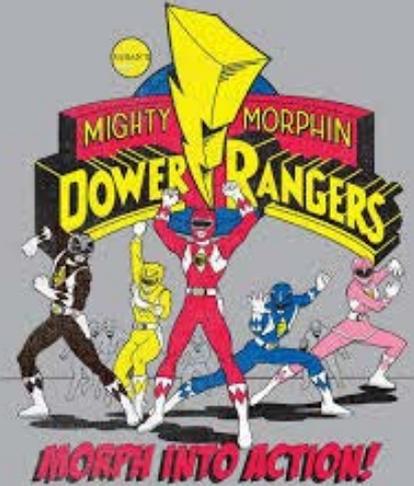


Morphing Advanced Word Study Into

Morphology

Bell Work!!

- **Choose one of the high school textbooks (papers) on your table.**
- **Turn to the text on the back and highlight all the words that have a prefix or a suffix**
- **Challenge: Underline words with Latin and/or Greek roots!**



Morphing Advanced Word Study Into

Morphology

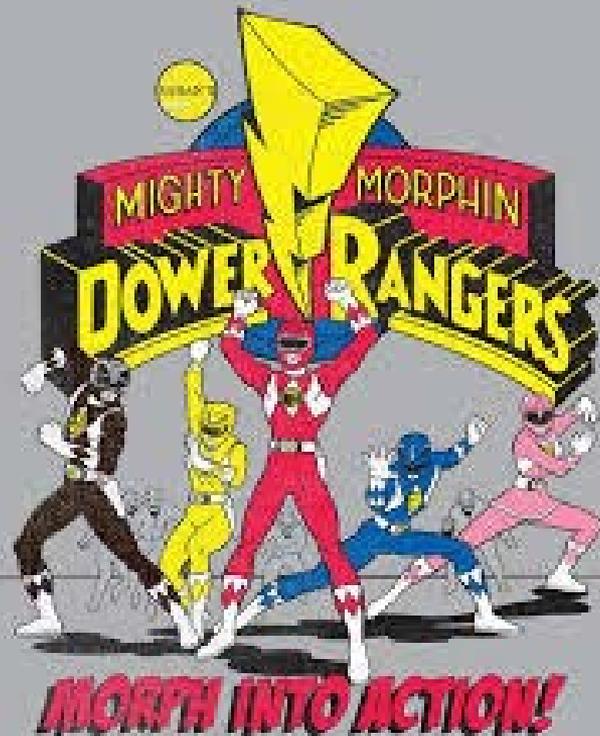
Increase

Automaticity
in Word Recognition
for All!

Debbie Hartwig
State Personnel Development
Literacy Lead
State Support Team 9



Cheryl Byrne
Regional Early Literacy Specialist
State Support Team 7



#EachChildOurFuture

In Ohio, each child is *challenged, prepared and empowered.*



Vision

In Ohio, each child is **challenged** to discover and learn, **prepared** to pursue a fulfilling post-high school path and **empowered** to become a resilient life-long learner who contributes to society.

Four Learning Domains



Foundational Knowledge & Skills

Literacy, numeracy and technology



Well-Rounded Content

Social studies, sciences, languages, health, arts, physical education, etc.



Leadership & Reasoning

Problem-solving, design thinking, creativity, information analytics



Social-Emotional Learning

Self-awareness & management, social awareness, relationship skills, responsible decision-making



WHOLE CHILD

One Goal



Ohio will increase annually the percentage of its high school graduates who, one year after graduation, are:

- Enrolled and succeeding in a post-high school learning experience, including an adult career-technical education program, an apprenticeship and/or a two-year or four-year college program;
- Serving in a military branch;
- Earning a living wage; or
- Engaged in a meaningful, self-sustaining vocation.

Three Core Principles



Equity



Partnerships



Quality Schools

10 Priority Strategies

1

Highly effective teachers & leaders

3

Teacher & instructional support

5

Assessments gauge all learning domains

7

Meet needs of whole child

9

Develop literacy skills
Transform high school/provide more paths to graduation

2

Principal support

4

Standards reflect all learning domains

6

Accountability system honors all learning domains

8

Expand quality early learning

Ohio Strategic Plan For Education: 2019-2024



Department of Education

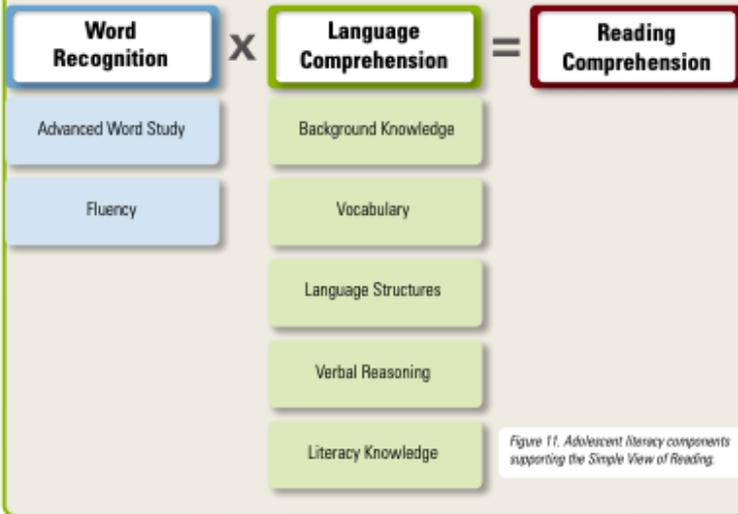


Each Child Our Future

OHIO'S PLAN TO RAISE LITERACY ACHIEVEMENT



Adolescent Language and Literacy



Adolescent language and literacy begins to build on conventional language and literacy around grade 4 and continues through high school. Academic language and disciplinary texts become increasingly complex and learners need to read, write, understand, interpret and discuss multiple texts across contexts (IRA, 2012). These changes, as well as developmental changes in adolescents, lead to a shift in the five components of reading of conventional literacy to the following five essential areas: (1) advanced word study; (2) fluency; (3) vocabulary; (4) comprehension; and (5) motivation (Roberts, et al., 2008).

The above essential components must be integrated into all content areas and become the shared responsibility of all secondary educators and specialists who support learners across this grade range. This does not mean all educators become reading teachers, but that all educators differentiate instruction within their disciplines to ensure all learners have equitable opportunities to access discipline-specific text, discourse and writing.

