

Greek Word Parts *aer, aero; aster, astr, astro; graph; hydr, hydro; naut; para; sphere*

### CD Materials and Preparation

#### Optional pages:

- List 18 Spelling Words and List 18 Review
- Alternate Final Test List 18

#### Day 1

- Word Sort List 18
- *Greek Word Parts*

#### Day 3

- *Answer Sheet*

#### Day 4

- *Online Dictionary: Asteroid*

Italicized items are  
Instructional Aids.

## Day 1

### A Closer Look

- ▶ The words of Greek origin used in this lesson are combined from Greek word elements. Sources vary in the terminology used to describe these elements. The term *word parts* will be used in this lesson.
- ▶ Sources vary in the etymology for certain words. Every attempt has been made to simplify and summarize the information for the purpose of this text.

**Greek Word Parts** *aer, aero; aster, astr, astro; graph; hydr, hydro; naut; para; sphere*

In the previous lesson you learned about words from the Spanish and French languages. In this lesson you will use the English spelling for Greek word parts to form new words.

When a group of letters such as a Greek word part appears in a line of text for the teacher to say or in a student response, it is beneficial to spell rather than to pronounce the group of letters as a unit.

- ▶ Display *Greek Word Parts*. Draw attention to Greek word parts and their meanings. Point out that some of the word parts have more than one spelling.
- ▶ Draw attention to part A. Read the words together.
- ▶ Explain to the students that the meaning of some words has remained similar to the original meaning. For other words the more common uses for the words are different from the original meanings.
- ▶ Call attention to *aerial* and *aerobics*.

What spelling do these words have in common? *aer*

The Greek word part *aer* means “air.”

The word *aerial* means “in the air.”

How is the word part spelled in *aerobics*? *aero*

What can you predict about the meaning of the word *aerobics*? *It has something to do with air.*

### Pattern Words

atmosphere  
hydrogen  
oceanography  
astronaut  
paramedic  
aerial  
hydroelectric  
nautical  
paragraph  
aerobics  
hemisphere  
aquanaut  
astronomy  
hydroponics  
aeronautics  
seismograph  
nautilus  
asteroid  
cartography  
hydraulic

### Review Words

restaurant  
hurricane  
souvenir  
tortilla  
bouquet

### Greek Word Parts

| Word part                 | Meaning                         | Word part     | Meaning  |
|---------------------------|---------------------------------|---------------|--|
| <i>aer, aero</i>          | air                             | <i>naut</i>   | sailor, ship   |
| <i>aster, astr, astro</i> | star, pertaining to outer space | <i>para</i>   | alongside, near, beside; defense, protection against |
| <i>graph</i>              | write, something written        | <i>sphere</i> | ball, sphere   |
| <i>hydr, hydro</i>        | water                           |               |  |

### Word Sort

Sort each Pattern Word by its corresponding Greek word part. Three words will be sorted under two headings.

#### *aer, aero*

*aerial*

*aerobics*

*aeronautics*

#### *aster, astr, astro*

*astronaut*

*astronomy*

*asteroid*

#### *graph*

*oceanography*

*paragraph*

*seismograph*

*cartography*

#### *hydr, hydro*

*hydrogen*

*hydroelectric*

*hydroponics*

*hydraulic*

#### *naut*

*astronaut*

*nautical*

*aquanaut*

*aeronautics*

*nautilus*

#### *para*

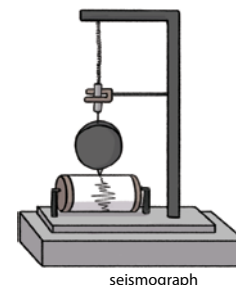
*paramedic*

*paragraph*

#### *sphere*

*atmosphere*

*hemisphere*



seismograph

*Aerobics* is a type of physical exercise designed to improve the body's use of oxygen.

- ▶ Draw attention to *astronomy* and *asteroid*.

What does the Greek word part *astro* or *aster* mean? *star, pertaining to outer space*

Which word refers to a small rocky object in space that orbits the sun? *asteroid*

- ▶ Follow a similar procedure for the word *seismograph*. Elicit from the students that knowing the meaning of the Greek word part *graph* can help them understand many other words that have the same word part.
- ▶ Reveal part B. Read the words together.

What is similar about the words *hydroelectric* and *hydraulic*? *They both have the word part hydro or hydr.*

What does the Greek word part *hydr* mean? *water*

Hydraulic equipment is operated by the force of water, or other liquid, under pressure.

What do you think *hydroelectric* means? *Possible answer: using water to make electricity*

- ▶ Follow a similar procedure for part C.

## Word Study

Write the Pattern Word that matches the meanings of the two word parts.

