SHELL EDUCATION

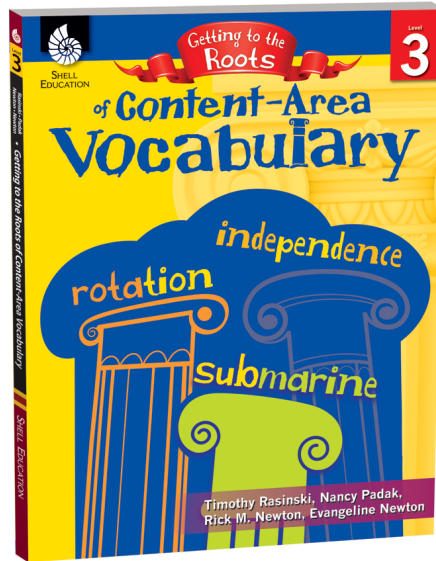## Sample Pages from

Getting to the Roots of Content-Area Vocabulary, Level 3

The following sample pages are included in this download:
- Table of Contents
- Introduction excerpt
- Lesson plan

For correlations to Common Core and State Standards, please visit http://www.teachercreatedmaterials.com/correlations.

Getting to the Roots

Level
3

of Content-Area
Vocabulary

independence

rotation

submarine

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Content-Area Vocabulary Research and Practice

Content learning is largely conceptual. Words are labels for content-area concepts. Although learning these words is critical to student success, teaching them can be challenging. Asking students to look words up in their dictionaries or glossaries and then to memorize definitions provides, at best, a short-term solution. In this book, we present a systematic and research-based alternative to vocabulary learning: a roots approach. Because most words are defined (and spelled) by what their parts mean, students can expand their vocabularies by learning how words are built from the roots up. Over 90 percent of all academic vocabulary derives from Latin or Greek roots (prefixes, suffixes, bases). Moreover, when new academic words are added to English, they too are often derived from Latin and Greek roots. The logic goes like this: learning roots helps students learn content vocabulary; one root can help students unlock the meaning of multiple words. Knowing content vocabulary helps students comprehend and learn social studies, science, and mathematics.

> **Over 90 percent of all academic vocabulary derives from Latin or Greek roots.**

The units in this book center on common roots (prefixes and bases) in science, social studies, and mathematics. We present over 15 prefixes and bases that generate over 200 words from content-area vocabulary.

What Does Research Say About Using a Roots Approach?

The size and depth of elementary students' vocabulary is associated with proficiency in reading comprehension. Effective vocabulary instruction results in higher levels of reading comprehension (Baumann et al. 2002; Beck, Perfetti, and McKeown 1982; Kame'enui, Carnine, and Freschi 1982; Stahl and Fairbanks 1986).

Morphological analysis (e.g., via a roots approach) is important because it is generative and allows students to make connections among semantically-related words or word families (Nagy and Scott 2000). In fact, developing morphological awareness is an integral component of word learning for young children (Biemiller and Slonim 2001). In a comprehensive review of 16 studies analyzing the effect of instruction in morphological awareness on literacy achievement, Carlisle (2010) observes that "children learn morphemes as they learn language" (465).

Classroom-based studies have demonstrated the effectiveness of teaching word parts and context clues in the primary and intermediate grades (Baumann et al. 2002; Baumann et al. 2005; Biemiller 2005; Carlisle 2000; Kieffer and Lesaux 2007; Mountain 2005; Porter-Collier 2010). Research in content-area vocabulary has demonstrated the effectiveness of teaching Greek and Latin word roots, especially for struggling readers (Harmon et al. 2005).

Content-Area Vocabulary Research and Practice (cont.)

No single instructional method is sufficient. Teachers need a variety of methods that teach word meanings while also increasing the depth of word knowledge (Blachowicz et al. 2006; Lehr, Osborn, and Hiebert 2004). These methods should aim at fostering:

Immersion

Students need frequent opportunities to use new words in diverse oral and print contexts in order to learn them thoroughly (Blachowicz and Fisher 2006).

Metacognitive and metalinguistic awareness

Students must understand and know how to manipulate the structural features of language (Nagy and Scott 2000).

Word consciousness

Word exploration (e.g., etymology) and word play (e.g., puns, riddles, games) help students develop an awareness of and interest in words (Graves and Watts-Taffe 2002, Lehr et al. 2004).

Content-Area Vocabulary Research and Practice *(cont.)*

What Is a Root?

