



Building vocabulary within the secondary curriculum

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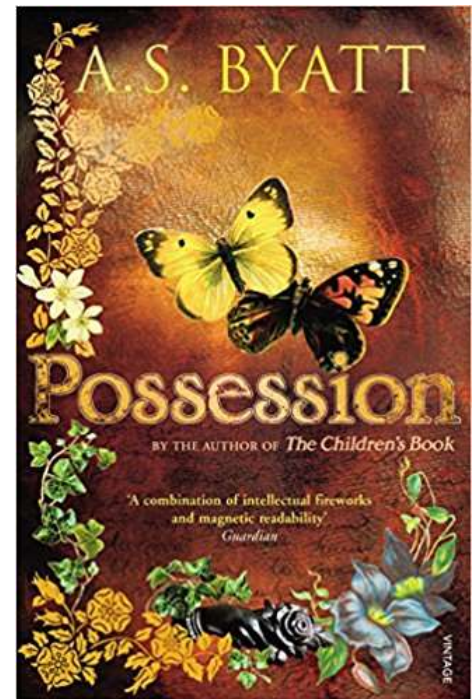
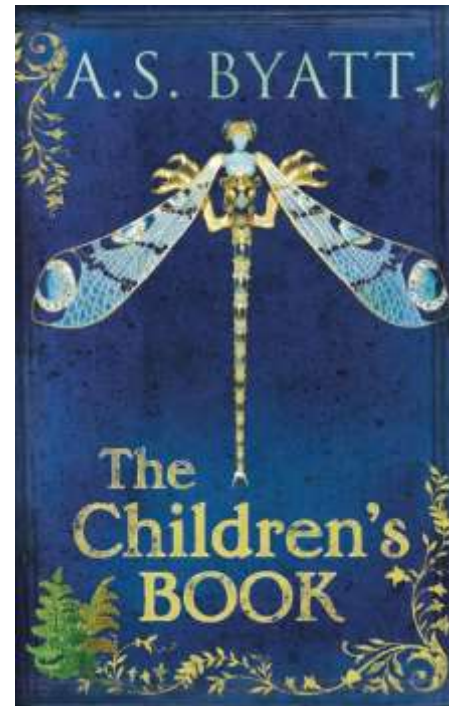
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“Vocabularies are crossing circles and loops. We are defined by the lines we choose to cross or to be confined by.”

A.S. Byatt



About The National Literacy Trust

We aim to equip disadvantaged young people with literacy fit for employment and life

We target schools with high levels of poorer children and below average literacy levels and aim to eliminate the attainment gap

We support the families who need help most, reaching out to communities through partnerships

We lead the national literacy campaign, raising awareness of the critical importance of the cause with compelling research and a commanding policy platform



Course Objectives

- Explore recent research into the vocabulary gap
- Understand the role of academic language in the curriculum
- Develop knowledge of word morphology
- Trial strategies for direct vocabulary instruction

Vocabulary vocabulary

- receptive
- productive
- morpheme
- morphology
- grapheme
- phoneme
- syllable
- hyponym
- antonym
- synonym
- cognate
- etymology
- lexis
- collocation

Have you heard the word?

Word	I have never heard the word	I have heard the word but can't remember its meaning	I can use the word in the right way when I am talking	I can give a definition of this word/phrase or use it in writing. (Write it below.)
vocabulary				
morphology				
orthography				
synonym				
antonym				
syllable				

Words, words, words...



- Approximately how many words do you think the English language contains?
 - What is the average vocabulary of a native adult English speaker?
- (a) 10,000-20,000 (b) 20,000-35,000
- (c) 35,000-50,000 (d) 50,000-70,000

Words, words, words...

- Approximately how many words do you think a young person needs to be familiar with in order to thrive in school?

(a) 20,000 (b) 35,000 (c) 50,000 (d) 70,000

- How many words do you think you have in your vocabulary?



Vocabulary size

There are numerous estimates about vocabulary size. Some count all words, others count word 'families' or 'root words' Children in the highest quartile enter school with an average **receptive vocabulary** of **7100** root words. In contrast, children from the lowest quartile have an average receptive vocabulary size of 3000 root words. (Biemiller 2003)

In the American school setting, good estimates of L1 word knowledge by **graduating high-school students** appears to be about **20,000 families** (Nation, Nagy etc)

Milton and Treffers – Deller (2013) revisited the link between vocabulary size and academic achievement and concluded that native speakers' vocabulary size on entering university in the UK is much smaller than usually reported - being an average of **10,000 word families**.

Assessing vocabulary size

Reading tests generally assess three areas:
Decoding, fluency, comprehension

- <http://testyourvocab.com/blog/2013-05-09-Reading-habits>
- YARC- York assessment of reading comprehension
- CAT4 – Verbal reasoning strand gives a score for vocabulary
- New Group Reading test (online) - decoding and comprehension- produces a standardised score

GL Assessment

- Vocabulary levels tests created by Paul Nation, Victoria University of Wellington <http://www.lex tutor.ca/>

Measuring vocabulary size

Second 1000

1. MAINTAIN: Can they **maintain** it?
 - a. keep it as it is
 - b. make it larger
 - c. get a better one than it
 - d. get it
2. STONE: He sat on a **stone**.
 - a. hard thing
 - b. kind of chair
 - c. soft thing on the floor
 - d. part of a tree
3. UPSET: I am **upset**.
 - a. tired
 - b. famous
 - c. rich
 - d. unhappy

Fourth 1000

1. COMPOUND: They made a new **compound**.
 - a. agreement
 - b. thing made of two or more parts
 - c. group of people forming a business
 - d. guess based on past experience
2. LATTER: I agree with the **latter**.
 - a. man from the church
 - b. reason given
 - c. last one
 - d. answer
3. CANDID: Please be **candid**.
 - a. be careful
 - b. show sympathy
 - c. show fairness to both sides
 - d. say what you really think

Eighth 1000

1. ERRATIC: He was **erratic**.
 - a. without fault
 - b. very bad
 - c. very polite
 - d. unsteady
2. PALETTE: He lost his **palette**.
 - a. basket for carrying fish
 - b. wish to eat food
 - c. young female companion
 - d. artist's board for mixing paints
3. NULL: His influence was **null**.
 - a. had good results
 - b. was unhelpful
 - c. had no effect
 - d. was long-lasting

Sample from test created by Paul Nation, Victoria University of Wellington

<http://www.lex tutor.ca/>

This test is freely available and can be used by teachers and researchers for a variety of purposes.