To meet the needs of all learners in this phase, districts and schools implement **evidence-based strategies across content areas**, such as explicit vocabulary instruction and extended discussion of text meaning and interpretation; provide literacy instruction and support that is **discipline-specific**; and provide **individualized intensive intervention in reading**, as needed.

The Simple View of Reading

Gough & Tunmer

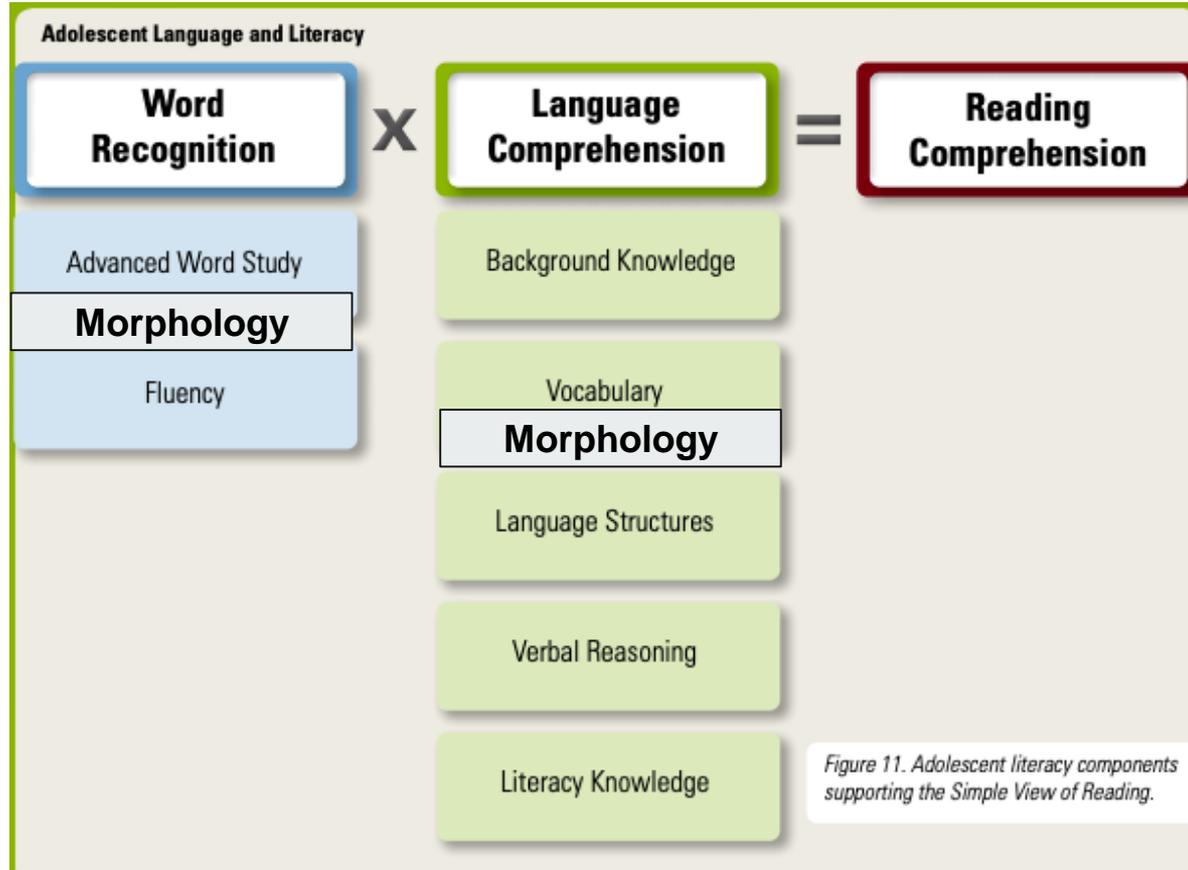


Figure 11. Adolescent literacy components supporting the Simple View of Reading.

Learning Objective



Participants will

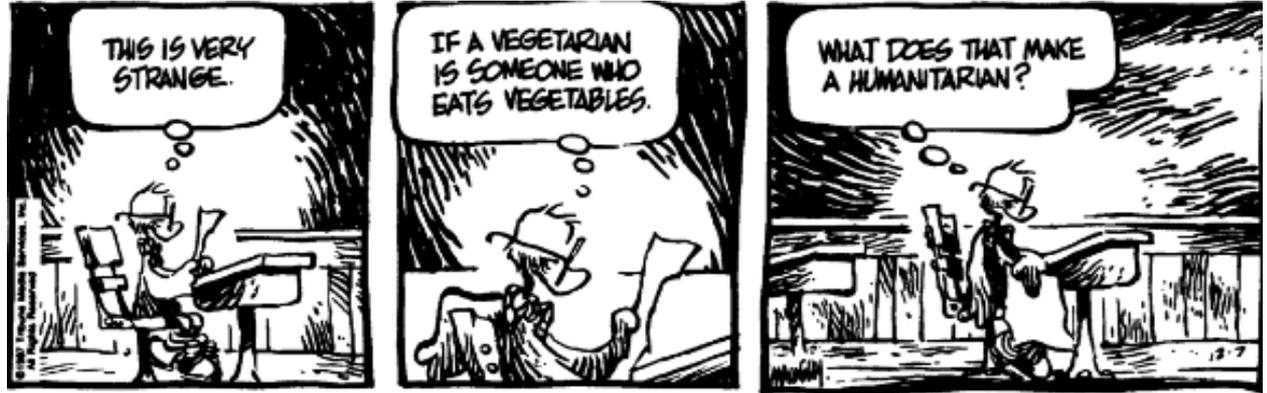
- define morphological awareness
- recognize its importance in vocabulary, disciplinary reading and spelling
- Participate in various instructional formats for teaching morphology to students

Morphological Awareness - Roots to Language and Literacy

(Bowers, Kirby, & Deacon, 2010; Carlisle, 1996; 2000; 2004; 2010; Elbro, & Arnback, 1996; Fowler & Liberman, 1995; Goodwin & Ahn, 2010; Reed, 2008; Deacon, Benere, & Pasquarella, 2012; Deacon, Kirby, & Casselman-Bell, 2009)



Morphology



What is it?

Why should we teach it?

Which students will benefit the most?

Morphology - What Is It?

The study of the smallest meaningful units of language.

Morphological Knowledge: Implicit and explicit understanding of how words convey meaning.

Morphological Awareness: the ability to consciously consider and manipulate the smallest units of meaning in spoken and written language, including base (and root) words and affixes, or prefixes and suffixes. -Ken Apel

What is a Morpheme?