A *root* is a word part that contains meaning and not merely sound. Roots are vocabulary multipliers—each root taught helps students discover the meanings of multiple words. There are three categories of roots, depending on their placement within a word:

prefix

A root at the beginning of a word. For example, in the word *retraction*, the initial *re-* is a prefix, meaning "back," "again."

base

The core root, which provides a word with its basic meaning. In the word *retraction*, the base is *tract*, which means "pull," "draw," "drag."

suffix

A root that ends a word. In the word *retraction*, the final *-ion* is a suffix, meaning "act of," "state of."

> **Note:** The term *affix*, used in the Common Core State Standards, refers to either prefixes or suffixes. *Affix* contains an assimilated form of the prefix *ad-*, which means "to," "toward," or "add to." And the Latin base *fix-* means "fasten" or "stick." So an *affix* is a part of a word "added or fixed to" a base word either in front (prefix) or at the end (suffix).

What Do Prefixes and Suffixes Do?

A prefix serves one of three functions:

- A prefix can *negate* a word by meaning "not." The most common negating prefixes are *un-* (e.g., *unhappy, unwashed*) and negative *in-, im-, il-* (e.g., *invisible, impossible, illegal*). Some directional prefixes can also be negating. For example, the prefix variations *di-, dis-, dif-*, which mean "apart," "in different directions," can also mean "not." (*dis*similar = "not similar"; a *dif*ficult task is "not" easy.)

- A prefix can be *directional*: It sends the base of a word in a specific direction. The prefix *ex-* means "out," *re-* means "back," "again," *sub-* means "under," "below," and *ad-* means "to," "toward," "add to." For example, an *ex*it sign indicates the way "out" of a building; we *de*scend a staircase when we go "down"; when class *con*venes, it comes "together"; when class is *dis*missed, students scatter "in different directions"; when they *pro*ceed to their buses, they move "forward," "ahead" to their bus stops.

- A prefix can have *intensifying force,* meaning "very," "thoroughly." A *per*fectly baked cake, for example, is "thoroughly" done. Quantitative and numerical prefixes are also intensifying.

A suffix changes the part of speech (e.g., *act, action; swift, swiftly*) or modifies the base (e.g., *fast, faster*).

Vocabulary Research and Practice (cont.)

Why Teach with a Roots Approach?

Teaching with a roots approach is efficient. Over 60 percent of the words students encounter in their reading have recognizable word parts (Nagy et al. 1989). Moreover, content-area vocabulary is largely of Greek and Latin origin (Harmon et al. 2005). Many words from Greek and Latin roots meet the criteria for "tier two" words and are appropriate for instruction (Beck, McKeown, and Kucan 2002).

Root study promotes independent word learning, even in the primary grades (Carlisle 2010). In addition, roots are word multipliers— that is, knowledge of one root can help students determine the meaning, pronunciation, and spelling of 10, 20, or more English words. With roots, students learn to make connections among words

> Latin and Greek word roots follow linguistic patterns that can help students with the meaning, sound, and spelling of English words.

that are semantically related (Nagy and Scott 2000). Research suggests that the brain is a pattern detector (Cunningham 2004). Latin and Greek word roots follow linguistic patterns that can help students with the meaning, sound, and spelling of English words. Indeed, Latin and Greek roots have consistent orthographic (spelling) patterns (Rasinski and Padak 2013; Bear et al. 2011).

Young readers' word instruction is often characterized by a study of word patterns called *rimes, phonograms*, or *word families*. A Latin-Greek roots approach is the next logical and developmental step in word learning (Bear et al. 2011). Many English language learners speak first languages semantically related to Latin. For example, more than 75 percent of the words in Spanish come from Latin (Chandler and Schwartz 1961/1991). In fact, Spanish, Portuguese, French, Catalan, Italian, and Rumanian are all classified as "Romance Languages" because they derive from Latin, the language of ancient Romans. Enhancing this natural linguistic connection inherent in many of these languages can accelerate these students' vocabulary growth (Blachowicz et al. 2006).

Many states are beginning to include a study of roots, including Latin and Greek derivations, in their elementary and middle school literacy standards. Indeed, the Common Core State Standards focus extensively on root-specific standards in the "Reading Foundational Skills" and "Language/ Vocabulary Acquisition and Use" sections. According to these standards, attention to roots should begin in kindergarten.

How to Use This Book

This book offers three units. Unit I presents three prefixes and two bases for words that appear in social studies. Unit II presents four prefixes and one base for words that appear in science. Unit III presents five numerical prefixes for words that appear in mathematics. The following information will help you implement each lesson within the three units.