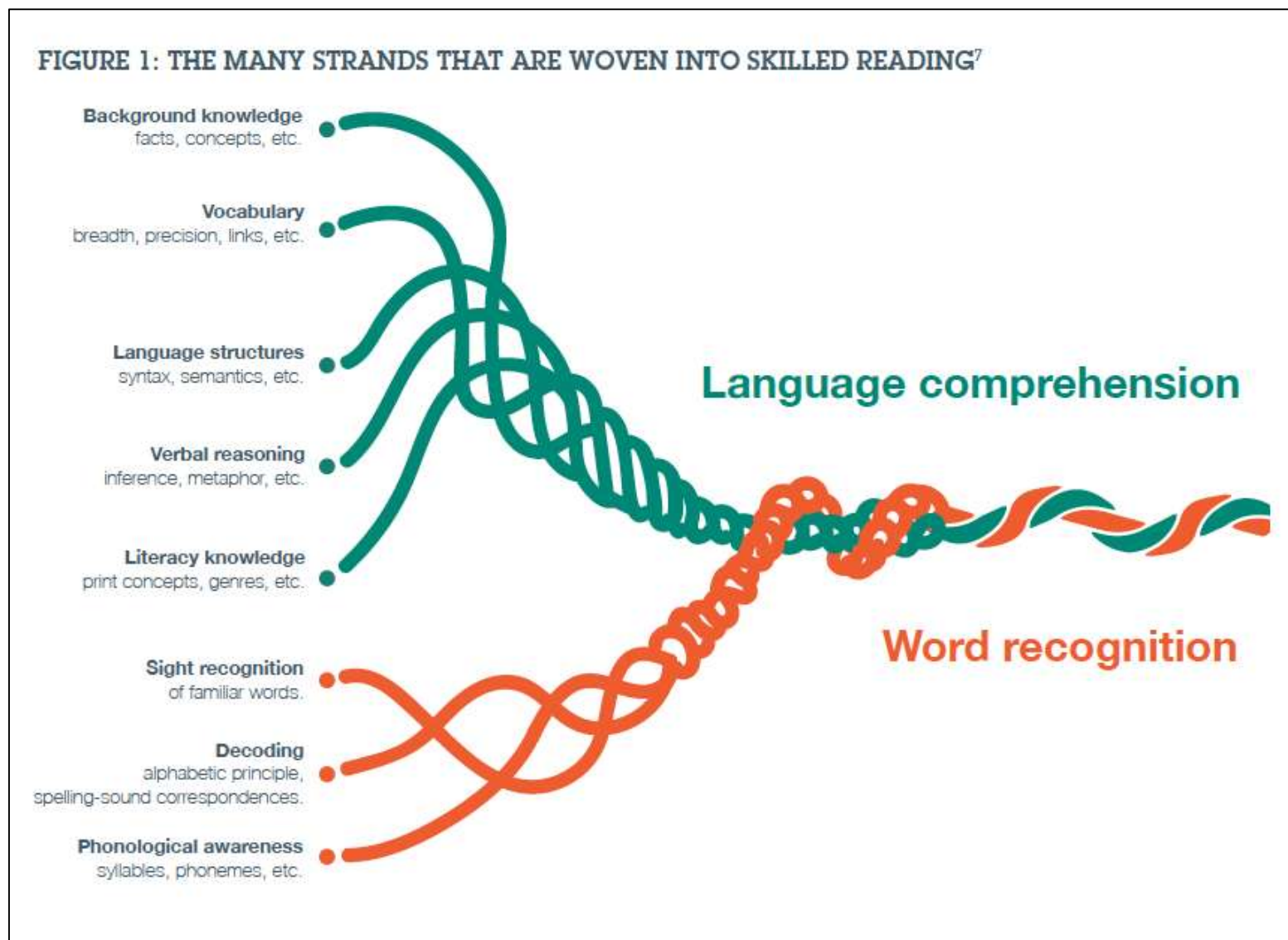


Vocabulary in the Welsh Curriculum

The research evidence

- Learning new words is a cumulative task that takes place gradually over time.(Nagy and Scott 2000)
- There is a strong reciprocal relationship between word knowledge and reading comprehension (National Reading Panel 2000, Biemiller 2003)
- Children who read more will come across a greater number of words and get more practice at decoding words and have greater opportunities to enhance their knowledge of morphology and spelling than less avid readers. (Cain and Oakhill 2011)

The reading rope



Wider reading and vocabulary size

Age	Reads "lots"	Reads "somewhat"	Reads "not much"
8	12,099	9,414	7,884
9	12,353	10,673	6,507
10	15,267	11,795	10,945
11 (year 6/7)	17,867	11,836	9,135
12 (year 7/8)	17,051	11,688	9,023
13 (year 8/9)	19,608	14,976	11,132
14 (year 9/10)	20,761	15,453	11,251
15	21,994	17,227	11,200

Word frequency coverage within academic texts

- *'the'* covers 6–7% of total words in written texts
- top 10 words = 22% of total words
- top 50 words = 37% of total words
- top 100 words = 44% of total words
- top 1000 word families = 71% of total words
- top 2000 word families = 76% of total words
- top 3000 word families = 86% of total words

(Nation, 2001, 2004; Schmitt, 2000)

Closing the vocabulary gap

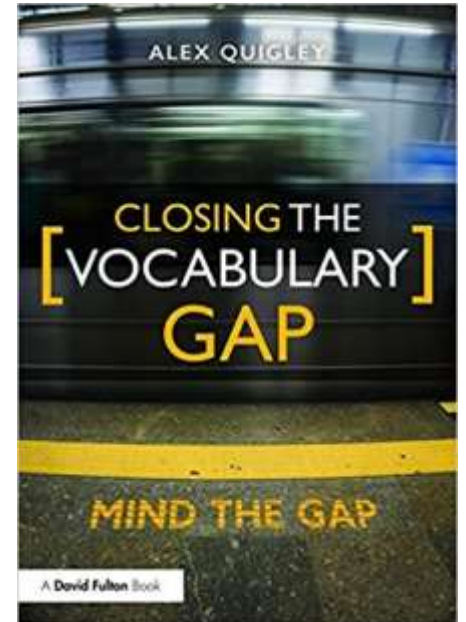
- Children with language difficulties at age 5 are four times more likely to have reading difficulties in adulthood, three times as likely to have mental health problems, and twice as likely to be unemployed. (Law et al 2017)
- Students with limited vocabularies read less and thus learn fewer new words. 'Matthew effect' (Stanovich 1986)

'Put simply, the word rich get richer, but the word poor get poorer.'

