

The First Key to Unlocking Complex Text: A Generative Vocabulary

Elfrieda H. Hiebert

TextProject &

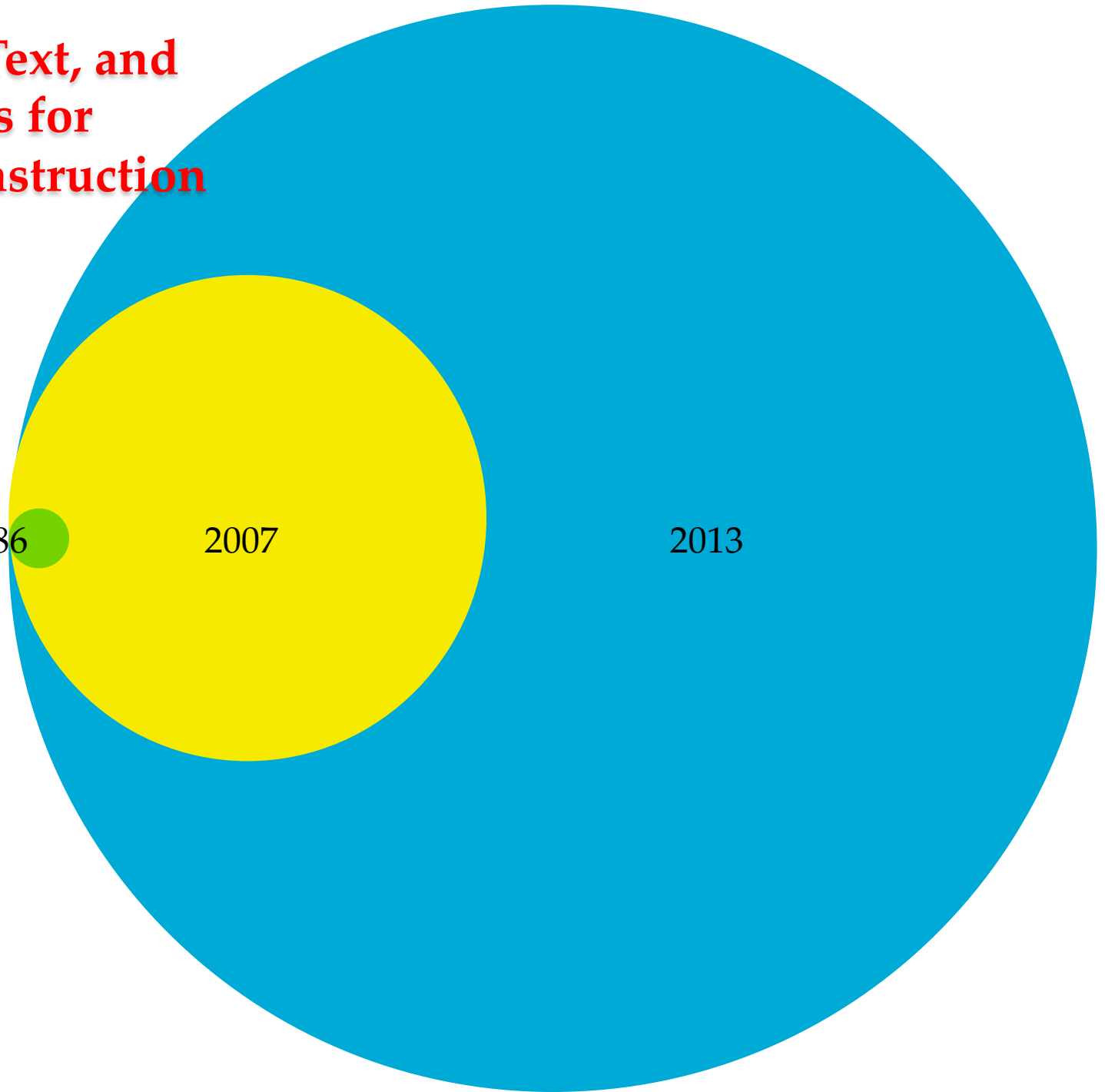
University of California, Santa Cruz

Knowledge, Text, and What it means for Vocabulary Instruction

1986

2007

2013



Complex Text & Vocabulary

The Birchbark House

Startled, Omakayas slipped and spun her arms in wheels. She teetered, but somehow kept her balance. Two big, skipping hops, another leap, and she was on dry land. She stepped over spongy leaves and moss, into the woods where the sparrows sang nesting songs in delicate relays.

