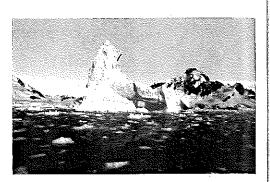
Context Clues

for Word Wisdom

Land of Ice:

Antarctica

Find a globe, and point to your city or town. Then move your finger south until it reaches the bottom of the globe. Your finger is on Antarctica, Earth's southernmost continent. Read this informational article to learn about Antarctica.



maginary lines of **longitude** run north and south over the surface of the earth. They are used to locate places on our planet. The lines meet on the dome of each **hemisphere** at the North Pole and the South Pole. The land that surrounds the South Pole is Antarctica, the fifth largest continent on Earth.

Antarctica is a **unique** land of extremes. It is the coldest place on Earth. The winter temperature has been measured at a record-breaking -89° Celsius (-128° Fahrenheit). Summer temperatures rarely rise above freezing. It is the windiest place on Earth, too. Bitter winds blast coastal areas at 190 kilometers (118 miles) per hour. Antarctica is also one of the driest lands on Earth. Inland, it receives only about 5 centimeters (2 inches) of snowfall a year. Because of the frigid temperatures, very little of the snow melts. This results in massive layers of ice covering almost all of Antarctica. The

average thickness of the ice is more than 2 kilometers (about 1¼ miles)!

Few plants and animals live on this icy land. In contrast, life is abundant in the surrounding ocean. Vast quantities of tiny **microscopic** plants and animals drift in the water. They are the basic food supply for fish, birds, seals, and whales.

The people who know Antarctica best are scientists. At research **sites**, scientists gather all sorts of information. They study wildlife, rocks, the ocean, sunlight, and the atmosphere. Some scientists study ice. They use drilling **devices** to lift out layers of ice. The layers hold clues about Earth's climate over many thousands of years. Scientists look at past **variations** to predict future climate changes.

Antarctica is hard to reach, a **solitary** continent far from home. For curious scientists, however, Antarctica is one of the best places to learn about Earth.

Context Clues Strategy

Look for What the Word Is Used For

EXAMPLE: The best-known birds of Antarctica are penguins, whose *adaptations* allow them to survive the harsh winters.

CLUE: The phrase to survive the harsh winters tells what adaptations are used for.

Here are the steps for using this context clues strategy to figure out the meaning of the word *longitude*.

of the sentence with the unknown word and some

Imaginary lines of **longitude** run north and south over the surface of the earth. They are used to locate places on our planet.

for context clues. Do any words describe What the Word Is Used For?

The words used to locate places on our planet explain what the word longitude is used for.

you may already know.

I know we use lines on maps to figure out where places are in social studies.

a meaning for the word.

Longitude might mean "location on the earth's surface."

where the Word Wisdom Dictionary to be sure of the meaning.

The word *longitude* means "distance on the earth's surface, measured east or west from the prime meridian."

1 Unlock the Meanings

Practice the Strategy A boldfaced word from the article on page 94 is in the box below. Use the context clues strategy on page 95 to figure out the meaning of this word.

	the sentence that includes the word <i>devices</i> and of the sentences around it.
words	for context clues to the word's meaning. Do any describe What the Word Is Used For?
	·
Y) Stattals	about the context clues. What other helpful
_1 (MS)	nation do you know?
4	
- Paredi	a meaning for the word <i>device</i> .
/)@fed	your Word Wisdom Dictionary to be sure of the
mean	ing of device. Write the meaning here.

WORD LIST ✓ longitude Use Context Clues Two words you have learned from the hemisphere article are checked off in the Word List. In the first column, write the other eight words from the Word List. In the second column, unique predict a meaning for each word. Look up the meaning in your frigid Word Wisdom Dictionary. Write the dictionary meaning in the massive third column. microscopic site ✓ device Voetbulkery Your Dictionary variation World. Says Prediction solitary 1 2 3 4 5 6 7 8

Process the Meanings

WORD LIST

longitude hemisphere unique frigid massive microscopic site device variation solitary

Find Synonyms Write the word from the Word List that is a synonym for the boldfaced word or words in each sentence below.

