Manipulating Morphemes

mdek12.org

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MISSISSIPPI
DEPARTMENT OF
EDUCATION

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VISION

MISSION

To create a world-class educational system that gives students the knowledge and skills to be successful in college and the workforce, and to flourish as parents and citizens

To provide leadership through the development of policy and accountability systems so that all students are prepared to compete in the global community

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1 **ALL** Students Proficient and Showing Growth in All Assessed Areas

2 **EVERY** Student Graduates from High School and is Ready for College and Career

3 **EVERY** Child Has Access to a High-Quality Early Childhood Program

4 **EVERY** School Has Effective Teachers and Leaders

5 **EVERY** Community Effectively Uses a World-Class Data System to Improve Student Outcomes

6 **EVERY** School and District is Rated "C" or Higher

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- Silence your cell phones.

- Please check and/or reply to emails during the scheduled breaks.

- Be an active participant.

- Do not hesitate to ask questions.

- Explore the research behind morphology instruction as it relates to the science of reading.

- Define morphology and identify morphemes.

- Explore the classes of morphemes.

- Learn the importance of morphology instruction and how to implement instructional routines.

- Practice activities that can enhance morphology instruction.

Research and The Science of Reading
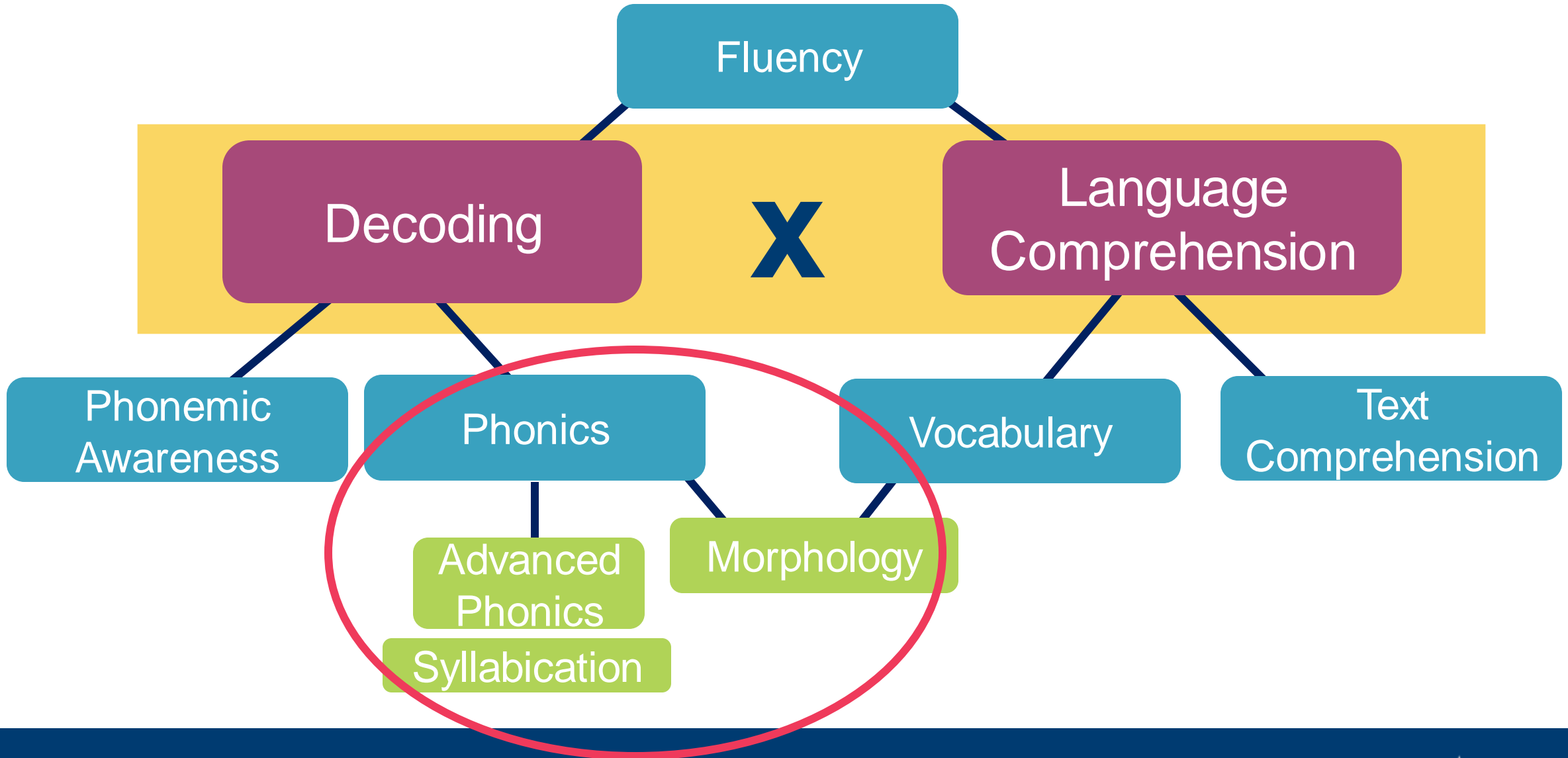
Instruction in morphemes leads to **improvements** in word **decoding**, **spelling**, **and vocabulary**; and because word decoding and vocabulary contribute to reading comprehension, there is evidence that morphology instruction leads to overall reading achievement.

Goodwin & Ahn, 2013; Lipsky & Ahn, 2021

According to scholars, understanding word meaning accounts for as much as 80% of reading comprehension.

Davis, 1972; Nagy & Scott, 2000

Since the same root morphemes are found in multiple words, learning a morpheme in one word can open the meaning to many new words that contain that morpheme.

Oakhill, Cain, & Elbro, 2014

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Definitions do the trick!

Weekly vocabulary lists are effective.

Teachers should teach ALL hard words (especially those printed in bold).

The study of Latin and Greek roots is too hard for young learners.

Word learning cannot be fun.

					Greek-Derived Morphemes	
			Derivational Morphology: Anglo-Saxon and Latin Roots, Prefixes, Suffixes			
	Inflectional Morphology					
	Common Syllables, Syllabication					
	Fluent Recognition of Word Families (Rime Patterns)					
	300-500 Sight Words					
Phoneme-Grapheme Correspondences						
Basic Phonological Awareness	Advanced Phonemic Awareness					
K	1	2	3	4	5	6	7+

(LETRS 3rd Edition)

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When explicitly teaching vocabulary, most students learn 8-10 words a week. However, "by learning just ONE root, students can easily add between 10 and 20 connected words."

Rasinski et. al, 2008

interact

morphemes   inter + act

syllables   in + ter + act

i	n	t	er	a	c	t

graphemes

phonemes   /i/ /n/ /t/ /er/ /a/ /c/ /t/

Instructions: With a partner, use a sticky note to break the given words into morphemes (M), syllables (S), graphemes (G), and phonemes (P). An example is provided.

(example)