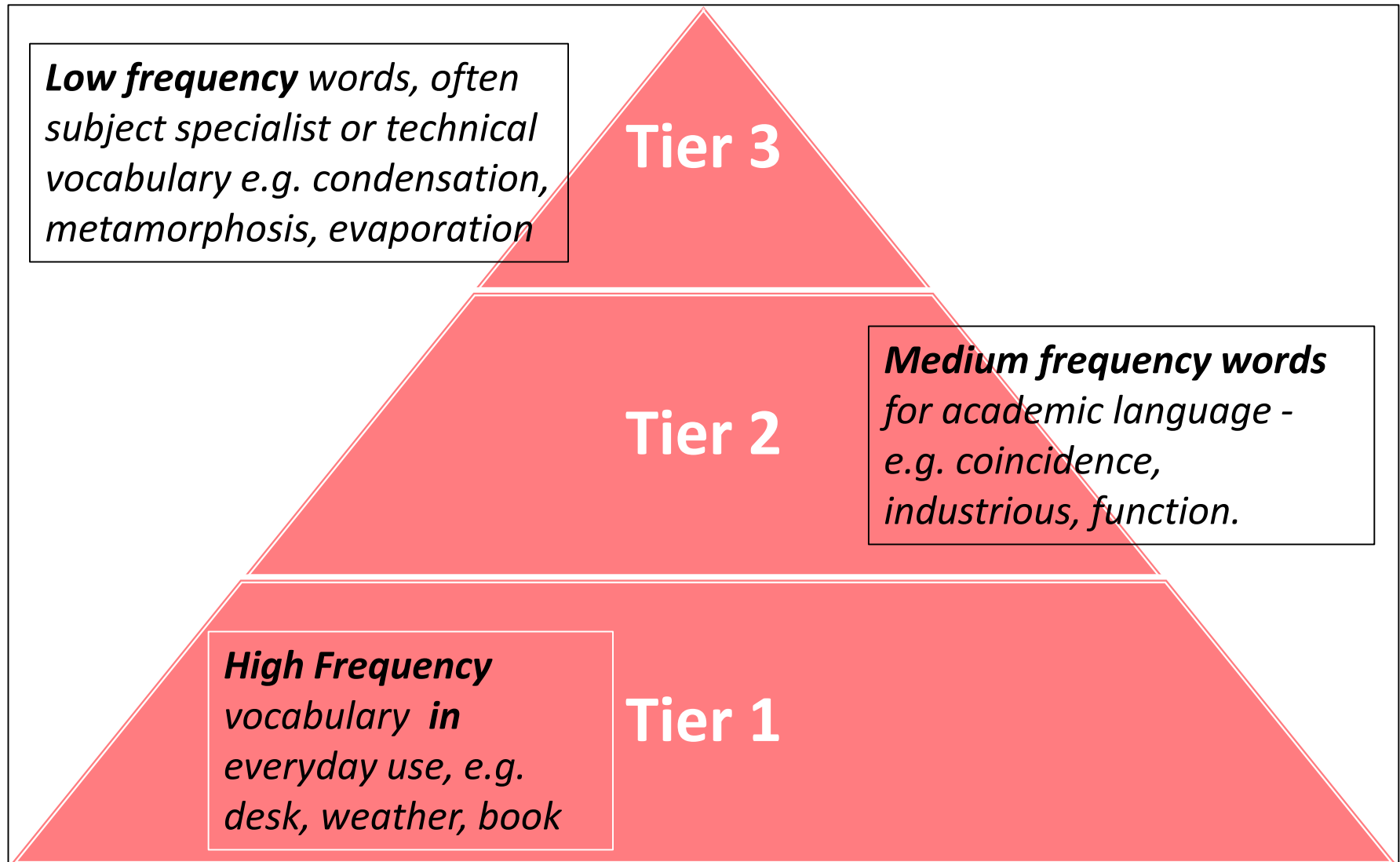
'By explicitly teaching a mere 300 to 400 words a year we can foster an annual growth of around 3000 to 4000 words.'

'With a bigger, harder curriculum, in any subject, we begin with the words.'

'Vocabulary teaching can be incidental, disorganised and limited, when it needs to be organised, cumulative and rich.' (Quigley 2018)



3 tier vocabulary model



Academic vocabulary

Academic word list (Coxhead 2000)

There are 570 'head' words in total: when expanded to include associated words this list amounts to over 3000. The head word may not be the most common occurrence, e.g. finance is the head word, but financial may be the most frequently used.

Group 1

analyse	approach	area	assess	assume	authority	available
benefit	concept	consist	constitute	context	contract	create
data	define	derive	distribute	economy	environment	establish
estimate	evident	export	factor	finance	formula	function
identify	income	indicate	individual	interpret	involve	issue
labour	legal	legislate	major	method	occur	percent

survive
diminish
monitor
research
project
challenge
circumstance
incident
obvious
precise
intense
symbol
inspect
approximate
summary
react
device



Code switching

We need to be mindful of the words we choose to use in the classroom. We can choose to continually expose students to an academic vocabulary.

Pair tier 1 and tier 2 words in a skilled and subtle way.

“Reveal your answer” (show me)

Take the procedural language challenge!

Tier 1	Tier 2
find	
hand out	
gather up	
try	
think about	
come up with	

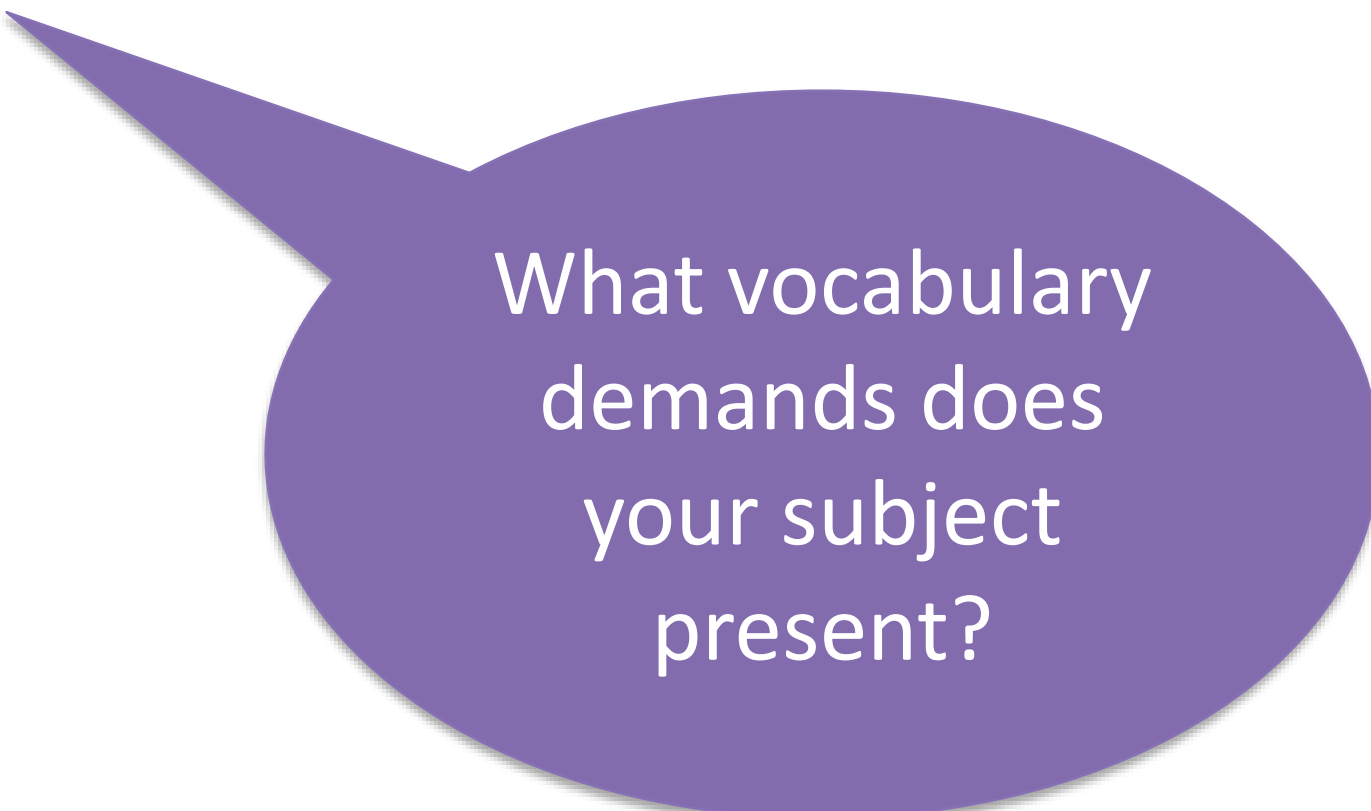
after 10 seconds the body will react to
the running and take in more oxygen
because the heart is going faster. After
~~3/4~~ 2 minutes the breathing and heart
rate would go up.