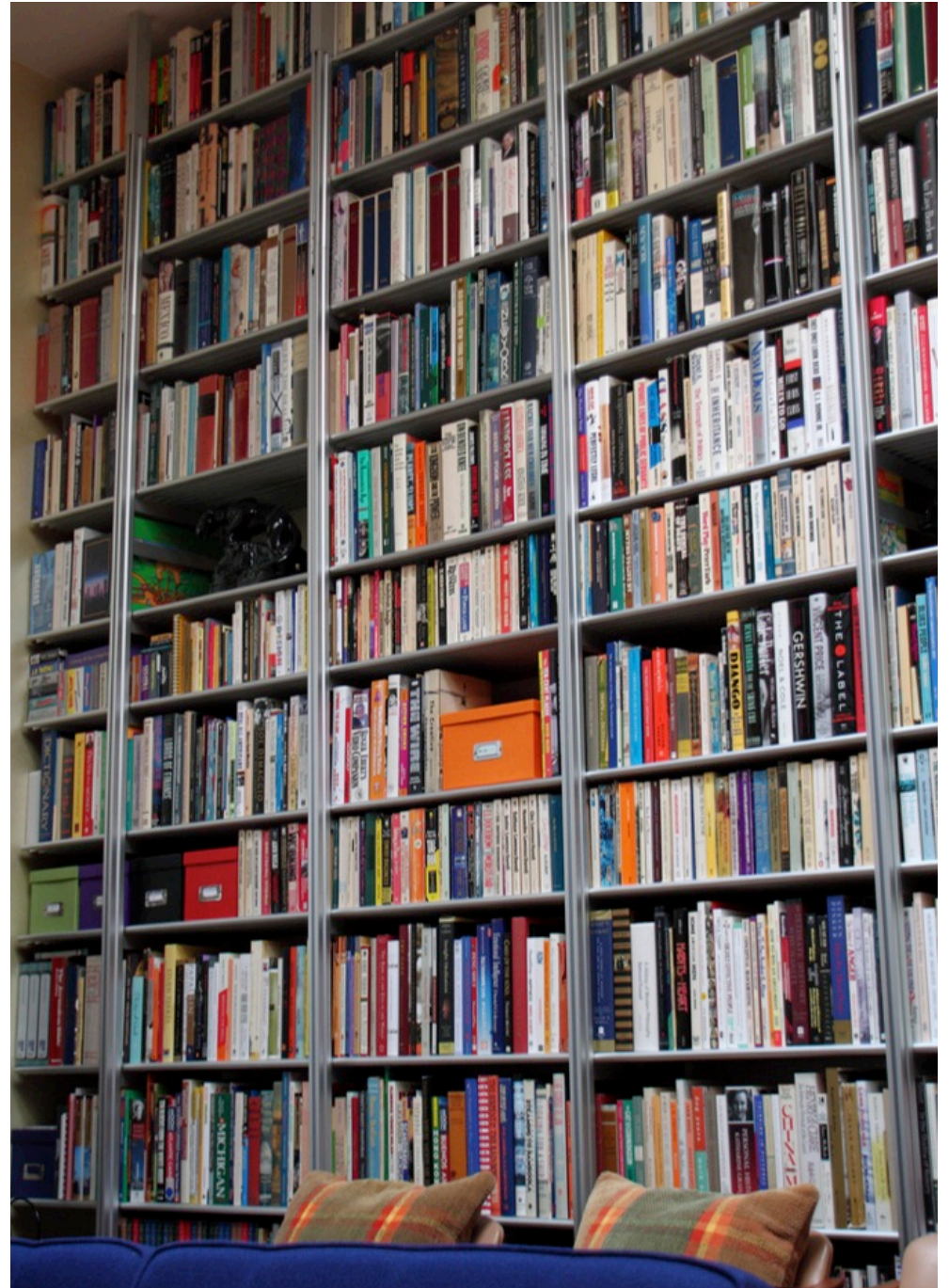
"Where are you?" Nokomis yelled again. "I found the tree!"