morpheme the smallest unit of language that carries meaning

legible

syllable a word part containing a vowel sound

M: leg + ible
S: leg-i-ble

grapheme a written representation of a single speech sound

G: l-e-g-i-b-le
P: /l/ĕ/j/i/b/l/

phoneme a single speech sound
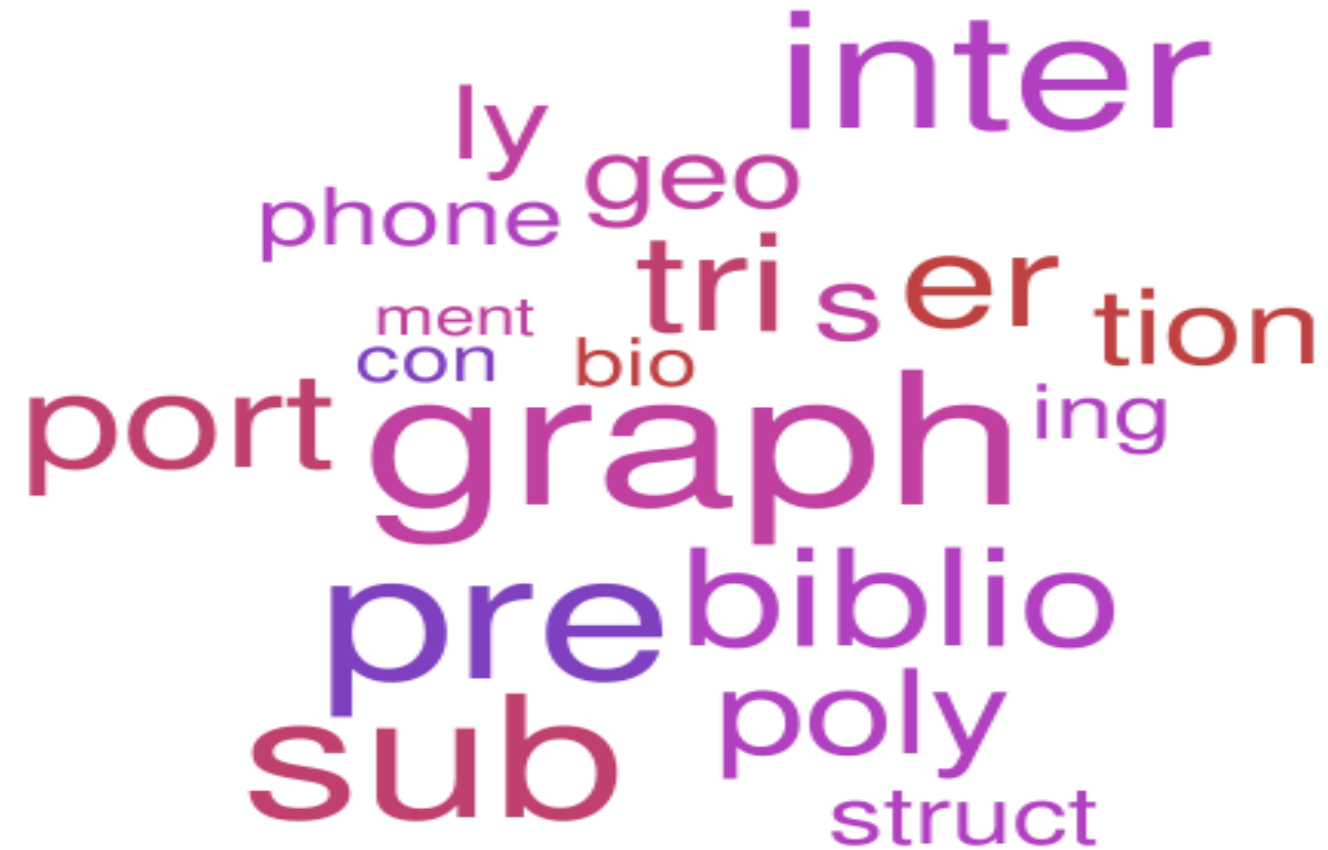
Identifying Morphemes

morphology

morph + ology

form + study of

Therefore, *morphology* is the study of how words are formed, with a focus on the meaningful units, or morphemes.

The smallest unit of language *that carries meaning*

Many blends and digraphs can be identified as a submorpheme, a part of a morpheme that has a recurrent form and meaning.

Examples:

kn – knead, knee, kneel, knuckle, knock

sn – sneeze, sniff, snore, snot

gl – glitter, gleam, glimmer, glow, glint

er – shimmer, glimmer, patter, chatter

A word will appear on the screen.

1. Count the number of morphemes (meaningful parts) within the word.

2. When you hear the "ding," show with your fingers the number of morphemes you identified.

Let's Practice: **reread**   (2) morphemes

re + read

walked (2) morphemes

walk + ed

cowriters (4) morphemes

co + write + er + s

transcontinental (3) morphemes

trans + continent + al

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A group of words that share a morphological unit

Example

mot (to move), from the Latin *movere*

automotive, commotion, demote, demotion, emote, emotion, locomotive, motel, motif, motion, motivate, motive, motocross, motor, promote, promotion, remote, motorcycle

Root: port
Meaning: to carry
Origin: Latin
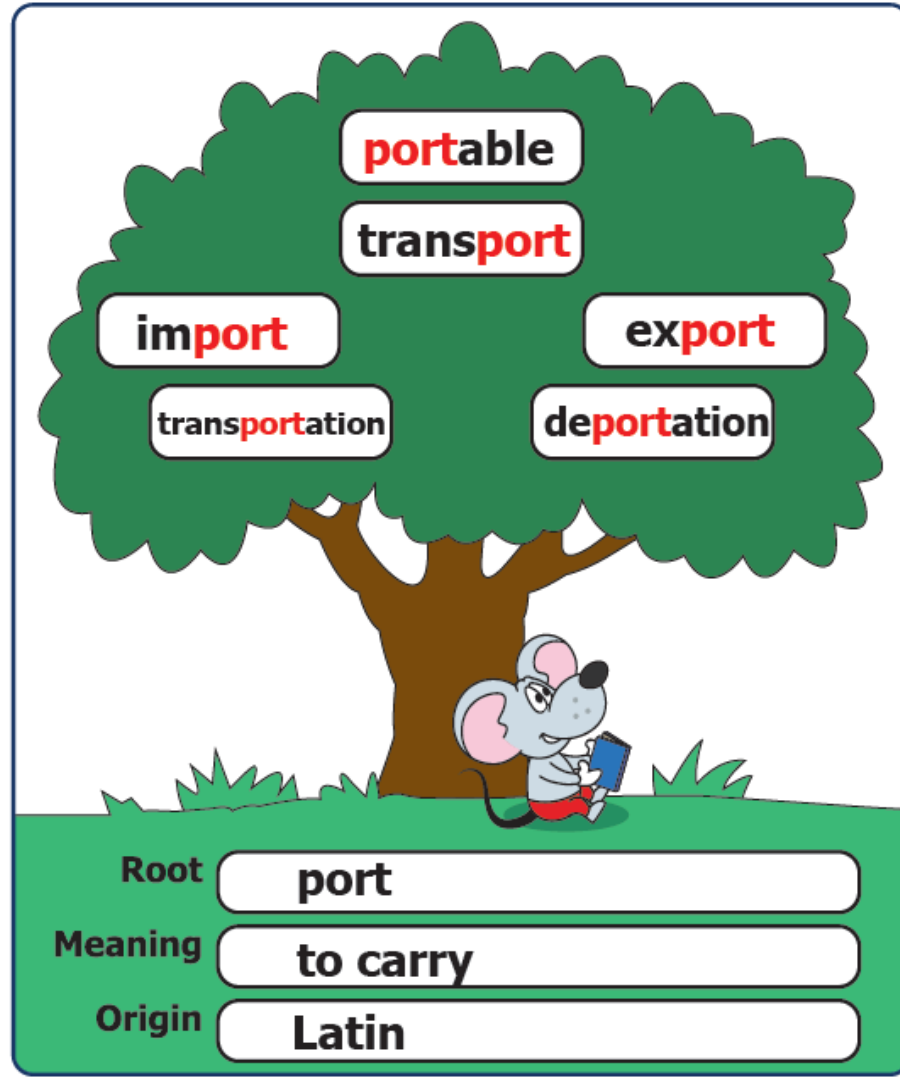
Caution! Some words may include word parts that seem to be a morpheme but do not carry the same base meaning.