1. "star" + "sailor" astronaut
2. "beside" + "write" paragraph
3. "air" + "ship" aeronautics



aquanauts

Write the Pattern Word that matches each meaning.

- |                    |  |
|--------------------|--|
| <u>hemisphere</u>  | 4. one half of the earth's surface   |
| <u>aerobics</u>    | 5. a system of exercise designed to improve respiratory and circulatory function |
| <u>hydrogen</u>    | 6. a gaseous element without color or odor                                       |
| <u>aquanaut</u>    | 7. a scuba diver that is trained to live in an underwater environment            |
| <u>nautical</u>    | 8. relating to ships, sailors, or navigation                                     |
| <u>cartography</u> | 9. the art or method of making maps or charts                                    |
| <u>astronomy</u>   | 10. the science of the sun, moon, planets, stars, and other heavenly bodies      |
| <u>hydraulic</u>   | 11. something that is operated or moved by the motion of a liquid under pressure |
| <u>atmosphere</u>  | 12. a thin blanket of gases and other particles that surrounds the earth         |

Write the spelling word that completes each sentence.

- |                      |   |
|----------------------|---|
| <u>hydroelectric</u> | 13. The Hoover Dam generates ____ power for three states.                         |
| <u>oceanography</u>  | 14. Uncle Carl has wanted to study ____ since he was a child living on the coast. |
| <u>paramedic</u>     | 15. Eric watched as the ____ assisted the injured bicyclist.                      |
| <u>restaurant</u>    | 16. The chef at this ____ will stir-fry your choice of vegetables.                |
| <u>nautilus</u>      | 17. A ____ is a mollusk with a spiraled, chambered shell.                         |
| <u>hydroponics</u>   | 18. Kali grew tomatoes in nutrient-enriched water for her ____ experiment.        |
| <u>seismograph</u>   | 19. The ____ recorded the earthquake at 5.7 on the Richter scale.                 |
| <u>asteroid</u>      | 20. Ceres is a large ____ discovered in 1801 by an Italian astronomer.            |
| <u>aerial</u>        | 21. The photographer took ____ photos of the flooded areas from a helicopter.     |

## Spelling 6

List 18 • 71

## Pretest

- Follow the procedure for administering an optional self-assessment (page 7). The pretest may be administered before or after teaching this lesson.

|            |               |              |
|------------|---------------|--------------|
| nautical   | hydrogen      | paramedic    |
| hemisphere | aquanaut      | atmosphere   |
| paragraph  | astronaut     | oceanography |
| aerobics   | hydroelectric | aerial       |

## Differentiated Instruction

## Day 2

## Word Study

- Ask a student to write *nautical* for display.  
How can we change the word *nautical* to spell *nautilus*?  
Replace the letters *cal* with *lus*.
- Invite a student to write for display each new word as it is discussed.  
How would we change *seismograph* to *paragraph*? Remove the letters *seismo* and add *para*.
- Continue the activity using the examples as a guide.
1. hydrogen/hydroponics
  2. aerial/aerobics
  3. astronomy/astronaut/nautical

## Review Words

- Ask a student to write for display: *restaurant*, *hurricane*, *souvenir*, *tortilla*, *bouquet*.
- Call attention to the spelling features in these foreign words.

Which word has the Spanish pronunciation /ē-yə/ at the end of the word? *tortilla*

How is the /ōō/ sound spelled in *souvenir*? *ou*

What is the spelling of the vowel pair in the word *restaurant*? *au*

Which word has a double *r*? *hurricane*

What is the silent letter in the word *bouquet*? *t*

## Word Meaning

- Direct the students to turn to the word list on Worktext page 70.
- Read each clue. Direct a student to identify the spelling word and write it for display.

Increase practice by directing each student to write the answer individually as one student writes for display.

- Elicit from the students that many words of Greek origin can be broken down into meaningful parts.

Learning the word parts will help us spell new words and understand their meanings.

## Word Sort

- Instruct the students to turn to Worktext page 70.
- Display Word Sort List 18. Explain the Word Sort activity and discuss sorting each Pattern Word by one of its Greek word parts. Three words will be sorted under two headings.
- Choose a student to read the first word.  
Which word part of *atmosphere* is a heading on this Word Sort? *sphere*  
Under which heading would we write this word? *under the sphere heading*
- Direct the students to write *atmosphere* under the correct heading as you write for display.
- Follow the same procedure with each word as you complete the Word Sort.

1. a scuba diver trained to live in an underwater environment **aquanaut**
  2. a mollusk with a spiraled shell **nautilus**
  3. something operated by the motion of a liquid, such as water, under pressure **hydraulic**
  4. a small rocky object that revolves around the sun **asteroid**
  5. the exploration and study of the ocean **oceanography**
  6. generating electricity through the use of moving water **hydroelectric**
  7. the art of making maps and charts **cartography**
  8. someone who is trained to provide medical care to a person in an emergency **paramedic**
- Complete page 71.