- 1 Antarctica is in the southern half of the earth. 2 A lone ship sailed into the sea of ice. 3 Extremely small life forms survive inside rocks. 4 Some icebergs are as huge as islands. 5 The weather scientist used a balloon as a measuring tool. 6 The South Pole is a place for scientific research. 7 Antarctica is a one-of-a-kind continent. 8 Antarctic winters are dark and extremely cold. 9 One difference among the species of penguins is size.

 - 10 Sailors keep track of their ship's east-west position.

Apply What You've Learned

ixplain D	ifferences Write the answer to each question.
1 What is	the difference between a sphere and a hemisphere?
2 Would y	you want a unique haircut or an ordinary one? Why?
Would y	ou prefer to be outdoors on a chilly day or a frigid day
Why?	
	the difference between a massive desk and a messy
desk?	
	site different from a sight?
ll why R	Read each statement. Tell why the statement is true.
New York	k City and San Francisco are at different longitudes.
Reading o	can be a solitary activity.
Germs th	at cause illness are microscopic.
A thermo	meter is a device for measuring temperature.
Some place	ces have extreme variations in temperature.



Write It! Write a paragraph for a tourist brochure advertising Antarctica. Use as many words from Part 1 as you can.

Latin Roots

for Word Wisdom

Singing Together:

Merry Measures

Choral singing is everywhere. There are church choirs. There are school choirs. And there are professional choruses in cities around the world. But what is choral singing really all about?

If you like **solitude**, then choral singing is not for you. Working with others is one of the most important parts of choral singing. Think of it as a team sport: Everyone must work together in order to do well. It is this "working together" that gives a chorus its sense of **unity**. It is not individual singers; it is many singers forming one thing.

In a chorus the singers often sing in unison, blending their voices together. But it is not always everyone singing at once. Sometimes, various parts of the chorus will take turns singing. These different groups within the larger chorus might be separated by singing style. One group might have high singing voices. Another group might have low singing voices. These groups might even take turns singing different lines of a song. These kinds of changes add variety to the style and sound of a chorus.

There are other moments of variety in choral singing. Sometimes, one singer will sing a part of a song alone. In a performance, this **soloist** may or may not stand apart from the rest of the chorus. Some choruses will sing along with an orchestra that provides instrumental music to the program. These choruses are often called symphony choruses. Other choruses are the **sole** music-makers on stage. They make music with their voices alone.

Choruses come in all sizes; the sizes are **variable**. A small town's chorus might have fewer than twenty members. A chorus in a major city might have a few hundred people. All chorus members must have an understanding of music. They must know the **units** for measuring music. They must know how each musical key sounds. Choruses may be different all around the world, but these details of music are **universal** for all.

If you love music, treat yourself to seeing a choral performance. You will be amazed at how skillful the singers are at blending their voices. And you might learn something about working together! **Practice the Context Clues Strategy** Here is one of the boldfaced words from the essay on page 100. Use the context clues strategy you learned in Part 1 on page 95 to figure out the meaning of this word.

	the sentence that uses the word <i>unison</i> . Read sor sentences around the word.
Look words	for context clues to the word's meaning. Do any describe What the Word Is Used For?
Think inforn	about the context clues. What other helpful nation do you know?
Predi	a meaning for the word <i>unison</i> .
Check meani	your Word Wisdom Dictionary to be sure of the ng of the word <i>unison</i> . Write the definition here.
	•

1 Unlock the Meanings

The Latin roots that you will learn in this unit are all related to measurement. See if you can tell how all the words with the same root are related in meaning.

Latin Root: sol, soli

meaning: alone

English word: solitary

meaning: being alone

Latin Root: uni

meaning: one

English word: unique

meaning: one of a kind

Latin Root: vari

meaning: many

English word: variation

meaning: a slightly

different kind

WORD LIST

solitude

unity

unison

various

variety

soloist

sole

variable

unit

universal

Sort by Roots Look at the Word List to find the roots that you just learned. Write each word under the correct root. Think of other words that come from the same Latin root. Write each word in the correct place.

Latin Root: sol, soli

Latin Root: uni

Latin Root: vari

Measurement

Use Roots Circle the root in each boldfaced word. Then use your knowledge of roots and context clues to write the meaning of each word. Check your definitions in the Word Wisdom Dictionary.