Examples

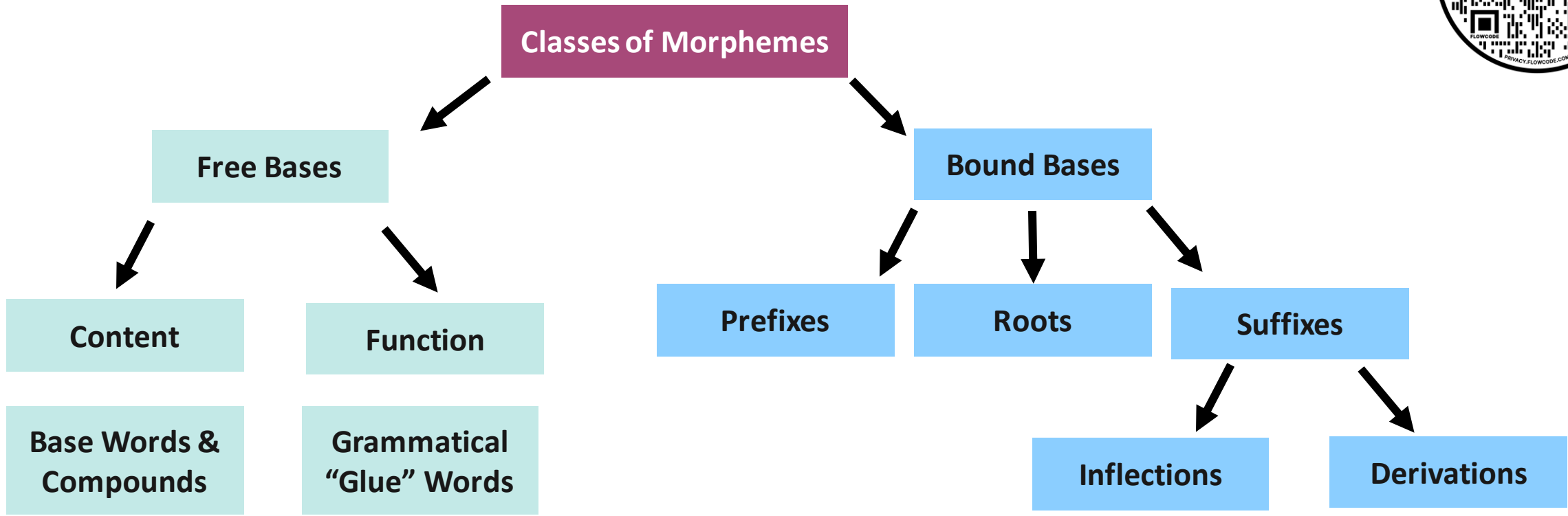- The word "mother" does not have the morpheme "mot."

- The word "fact" does not have the morpheme "act."

subpar

<u>subway</u>

subside

submerge
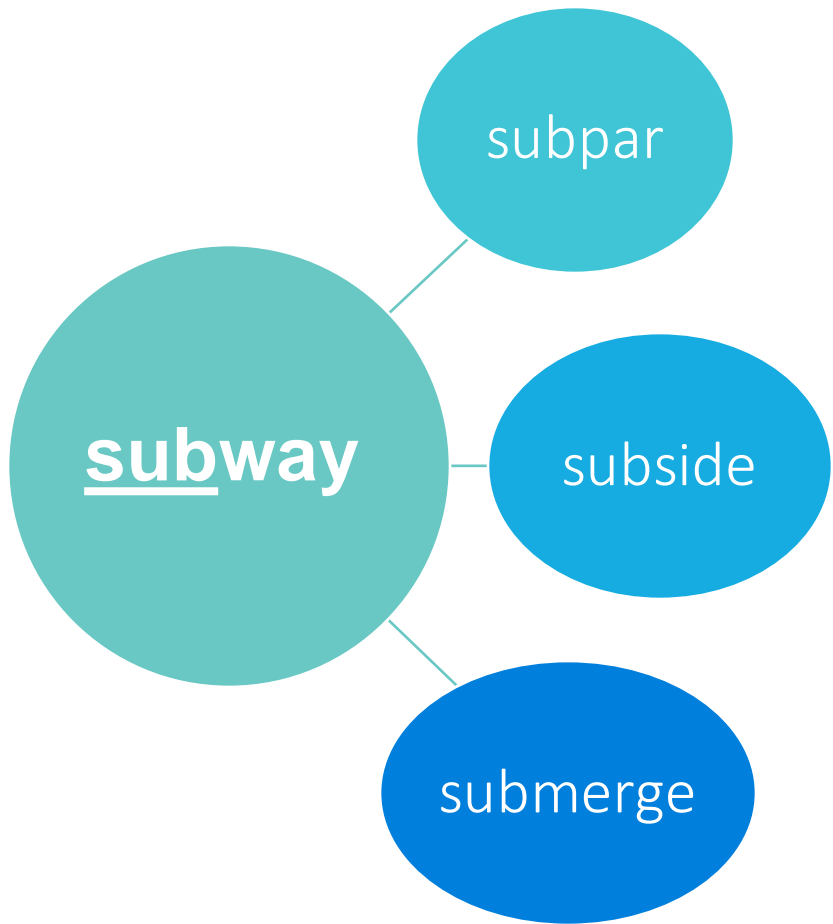
1. Divide into groups of two or three.

2. Use the index cards provided at your table to brainstorm additional words that include the underlined morpheme.

3. Create a circle map using the words.

4. Be prepared to share.

Classes of Morphemes

access the resource

Classes of Morphemes

Free Bases

Bound Bases

Content

Function

Prefixes

Roots

Suffixes

Base Words & Compounds

Grammatical "Glue" Words

Inflections

Derivations

Free or Bound Base

- Word part that holds the core meaning
- Every word has a base
- Free base – can stand alone, even when no additional word part is added (example: graph, act)
- Bound base – only appears in larger words; while it still holds meaning, it needs additional word parts (example: struct)

- <u>Prefix</u>: added to the beginning of a base or root word (ad-, inter-, trans-, super-)

- <u>Inflectional suffix</u>: added to the end of a word but does not change the part of speech (-ed, -s, -est, -ing, -en)

- <u>Derivational suffix</u>: added to the end of a word and marks the part of speech (-al, -ize, -ly, -ist, -ic, -ment)
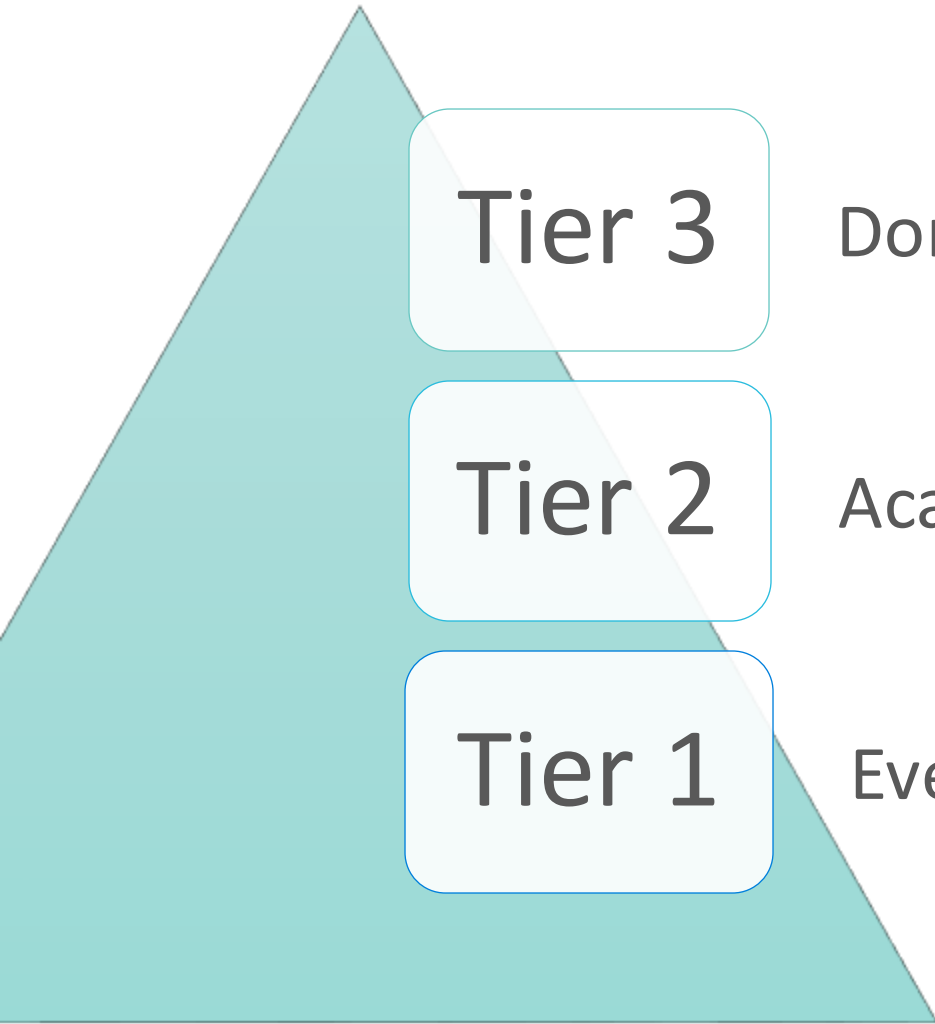
Tier 3
Domain-specific; Many of Greek-origin

Tier 2
Academic; Many of Latin-origin

Tier 1
Everyday vocabulary; Often Anglo-Saxon words

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Morphology in the Classroom

- The goal of reading is comprehension.