## Day 3

### Practice Test

- Administer the practice test. Pronounce each word, use it in a sentence, and then repeat the word.

- |                  |   |
|------------------|---|
| 1. aerial        | A radio or television antenna is called an <b>aerial</b> .                            |
| 2. astronaut     | John Glenn was the first American <b>astronaut</b> to orbit the earth.                |
| 3. hemisphere    | One <b>hemisphere</b> of earth lies north of the equator.                             |
| 4. nautical      | A <b>nautical</b> mile equals 6,076 feet.   |
| 5. hydrogen      | Oxygen and <b>hydrogen</b> combine to form water.                                     |
| 6. aquanaut      | An <b>aquanaut</b> lives in an underwater sea habitat to do research and exploration. |
| 7. atmosphere    | Various types of clouds form in the earth's <b>atmosphere</b> .                       |
| 8. hydroelectric | Water pressure is used to operate a generator to produce <b>hydroelectric</b> power.  |
| 9. oceanography  | Jessie's interest in <b>oceanography</b> may lead to a future career in that field.   |
| 10. aerobics     | My cousin does thirty minutes of <b>aerobics</b> every other day.                     |
| 11. paragraph    | I decided on a topic sentence that I will use in my <b>paragraph</b> .                |
| 12. paramedic    | Uncle Matt is a flight <b>paramedic</b> in the army.                                  |
| 13. seismograph  | The <b>seismograph</b> indicated that a strong earthquake occurred in the region.     |
| 14. hydroponics  | Carrots and other vegetables can be grown through the use of <b>hydroponics</b> .     |

### Proofreading Review

Read each phrase. If an underlined word is misspelled, mark the phrase. If all the underlined words are spelled correctly, mark "all correct."

- |   |   |
|---|---|
| 1. (A) a trained <u>paramedic</u><br>(B) to study <u>cartography</u><br>(C) a <u>pursonal</u> communication device<br>(D) all correct | 4. (A) in each <u>hemisphere</u><br>(B) to <u>aksept</u> an invitation<br>(C) to do <u>aerobics</u> in a class<br>(D) all correct |
| 2. (A) a <u>hydraulic</u> lift<br>(B) to grow plants using <u>hydroponics</u><br>(C) a <u>souvenir</u> from Alaska<br>(D) all correct | 5. (A) to <u>summerize</u> a story<br>(B) a soft flour <u>tortilla</u><br>(C) to use <u>aerial</u> photography<br>(D) all correct |
| 3. (A) the element <u>hydrogen</u><br>(B) an <u>igwana</u> lizard<br>(C) a destructive <u>hurricane</u><br>(D) all correct            | 6. (A) a famous <u>astronaut</u><br>(B) an <u>official</u> announcement<br>(C) a dish of <u>selery</u><br>(D) all correct         |

atmosphere  
hydrogen  
oceanography  
astronaut  
paramedic  
aerial  
hydroelectric  
nautical  
paragraph  
aerobics  
hemisphere  
aquanaut  
astronomy  
hydroponics  
aeronautics  
seismograph  
nautilus  
asteroid  
cartography  
hydraulic  
restaurant  
hurricane  
souvenir  
tortilla  
bouquet

Read each sentence. If an underlined word is misspelled, mark the word. If all the underlined words are spelled correctly, mark "all correct."

- |  |
|--|
| 7. The <u>aquanaut</u> wrote a <u>paragraph</u> about his research of the <u>nautilus</u> .<br>(A) (B) (C) (D) all correct           |
| 8. We learned about the <u>asteroid</u> belt when we studied the <u>subject</u> of <u>astronomy</u> .<br>(A) (B) (C) (D) all correct |
| 9. Each <u>restaurant</u> table was <u>decarated</u> with a <u>bouquet</u> of roses.<br>(A) (B) (C) (D) all correct                  |
| 10. Scientists use a <u>seismograph</u> to <u>determine</u> the <u>affect</u> of an earthquake.<br>(A) (B) (C) (D) all correct       |