Volcanoes

The mountain seemed much the same as it had been for the past month. Suddenly, at 8:32 a.m., Mount St. Helens erupted with incredible force. The energy released in the eruption was equal to ten million tons of dynamite.

The eruption of Mount St. Helens was the most destructive in the history of the United States.

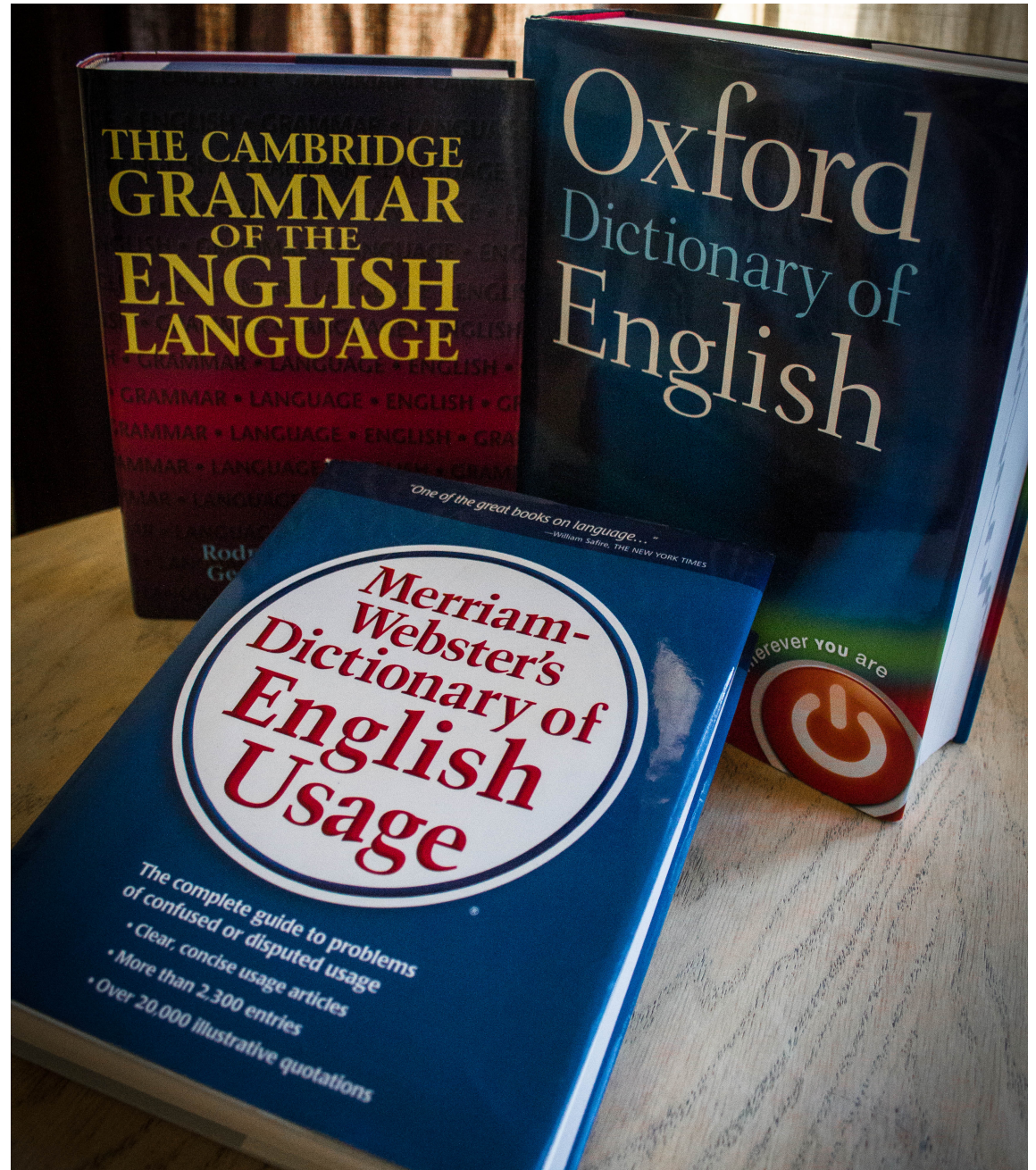
Word Fact #1: Knowledge is “stored” in texts,



