seasons.
___ 4. A sundial was more accurate in the winter than in the summer.
___ 5. Falling water was an important feature of mechanical clocks.
___ 6. Hourglasses were similar to water clocks.
___ 7. The sand in an hourglass shifted from a top bowl to a bottom bowl.
___ 8. There were many differences between water clocks and hourglasses.

READING SKILL Pronoun References

LEARN

Pronouns are words that can substitute for nouns. These words are pronouns:

Subjects:	I	you	he	she	it	we	they
Objects:	me	you	him	her	it	us	them
Possessive:	my	your	his	hers	its	our	their
	mine	yours	his	hers	its	ours	theirs

Imagine if you saw this confusing sentence in a book about a family in London:

Josef and Josef's brother asked Josef's and Josef's brother's mother if Josef and Josef's brother could borrow Josef's and Josef's brother's mother's car.

The sentence is much easier to understand if we substitute pronouns for some of the nouns:

Josef and his brother asked their mother if they could borrow her car.

Notice that each pronoun refers to a noun (or more than one noun) that came earlier in the sentence.

Sometimes the pronoun *it* is used without an earlier noun reference.

It was impossible to see through the thick fog.

It is six o'clock.

It makes no difference if we go today or tomorrow.

LIVEWORKSHEETS

APPLY

The following sentences are related to Reading 1. Underline each pronoun and write the noun it refers to on the line.

1. Early humans did not need clocks. <u>They</u> did not need to know the time of day.
   early humans
2. Sundials worked on sunny days. They did not work at night.
   _____
3. An Arab engineer added mechanical features. He used gears to open doors.
   _____
4. A mechanical clock had to be wound with a tool. It had springs and gears.
   _____
5. Modern clocks are powered by batteries or electricity. They show hours, minutes, and seconds.
   _____
6. People needed clocks so they could work together.
   _____

Vocabulary Activities STEP I: Word Level

Similar describes something that is almost the same as something else. The adverb form is *similarly*.

*A sand clock is **similar to** a water clock.*

*The two girls were **similarly** dressed.*

(See Oxford American Dictionary for learners of English, p. 669)

CORPUS

A. Work with a partner. Match an item on the left to a *similar* item on the right. Take turns making sentences with the information.

1. a zebra — 1 a. a horse

   *A zebra is **similar** to a horse.*

2. a turkey — ___ b. a butterfly
3. a lion — ___ c. a rat
4. a whale — ___ d. a chicken
5. a moth — ___ e. a tiger
6. a mouse — ___ f. a fish

LIVEWORKSHEETS

If something is *accurate*, it is exact and without mistakes. The adverb form is *accurately*.

Do you think that this newspaper story is ***accurate****?*

Be sure that you have spelled all of the words ***accurately****.*

(See Oxford American Dictionary for learners of English, p. 6)



B. **Work with a partner. Read the sentences for a science magazine article. Imagine that you are the editors of the magazine. Write NA in front of the sentences that are not *accurate*. Then list what is not accurate in each NA sentence, using the words spelling, date, or country.**

NA 1. About 400 years ago, ancient Egyptians developed a 12-hour time system.

The date is not ***accurate****.*

___ 2. Sundyals were useful, but they did not work at night.

___ 3. Candle clocks were used in ancient Greece.

___ 4. Soon clocks developed into wonderful art objects.

___ 5. Mechanical clocks first appeared in China about 8,000 years ago.

___ 6. The blows were connected by a small hole.

A *system* is a group of things or parts that work together.

Our city school ***system*** *won an award for excellence.*

A *system* is also a plan for organizing things.

Libraries use a ***system*** *to help readers locate books.*

System also refers to the body of a human or animal.

The infection had spread throughout her ***system****.*

(See Oxford American Dictionary for learners of English, p. 742)



LIVEWORKSHEETS

C. **Work with a partner. Use the words below to name each of the *systems* described. Take turns reading your sentences out loud.**

solar	metric	weather	transportation	computer

1. The sun and eight planets make up the ___solar **system**___.
2. A monitor, a keyboard, a console, a printer, and a mouse are parts of a _____.
3. Streetcars, buses, and subways are parts of a city's _____.
4. Measurements such as meters, liters, and grams are based on the _____.
5. Rain, wind, clouds, and low temperatures are parts of a _____.

Vocabulary Activities STEP II: Sentence Level

The verb *to appear* means "to come into view." The noun form is *appearance*. *Disappear* and *disappearance* have opposite meanings.

*A bright meteor suddenly **appeared** in the sky.*

*We were excited by its sudden **appearance**.*

*Then it **disappeared** from view.*

To appear can also mean "to exist for the first time."

*Computers **appeared** around 50 years ago.*

*The **appearance** of computers changed our world.*

To appear can also mean "to look" or "to seem" a certain way.