- Morphological awareness (knowledge about the structure of words and how word parts relate to meaning) supports vocabulary development.

- Vocabulary is key to reading comprehension (Reading Rockets).

As readers mature, they use structural analysis as both a word recognition and reading comprehension skill simultaneously.

Phonics	Structural Analysis
• Based on graphology & phonemic awareness • Letter/sound relationships • Generalizations for pronunciation and spelling • OUTCOME = PRONUNCIATION	• Based on morphology • Units of meaning • Generalizations for pronunciation and spelling • OUTCOME = PRONUNCIATION + Spelling + **MEANING**

Word Learning Strategy	Associated Questions
Morphology (inside word clues)	• Do I know any roots, prefixes, or suffixes in the word and what they mean? • Does the spelling of this word remind me of the spelling of any other words I know (in English or another language)? • Can my knowledge help me guess a meaning for this word?
Context (outside word clues)	• What does it seem like this word could mean from the words/sentences before and after it? • Do the words and sentences around the word confirm the meaning I guessed when I looked at the word parts? • Are there enough clues around the word for me to understand its meaning?
Resource (outside the text help)	• What does the dictionary (print or online) say? Does a thesaurus help me understand its meaning? • Do any of my classmates know the meaning? • Does my teacher know the meaning? • Does anyone in my family know this word?

read more

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read more

Every word is a base or contains a base.

Bases and affixes are the meaningful building blocks of words.

Words can be analyzed to determine morphological parts (word sums and matrices).

Morphemes are more consistently spelled than consistently pronounced.

We learn the phonology of morphemes (how a morpheme is pronounced) by studying morphological families.

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phonemes

/i/ /n/ /t/ /er/ /a/ /c/ /t/

morphemes

inter + act

etymology

Latin *inter* (between) +
Latin *actus* (to set in motion)

Vocabulary is	Vocabulary is NOT
Knowledge of, and memory for, word meanings, spoken and written	Words that students can name or read in print, reciting a definition, or copying from a dictionary

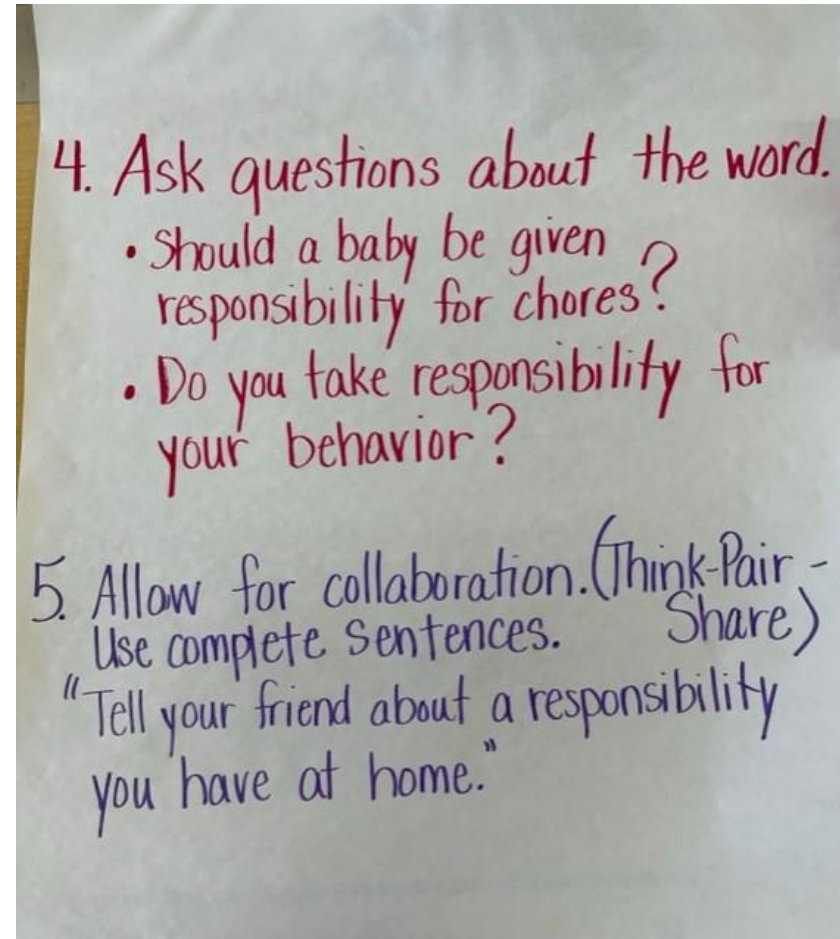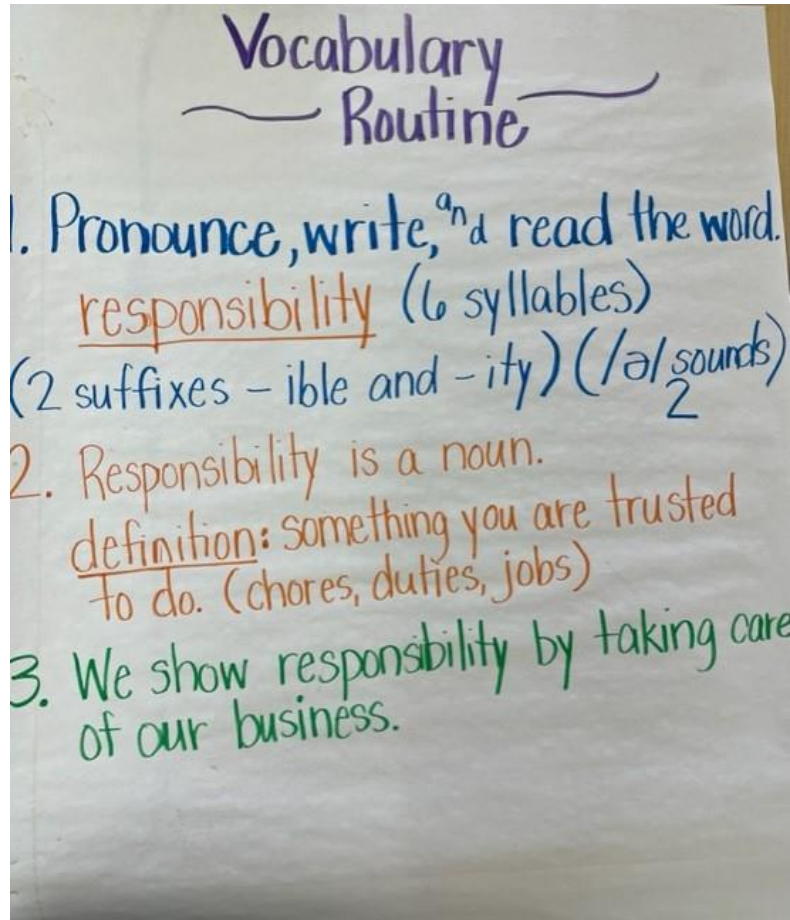|	
Phonological form (sounds, syllables)	• responsible (4 syllables)
Morphological form (meaningful parts)	• response
Spelling patterns (orthographic form)	• respond
Meanings and meaning networks	• take care of chores or duties
Syntactic roles	• adjective
Linguistic history (etymological features)	• Latin-French

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1. **Pronounce** the new word. Have students pronounce the word. Write the words to read. Talk about syllables, morphemes, spelling, parts of speech, and etymology.

2. Define the word using a **student-friendly definition**. For a noun, use: _____ is _____ that has/is _____.

3. Say more about the word. Use it in **different** examples.

4. Ask students "yes" or "no" **questions** about the word's meaning.

5. Elicit word use by **students**. (Think-Pair-Share)

   What are some of examples of _____?