Free and Bound Morphemes

Free (Base) Morphemes

- Base words that stand alone:

house, tea

- A "compound" is two free morphemes combined in one word:

backpack, pinecone

Bound (Base) Morphemes

- Bound morphemes can't stand alone. They are not free!
- Prefixes, roots, suffixes, and combining forms:

sub – ject – ive

dys – lex – ia

Type of Morpheme

Free

Bound

Content

Function

Roots

**Base Words
Compounds**

**Grammatical
'Glue' Words**
(or, and, but,
pronouns, articles)

Prefixes

Suffixes

Inflections

Derivations

Two Types of Suffix Morphemes

Inflectional

- learned early
- Does not change part of speech
- Changes tense, number, possession, comparison & degree

Derivational

- Added to a root
- Changes part of speech
- Numerous!
- Usually Latin

Inflectional:

jump – jumped
four – fourth
girl – girl's
tough – tougher
tough - toughestest

Derivational:

nation – national
subject – subjective
govern – government
social - socialize

Back to Our Bell Work!

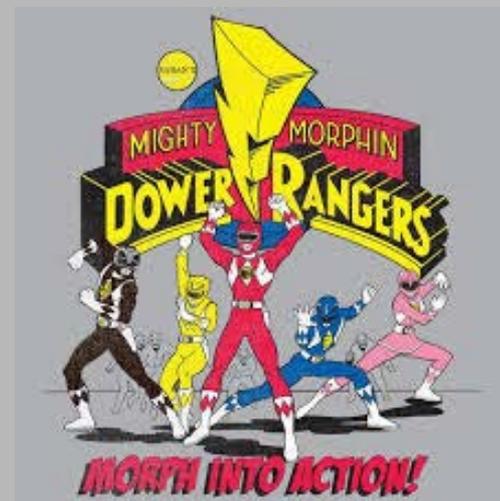
Bell Work!!

- Share your highlighted texts with those around you.
- Did you find any prefixes and suffixes in those texts?
- Any Latin and/or Greek roots?

Another point to consider...

Overall gap between readability of high school textbooks and university texts is between 265 and 350 lexile levels.

Translation: A 75% accuracy rate senior would have a 50% accuracy rate as a co... (calculated with a 250 lexile level gap).



Morphology can HELP!

Morphology - Why Should We Teach It?



English is ***Morphophonemic*** - meaning words are created by sound-spelling correspondences (*phonemic*), by meaningful units (*morphemic*) or both phonemes and morphemes

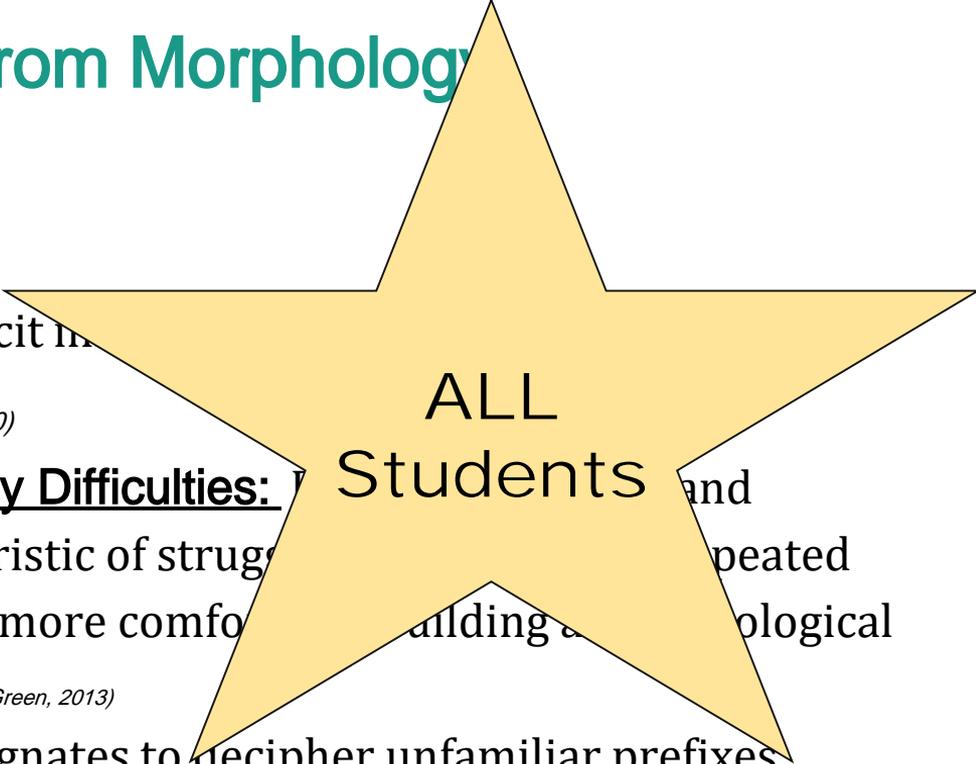
Awareness of morphology is particularly important for reading, understanding (vocabulary) and spelling multisyllabic content words.

Using Morphological Strategies to Help Adolescents Decode, Spell, and Comprehend Big Words in Science

Jennifer L. Zoski, PhD, CCC-SLP1, Kristin M. Nellenbach, PhD, CCC-SLP1, and Karen A. Erickson, PhD

Which Students Will Benefit from Morphology Instruction the Most?

- **Typically Achieving Students** - Explicit instruction in morphology will benefit ALL students. (*Bowers et al., 2010*)
- **Students with Language and Literacy Difficulties:** Morphological awareness is characteristic of struggling readers. With repeated classroom practice, students become more comfortable with building a morphological base. (*Nagy, Berninger, Abbott, Vaughan, & Vermeulen, 2003*) (*Wolter & Green, 2013*)
- **English Language Learners** Using cognates to decipher unfamiliar prefixes, suffixes, and root words can strengthen reading comprehension and vocabulary for English language learners. (*Goodwin et al., 2012*)



ALL
Students

Characteristics of Students Who Are Not Fluent with Grade Level Text...

Show poorer command of past tense inflections

(Moran & Bryne, 1977)

Tend to make morphemic errors in writing.

(Rubin et al., 1991)

mor·phol·o·gy

May continue to less mature forms of

words. (Windsor, 2000, Curtis, Kutz & Tallal, 1992)

Have difficulty learning morphological rules.

(Wig, Semel, & Crouse, 1973)

So What Does Good Morphology Instruction Look Like?