*She **appeared** tired after the long airplane ride.*

*This book **appears** to be very old.*

Appearance can refer to a person's outside features, especially the face.

*His **appearance** changed when he wore a wig.*

(See Oxford American Dictionary for learners of English, p. 32)

CORPUS

LIVEWORKSHEETS

D. **The sentences below are about a solar eclipse. A solar eclipse happens when the moon passes between the sun and the earth. The moon *appears* to cover the sun. Rewrite each of these sentences in your notebook to include a form of *appear*.**

1. The moon seems to be hiding the sun.

   *The moon **appears** to be hiding the sun.*

2. Children wonder if the sun will come out again.
3. It is so dark without the sun that it seems to be nighttime.
4. A few stars come into view in the dark sky.
5. A few minutes pass and the sun starts to come into view.
6. The sun seems brighter than ever.



A solar eclipse

The verb *to develop* means "to change or grow over time."

*A need for clocks **developed** as people began living in cities.*

To develop something means "to create something over time."

*The Egyptians **developed** a 12-hour time system.*

To develop into means "to change from one form to another."

*Simple water clocks **developed into** complex art objects.*

The noun form is *development*.

*The **development** of modern clocks took many centuries.*

(See Oxford American Dictionary for Learners of English, p. 199)

CORPUS

E. **Rewrite these sentences in your notebook with the given form of *develop*. Then, in a small group, take turns reading your sentences to each other.**

1. Scientists have created a system to learn how trees grow. (developed)

   *Scientists have **developed** a system to learn how trees grow.*

2. They analyze tree rings to learn about the history of a tree. (development)
3. As a tree grows, it adds a layer of wood on the tree trunk every year. (develops)
4. Each layer is called a ring. The rings are linked to a tree's growth. (development)
5. Wide rings form when a tree has lots of water during the year. (develop)
6. Thin rings are formed when a tree does not have much water. (developed)
7. Scientists learn about the growth of a tree by analyzing its rings. (development)

LIVEWORKSHEETS

The noun *difference* tells how two people or things are not alike.

*The time **difference** between Tokyo and Bangkok is two hours.*

*Which of these bowls is bigger? I can't tell the **difference** (between the two).*

The adjective *different* means "not the same as." (When two things are compared, use *different from*.) It can also mean "not of the same kind." The adverb form is *differently*.

*Chinese is very **different from** English.*

*The languages are very **different**.*

*Each one was prepared **differently**.*

To make a difference means "to have an effect" or "to influence" something. *To not make a difference* means "to not have an effect or influence."

*If you don't study, it could **make a difference** in your grade.*

*It won't **make a difference**. I'm already failing the class.*

To *have differences* means "to disagree about some things."

*My brother and I are best friends, but we **have** our **differences**.*

(See Oxford American Dictionary for learners of English, pp. 201–202)

CORPUS

F. **Complete this story with forms of the word *difference*. Then, with a partner, take turns reading the story out loud.**

Time passes for all humans in the same way. Yet there are many (1) _____ ways to express time in numbers. For example, many countries use a 24-hour time system. In these countries, the day begins at midnight, which is 00:00. The day ends at 23:59. These times are written (2) _____ in a country with a 12-hour time system. Midnight is 12:00 A.M. The day ends at 11:59 P.M. Countries also write dates (3) _____ In some countries a date is written as June 2, 2014. In other countries, it is written as 2 June 2014. The (4) _____ could be confusing if the date is written in just numbers. For example, a visitor might confuse 6/2/2014 and 2/6/2014.

LIVEWORKSHEETS

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READING 2

Before You Read

In small groups or with the whole class, discuss the following questions.

1. Have you ever visited a country that was in a different time zone?
2. What time does the sun rise where you live? What time does it set?
3. Why does the time vary in different places on earth?

REVIEW A SKILL Previewing (See p. 2)

Before you begin the reading, preview it. Remember to

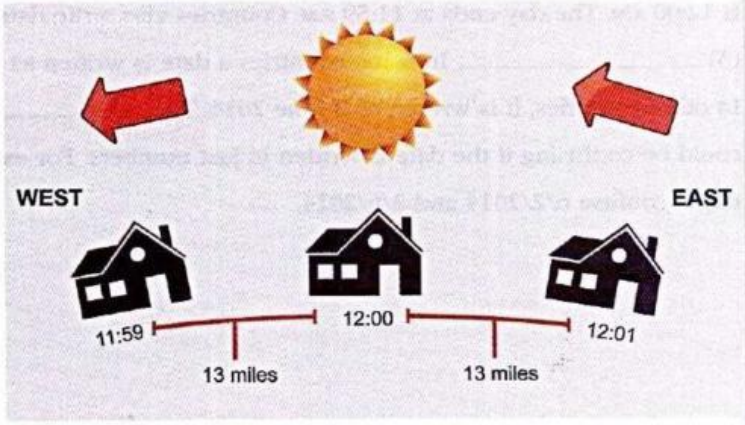
1. look at the title;
2. read the introduction;
3. look at the pictures;
4. read the words under the pictures;
5. guess what the article will be about.