   Can you use the word in a sentence?

responsibility

Vocabulary ~Routine~

1. Pronounce, write, and read the word.
   responsibility (6 syllables)
   (2 suffixes – ible and –ity) (/ə/ sounds 2)
2. Responsibility is a noun.
   definition: something you are trusted to do. (chores, duties, jobs)
3. We show responsibility by taking care of our business.

4. Ask questions about the word.
   • Should a baby be given responsibility for chores?
   • Do you take responsibility for your behavior?

5. Allow for collaboration. (Think-Pair-Share)
   Use complete sentences.
   "Tell your friend about a responsibility you have at home."

Developing Understanding Through Practice

A **word sum** is a multi-morphemic word that is represented as an addition equation.

Examples:

re + heat = reheat

under + act + ive = underactive

con + verse + ate + ion = conversation

Using the words you created during the circle web activity, create word sums for the morphological family. Be prepared to share.

Example for the bound base **struct:**

re + **struct** + ure = restructure

in + **struct** = instruct

de + con + **struct** = deconstruct

ob + **struct** + ion = obstruction

- the representation of a morphological family using a matrix, or diagram

- can be created using the Mini Matrix-Maker website (currently available for free)

scan for website

1. Go to http://www.neilramsden.co.uk/spelling/matrix/.

2. Click "Run Mini Matrix-Maker."

3. In the "Spelling" box, choose your prefix, suffix, or base.

4. In the "Denotation" box, define the meaning of your prefix, suffix, or base.

5. In the "Word Sums" box, enter your words and separate by prefix, base, and suffix.

scan for website

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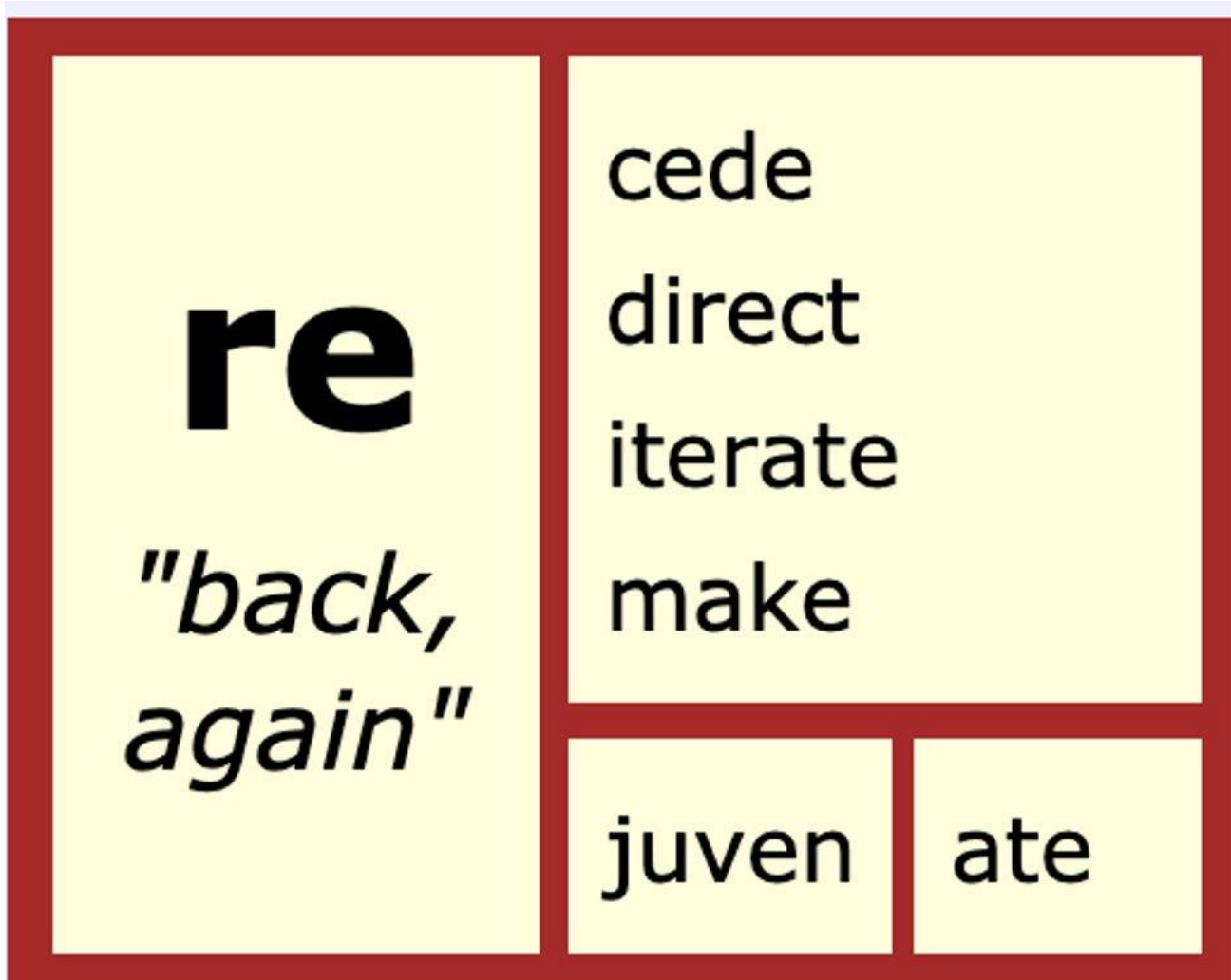5. In the "Word Sums" box, enter your words and separate by prefix, base, and suffix
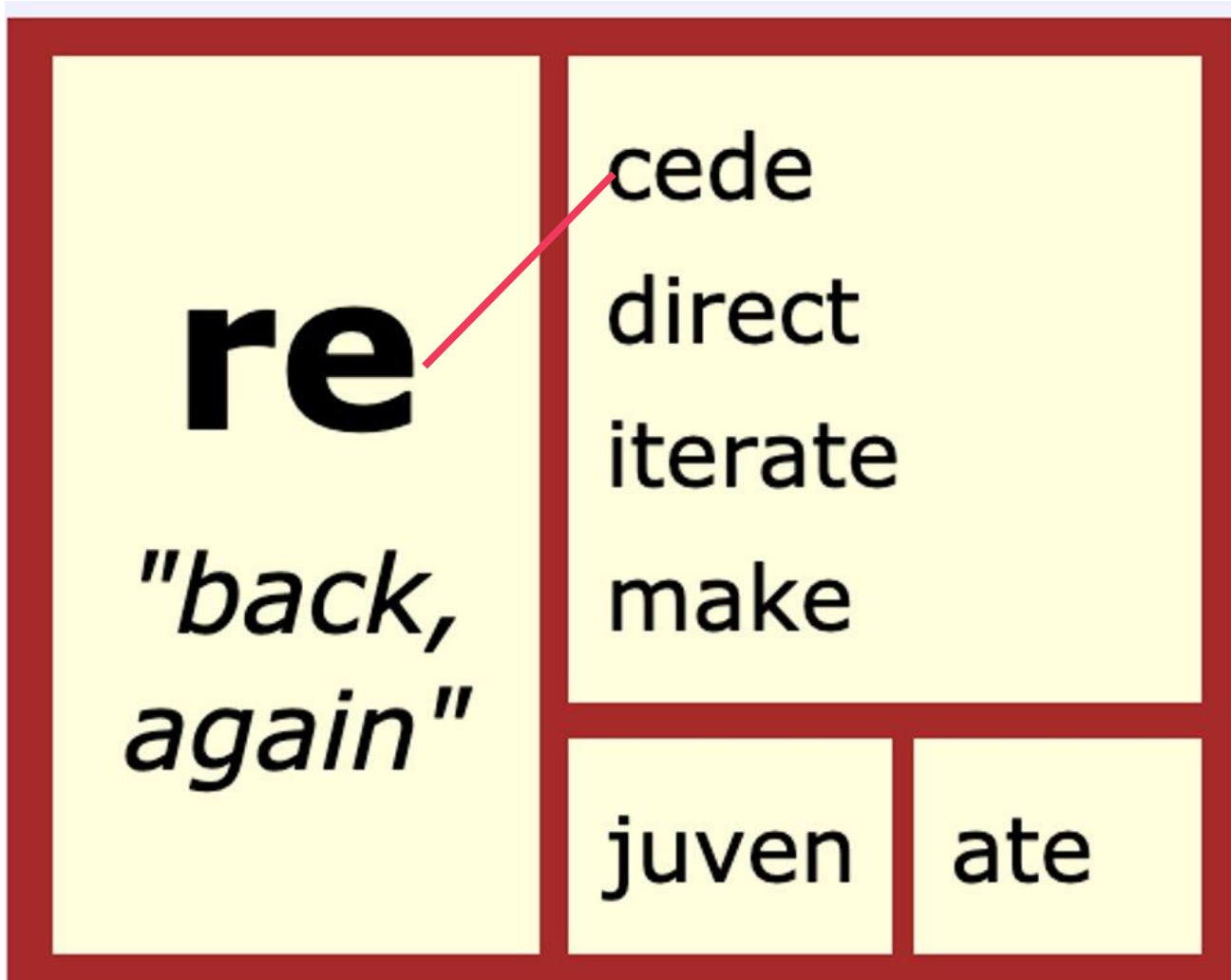
scan for website