Consider 'heart is going faster' and 'heart rate would go up'. What other tier 2 verbs could this PE student choose?

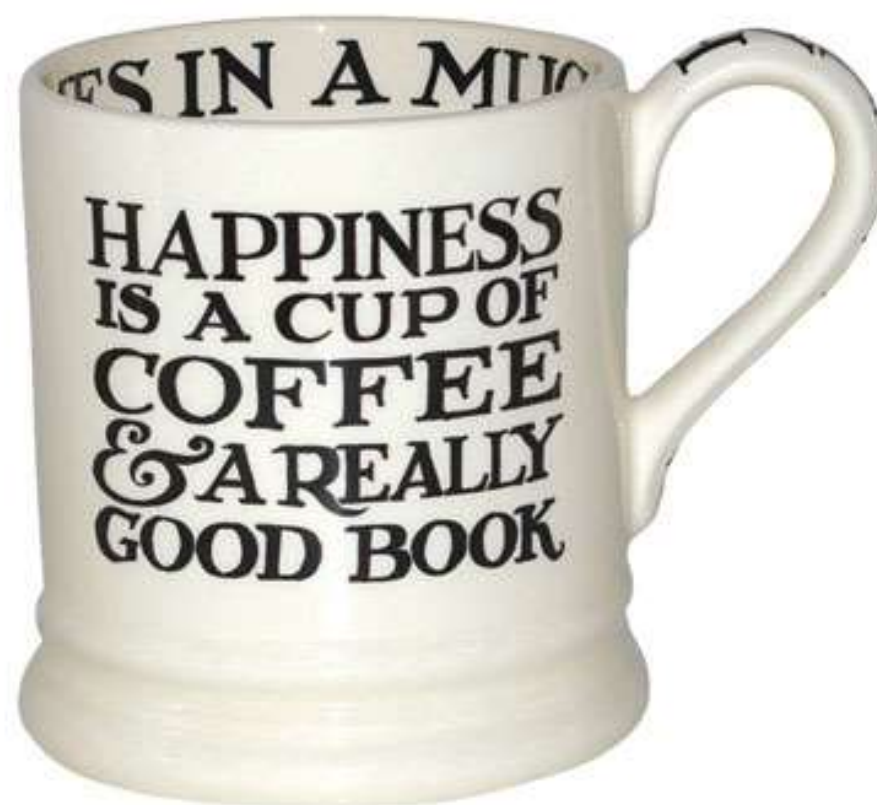
We use physical theatre to show the endurance washing into us. We used it by using strong structure and good narration. It was successful because of the way we used the narration but unsuccessful because of the laughing which made the scene go away. Another group that worked well was abba as it was full of imagination and clear scenes.

What about 'made the scene go away'? Can we help this drama student to be more precise in what he/she is trying to communicate?

LANGUAGE FOR CITIZENSHIP					
NOUNS	VERBS	ADJECTIVES	ADVERBS	CONNECTIVES	PREFIXES
monarchy	explain	political	arguably	whereas	post-war
citizen	evaluate	social	probably	subsequently	prehistory
parliament	describe	moral	maybe	nonetheless	deconstruct
community	analyse	economic	likely	firstly	multicausal
state	identify	cultural	possibly	secondly	illegal
United Nations	assess	racial	suddenly	finally	undemocratic
capitalism	justify	ethnic	frequently	also	misconception
dictatorship	summarise	religious	gradually	on the other	indirect
nationalist	compare	contextual	quickly	hand	post-revolution
propaganda	contrast	revolutionary	effectively	alternatively	mid-century
democracy	develop	regressive	recently	likewise	disorder
consumer	campaign	civil	significantly	similarly	unexpected
police	transform	subjective	primarily	conversely	injustice
militarism	understand	objective	essentially	therefore	self-determination
ideology	conflict	individual	particularly	because	
constitution	pressure	collective	especially	evidently	
welfare	resolve	financial	commonly	although	
resource	debate	causal	rarely	consequently	
taxation	elect	prejudiced	responsibly	overall	
environment		global			
justice		controversial			
law		judicial			
education		humanitarian			
charity					

A large purple speech bubble with a white question inside.

What vocabulary
demands does
your subject
present?



Components of word knowledge

1. Orthography (spelling)
2. Morphology (word-family relations)
3. Parts of speech (suffixes)
4. Pronunciation (syllables and stress)
5. Meanings (range, variant meanings, homophones)
6. Collocations (what words very commonly go with a word)
7. Meaning associations (topical links, synonyms, antonyms)
8. Specific uses (technical, common)
9. Register (power, disciplinary domain, formality, dialect form)

Word consciousness - word appreciation



Morphemes

Prefix

- dis
- re
- un
- in

Base/root

- port
- vent
- rupt
- truth

Suffix

- ed
- tion
- ing
- ful

Cracking the academic code

- **Suffixes** show a word's grammatical state or part of speech
- Explore how to use **suffixes** to change verbs into nouns (nominalisation)

Verb	Noun	Adjective	Adverb
indicate			
		specific	
			significantly
define			

-ure -ous -s -ing -tion -ity -ive -able
 -ed -ness -ant -or -less -ate -ly -ful



function

Derives from
the Latin
word 'fungi'
meaning
perform

Root word
altered into
English (mid 16th
century) as
'funct' via the
French 'fonction'

perform
execute
operate
use

- the purpose of something or someone
- a gathering or official ceremony
- how something works because of its connection with something else

Numeric Prefixes

Meaning	Greek	Latin	Examples
1	mono	uni	monotone, monoxide, unicorn, unicycle
2	di	bi, duo	dioxide, binoculars, bicycle, duet
3	tri	tri	triangle, tricycle, triplicate, tripod
4	tetra	quad (quart)	tetrahedron, quadrilateral, quarter
5	pent	quint	pentagon, quintuplets, quintet
6	hex	sext	hexagon, sextet
8	octo	octo	octopus, October, octagon, octave
10	deca	deci	decade, decagon, decimal, December,
100	(hecto)	cent	century, centurion, cents, percentage
1000	kilo	mille	kilometre, kilobyte, millennium, millilitre
half	hemi	semi	hemisphere, semicolon, semicircle
many	poly	multi	polygon, monopoly, multiply,

