Lesson Objectives

**Day 1**

Students will:
- Identify Greek roots geo ("earth"), therm ("heat"), scope ("target, see"), meter ("measure"), logy ("study")
- Define Greek roots geo, therm, scope, meter, logy
- Read and write words with Greek roots geo, therm, scope, meter, logy

Materials:
- Anchor Poster
- Teacher Category Cards—geo, therm, scope, meter, logy
- Teacher Word Cards—geography, thermal, telescope, perimeter, mythology, geology

**Day 2**

Students will:
- Sort words by Greek roots
- Sort words with Greek roots by meaning

Materials:
- BLM 3: Word Cards
- BLM 6: Take-Home Activity
- Teacher Category Cards
- Teacher Word Cards—same as BLM 4

**Day 3**

Students will:
- Sort words by Greek roots
- Write sentences using words with Greek roots

Materials:
- BLM 2: Category Cards
- BLM 5: Word Cards
- BLM 7: Classroom Activity
- BLM 8: Take-Home Activity
- Teacher Category Cards

**Day 4**

Students will:
- Identify words with Greek roots in a passage
- Write and spell words with Greek roots

Materials:
- BLM 9: Reading Passage
- BLM 10: Spelling Dictation
- BLM 11: Spelling Peer Check

**Day 5**

Students will:
- Correctly spell words with Greek roots

Materials:
- Quick-Check Assessment

Additional Materials:
- Word Study Notebooks
- Pocket Chart
- Dictionaries (Day 1, 2, 3)
Day One

Supporting ELs

Some English Learners may have difficulty inferring the meaning of unfamiliar words. Explain that understanding the meanings of Greek roots will help them determine the meaning of these words. Use words and simple phrases to help students understand the meanings of the Greek roots geo, therm, scope, meter, and logy. Allow students to make simple drawings in their word study notebooks to represent the meanings. Have students label the drawings with the corresponding Greek root.

Blending Practice

If some students have difficulty reading the words, help them read the words syllable by syllable. For example, point to the word altimeter on the chalkboard. Show how you divide the word into four syllables, between the l and the t, between the m and the e, and between the first e and the second t. Point out that there are two closed syllables with short vowel sounds, an open syllable with the schwa sound, and a closed syllable with an r-controlled e. Read each syllable and then blend the syllables together: al/tim/e/ter: altimeter. Continue to support students who need help with blending throughout the week, using the example words used in the lesson.

Review Greek Roots tele, phon, photo, graph

Focus Words: television, phonics, photocopier, graphic

Write the words television, phonics, photocopier, and graphic on the chalkboard. Ask students to identify the Greek root and its meaning in each word. Call on students to discuss the meaning of each word and how the meaning of each root contributes to the overall meaning.

Introduce Greek Roots geo, therm, scope, meter, logy

Teacher Word Cards: geography, thermal, telescope, perimeter, mythology, geology
Teacher Category Cards: geo, therm, scope, meter, logy

Model

Place the category cards geo, therm, scope, meter, logy in a pocket chart. Read each root aloud and explain that these are more Greek roots that appear in many English words.

Hold up the word card geography. As you say it aloud, run your finger under geo. Say: The Greek root geo means “earth.” The other word part is the root graph, meaning “write.” The literal definition of geography is “a written description of the Earth” which has come to mean “the study of the Earth’s surface.” I will place the word geography in the geo category.

Hold up the word card thermal. As you say it aloud, run your finger under therm. Say: The Greek root therm means “heat.” The word thermal means “to come from, to make, or to keep heat.” I will place the word thermal in the therm category.

Identify the Greek roots in the words telescope, perimeter, and mythology: scope—“target, see”; meter—“measure”; and logy—“study.” Discuss the meanings of the words and sort them according to the root word.

Guide

Hold up and read the word card geology. Prompt students to identify the root logy and its meaning. (“study”) Then point out that this word, like many words with Greek roots, contains two roots: geo and logy. Have them discuss the meaning of the word geology and tell you where to place the word in the pocket chart, choosing either the geo or logy category.
Apply

Have students copy the chart in their word study notebooks. Write thermostat, periscope, barometer, and ecology on the chalkboard. Have students work in pairs to sort the words and write definitions based on their understanding of the root and other word parts. Provide them with dictionaries to look up the meanings of any unknown word parts.