1	We planted a variety of flowers, including mums, roses, and pansies.
2	Aram's sole reason for taking the trip was to see the Grand Canyon.
3	All people understand the universal need for food and shelter.
4	Standing in front of the orchestra, the soloist played her violin.
5	A meter is a unit of length used to measure distances.
6	The size of the crowd at our soccer matches is variable.
7	Our whole class answered the question in unison .
3	To find solitude , I leave the city and go to the desert.
9	We looked at various computers and bought the silver laptop.

10 The countries showed unity by signing a trade agreement.

Process the Meanings

WORD LIST	
solitude	
unity	
unison	
various	
variety	
soloist	
sole	
variable	
unit	
universal	

Match the Synonyms Match each vocabulary word with its synonym. Write the synonym on the line.

Vocabular	y Word	Synonym
universal		oneness
variable		assortment
sole		global
variety		only
unity		changeable
a. alone	b. outdoors	c. inside
wnen people sin	g in unison , they si	шу
		O
a. quietly	b. one at a time	
•	performs	c. together
A soloist usually himself or hersel	performs	c. together by
A soloist usually himself or hersel a. comedy	performs f.	c. together by c. music
A soloist usually himself or hersel a. comedy If people are reac	performs f. b. gymnastics	c. together by c. music the books are all
A soloist usually himself or hersel a. comedy If people are reactage. a. interesting	performs f. b. gymnastics ling various books,	c. together by c. music the books are all c. difficult

Apply What You've Learned

Find Examples Read each description below. Then put a **check mark** (✓) beside every example that matches the description.

1 what you're likely to see a sol	oist do
sing a song	play a trumpet
announce an act	do a trick
2 places you could find solitude	e
in your room	in a crowded mall
on a mountaintop	at a basketball game
3 units of measurement	
gram	ruler
hour	pint
4 things that are variable	
the weather	a person's mood
students in school	days in a week
5 acting in unison	
teachers in a dialogue	classmates reciting a poem
brothers playing catch	dancers doing steps
Find Correct Uses Decide whoeen used correctly. Write C for	
6 The team showed unity by ch	eering for all the players
7 Every Friday we rent various r	novies at the video store
8 Earth is the sole planet among	all the planets
9 Humans have a universal need	d for water
Because of the variety in temp	perature, I wore a jacket



Speak It! Give a short talk describing your favorite kind of music and tell why it is your favorite. Use as many of the words from Part 2 as possible.

Reference Skills

for Word Wisdom

Food Science:

Measuring Cookies

Have you ever thought about cookies? Of course you have. But have you ever really thought about cookies? Read this article to learn more about the science of baking.

Then you think about science, you might picture a scientist in a white lab coat. She is pouring a steaming liquid into a beaker. But there is more to science. It is all around us, even in the kitchen.

A cookie recipe is a scientific, **enumerated** list of food ingredients. Bakers **calculate** the proper mixture of ingredients by experimenting just like scientists do. That's why a baker is sometimes called a food scientist.

To find the perfect recipe, a baker will try many versions of the same recipe. He will **evaluate** how changes in the recipe affect the final product. The baker will keep track of these differences. When the experiment is finished, a **comparison** of the results identifies the tastiest cookie!

Each of the basic cookie ingredients has a job. To get the best cookies, you must use **accurate** amounts of the ingredients. Baking is a precise science. In regular

cooking, you can **estimate** how much of something you need to use. In baking, guessing about amounts is not a good idea. Science might decide to ruin your recipe for you!

Most cookie recipes begin with flour. Some kinds of flour make cookies soft, while others make cookies crunchy. A recipe will **identify** which kind of flour is best. Cookies also use sugar. Sugar is not just for taste. The chemical properties in sugar help make a cookie's shape. Certain kinds of sugar will make cookies thin and wide. Other kinds **reduce** a cookie's ability to spread out, making them thick and compact.

Without a leavening agent, cookies would be as hard and flat as crackers! Baking powder is a good leavening agent. When you add a liquid to baking powder, carbon dioxide **accumulates**. Carbon dioxide produces bubbles like the bubbles in soda. In cookies, these bubbles help **inflate** the dough, making it fluffy.