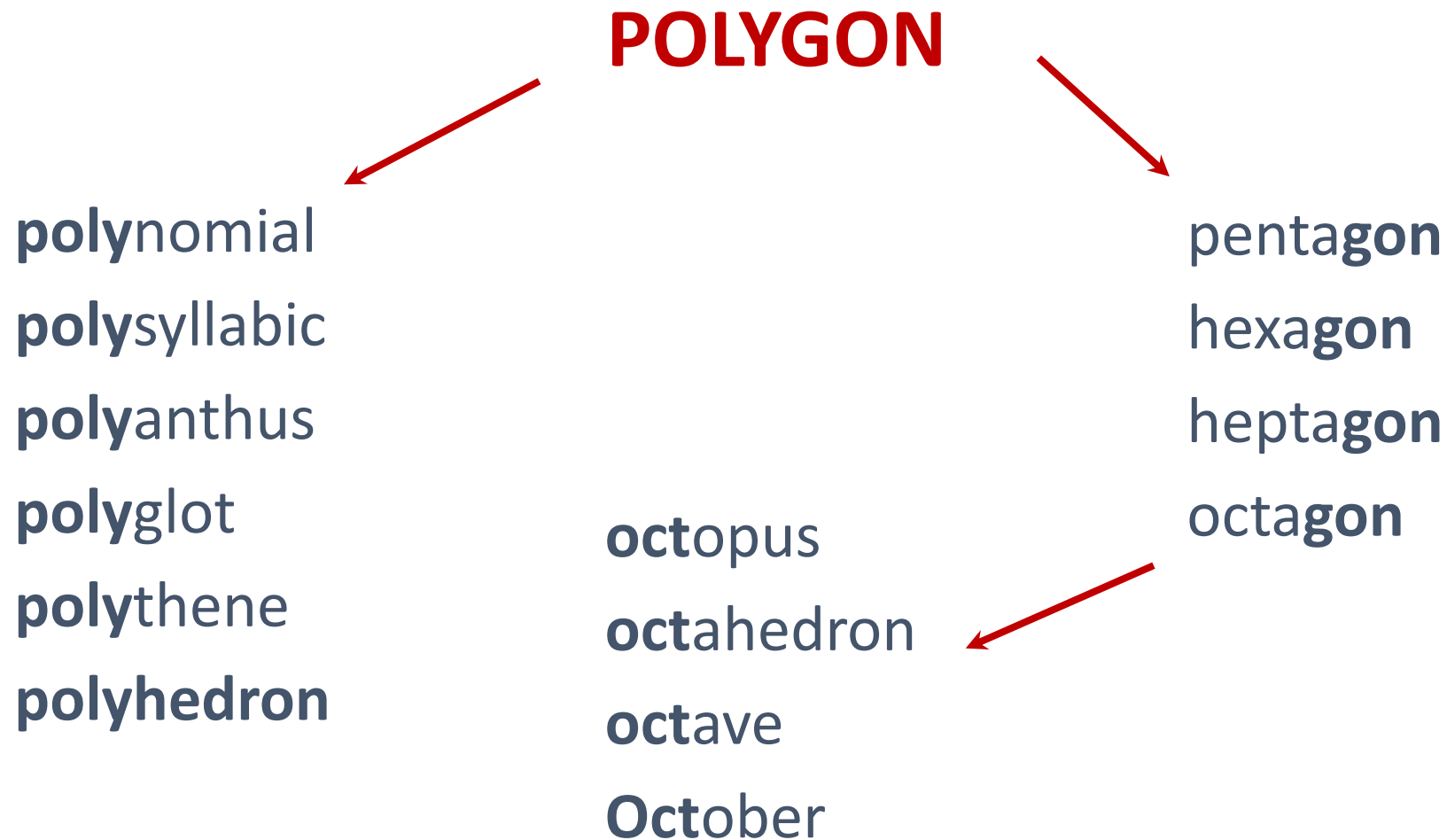
Latin and Greek word roots

- Teach these as often as you can
- Best as a whole school initiative
- ROOT word of the week

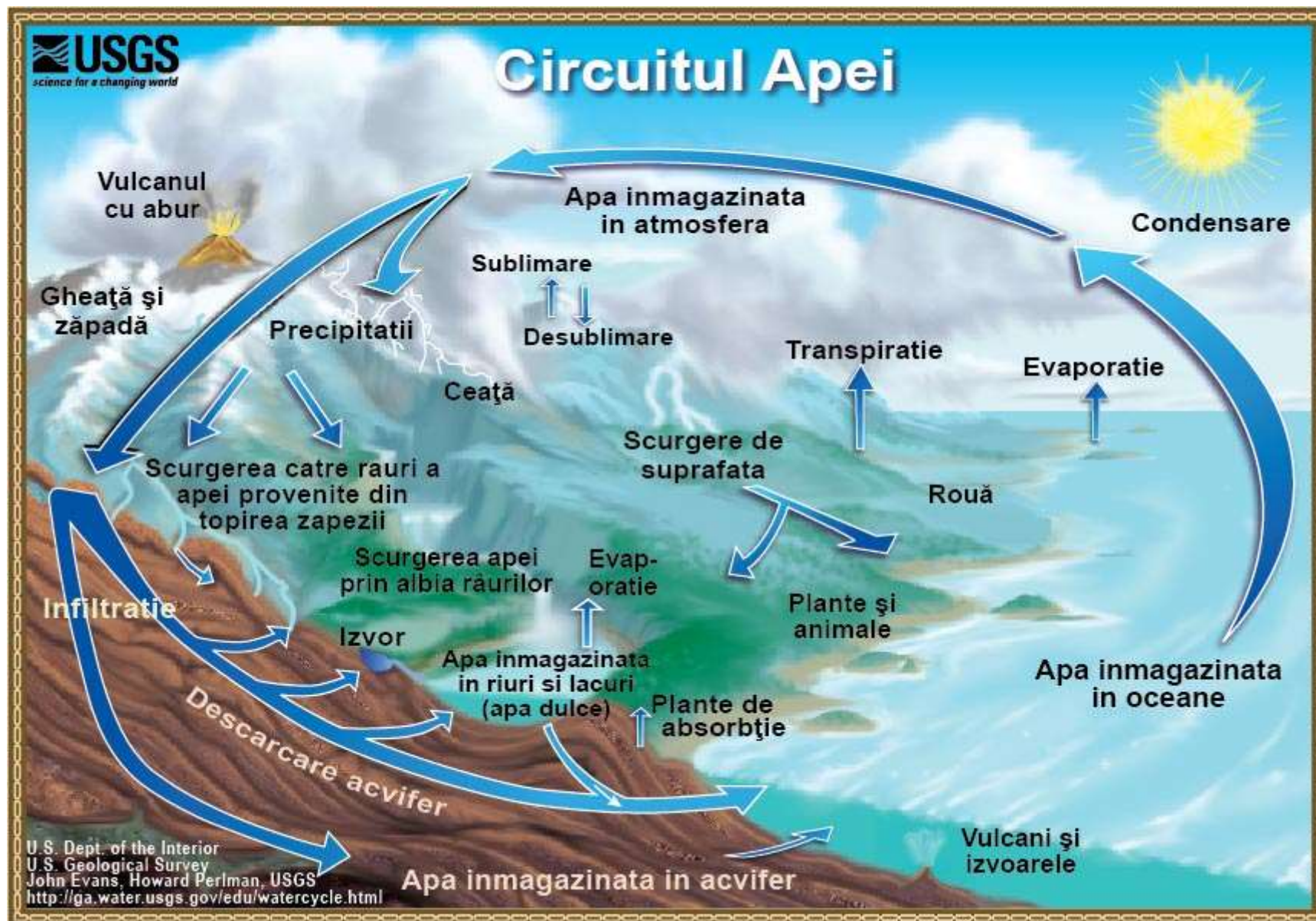
Mitt/miss how many words can you think of?

Transmission, emission, commit, permit, mission, missive, permissive, emit, missile, missionary admission, remit, intermission

Morphology word web



Cognates



Cognates

- Cognates are words that have a common **etymological** origin.
 - Cognates may have evolved similar or different meanings. In most cases, there are **some similar letters** in the word.
 - Many of our words derive from other Indo-European languages. EAL pupils can use cognate knowledge to understand subject vocabulary.
- star*** is a cognate of:
- *str-* (Sanskrit)
 - *tara* (Bengali)
 - *ἀστήρ* (*astēr*) (Greek)
 - *aster/stella* (Latin)
 - *astro/stella* (Italian)
 - *astre /etoile* (French)
 - *Stern* (German)
 - *setāre* (Persian)
 - *estrella* and *astro* (Spanish and Portuguese)

Words that go together

Salt and

A round of

He broke my

From dawn till

A cup of tea

Teacher.....!