Spelling Words with Greek Roots

Unit Spelling Words: thermometer, thermostat, stethoscope, speedometer, mythology, altimeter, biology, gyroscope

Review the meanings of the Greek roots using the anchor poster. Write the spelling words on the chalkboard. Read the words aloud. Have students identify the root in each word.

Say: A connecting vowel is often inserted between two word parts. If one word part ends with a consonant and the next word part begins with a consonant, a vowel is inserted. Usually the vowel is o or i. Circle the connecting vowel in each of the first six words.

Ask students to copy the spelling words in their word study notebooks. Have partners check each other’s spellings. Ask students to identify the meaning of each spelling word.

Assessment Tip

Notice which students have difficulty sorting words based on root words. Have students look at each root word separately. Have them look for that root word in the word they are sorting. If they do not see one root word, they look for the next one, and so on. Have them use the following steps.

1. Read the word.
2. Does the word have the root geo?
3. Does the word have the root therm?
4. Does the word have the root scope?
5. Does the word have the root meter?
6. Does the word have the root logy?
7. Underline the root in the word.
8. Sort the word in the correct column.

Home/School Connection

Students can take home a list of the spelling words and practice reading, writing, and spelling the words with a family member.
Day Two

**Common Features Sort**

<table>
<thead>
<tr>
<th>geo</th>
<th>therm</th>
</tr>
</thead>
<tbody>
<tr>
<td>geode</td>
<td>thermostat</td>
</tr>
<tr>
<td>geography</td>
<td>thermal</td>
</tr>
<tr>
<td>(geothermal)</td>
<td>(geothermal)</td>
</tr>
<tr>
<td>(geology)</td>
<td>(thermometer)</td>
</tr>
<tr>
<td>scope</td>
<td>meter</td>
</tr>
<tr>
<td>periscope</td>
<td>barometer</td>
</tr>
<tr>
<td>stethoscope</td>
<td>millimeter</td>
</tr>
<tr>
<td>telescope</td>
<td>perimeter</td>
</tr>
<tr>
<td>(thermometer)</td>
<td></td>
</tr>
<tr>
<td>logy</td>
<td></td>
</tr>
<tr>
<td>ecology</td>
<td></td>
</tr>
<tr>
<td>mythology</td>
<td></td>
</tr>
<tr>
<td>zoology</td>
<td></td>
</tr>
<tr>
<td>(geology)</td>
<td></td>
</tr>
</tbody>
</table>

**Meaning Sort**

<table>
<thead>
<tr>
<th>earth</th>
<th>heat</th>
</tr>
</thead>
<tbody>
<tr>
<td>geocentric</td>
<td>exothermic</td>
</tr>
<tr>
<td>geometry</td>
<td>hypothermic</td>
</tr>
<tr>
<td>geophysics</td>
<td>thermodynamic</td>
</tr>
<tr>
<td>target/see</td>
<td>measure</td>
</tr>
<tr>
<td>gyroscope</td>
<td>altimeter</td>
</tr>
<tr>
<td>horoscope</td>
<td>kilometer</td>
</tr>
<tr>
<td>kaleidoscope</td>
<td>tachometer</td>
</tr>
<tr>
<td>study</td>
<td></td>
</tr>
<tr>
<td>biology</td>
<td></td>
</tr>
<tr>
<td>pathology</td>
<td></td>
</tr>
<tr>
<td>psychology</td>
<td></td>
</tr>
<tr>
<td>sociology</td>
<td></td>
</tr>
</tbody>
</table>

**Home/School Connection**

Give students BLM 6 to complete with a family member. Students can also take home the word cards and share their sorts with a family member.

**Supporting ELs**

Because some ELs may not have someone at home who speaks English well enough to work with them on BLM 6, make sure that they understand what they are supposed to do on the BLM.

**Review Greek Roots geo, therm, scope, meter, logy**

Write the word *geography* on the chalkboard. Ask students to read the word aloud. Then ask students to identify the Greek root in the word. Students should be able to identify that the word contains two roots. Have the class identify the meaning of the roots and tell what the word means using the meaning of the roots.

Have students call out the other roots and their meanings, which they learned in the previous unit. Record the roots and meanings on the chalkboard.