Lesson Overview

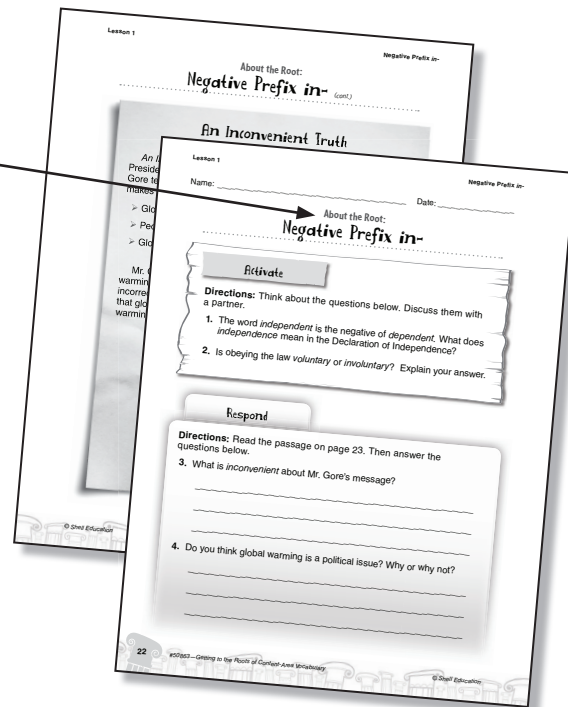A list of **Standards** (McREL and Common Core State Standards) is included in each lesson.

The **Materials** listed include the activity pages for students.
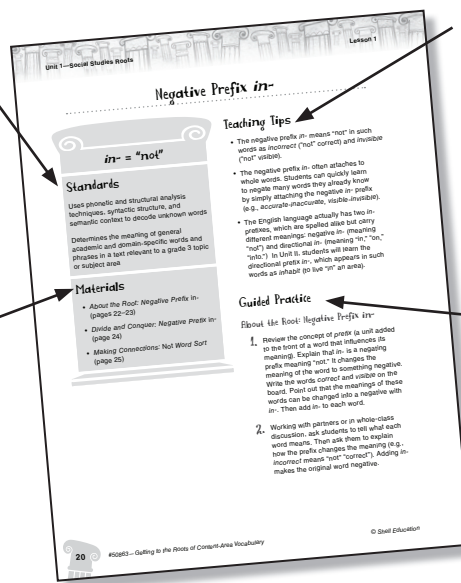
Teaching Tips provide essential information about the root. Reading this section before you teach the lesson will provide you with a foundation to ensure student success.

The **Guided Practice** portion of each lesson includes suggestions for implementing each of the student activity pages.

The **About the Root** activities are introductions and include short passages using the root of focus. The purpose of these passages is to show students contextual use of the root in the content areas. As students read to themselves or listen to the teacher read aloud, they identify the prefix or suffix words in extended texts that center on a wide range of interesting topics.

How to Use This Book (cont.)

The **Divide and Conquer** activities allow students to pull words apart. They dissect the parts of the words, understand the meaning of these parts, and then gain a greater understanding of the word as a whole.

The **Making Connections** activities allow students to use their knowledge of roots to make connections to vocabulary and offer students the opportunity to extend their exploration of the root(s) through activities such as word sorts, riddles, representing the roots and related words in drawings, and gamelike tasks. They may need to distinguish when to use a certain root or which way the root is used in a word.

All of the student activity pages and additional resources can be found on the **Digital Resource CD**.
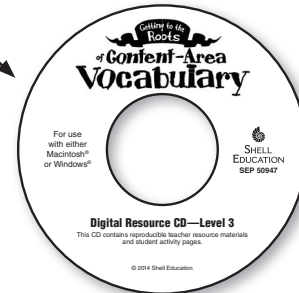
Base vid-, vis-

vid-, vis- = "see"

Standards

Uses a variety of context clues to decode unknown words

Identifies and knows the meaning of the most common prefixes and derivational suffixes

Materials

- *About the Root: Base* vid-, vis- (pages 78–79)

- *Divide and Conquer: Base* vid-, vis- (page 80)

- *Making Connections: Riddle Time!* (page 81)

Teaching Tips

- The Latin base *vid-, vis-* means "see." You may want to remind students that bases give a word its core or base meaning. This base appears in many important words from everyday language and from science, including some we may not automatically associate with "seeing." For example, when we *visit* friends, we go and see them. When we *revise* our papers, we change them after we have seen them again and taken a second look. When we shop for weekly *provisions* at the grocery store to *provide* food for the table, we are seeing ahead to next week's needs.

- In science, important *vid-* and *vis-* words include *vision, visual, visible*, and *invisible*. Other important words include *supervise* (to oversee a project), *evident* and *evidence* (describing factual matters that make things clear to see).