Read

This article is from a geography text book. Use your dictionary to find the meaning of words you do not know.

Time Zones

Many years ago, people used the sun to set their clocks. When people saw the sun exactly above them, they knew it was noon. Everyone living nearby had the same sun time. But the sun was not exactly above in other locations to the east or west. As a result, people in **different** locations had **different** local times.



Sun time differs by about one minute every 13 miles (about 21 km) of distance on the earth.

LIVEWORKSHEETS

As the earth turns each day, the sun **appears** to move across the sky. It appears to **shift** from east to west. As it moves, time **varies**. Sun time **differs** by about one minute every 13 miles (about 21 km) of distance on the earth. Imagine that the sun time is exactly 12:00 noon in one town. The sun time is a minute earlier 13 miles to the west. This is because the sun is not yet exactly above. The sun time is a minute later 13 miles to the east. This is because the sun has already been exactly above. Towns 130 miles apart **differ** about 10 minutes in sun times. Towns 1,300 miles apart **differ** about 100 minutes in sun times.

For most of human history, **differences** in local sun times were not important. However, in the 19th century, railroads began to carry people over long distances. Travelers and railroad workers were **confused** by the many local sun times. They set their watches to their own local time at the start of a trip. Later the train stopped at a distant town. Then the watches were not **accurate**. They did not match the local time. Railroads needed to create an official time system to link the rail system together.

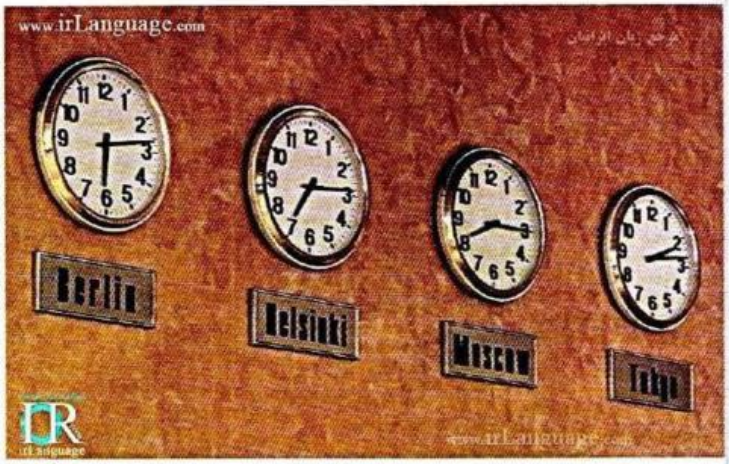


A map of world time zones

In 1884, a world committee met. They **developed** a world **system** that **featured** time zones. The committee divided the earth into 24 time zones. Each time zone was equal to one hour of time in a 24-hour day. Clock time was the same for everyone living in one time zone. When people traveled into a new time zone, they had to change their watches. People traveling east had to add one hour. **Similarly**, people traveling west had to **shift** the time back one hour.

The center of the first zone was in Greenwich, England. Exactly half way around the earth an International Date Line was created. Here the time was exactly 12 hours **different** from Greenwich Time. Here the calendar date **shifted**. When it was Tuesday to the west of the line, it was Wednesday to the east of the line.

Today the time zone **system** is used by most countries of the world. It has helped world transportation and communication to **develop**.



Clocks showing different times in different cities.

LIVEWORKSHEETS

Reading Comprehension

Mark each sentence as *T* (True) or *F* (False) according to Reading 2.

___ 1. There is a difference of one hour when you travel from one time zone to the next time zone.

___ 2. The sun appears to shift across the sky from west to east.

___ 3. Sun time varies for people who live in the same location.

___ 4. Sun time in one town is similar to the sun time in a distant town.

___ 5. Travelers were confused by the many local sun times.

___ 6. An international committee developed a system of 12 time zones.

___ 7. Railroads needed an accurate time system.

___ 8. The International Date Line is a feature of the world system of time zones.

READING SKILL Pronoun References

APPLY

Below are some sentences about Reading 2. Replace the underlined words with a pronoun. Write the pronoun(s) after the sentence.

1. When people saw the sun exactly overhead, people knew that the time was noon. *they*
2. When the sun was overhead in one location, the sun was not overhead in a different location. _____
3. Railroad workers were confused by the many local times. Railroad workers did not know the accurate time. _____
4. Whenever people traveled east into a new time zone, people had to change the people's watches. _____
5. The International Date Line was in the middle of the ocean. The International Date Line did not divide any large nations. _____
6. When the day was Tuesday to the west of the line, the day was Wednesday to the east. _____

LIVEWORKSHEETS

Vocabulary Activities STEP I: Word Level

The verb *to vary* means "to be different from something else," or "to change."