1. Teach Morphology in the Context of Rich, Explicit Vocabulary Instruction

1. Teach Students to Use Morphology as a Cognitive Strategy with Explicit Steps

3. Teach the Underlying Morphological Knowledge Needed in Two Ways - Both Explicitly and in Context

4. For Students with Developed Knowledge of Spanish, French, etc. Teach Morphology in Relation to Cognate Instruction

From: *Breaking Down Words to Build Meaning: Morphology, Vocabulary, and Reading Comprehension in the Urban Classroom* by Michael J. Kieffer, Nonie K. Lesaux, The Reading Teacher, Vol. 61, No. 2, Oct., 2007, pp.

Components of **Word Study** (Morphology) Lesson Plan



Component	Time
1. State Goal and Purpose	About 1 minute
2. Review previous topic/lesson.	5 minutes
3. Direct Teaching of Concept	5 minutes
4. Practice with Concept	10 minutes
5. Dictation	10 minutes
6. Read Connected Text	10 minutes
7. Extension Activities/Homework	2 minutes

A 3D white figure is holding a blue banner that says "Let's Try This!". The figure is standing on a white surface and casting a shadow. The banner is curved and has the text in white, bold, sans-serif font.

Let's get ready to learn all about the Latin root....

duce/duct *which means*

“to lead”

*“Today we will learn the Latin roots **duce/duct** which mean **“to lead”** and we will identify how the roots **duce/duct** impact word meaning in many multisyllabic words.”*

But first let's review...

Review: Matching Roots with their Definitions

Pick a bag of cards.

Work with a partner

Match as many root cards as you can to its definition
(meaning).

Check your work with your partner and then practice
reading the roots and their meanings to each other.



Challenge: Make as many
words as you can with one of
the roots.

Lesson Plan

1. State Goal and Purpose

*“Today we will learn the Latin roots **duce/duct** which means **“to lead”** and we will identify how the roots **duce/duct** impact word meaning in many multisyllabic words.”*

2. Review Previously Taught Topic/Lesson

Practice with a partner previously taught roots by matching roots with their meanings.

Word Study - Latin Root *duce/duct* *to lead*

Inductee

Syllables?

Prefix:

Root:

Suffix:

Meaning:

Conducive

Syllables?

Prefix:

Root:

Suffix:

Meaning:

The Beatles were **inducted** into the Rock and Roll Hall of Fame in 1988.

The celebration of their **induction** was **conducive** to their successful contributions to music.

Lesson Plan

3. Direct Teaching of Concept

I Do: Use **inductee** and **conductive** in a written sentence. Discuss definitions and what these two words have in common.

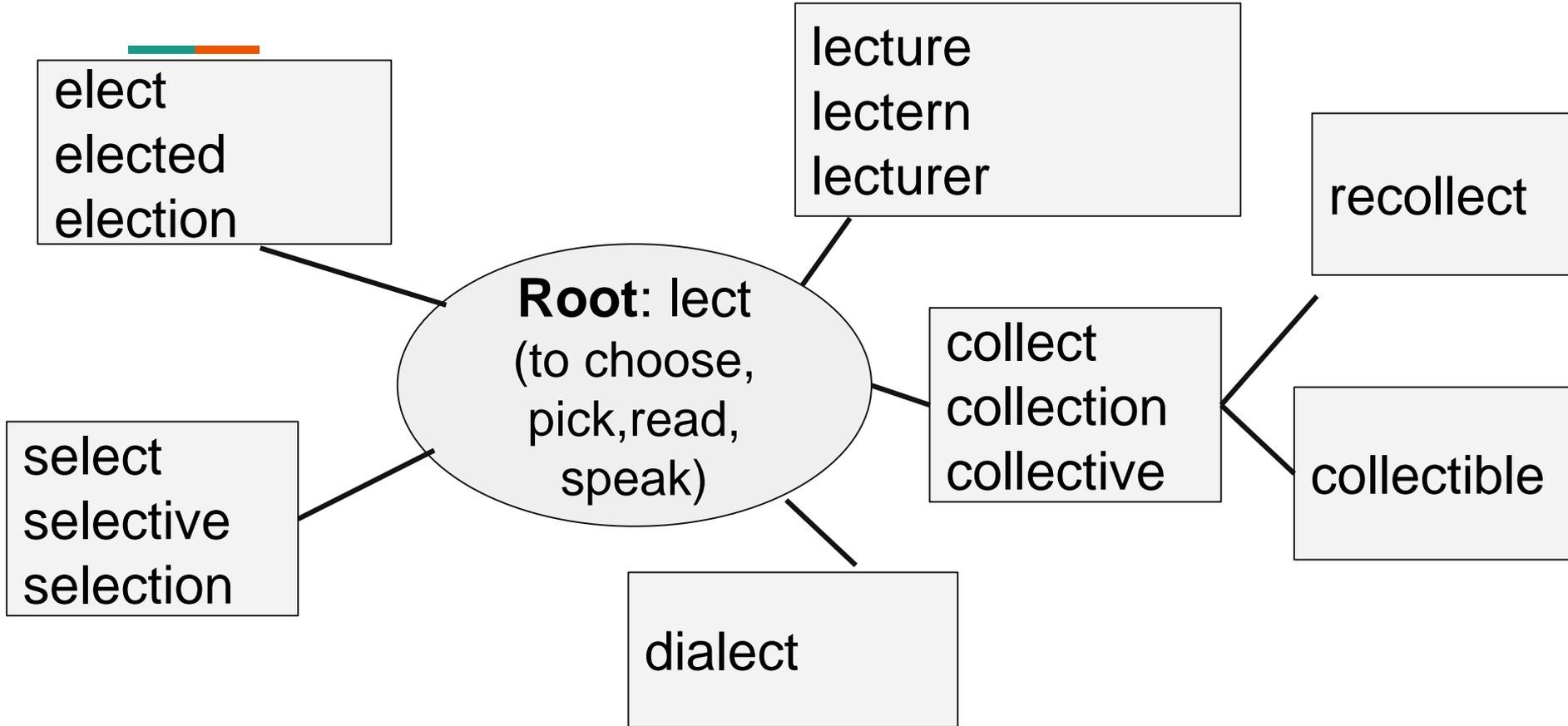
We Do: Read sentences that

Include words with **duce/duct**. Define meaning of the words together.