**Common Features Sort**

**Teacher Category Cards: geo, therm, scope, meter, logy**

Place the category cards next to each other in a pocket chart.

Provide students with BLM 3 word cards. Have students record the category cards from the pocket chart in a five-column chart in their word study notebooks and sort the words in writing based on the root in each word. Point out that some words should be recorded in more than one column. Have students circle words in their sort that have more than one root.

Review the sort to make sure the class correctly sorted the BLM 3 word cards.

**Meaning Sort**

**Teacher Word Cards: same as BLM 4**

**Teacher Category Cards: earth, heat, target/see, measure, study**

Place the meaning category cards in a pocket chart and read each word aloud. Explain that these are the meanings of the Greek roots they are studying. Call on students to identify which meaning goes with which root.

Hold up the word card for *altimeter* and say the word aloud. Say: *When I say altimeter aloud, I can hear the root meter. I know that meter means “measure,” and that an altimeter is a tool for measuring altitude. I’ll place altimeter in the measure column.* Tell students that they will sort words based on the meaning of the root in each word.

Read aloud each word card from BLM 4. Discuss the meaning of each word and have students tell you in which category to place it. Have students use a dictionary to define any unfamiliar words. Remind students that some words can be placed in more than one category.

**Spelling**. Have students sort their spelling words based on the meaning of the root of each word.
Buddy Sort

Teacher Category Cards: geo, therm, scope, meter, logy

Place the root category cards in a pocket chart and remind students that these are the Greek roots they have been studying and which they sorted for yesterday.

Give pairs of students the root category cards from BLM 2 and the word cards from BLM 5. Have one student read a word and ask in which category to place the word. When the second student responds and the word is placed, that student then chooses a word and asks where the word should be sorted.

Have students use a dictionary to define any unfamiliar words.

Have students record the sort and the definitions of unfamiliar words in their word study notebooks.

Applying Meaning. Give students BLM 7 and have them complete the activities, choosing the words with the correct root.

Assessment Tip

Use students’ completed BLM 7 to assess their understanding of Greek root words. Note whether they need more practice in identifying how the roots contribute to the meaning of the words.

Providing Support

ELs and struggling readers may have difficulty completing BLM 7 on their own. Have them work with a partner to read and complete it.

Home/School Connection

Give students BLM 8 to complete with a family member. Explain that they are to do the same thing they did on BLM 7 in class.

Supporting ELs

Make sure that ELs understand what to do on BLM 8 since there may not be anyone at home who speaks English well enough to help them complete it.
Word Hunt

Give students a copy of the passage on BLM 9.Tell them that they will read the passage and circle words with Greek roots. After students have completed the word hunt, ask volunteers to share the words that they found and identify the Greek root or roots in each word.

Have students begin lists of words in their word study notebooks. They can start the lists by using the words in the passage.

Then ask them to look through other texts, looking for words with these roots. Have them add the words to their lists.

After students have had a chance to develop their lists, discuss with them which of their lists has the most words. Then ask them how knowing the meanings of the Greek roots helped them determine the meaning of the words they found.

Spelling Dictation

Give students Spelling Dictation (BLM 10). Dictate the following words from last week’s spelling words to students, one at a time, and have students write them on their BLMs: telephone, symphony, paragraph.

Dictate the following words from this week’s unit, one at a time, having students write them on the BLMs: mythology, thermostat, gyroscope.

Dictate the following sentence and have students write it on their papers: In biology class, I used a thermometer to check my own temperature and a stethoscope to listen to my heart.

Write the words and sentence on the chalkboard and have students self-correct their papers.

Spelling Practice

Give pairs of students Spelling Peer Check (BLM 11). While one student reads the spelling words from his or her word study notebook, the other student writes the words in the First Try column. After the second student has spelled the words, the first student places a check mark next to words spelled correctly.

For the second try, the first student may prompt the second student by sounding out the words that were spelled incorrectly the first time. If the second spelling attempt is correct, the first student places a check mark in the Second Try column.

Then students switch roles.
Spelling Assessment

Use the following procedure to assess students' spelling of the unit spelling words:
• Say a spelling word and use it in a sentence.
• Have students write the word on their papers.
• Continue with the remaining words on the list.
• When students have finished, collect their papers and analyze their spelling of the words.
• Use the assessment to plan small-group or individual practice.