Of course, chocolate chips, oatmeal, raisins, and nuts all give cookies flavor. Ask an adult to help you experiment with cookie recipes. Maybe you will want to be a food scientist someday!

Practice the Context Clues Strategy Here is one of the boldfaced words from the article on page 106. Use the context clues strategy you learned in Part 1 on page 95 to figure out the meaning of this word.

	a ment annue mour recor seems ment mour come mour inflate
	Read the sentence that uses the word <i>inflate</i> . Read some of the sentences around the word.
	Look for context clues to the word's meaning. Do any words describe What the Word Is Used For ?
	Think about the context clues. What other helpful information do you know?
	Predict a meaning for the word <i>inflate</i> .
-	
1	Check your Word Wisdom Dictionary to be sure of the meaning of the word <i>inflate</i> . Which of the meanings for <i>inflate</i> fits the context? Write the definition here.
_	

1 Unlock the Meanings

Dictionary Pronunciations In addition to a word's meaning, a dictionary entry tells a word's pronunciation, syllables, and part of speech. The pronunciation respelling that follows the entry word uses letters and symbols to show how to say the word correctly. In some dictionaries, the part of speech label is abbreviated.

Spaces or dots show where syllables begin and end.

Cal•cu•late /kăl' kyə lāt'/ v.

Accent marks show which syllables are stressed.

The abbreviation tells the part of speech.

Use Pronunciations to Answer Questions Answer each question. Use the pronunciation respellings below.

e•val•u•ate /ĭ văl' yōō āt'/
re•duce /rĭ dōōs'/
es•ti•mate /ĕs' tə māt'/

1 How many syllables are in the word evaluate?
2 Which syllable in reduce is stressed?
3 Which syllables in evaluate are stressed?
4 Which syllable in reduce has a short vowel sound?
5 Which syllable in estimate has a long vowel sound?
6 How many syllables are in reduce?
7 How many syllables are in estimate?
8 Which syllables in estimate are stressed?
9 Which syllables in evaluate have a long vowel sound?
10 Which syllables in estimate have a short vowel sound?



Find the Meaning

1. Use context clues.

2. Look for a familiar root, prefix, or suffix.

3. If the context or a word part doesn't help, check the dictionary.

Define the Words Follow the steps above to write the meaning of each boldfaced word. Then write 1, 2, or 3 to show which steps you used.

- 1 Adam was able to reduce his weight with exercise.
- 2 You can use a hand pump to inflate bicycle tires.
- 3 The pilot estimated the flight would take five hours, but she wasn't sure.
- 4 My comparison of the two movies showed their similarities.
- 5 She carefully checked her report to be sure that it was accurate.
- 6 Jason hopes to accumulate many fossils for his collection.
- 7 The lifeguard enumerated the safety rules for using the pool.
- **8** To **identify** some kinds of birds, Luis listens to their songs.
- **9** Knowing the speed of light helped Lindsay calculate the distance to the star.
- 10 Our teacher gave us a checklist to evaluate our essays.

WORD LIST

enumerate

calculate

evaluate

comparison

accurate

estimate

identify

reduce

accumulate

inflate

Process the Meanings

WORD LIST
enumerate
calculate
evaluate
, comparison
accurate
estimate
identify
reduce
accumulate
inflate

Identify Synonyms Write the word that is the best synonym for each boldfaced word.

. recognize	skater's performar	1
	D. Tocate	T T
ould identify	the suspect	c. help
. growing	b. hiding	c. gathering
1	ılating nuts for win	nter
	eir reasons b. listed	c. added
	b. decrease	c. measure
reduce the a	mount	
	b. excellent	c. exact
	asurement	

Revise Sentences Rewrite each sentence. Replace the underlined words with a vocabulary word. You may have to add an ending to the word.

- 7 Aunt Kate used math to figure out the cost of a vacation.
- **8** We figured out roughly the number of cars on the road.
- 9 Our study of similarities in cameras led us to buy this one.
- 10 The raft must be expanded with air before you can use it.