Guided Practice

About the Root: Base vid-, vis-

1. Write the words *visible* and *invisible* on the board. Ask students to work with partners to a) define the words and b) list some things that are visible and invisible. Invite sharing. As students define the words, stress the basic idea of "seeing" in these words. As students suggest things that are visible or invisible, make a T-chart (*visible*, *invisible*) on the board and stress the notion of seeing. Tell students that *vid-* and *vis-* are two forms of the Latin base that means "see."

2. Ask students to complete the About the Root pages. They can work individually or with partners. After they have finished, invite whole-group conversation. Students can share answers, talk about the text passage,

Base vid-, vis- (cont.)

or generate more words containing the root.

3. After students have discussed the Activate questions, invite whole-group conversation. You may wish to have students write down the shared ideas to revisit at a later time.

Divide and Conquer: Base vid-, vis-

4. As you guide students through Divide and Conquer, use the questions below to generate discussion about each of the words:

   • Where is the meaning of "see" in the word _____?

   • Where might you see the word _____?

   • Can you think of an example of _____?

   • Does _____ have more than one meaning? If so, how are those meanings the same? How are they different?

   • How is the word _____ different from the word _____?

   Note: The suffix -ion makes a word a noun. Help students see how the suffix contributes to meaning.

Making Connections: Riddle Time!

5. To conclude this activity, invite sharing.

6. Students can sketch the words that they used for their skits and have others guess the word being portrayed.

Words with vid- and vis-

envision	supervise
envisioned	supervised
envisioning	supervising
evident	supervision
evidence	supervisor
improvise	televise
improvisation	televised
improvised	televising
improvising	television
invisible	unrevised
nonvisual	unsupervised
provide	video
providence	videography
provident	visible
provisions	vision
revise	visit
revised	visited
revising	visiting
revision	visitor
revisit	visual acuity
revisited	visualize
revisiting	

To print a full list of words for students, see page 152.

Name: _____ Date: _____

About the Root:
Base vid-, vis-

Activate

Directions: Think about the questions below. Discuss them with a partner.

1. How does the word *video*, as in video camera, include the idea of "seeing"?

2. What might the *visual* display of the results of an experiment look like?

Respond

Directions: Read the passage on page 79. Then answer the questions below.

3. Why do you think the idea of a television caught on so quickly?

_____

_____

_____

4. Do you think we live in a video world? Why or why not?

_____

_____

_____

Base vid-, vis- *(cont.)*

Television

The word *television* comes from two roots. *Tele-* comes from Greek. It means "far" or "far off." *Vis-* comes from Latin. It means "see." So a television lets us see things from far away.

The first use of the word *television* came at the 1900 World Fair in Paris, France. Scientists showed how electricity might one day be used. One use was to send images out through electric wires.

But it took many more years of work with the idea of television before it was actually invented. It wasn't until 1927 that scientists were able to beam a picture between Washington, D.C. and New York City. After that, television technology grew quickly. In 1936, there were only 200 sets being used worldwide. In 2003, there were nearly one and one-half billion. It is evident that we live in a video world.

Name: _____ Date: _____

Divide and Conquer:
Base vid-, vis-

Directions: Complete the chart below. An *X* means that the word has no prefix. Put the roots together to make a definition for each word. Be sure to use *see* in your definition.

Word	Prefix Means	Base Means	Definition
1. revision	*re-* = back, again		
2. provisions	*pro-* = forward, ahead		
3. visit	X		
4. visor	X		
5. evident	*e-* = out, very		

Directions: Use some of the words from the chart to fill in the blanks.

6. It is self-_____ that things equal to the same thing are equal to each other.

7. The teacher told me to take a second look at my paper and to submit a _____.

8. In anticipation of the looming power outage, the local residents were stocking up on their _____.

Name: _____ Date: _____

Making Connections:
Riddle Time!

· ·

Directions: Read the clues. Solve the riddles. Then create a skit to represent one of the words to share with a partner.

1. I have four syllables.

   I am a thing.

   You can see things from far away using me.

   You may watch shows on me.

   What am I?

   _____

2. I have three syllables.

   I do not have a prefix, but I have a suffix.

   My suffix means "able to be."

   I describe something that is able to be seen.

   What am I?

   _____

3. I have four syllables.

   I have a prefix and a suffix.

   My prefix means "not."

   I am the opposite of #2.

   What am I?

   _____

4. Choose one of the following words: *vision, visitor, video, supervisor.* Write your own riddle on a separate sheet of paper. Ask your partner to solve the riddle.