- |                 |   |
|-----------------|---|
| 15. asteroid    | The <b>asteroid</b> flyby came between earth and communication satellites.        |
| 16. hydraulic   | Brake fluid is used in cars with <b>hydraulic</b> brakes.                         |
| 17. cartography | <b>Cartography</b> is the art or method of making maps and charts.                |
| 18. aeronautics | Designing, making, and flying aircraft are all part of <b>aeronautics</b> .       |
| 19. astronomy   | <b>Astronomy</b> includes the study of stars, planets, and other matter in space. |
| 20. nautilus    | A <b>nautilus</b> is a mollusk with a spiraled, chambered shell.                  |
| 21. souvenir    | My grandparents gave me a <b>souvenir</b> from their trip to Israel.              |
| 22. hurricane   | The <b>hurricane</b> weakened after it made landfall.                             |
| 23. restaurant  | Aunt Ginny took us to an Italian <b>restaurant</b> .                              |
| 24. bouquet     | I picked a <b>bouquet</b> of daisies for my mother.                               |
| 25. tortilla    | Rob used cheese, beans, and a <b>tortilla</b> to make a burrito.                  |
- Follow the procedure for dictating a sentence (page 4).  
The flight paramedic saw an aerial view of the accident.

## Dictionary Skills

## Etymology

**Etymology** is the study of the origin of a word and the history of the changes made to the word from one language to another.

**hy-dro-gen** (hī 'drā-jən) *noun* A gaseous element that is without color or odor and burns easily. Hydrogen combines with oxygen to form water. **Word origin** French *hydrogène*, Greek *hydr*, *hydros*, water + French *gène*, producing.



chambered nautilus

Use the sample dictionary entry above to answer each question.

- From what two languages does the English word *hydrogen* originate? French and Greek
- What is the meaning of the origin of the word *hydrogen*? water producing
- What is the relationship between the original meaning and our present-day meaning of *hydrogen*?  
Possible answer: Hydrogen combines with oxygen to produce water.

Use the Spelling Dictionary to answer each question.

- What is the meaning of the origin of the words *nautilus* and *nautilus*? ship, sailor
- How is the original meaning of *asteroid* different from our present-day meaning? Possible answer: An asteroid is an object in space, but it is not a star.

## Guide Words

Circle five words that would come between the guide words. Write the circled words in alphabetical order.

|            |           |          |            |                      |         |
|------------|-----------|----------|------------|----------------------|---------|
| atmosphere | accept    | asteroid | accidental | 1. <u>aerial</u>     | avocado |
| aerial     | astronomy | abundant |            | 2. <u>aerobics</u>   |         |
| awkward    | aerobics  |          |            | 3. <u>asteroid</u>   |         |
|            |           |          |            | 4. <u>astronomy</u>  |         |
|            |           |          |            | 5. <u>atmosphere</u> |         |

|            |               |              |        |                         |         |
|------------|---------------|--------------|--------|-------------------------|---------|
| hymnal     | hydroelectric | headquarters | heaven | 1. <u>hemisphere</u>    | hygiene |
| hydrogen   | harmonize     | hydroponics  |        | 2. <u>hydraulic</u>     |         |
| hemisphere | hydraulic     |              |        | 3. <u>hydroelectric</u> |         |
|            |               |              |        | 4. <u>hydrogen</u>      |         |
|            |               |              |        | 5. <u>hydroponics</u>   |         |

## Spelling 6

List 18 • 73

## Proofreading Review

- Introduce the two kinds of proofreading activities in this lesson.
- Direct a student to read the first set of directions on page 72.
- Draw attention to number 1.

Is each underlined word spelled correctly? no

Which word is misspelled? personal

- Ask a student to write the correct spelling for display.
- Follow a similar procedure to complete the page.

Use of the *Answer Sheet* (Teacher's Toolkit CD) will provide practice for standardized testing.

## List 18 Review

## Day 4

## Review

- Select a review activity from the Activities and Games section of the Teacher's Toolkit CD to reinforce this week's spelling skills.

## Dictionary Skills

The information in an online dictionary will be similar to the Spelling Dictionary or a printed dictionary or electronic book. The information for each entry word may be in a different order and have a different design. There may be additional information such as synonyms or antonyms. Dictionaries give the word origin for selected entry words.

- Display *Online Dictionary: Asteroid*. Instruct the students to read the definition silently.
- Ask the students to think of a way to define *asteroid* in their own words. Allow a volunteer to tell his definition to the class.
- Select a volunteer to use *asteroid* in a sentence.
- Ask the students to look at the origin of the word.

What do you notice about the language of origin? Greek is the original language; no other language is given.

What is the meaning of the two original word parts? "star" and "old"

How is the meaning for the Greek word related to our current definition? Possible answer: It means "star-like," and an asteroid is discovered in space as a star is discovered.

- Complete page 73.

## Day 5

## Final Test

- Administer the final test. Pronounce each word, use it in a sentence, and then repeat the word.
- Follow the procedure for sentence dictation.

Alternate final tests with different word order and context sentences are available on the Teacher's Toolkit CD.

- An astronaut watched as an asteroid passed beyond the earth's atmosphere.
- The aquanaut learned about the nautilus when he studied oceanography.