*The two airlines **vary** in the services they offer.*

*The number of cars on the highway **varies** with the time of day.*

To vary something means "to make changes in it."

*I **vary** the route I walk each day.*

The adjective *varied* means "to have different qualities."

*The children were of **varied** ages.*

(See Oxford American Dictionary for learners of English, p. 807)

CORPUS

A. **Work with a partner. Imagine that two friends have just returned from a vacation in Hawaii. You are asking them questions about their vacation. Match each question with a good answer. When you are finished, take turns asking and answering the questions.**

1. How was the weather? ___
2. What kind of food did you have? ___
3. Did you go swimming every day? ___
4. How was the surfing? ___
5. Was the food expensive? ___

Answers

a. We tried to vary our schedule each day.
b. The temperature varied between 80°F and 84°F (27°C and 29°C) every day.
c. It varied from one beach to another.
d. The prices varied from expensive to cheap.
e. We ate a varied diet of Chinese food, Hawaiian food, and fast food.

A *feature* is an important part of something.

*Lots of good food is a **feature** of most celebrations.*

*Automobile traffic is one **feature** of big cities that I don't like.*

To feature something means "to include it as an important part."

*This museum **features** several paintings by Rembrandt.*

*My favorite restaurant **features** fresh fish every Saturday.*

(See Oxford American Dictionary for learners of English, p. 266)

CORPUS

LIVEWORKSHEETS

B. **Work with a partner. Imagine that you have been given the job of writing an advertisement for a new alarm clock that your company makes. Choose three of the *features* below to mention in your advertisement. Then write the advertisement by completing the paragraph below.**

___ a loud alarm
___ numbers that shine in the dark
___ a beautiful green color
___ a long electric cord
___ a back-up battery
___ a strong plastic case
___ parts that were made locally
___ a low price tag

You will like our new EZ Sleep alarm clock.
It has many great features.
The most important feature is _____.
Another great feature is _____.
It also features _____.
Buy one today!

Vocabulary Activities STEP II: Sentence Level

The verb *to confuse* means "to cause a person to be unable to understand something."

*The information in travel guides sometimes **confuses** me.*

The noun form is *confusion*.

*I missed my airplane flight because of some **confusion** about the time.*

The adjective *confusing* describes the thing that causes confusion. The adjective *confused* describes the way a person feels because of it.

*The information was **confusing**.*

*I was **confused**.*

These words also mean "not being able to recognize the difference between two people or things."

*My sons Kyle and Jason are twins. Their friends **confuse** the two of them.*
*The boys laugh at their friends' **confusion**.*

The noun *confusion* is sometimes used to describe a situation that lacks organization.

*In the **confusion** after an earthquake, many people are separated from their families.*

(See Oxford American Dictionary for learners of English, p. 152)

CORPUS

LIVEWORKSHEETS

C. **Complete this paragraph with forms of the word *confuse*. When you have finished, take turns reading the paragraph out loud with a partner.**

On Sunday, November 18, 1883, the United States was divided into four time zones. A weekend date was chosen because fewer people would be going to work. A weekend day would (1)_____ fewer people. At exactly noon on that Sunday, all of the railroad clocks were changed to the new times. Homes and businesses shifted their clocks, too. It was a day of much (2)_____. The change was (3)_____ for some people because they lost many minutes of time when they set their clocks ahead. Other people were (4)_____ because they had two noons in one day when they set their clocks back. The (5)_____ lasted several days because some people changed their clocks but others did not. "I'm (6)_____," many people said. "This time shift is really (7)_____."

To shift means "to be moved or to move something to another place or another direction." It also means "to change a position of the body" or "to change an action."

*I **shifted** my books from the desk onto the floor.*

*The tennis player **shifted** to the right.*

*The hostess tried to **shift** the conversation to a different topic.*

The noun form is also *shift*.

*The **shift** from one time zone to another time zone confuses travelers.*

(See Oxford American Dictionary for learners of English, p. 658)

CORPUS

D. **Rewrite each of these sentences in your notebook to include a form of *shift*.**

Many parts of the United States change their official time during the spring and summer to enjoy an extra hour of sunlight in the evening. This allows people to walk, play tennis, or do other outdoor activities into the evening hours.

1. The change is called Daylight Savings Time.
2. Newspapers and TV stations remind people to move their clocks forward one hour.
3. The change in time usually takes place in March.
4. When the time is moved forward, children must walk to school in the dark.
5. But the time change allows them to play outdoors during the bright evening hours.
6. In November, Daylight Savings Time ends and clocks are moved back one hour.

LIVEWORKSHEETS