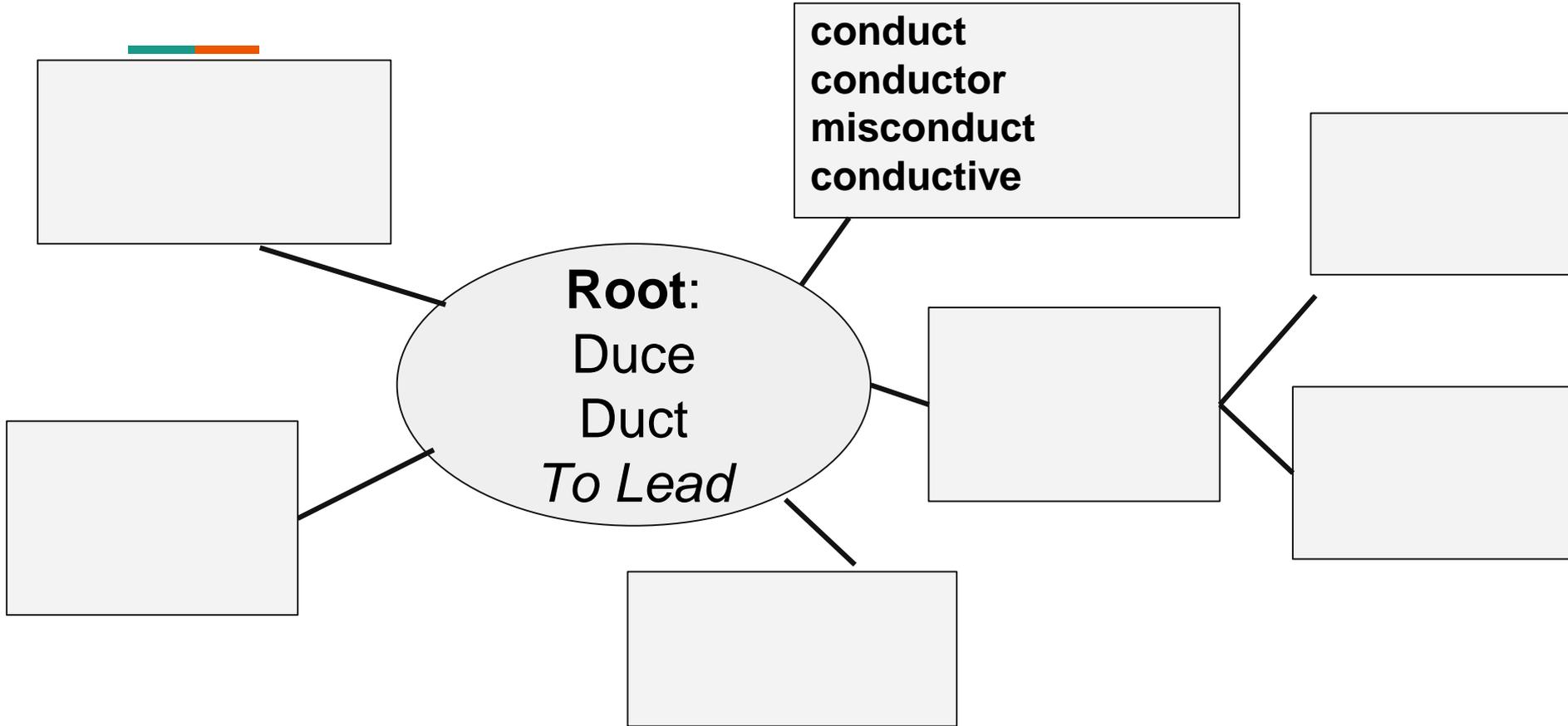
You Do: With a partner, read sentences & define words. Check your definitions with your teacher.

introduce	introductory	reduce	reduction	induce
inductee	educator	abduction	deductive	conducive
induction	misconduct	conductivity	ductile	conductor
abductee	aqueduct	viaduct	education	producer

Morpheme Maps



Morpheme Maps



4. Practice with Concept

*Provide a **duce/duct**, wordlist.
Have students identify the
prefix(es), suffix(es) and roots
for all words.*

Define the words.

*The map words on a word web
graphic organizer.*

Time to Write!

Write the following sentences as your teacher dictates them to you. As you listen to the sentence you might want to make a line on your paper to mark how many words are in the sentence.



Lesson Plan

5. Dictation

*Dictate three sentences with words that include the root **duce/ duct** Check for accuracy. 1. There has been a reduction in Cleveland Browns players inducted into the Football Hall of Fame.*

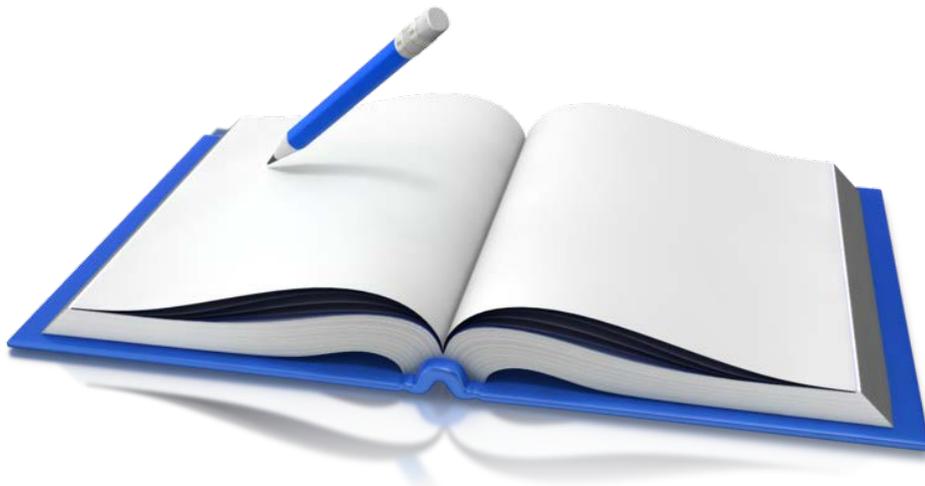
2. Public education strives to be conducive for learning.

3. The army inductee completed her introductory training.

Time to Read!

“Hammer of the Working Class Among Inductees to Rock and Roll Hall of Fame”

- Highlight duce/duct roots.
- Practice reading the highlighted words.
- Read the text.
- Share your takeaways from the article.



From: *PPS Advanced Prefixes, Suffixes, Roots & Connectives* by Shapiro, Russo, Wallace & Hickey Gold
www.jeldedmaterials.com

Lesson Plan

6. Read Connected Text

*Look at the text and highlight all the **duce**, **duct** words.*

With a partner, define the words you have highlighted.