Apply What You've Learned

Give Examples Write a sentence that gives an example for each description below. Use the boldfaced words in your answers.

-	a country you can memily on a map or a globe
2	something you are accumulating in your locker or room
3	a way you can evaluate your progress in school
4	a time when it is important for you to be accurate
5	something in nature that can't be calculated
6	a point of comparison between two dogs
7	something that can be inflated
8	something that should be reduced

one right that is enumerated in the Constitution

9 something that you have to estimate



Write It! Write questions you would ask a scientist in an interview. Use as many of the words from Part 3 as you can.



Review

Word

WORD LIST
longitude
hemisphere
unique
frigid
massive
microscopic
site
device
variation
solitary
solitude
unity
unison
various
variety
soloist
sole *
variable
unit
universal
enumerate
calculate
evaluate
comparison
accurate
estimate
identify
reduce
accumulate
inflate

Sort by Categories Write the words from the Word List that belong in each section below. The number in each heading tells you how many words to list.

Words having to do with likenesses or differences

Words that begin with a Latin root meaning "one"

Adjectives that describe size

Verbs that mean "to count or measure"



Choose the Correct Words Write the word from the Word List on page 112 that completes each sentence.

1 We cheered after the	sang.		
2 The United States is in Earth's western	•		
3 The store will	_ the price of shoes.		
4 You can if yo	ou don't know the exact amount.		
5 Open the freezer to feel the	air.		
6 A pump is ato another.	for moving water from one place		
Z James enjoys being with crowds, but Jamal prefers			
8 Bacteria are	creatures.		
9 The pound is one	of measurement.		
People speak different languages, but a smile has meaning.			
Recognize Correct Sentences Write yes or no to tell whether each sentence uses the boldfaced word correctly.			
The longitude of my trip was too long.			
12 The restaurant offers various pasta dishes.			
Calculate your math problems before you leave.			
I should accumulate to get rid of this stuff.			
She lost her site and couldn't	beer		

Review



TEST-TAKING STRATEGY

Some vocabulary tests ask you to complete analogies. The test gives you one pair of words that are related. The test then gives you a third word; for example: Shoe is to foot as hat is to____. You choose the word that completes the statement. A good strategy is to think about the relationship of the words. Relationships include synonyms, antonyms, and what things are used for. Make a statement with the first pair of words and see which word makes the same statement for the next pair.

Sample:

Fill in the letter by the answer that BEST completes the analogy. Warm is to hot as cool is to____.

- (A) bubbles
- (B) wet
- (C) air
- (D) cold

Taking Vocabulary Tests

Practice Test Fill in the letter by the answer that BEST completes the analogy.

3EST completes the ana	logy.
Break is to build as reduce is to	6 Lose is to fail as accumulate is to
(A) increase	•
B broken	(A) excel
© lower	® gather
(D) weight	© miss
	① game
2 Hands are to clock as	·
longitude is to	-
(A) hour	identify is to
® globe	(A) misspell
© measurement	(B) count
(D) circle	© recognize
3 Path is to walkway as	① person
site is to	8 Breathe is to lungs as
(A) seeing	inflate is to
(B) street	(A) balloon
© footstep	® mind
© setting	© collapse
<u> </u>	① heart
4 Instruct is to lesson a	
evaluate is to	· ———
(A) learning	accurate is to
®athlete	(A) false
© student	® correct
① test	© familiar
	① secret
One is to many as sole is to	10 Abundant is to many
	Abundant is to many as solitary is to
(A) nobody	(A) variety
(B) alone	® massive
© numerous	© unity
UHSHOP	(C) WIIILY

(D) one





Use the Noun Suffixes -ion, -ation The suffixes -ion and -ation turn a word into a noun. Look at the first row of the chart below to see how a new noun is built and defined. Fill in all the missing boxes in each row. Spelling changes will occur, so be sure to check spellings in a dictionary.

Word	+ Suffix -ion or -ation	Meaning of Noun
Example: vary	variation	the act or process of changing
calculate		the act of counting
		the act of gathering
4	evaluation	
estimate		
	inflation	



Speak It! Give a weather forecast like a TV weather reporter. Make it silly or serious. Use as many words from this unit as you can.