Prefix	Base	Suffix	Meaning

Morpheme matrix:

re "back, again"

cede
direct
iterate
make

juven | ate

Prefix	Base	Suffix	Meaning
re	cede		to move back

re "back, again"

cede
direct
iterate
make

juven | ate

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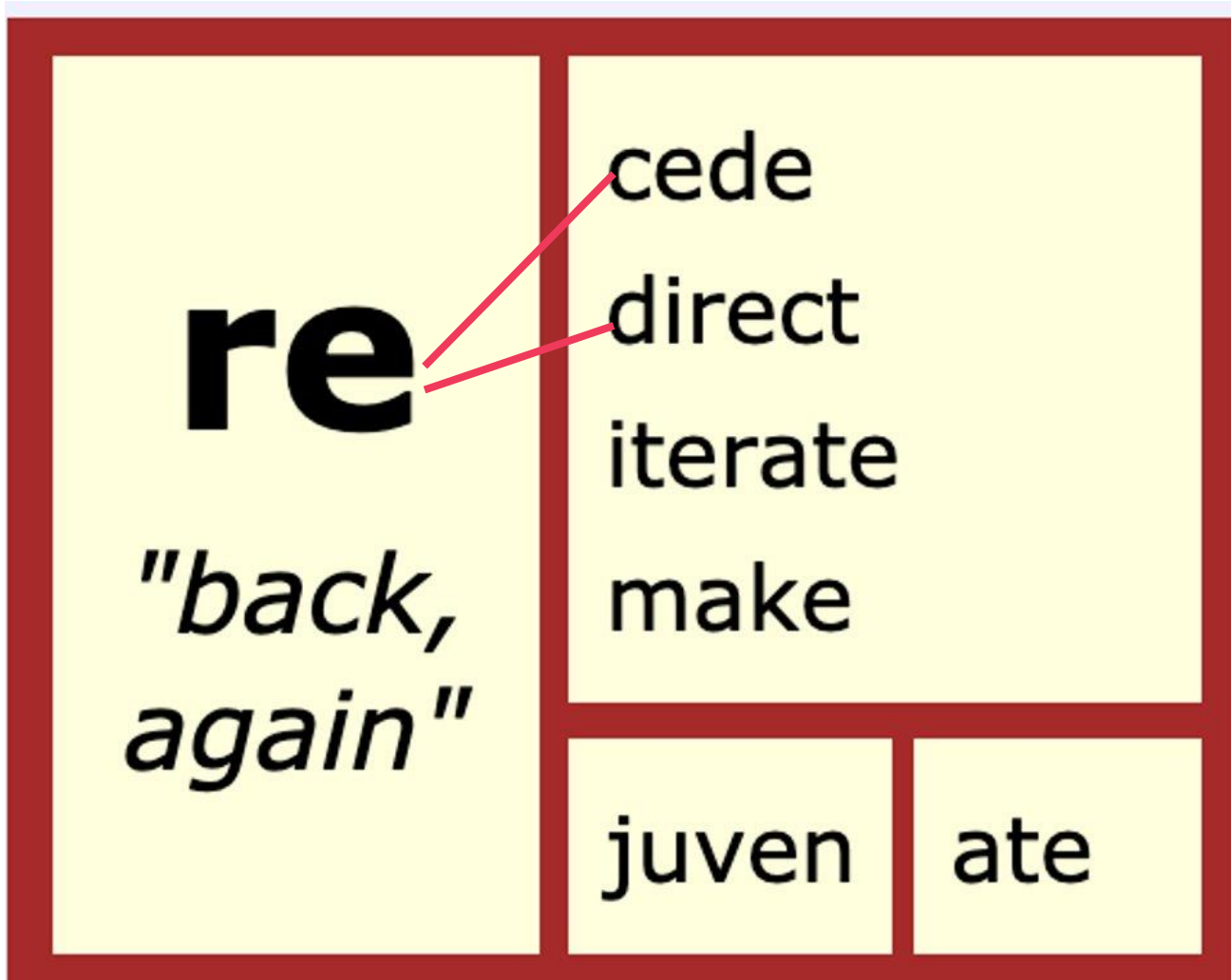
Prefix	Base	Suffix	Meaning
re	cede		to move back
re	direct		direct again