Quick-Check Assessment

Assess students' mastery of Greek roots using the Quick-Check for Unit 27.

Suggestions for Independent Practice

Find a Word. Assign groups of students one of the Greek roots studied in the lesson geo, therm, scope, meter, and logy. Provide groups with dictionaries. Set a timer for five minutes. Have students use the dictionary to find as many words as they can that include the assigned Greek root.

What is . . . ? Provide students with a set of Greek root category cards and word cards. Have groups sort the words according to the Greek root and write clues for each word in each category. Then have groups play a guessing game using the clues.

Speed Read. Have pairs of students select up to twenty word cards and read the words to each other. Then have them take turns reading the words while the other student times the reading with a stopwatch.

Concept Sort. Give pairs or small groups of students a set of word cards. Ask them to sort them into categories of related meanings. For example, thermometer and stethoscope could be placed in the same category because these are things you might find in a doctor's office. Then have the groups try to guess how each group has sorted their cards.

Answer Key Unit 27 Quick-Check

<table>
<thead>
<tr>
<th>Greek Root</th>
<th>Geo</th>
<th>Therm</th>
<th>Scope</th>
<th>Meter</th>
<th>Logy</th>
</tr>
</thead>
<tbody>
<tr>
<td>geocentric</td>
<td>geophysics</td>
<td>exothermic</td>
<td>geology</td>
<td>alimeter</td>
<td>biology</td>
</tr>
<tr>
<td>geometry</td>
<td>geometry</td>
<td>thermos</td>
<td>horoscope</td>
<td>kilometer</td>
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<td>geothermia</td>
<td>geothermia</td>
<td>hypothermia</td>
<td>gyroscope</td>
<td>microscope</td>
<td>sociology</td>
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</tbody>
</table>

Answer Key BLM 6

<table>
<thead>
<tr>
<th>Greek Root</th>
<th>Geo</th>
<th>Therm</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>geocentric</td>
<td>geophysics</td>
<td>exothermic</td>
<td>gyroscopic</td>
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<tr>
<td>geometer</td>
<td>geothermia</td>
<td>thermos</td>
<td>horoscope</td>
</tr>
<tr>
<td>geothermia</td>
<td>geothermia</td>
<td>hypothermia</td>
<td>microscope</td>
</tr>
</tbody>
</table>

Answer Key BLM 7

1. hypothermia 6. biology
2. kaleidoscope 7. dermatology
3. microscope 8. pathology
4. kilometer 9. sociology
5. geometry 10. psychology

Answer Key BLM 8

1. dermatology 6. hydrothermal
2. thermos 7. thermodynamic
3. cosmetology 8. hypothermia
4. odometer 9. thermos
5. archeology 10. thermonuclear
Unit 27 Quick-Check: Greek Roots geo, therm, scope, meter, logy

Answer Questions
Directions: Read the sentences and circle the word that best fits.

1. Melissa’s favorite class is ________________ because she enjoys reading maps.
   - barometer     geography     geothermal

2. Dr. Lopez used a ________________ to check her patient’s temperature.
   - thermometer     telescope     thermostat

3. Submarines use a ________________ to look around above the ocean’s surface.
   - perimeter     periscope     stethoscope

4. A popular college class is ________________ because students enjoy learning about animals.
   - geology     zoology     geography

Apply
Directions: In the space below, list three to five words you know that have a Greek root.

____________   ____________   ____________   ____________   ____________

Directions: Using the words from the word bank, complete the following sort by writing the words in the appropriate category.

<table>
<thead>
<tr>
<th>geo</th>
<th>therm</th>
<th>Word Bank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>altimeter, biology, exothermic,</td>
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<tr>
<td></td>
<td></td>
<td>geocentric, geometry, thermos,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>kaleidoscope, kilometer, microscope, sociology</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>scope</th>
<th>meter</th>
<th>logy</th>
</tr>
</thead>
</table>

Think and Write about Greek Roots geo, therm, scope, meter, logy
Directions: In the space below, explain how understanding the Greek roots geo, therm, scope, meter, and logy helps you as a reader, speller, and writer.