Often depends on **cultural** knowledge



Words in context

1. The plane to the left.
2. It was late so we up the fire and went to bed.
3. Kingfishers make their nests in river
4. The Wall Street crash led to a run on the
5. I was on you getting that job finished yesterday.
6. Austerity had led to increased use of food
7. The electrician stared at the of switches in disbelief.

What does it mean to 'know' a word?

Never
heard
of it

Heard it
but don't
really
know
what it
means

Some
idea of
what it
means,
get the
gist when
I hear it,
but don't
really use
it

I pretty
much
know
what it
means
and might
try it out
in my
speech in
one
context

I am
familiar
with it
and I can
use it
without
thinking
in my
speech in
more
than one
context

I am really
familiar
with it. I
know what
it means,
can define
and
explain.
I can use it
in writing
in different
contexts

Effective vocabulary learning

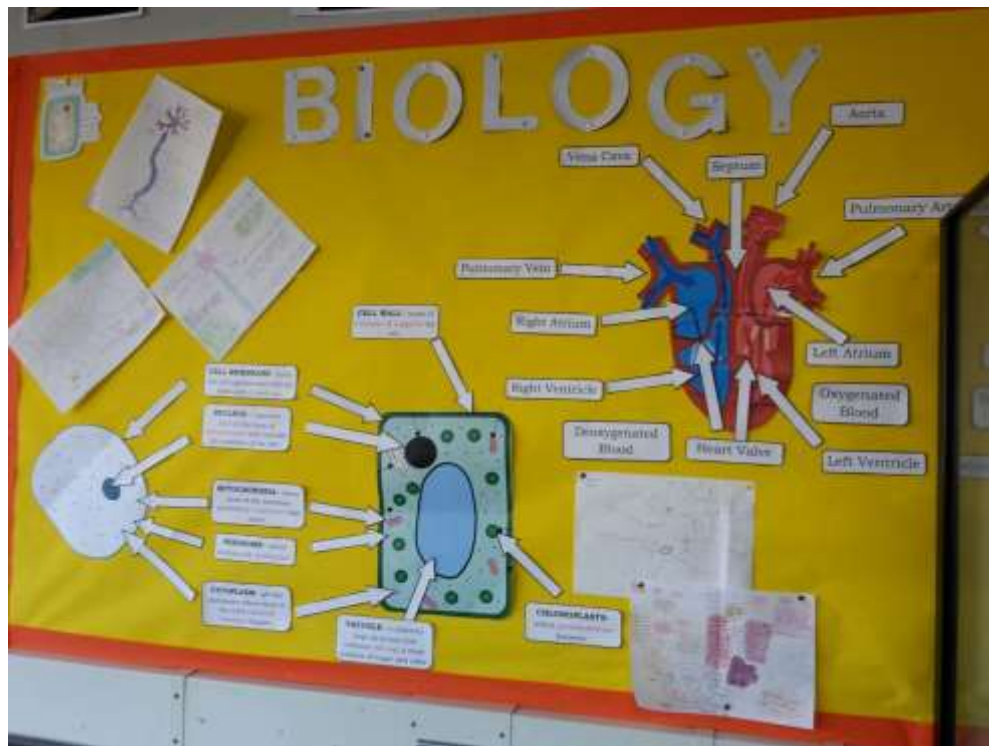
Learning new words is a cumulative task that takes place gradually over time.(Nagy and Scott 2000)

Most researchers argue that effective vocabulary learning is a combination of:

- (a) learning words from context through **extensive reading**;
- (b) providing **direct instruction** of vocabulary words;
- (c) developing **word-learning strategies**;
- (d) building **word-recognition** fluency;
- (e) Developing students' **word appreciation** (and motivation)

Graves, 2000; Nation, 2001; Stahl & Nagy, 2006

Indirect vocabulary instruction



- Provide a rich learning environment with books and displays
- Use wider reading to grow vocabulary 'naturally'
- Pay attention to context to work out meaning using background knowledge
- Encourage learners to make connections with what they already know e.g. using cognates from other languages.
- Promote wider listening

Children who read more will come across a greater number of words and get more practice at decoding words and have greater opportunities to enhance their knowledge of morphology and spelling than less avid readers. We need to consider differences between print and speech to understand better why reading might additionally enhance reading comprehension and other language skills and knowledge.

(Cain and Oakhill 2011)

A basic teaching sequence

Beck, McKeown and Kucan (2013) suggest a basic format suitable for young vocabulary learners but just as adaptable for older pupils.

1. Read the text
2. Contextualize the target word within the story
3. Have the pupils say the word out loud
4. Provide a student friendly explanation of the word
5. Present examples of the word used in contexts different from the story context
6. Engage the pupils with a range of activities that get them to interact with the word
7. Pupils repeat the word out loud



Science GCSE text book extract

Table salt is produced from sea water, or is from the ground using '**solution mining**'. In this , water is pumped into of salt underground. The resulting salt **solution** is then heated, which the and makes the solution more and more salty. it reaches a point where there is as much salt in the water as can possibly . This is a solution and it contains the amount of that can in that amount of at that temperature.

Explicit teaching of academic vocabulary

Table salt is produced from sea water, or is **extracted** from the ground using '***solution mining***'. In **this process**, water is pumped into **layers** of salt underground. The resulting salt **solution** is then heated, which **evaporates** the **solvent** and makes the solution more and more salty. **Eventually** it reaches a point where there is as much salt in the water as can possibly **dissolve**. This is a **saturated** solution and it contains the **maximum** amount of **solute** that can dissolve in that amount of **solvent** at that temperature.

STAR approach (Word Aware)

Select

Tier 2 words, likely to be encountered again, core to the topic, desirable for students to use in writing

Teach

Starts with..., rhymes with..., count syllables, say the word, use it in a sentence

Activate

Adults use the word many times, prompt pupils to use the word, link vocabulary to activity

Review

How will you remember the word? Action, association, word wall, quiz?

The 'Manny' Approach

5 step process to learning and embedding vocabulary

1. Display
2. Match
3. Cloze with words
4. Cloze without words
5. Check

Display new words

Ontology

Idealism

Empiricism

Operationalism

Display definitions

Ontology – the study of things as they really are

Idealism – the belief that we can understand the world through thought alone

Empiricism – the belief that we need experimental evidence to understand the world

Operationalism – the belief that ideas only have meaning by the way we use them or through the way we define them

Match

Word
Ontology
Idealism
Empiricism
Operationalism

Definition
A. The belief that we can understand the world through ideas alone.
B. The belief that we need experimental evidence to understand the world.
C. The belief that ideas only have meaning by the way we use them or through how we define them.
D. The study of things as they really are.

Match - answers

Word
Ontology
Idealism
Empiricism
Operationalism

Definition
D. The study of things as they really are.
A. The belief that we can understand the world through ideas alone.
B. The belief that we need experimental evidence to understand the world.
C. The belief that ideas only have meaning by the way we use them or through how we define them.