With a partner, read the text.

7. Additional Practice/Homework

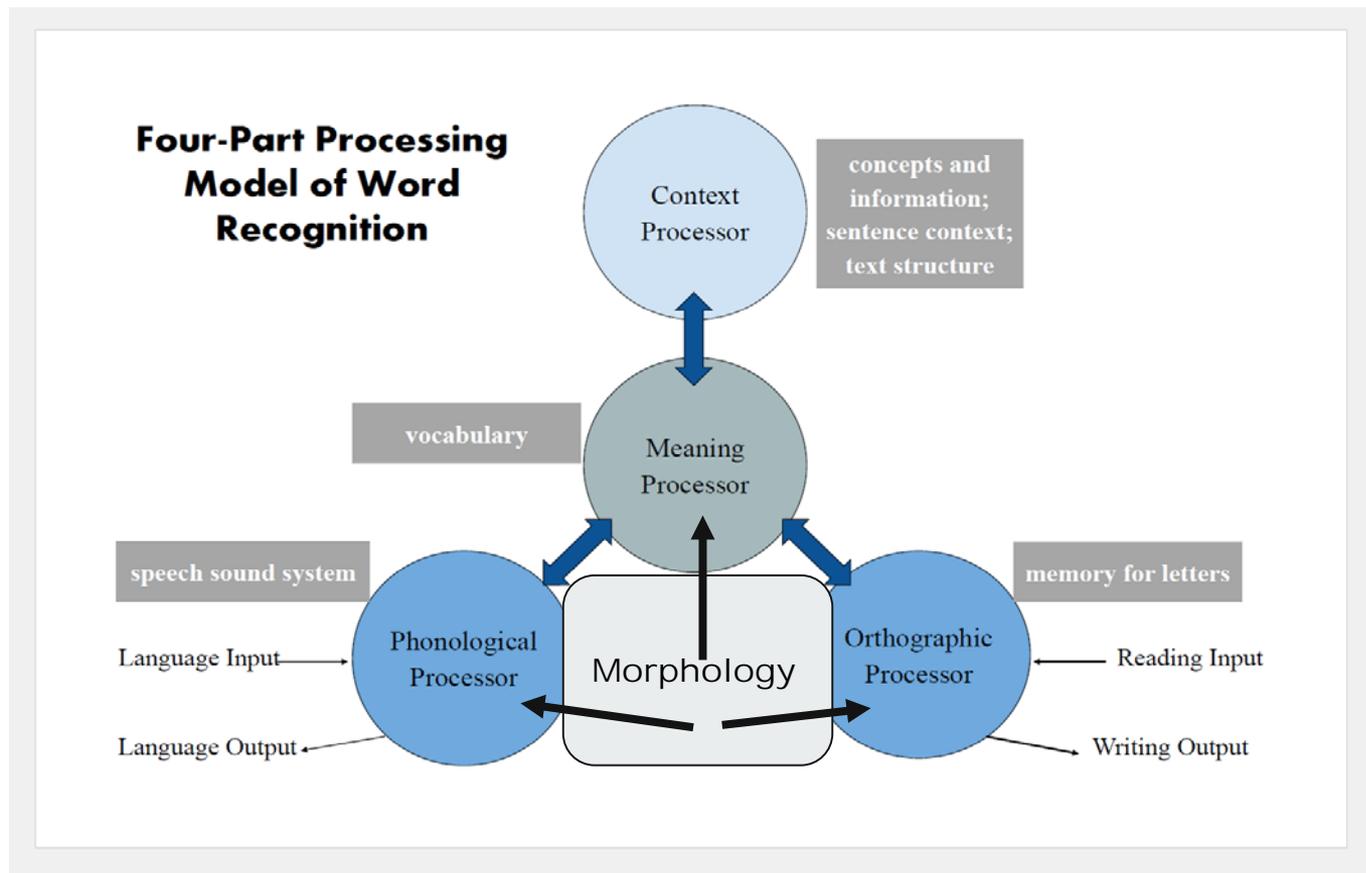
*Have students record and share at least five **duce** or **duct** words that they hear or see in their environment. Be ready to discuss where they found/heard the words and what they mean.*

Morphemic Analysis With Math Vocabulary



<https://www.bakersfieldcollege.edu/>

Morpheme	Math Usage	General Usage
bi (two)	biangular	bicycle
	bilinear	biplane
	bimodal	bicuspid
	binominal	bifocal
cent (hundred)	centimeter	century
	percent	centipede
	centigram	centigrade
circum (around)	circumference	circumnavigate
	circumradius	circumstance
	circumcenter	circumspect



Seidenberg, M. S., & McClelland, J. L. (1989). A distributed, developmental model of word recognition and naming. *Psychological Review*, 96(4), 523–568.

Scope and Sequence for Teaching Word Study with Emphasis on Morphology



Big Ideas to Consider:

- Content is taught from easier to more complex.
- Content is taught across the curriculum.
 - Begin with **Anglo-Saxon** influences. (Gr. K - 5)
 - Next, introduce the **Latin layer** of language. (Gr. 3 - 12)
 - Lastly, teach the **Greek layer** for support of math and science terms (Gr. 5 - 12)

Scope and Sequence for Teaching Word Study with Emphasis on Morphology

Anglo-Saxon Layer of Language

- Base words and single morphemes
- Compound: *doghouse, ballgame, blackbird, playground*
- High-Frequency prefixes added to Anglo-Saxon base words: *un, re, dis, in, mis, etc.*
- Inflections and common derivational suffixes added to base words no spelling changes required to the base word: *ing, er, y, ly, etc.*

Scope and Sequence for Teaching Word Study with Emphasis on Morphology

Latin (Romance) Layer of Language

- Prefixes (review of those previously listed)
 - Closed and vowel-r syllables: *non, ex con, per, mal*
 - Open syllables: *bi, co, di, o, pro, tri, twi*
 - Two syllables: *Super, circum, intra, contra, etc*
- Roots: *port, form, rupt, script, etc*
- Assimilated prefixes: *sub (subtract, suppose, surround)*
- Derivational suffixes: *ion (as in tion and sion)*
- Connectives that join the root and suffix: *i (menial, lenient, anxious*

Scope and Sequence for Teaching Word Study with Emphasis on Morphology

Greek Layer of Language

- Graphemes unique to Greek based words
 - *ch=/k/ (chorus, monochrome)*
 - *ph=/f/ (phonology, grapheme)*
- Silent letter spellings
 - *rh (rheumatoid)*
 - *ps (psychology)*
- Combining forms: *micro, scope, photo, graph, etc*



See
Handouts

Let's Look At Ohio's Standards



Ohio's Learning Standards

English Language Arts

L.8.4 Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on grade 8 reading and content, choosing flexibly from a range of strategies.