Prefix	Base	Suffix	Meaning
re	cede		to move back
re	direct		direct again
re	iterate		say again
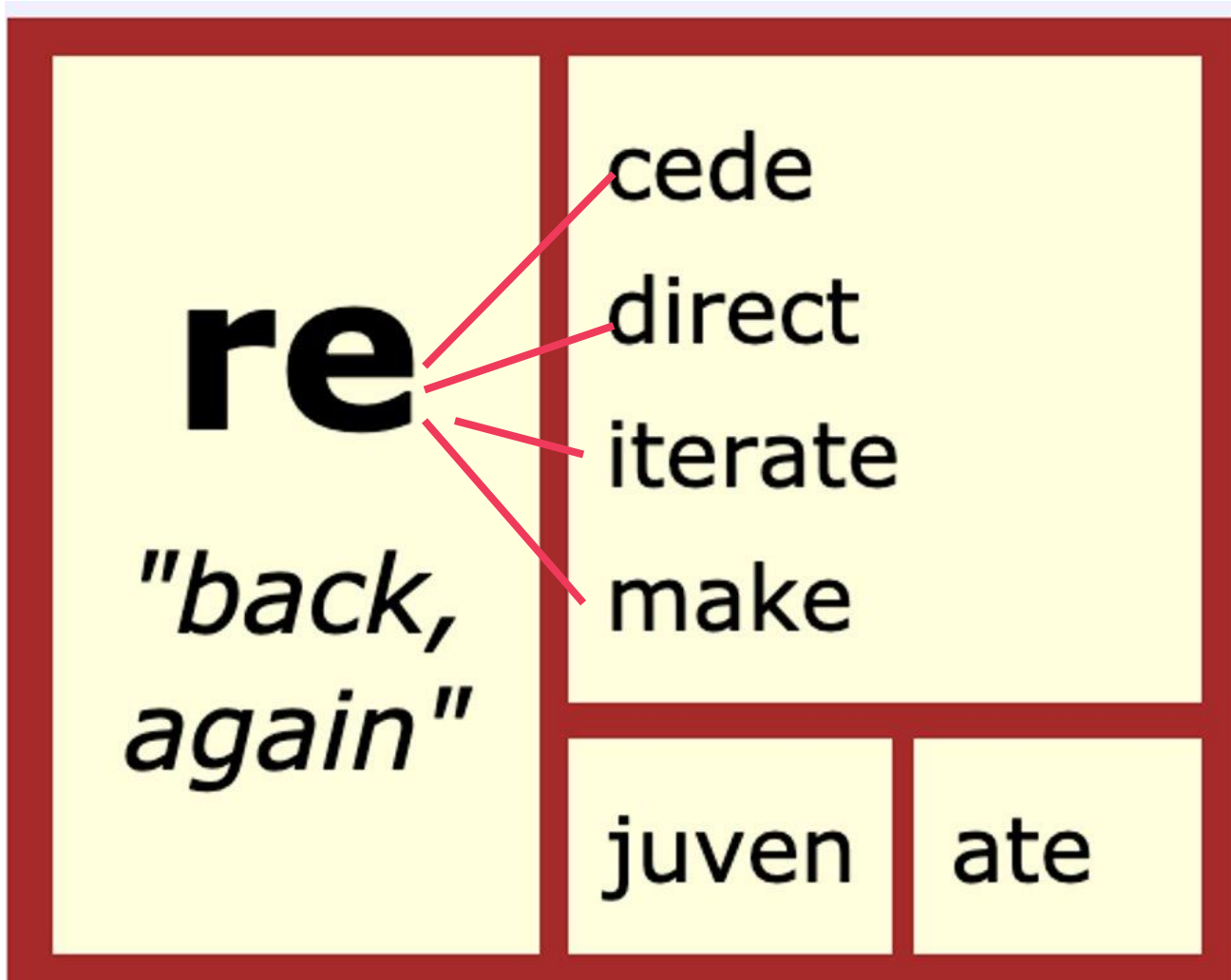
Prefix	Base	Suffix	Meaning
re	cede		to move back
re	direct		direct again
re	iterate		say again
re	make		make again
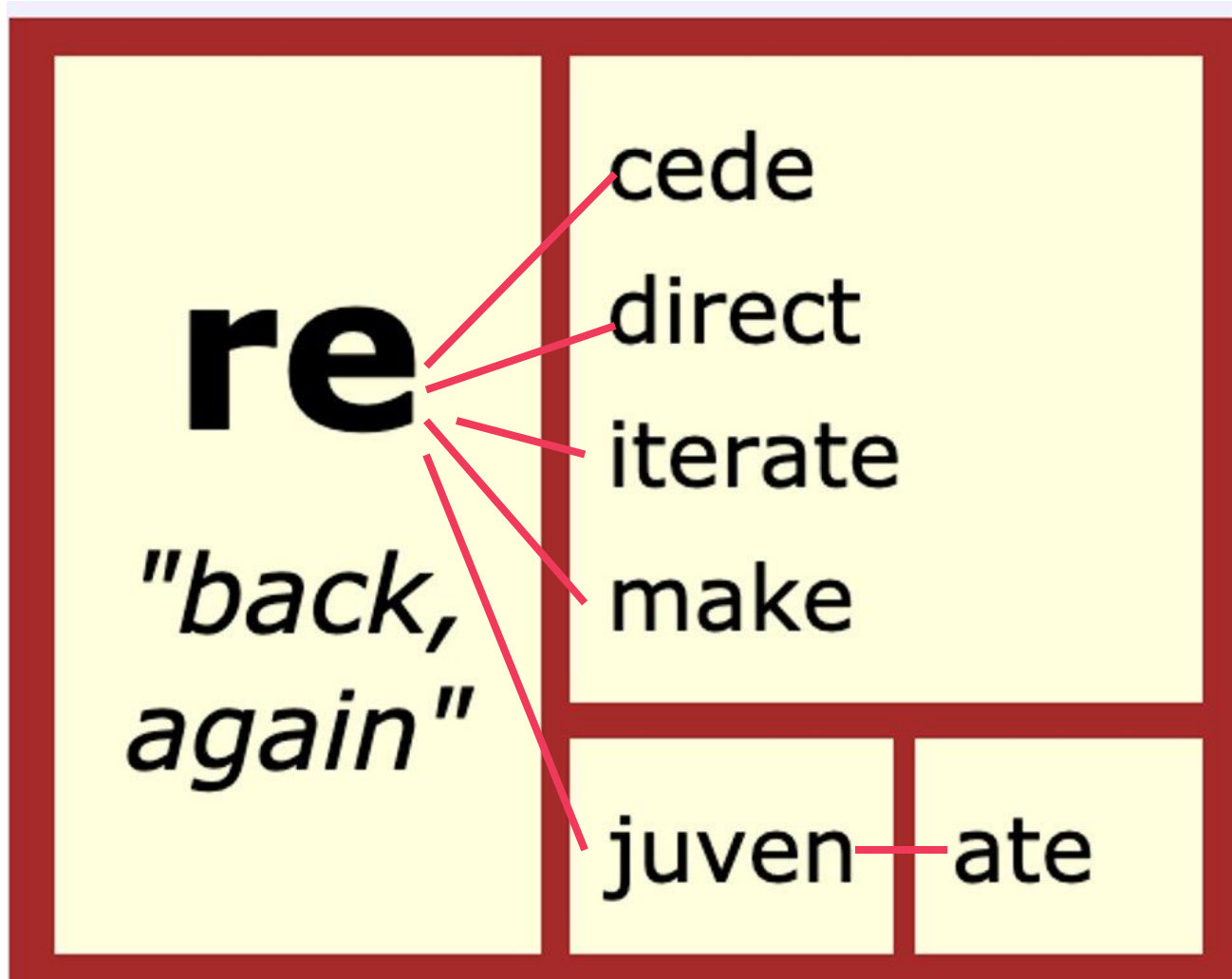
Prefix	Base	Suffix	Meaning
re	cede		to move back
re	direct		direct again
re	iterate		say again
re	make		make again
re	juven	ate	make young again
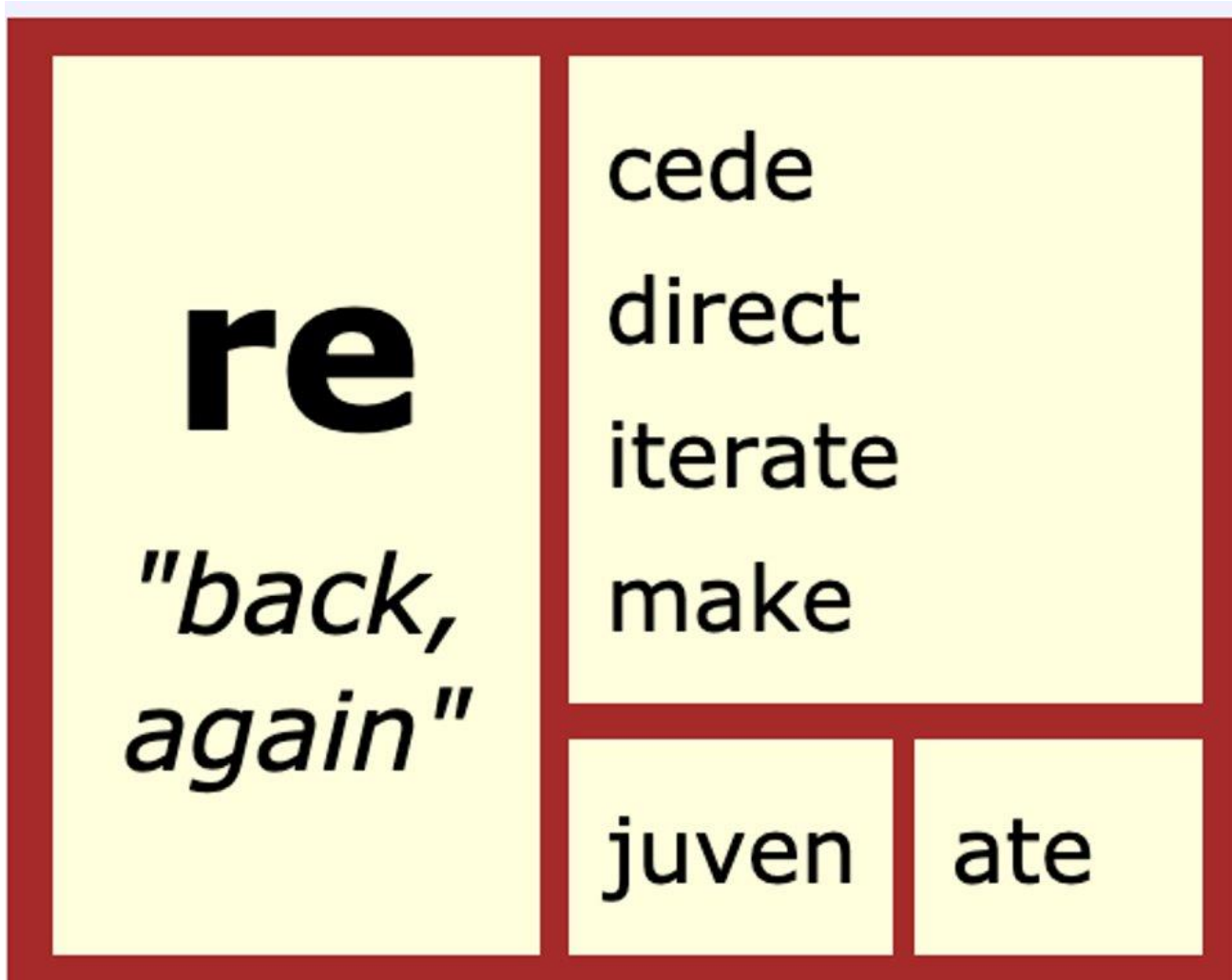
Prefix	Base	Suffix	Meaning
re	cede		to move back
re	direct		direct again
re	iterate		say again
re	make		make again
re	juven	ate	make young again