Cloze Activity (with words)

1. is the belief that we can understand the world based just on our thoughts. An alternative view is that we need experimental evidence to understand the world: this is called 2.

3. is the study of things as they really are. Finally, definitions provide 4. meanings.

Word bank

Ontology

Operational

Idealism

Empirical

Cloze Activity (no words)

1. Experimenting provides knowledge.
2. is the study of things as they really are.
3. Trying to understand the world based on thoughts alone is called
4. Definitions and contexts provide meanings.

Checking learning

Suggested strategies:

1. Ask a section of the room to provide a group definition of a term.
2. Provide a key term, pair-share thinking before defining.
3. Thumbs up/thumbs down definition.
4. Correct an incorrect definition.
5. Apply in a new context/sentence.
6. Spelling test by definitions.
7. Students write own cloze activity.
8. [Quizlet](#)

Consolidate

1) Consolidate target tier 2 words in quick spoken tasks:

- Describe a time when you may have **exacerbated** a situation?
- Describe the most **significant** person in your life at the moment.
- Would you rather **reside** in the desert or the artic? Why?
- Would you rather **facilitate** change in society or **maintain** the accepted norm? Why?

2) Cloze activities

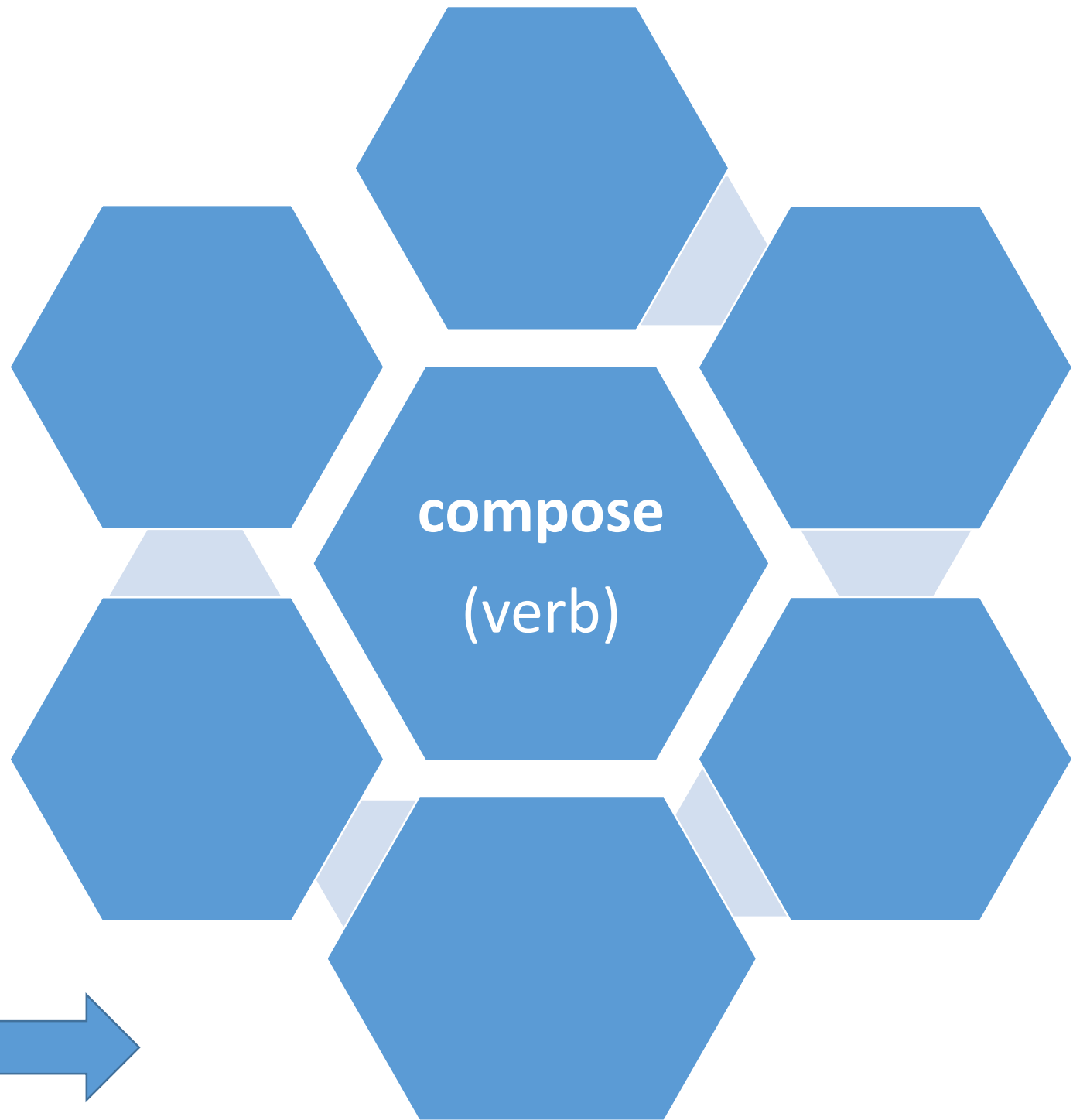
3) Word web and word families

4) Tier 1/Tier 2 matching tasks

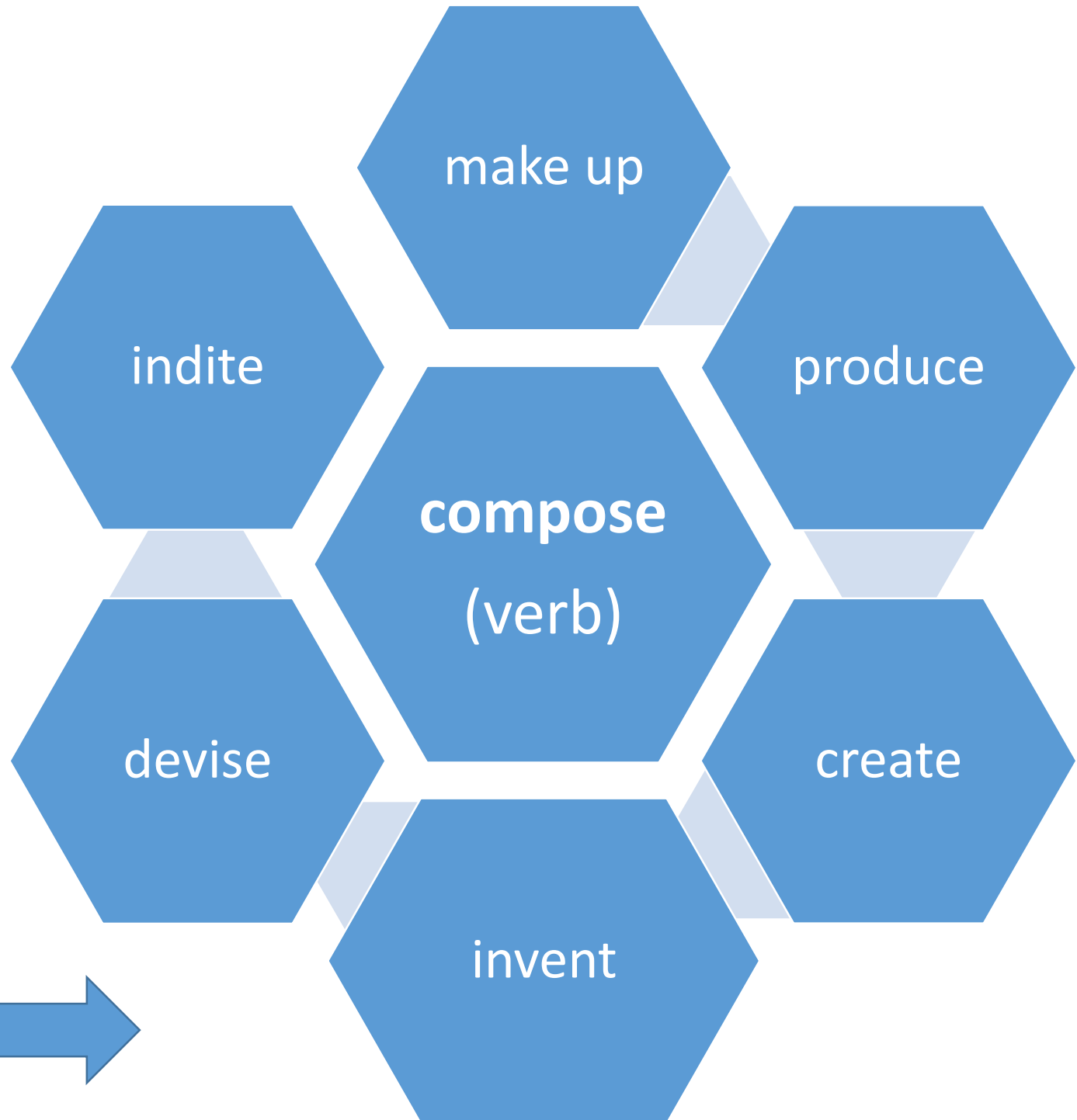
5) Continuums or word ladders



**Shades of
meaning**



**Shades of
meaning**



Register and formality washing line

clink

Prison

incarceration

**Least
formal**

**Most
formal**

Word associations - music

Try to relate words to images and similar concepts as well as their musical notation.

Italian – **crescendo**



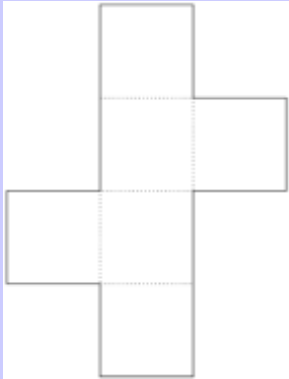
From the Latin *crescere* meaning to grow
 Changed from the old French *creissant* to Middle English *cressant*
 and then to *crescent*

The crescent moon is waxing (growing).



Using Four Square Vocabulary

1. Pupils take paper and fold into 4 squares
2. Top left: dictate the word to be taught
3. Describe the word and model in context.
4. **Top right:** pupils discuss & write a definition of the concept
5. **Bottom right:** pupils draw a diagram
6. **Bottom left:** use in a sentence in context

<p>congruent</p>	<p>Having the same shape and same size</p>
<p>A cube has six congruent faces.</p>	

Planning and discussion time

Whole school training

- What general vocabulary knowledge does everyone need?
- What teaching strategies can be use generically?
- How can you use tutor time?

Subject area planning and teaching

Think ahead to some topic (s) to taught at KS3

- What morphology and root words are important?
- What strategies from this session will you use?

Further reading and resources

IMPROVING LITERACY IN SECONDARY SCHOOLS Guidance Report



IMPROVING LITERACY IN SECONDARY SCHOOLS Summary of recommendations

<p>1</p> <p>Provide 'disciplinary literacy' across the curriculum</p> <ul style="list-style-type: none"> • Literacy is key to learning across all subjects in secondary school and is a lifelong skill for all students in their life. • Disciplinary literacy is an approach to improving literacy across the curriculum that emphasises the importance of subject-specific research. • All teachers should be supported to understand how to teach literacy in their subject and communicate effectively in their subjects. • Subject leaders can help teachers by ensuring literacy-related to develop problem-solving questions. 	<p>2</p> <p>Provide targeted vocabulary instruction in every subject</p> <ul style="list-style-type: none"> • Teachers in every subject should provide explicit vocabulary instruction to help students to develop a rich and accurate language. • Effective approaches, including those related to morphology and orthography, can help students to learn new words and to use them correctly in their writing. • Teachers should prioritise teaching Tier 2 and Tier 3 vocabulary, which supports all pupils in accessing the curriculum. • Teachers and subject leaders should consider which words and phrases to teach as part of curriculum planning. 	