- a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.
- b. Use common, grade-appropriate **Greek or Latin affixes** and **roots** as clues to the meaning of a word (e.g., precede, recede, secede).
- c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or part of speech.
- d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

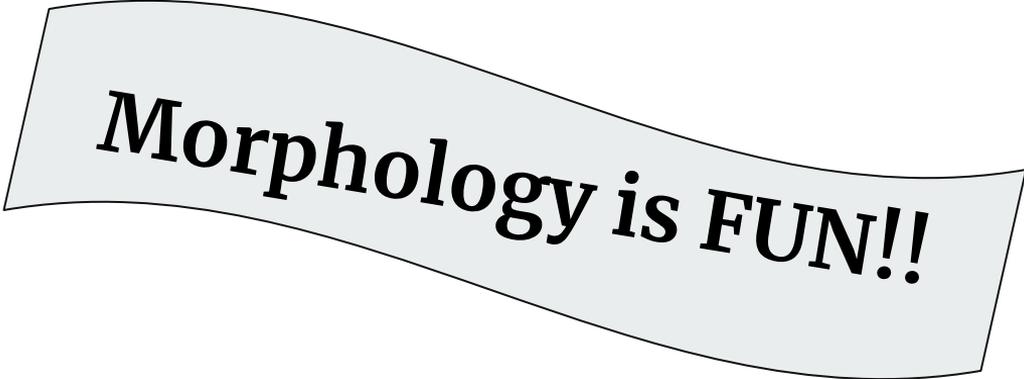
Standards for Literacy in History/Social Studies, Science, and Technical Studies

RH.6-8.4 Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.

RST.6-8.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.



**Let's Try
This!**



Morphology is FUN!!

Use the paper and markers provided.

Create a morpheme map using the *Morpheme to Words* card on your table.

Can you build
22 words?

Morphemes To Words

#8
pon/pone
pos/pose
posit/pound

prefix	root	suffix	
com de dis ex im (in) op (ob) pre pro sup (sub)	pon/pone pos/pose posit pound (place, set)	able al ed ent er ing ite i+on s	al s

From: *PPS Advanced
Prefixes, Suffixes, Roots
& Connectives* by
Shapiro, Russo, Wallace
& Hickey Gold
www.jeldedmaterials.com

Let's Build Some Words!

re de	con	struct <i>"build"</i>	s ed ing ion or		
in	de		ive	ly ity ness	
in ob sub super infra			ure	es ed ing	
				al	ly ism ist

Word Matrix

re + con + struct + ed = reconstructed

In + de + struct + ive = indestructive

super + struct + ture = superstructure

Another Way to Have Even MORE Fun!!



Let's do this together!
Fill in the Latin Etymology
Chart with new words for each
root. Be sure to indicate the part
of speech!!

Then together use at least 2 of
the words from your chart and
write a sentence.

Latin Etymology as a Bridge to Meaning

Complete the Latin etymology chart to create words. Include the part of speech.



pos (to put or place; set)	tain (to hold)	vis (to see)	cise (to cut)	spir (to breathe)
composer (n)	entertain (v)	visionary (adj)	precise (adj)	inspire (v)

Latin Etymology as a Bridge to Meaning

Complete the Latin etymology chart to create words. Include the part of speech.



pos (to put or place; set)	tain (to hold)	vis (to see)	cise (to cut)	spir (to breathe)
composer (n)	entertain (v)	visionary (adj)	precise (adj)	inspire (v)
imposing (adj)	contain (v)	advisor (n)	concise (adj)	aspiration (n)

Use some of the words to make a sentence.

Example:

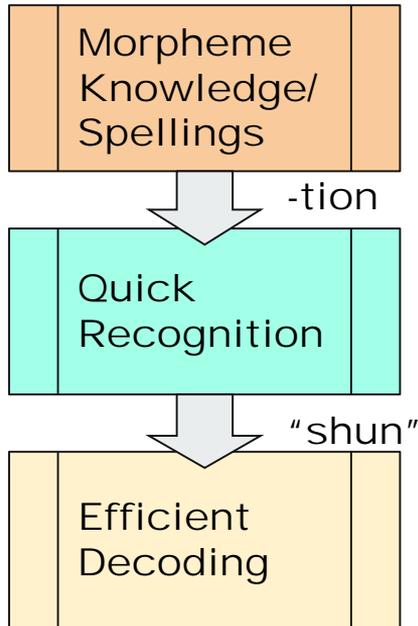
The visionary composer will inspire and entertain the audience.



Morphology and Reading: The Cycle

(Wolter & Pike, 2015)

Decoding



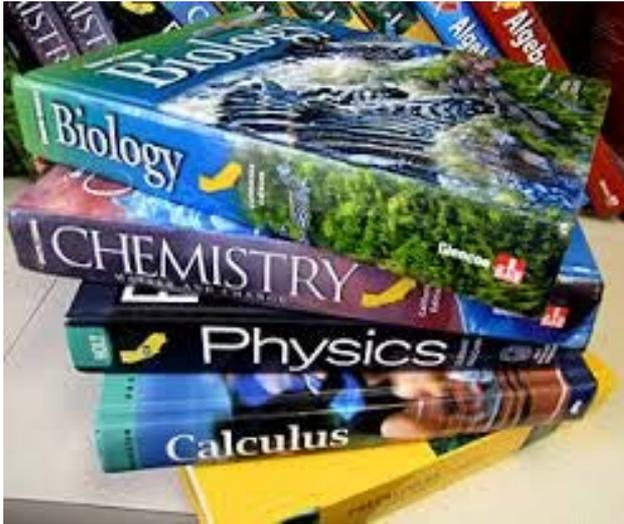
Nation, nutrition, conversation

Reading Comprehension

Morphologically complex words make up **more than half** of the words in English.