1. Using the pre-created Morpheme Matrices at your table, work in partners or groups to complete a Matrix Analysis.

2. If time permits, think of other words that could be analyzed within the same morphological family.

Prefix	Base	Suffix	Meaning
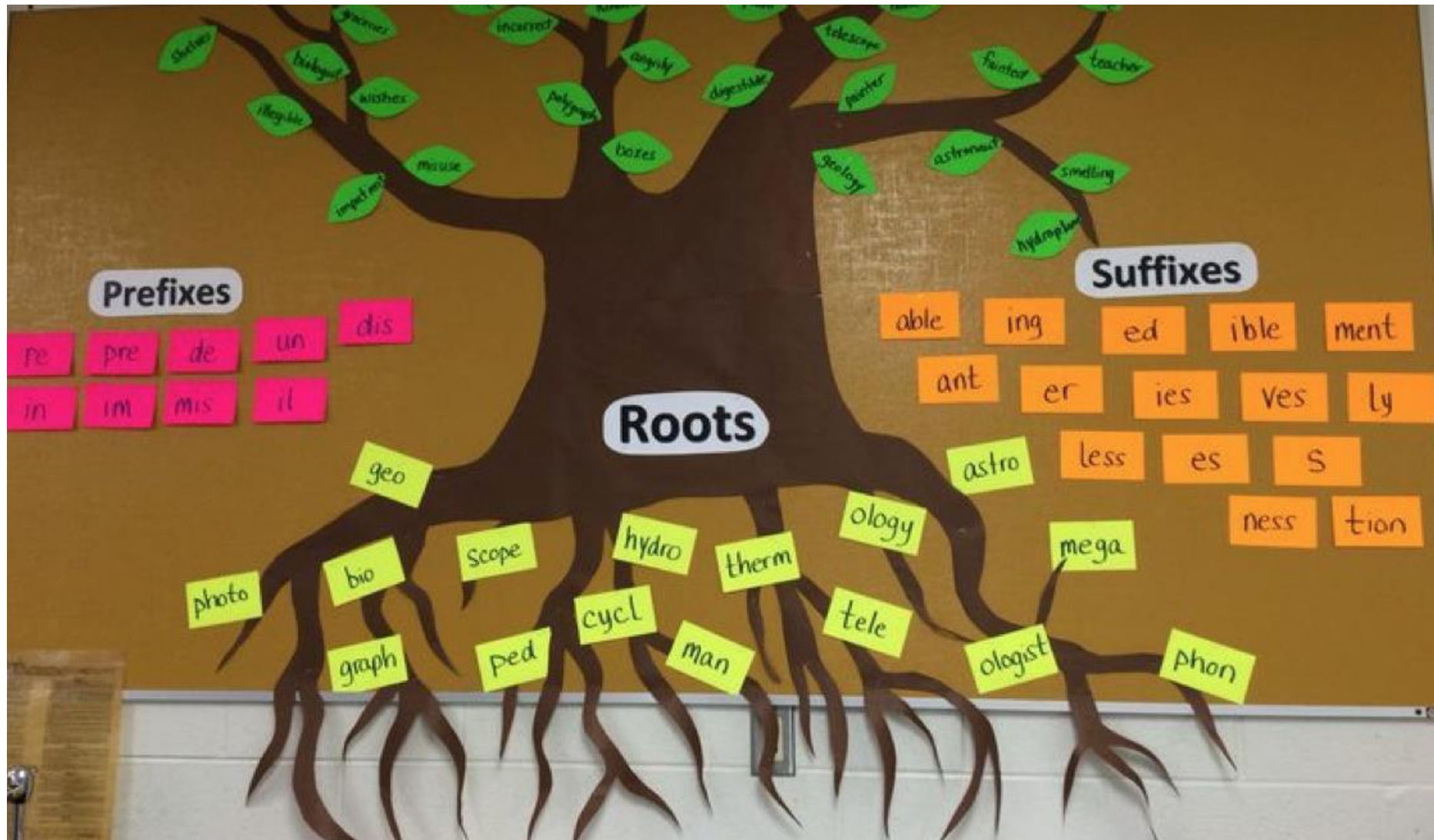
bio
Greek – "life"

abiotic
amphibious
autobiography
biodiversity
biofeedback
biogenesis
biographer
biography
biologist
biology
biomass
biopsy
symbiosis

↑Related Words

bio
Greek root for "life"

Meaning:

Doodle:

Doodle:

Meaning:

Meaning:

Doodle:

The Goldilocks Principle
Based on the story of a girl who dislikes porridge that is either "too cold" or "too hot," this principle is used to describe the "just right" conditions needed to support life. In planetary science, the 'Goldilocks zone' is a term for the band around a sun where temperatures are neither too hot nor too cold for liquid water to exist. Luckily for us, Earth falls in this zone and is therefore the only planet in our solar system to support life.

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tele
Greek – "far away"

telecast
telecommuting
telegram
telekinesis
telepathic
telepathy
telephone
telephoto
teleport
telescope
telethon
television

Greek root for "far away"

tele

Doodle:

Meaning:

Related Words→

Meaning:

Doodle:

Doodle:

Meaning:

The Telegraph
Developed in the 1830s and 1840s, the telegraph revolutionized long-distance communication. It worked by transmitting electrical signals over a wire laid between stations. Samuel Morse developed a code that assigned a set of dots and dashes to each letter of the English alphabet and allowed for the simple transmission of complex messages across telegraph lines. The first telegraph was sent in 1844 from Washington, D.C., to Baltimore, Maryland.

A	B	C	D	E	F	G
H	I	J	K	L	M	N
O	P	Q	R	S	T	U
V	W	X	Y	Z	0	1
2	3	4	5	6	7	8
9	.	,	?	:	!	/

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GREEK & LATIN
Root Word Tree

ROOT:

ROOT WORD GRAPHIC ORGANIZER

DIRECTIONS:
1. Chose a Latin or Greek root and write it in the middle rectangle.
2. Find four different words that are derived from that root and write them in the outer rectangles.
3. Write the definition of each word in the circles.
4. Optional: color and cut out.

Definition

Definition

Related Word

Related Word

ROOT:

Related Word

Related Word

Definition

Definition

DIVIDE & CONQUER

Whole Word:	Word Parts:	Literal Definition:
		Dictionary Definition:
Meanings of Word Parts:		

Whole Word:	Word Parts:	Literal Definition:
		Dictionary Definition:
Meanings of Word Parts:		

Whole Word:	Word Parts:	Literal Definition:
		Dictionary Definition:
Meanings of Word Parts:		

Whole Word:	Word Parts:	Literal Definition:
		Dictionary Definition:
Meanings of Word Parts:		

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- Research informs us that morpheme knowledge supports the overall goal of reading comprehension.

- Morphemes are word parts that contain meaning.

- Morphology instruction, embedded in current phonics and vocabulary instruction, guides students in analyzing meaningful word parts.

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"Links between **sound**, **symbol**, and **meaning** must be constructed like a layer-cake: systematically and explicitly."

Louisa Moats

- What information from today's presentation is new to you?

- What is one idea or strategy that you are excited to take back to your classroom?

- What lingering questions do you have regarding manipulating morphemes?

- [Vocabulary Instruction: Essentials for Proficient Readers](#)

- [Strong Readers All](#)

- [3 Literacy Practices that Work](#)

- [LETRS: The Need For Research-Based Literacy Professional Development](#)

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