<p>3</p> <p>Develop students' ability to read complex academic texts</p> <ul style="list-style-type: none"> • Teaching focused on developing students' ability to read complex academic texts is essential for all students to access the curriculum. • To understand complex texts, students need to actively engage with what they are reading and use their reading skills to support their learning. • Teaching strategies, such as activating prior knowledge, prediction and questioning, can improve students' comprehension. • Strategies can be introduced through modelling and group work, before support is gradually removed to promote independence. 	<p>4</p> <p>Develop students' writing skills</p> <ul style="list-style-type: none"> • Writing is challenging and students in every subject will benefit from explicit instruction in how to improve their writing skills. • Teachers can teach writing skills through modelling and questioning, and can support students by modelling their own writing. • Targeted support should be provided to students who struggle to write clearly, accurately, and with good quality. • Teachers can use a variety of approaches, including collaborative and peer writing, to develop students' writing skills. 	<p>5</p> <p>Combine writing instruction with reading in every subject</p> <ul style="list-style-type: none"> • Combining reading activities and writing instruction is key to improving students' literacy skills, compared to a more traditional approach. • Reading helps students gain knowledge, which leads to better writing, which writing can develop students' understanding of texts. • Students should be taught to recognise features, aims and conventions of good writing within each subject. • Teaching spelling, grammar and punctuation needs to be integrated with students' writing, particularly when focused on meaning. 	<p>6</p> <p>Provide opportunities for structured talk</p> <ul style="list-style-type: none"> • Talk is a key skill in its own right and is essential for all students to access the curriculum. • High-quality talk is typically both structured and guided by teachers. • 'Thinkerbell' is a useful framework to ensure talk is high-quality and structured to support students' learning. • Teachers can support students by modelling high-quality talk, for example, modelling key vocabulary and encouraging students to use it. 	<p>7</p> <p>Provide high-quality literacy interventions for struggling students</p> <ul style="list-style-type: none"> • Schools should support and provide interventions to support students with literacy difficulties, particularly in Year 7. • Developing a model of tiered support, which includes in-classroom support, is a key strategy to support struggling students. • Assessment should be used to monitor students' progress and to inform the support they receive. • Creating a consistent system of support is a key strategy to support struggling students.
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- <https://www.etymonline.com/>
- <http://www.amathsdictionaryforkids.com/>
- <https://www.lexutor.ca/tests/>
- <http://www.biologyjunction.com/prefixes%20and%20suffixes.pdf>
- <http://www.uefap.com/vocab/vocfram.htm>
- http://www.cpr4esl.com/gerrys_vocab_teacher/index.html
- <https://www.victoria.ac.nz/lals/about/staff/paul-nation>



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Vocabulary Banking

A strategy for boosting vocabulary and reading comprehension at KS3

Ross Smith
Bishop Challoner Catholic College
September 2018





Changing life stories

Thank you

‘Raise your words not your voice. It is rain that grows flowers, not thunder.’

Rumi



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