(Anglin, 1993; Nagy & Anderson, 1984)

Connected Text: Linking Morphological Awareness with Academic Content



Students can be taught to;

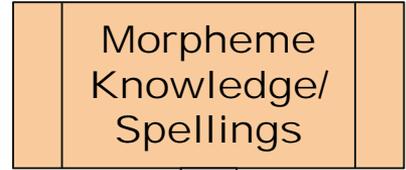
- Identify morphologically complex words in class literature, spelling assignments, and content area textbooks and readings.
- Use their morphological knowledge to discern meaning.
 - *Content (e. g., clues in the text that help us figure out meaning) and morphological reasoning by analogy can be used to sort out the meaning of a unknown word*

Morphology and Reading: The Cycle

(Wolter & Pike, 2015)



Decoding



-tion

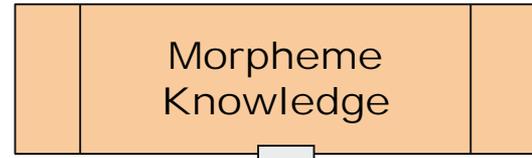


"shun"



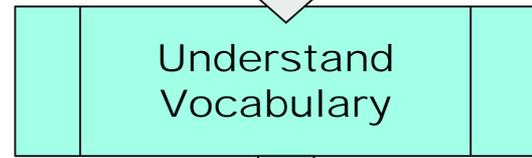
Nation, nutrition, conversation

Reading Comprehension



"astronaut"

"Ocean" "naut"



naut = traveler



The oceanaut was interested in knowing more about fish habitats.

Activity: All in the Family



Morphological Family Members Can:

- Look or sound alike and be related
 - Swim - swimming
 - Slip - slipped
- Look or sound different and be related
 - Divide - division
 - Explode - explosion
 - Magic - magician

OR

- Look or sound alike but NOT be related (friends)
 - Car - carrot
 - Luck - cluck

Are teacher and teach related?

Are mother and moth related?

Are clinician and clinic related?

Are brother and broth related?

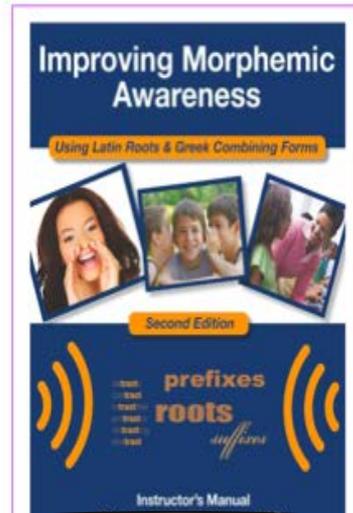
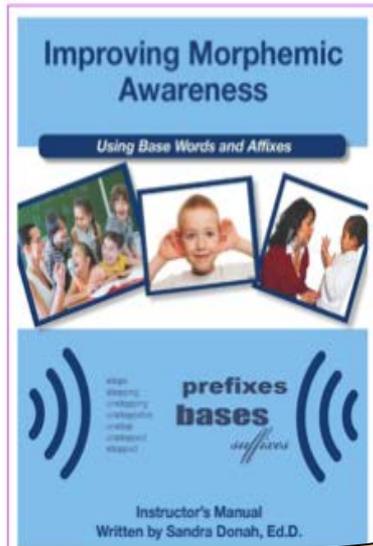


Take out the different colored squares out of your toolkit.

Watch as a demonstration and/or participate using the paper squares from your toolkit.

Intermediate Grades – Morphology Teaching Resources

Greek Roots!



These programs provide auditory exercises with morphology. The process is similar to auditory exercises in the Heggerty Phonemic Awareness curriculum used in elementary grades. Students would benefit from an orthographic element (lesson with print) before, during and after the lessons especially in the prefixes and root level.

Integrates Phonology and Morphology! And it's FUN!

Instruction and Intervention in Morphology



- **Instruction and intervention should begin with an introduction of the concept of morphology and provide many relevant examples mostly in the context of text.**
- **Emphasize with students the importance of morphology**
 - ◆ **The rationale should be provided that students will learn about morphemes to increase their vocabulary skills and to become better readers and spellers.**
- **Honor the students' entering skill level without insulting them. Teach the terminology.**

(See Gibson & Wolter, 2015; Wolter & Green, 2013; Wolter, 2014: for further examples.)



Instruction or Intervention in Morphology

Example Script: Concept Explanation

Motivation

“We will learn about words and word parts to help you learn more words and become a better reader and speller. “

Explanation

“Words can be broken up into parts called morphemes. ‘Morphing’ words means changing them to change meaning.”

Meaning

“Some suffixes change a word’s number (-s, -es) or tell when a verb happened (-ed) or is happening.”

Literacy Link

“These endings are spelled the same each time you use them, even though they may sound different.”(e. G.cats, girls; Walked, played, started)



Instruction or Intervention - Derivational Morphology

Example Script:
Concept Explanation

Motivation

“We are learning about words and word parts to help you learn more words and become a better readers and spellers. “

Explanation

“Words can be broken up into parts called morphemes. ‘Morphing’ words means changing them to change meaning.”

Meaning

“A base word can stand all by itself. It’s the **POWER** of the word and tells us what the word is about. A base word might be **heat** which then changes in meaning when adding the affix pre- (**preheat**).”

Literacy Link

“When writing or reading meaning can be created or inferred from words by breaking down the parts.”



“ The conclusion is that students with greater understanding of morphology are more successful at learning academic vocabulary and comprehending text is a strong argument for including morphology instruction in language and literacy programs, especially in urban settings. This conclusion also raises important instructional questions regarding how teachers ought to go about teaching morphology in the context of general vocabulary instruction .”

Breaking Down Words to Build Meaning: Morphology, Vocabulary, and Reading Comprehension in the Urban Classroom. M. Kieffer. N. Lesaux. *The Reading Teacher*, 61(2), pp 134-144

Morph Into a Review of Key Points!



Morphological awareness is educationally relevant.

Students of ALL abilities benefit from:

- **Explicit activities**
- **Active reflection on morphological word parts and patterns**

Educators should focus on:

- **Recognition of meaning and patterns in word sorts**
- **Production activities such as word building**

Provide a functional link to language & literacy.

“There is no comprehension strategy powerful enough to compensate for the inability to read the words.”

-Dr. Joseph Torgesen

—

For more information on how to improve advanced word study for adolescent readers see our 2019 Literacy Academy presentation titled:

“Advanced Word Study: Incorporating Word Recognition in the Intermediate Classroom”

<https://education.ohio.gov/getattachment/Topics/Learning-in-Ohio/Literacy/Striving-Readers-Comprehensive-Literacy-Grant/Literacy-Academy/1-10-2-10-Advanced-Word-Study.pdf.aspx?lang=en-US>

Thank you for spending some time with us!

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State Support Team 7
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