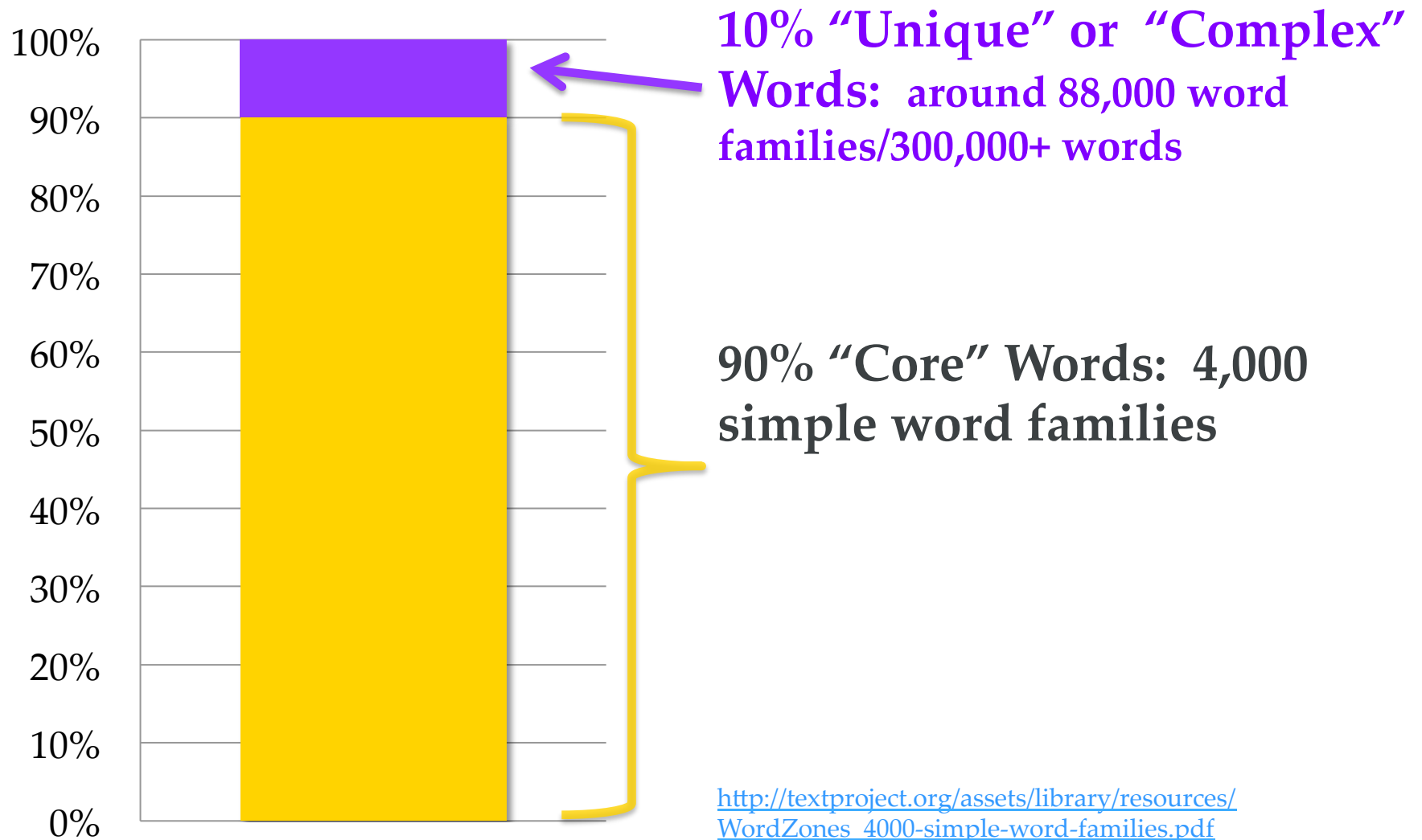
**and texts
typically have
more rare
words than
conversations/
oral language.**



Word Fact#2:
English has a
vast repository
of words,
making it
impossible to
teach all
words.



Word Fact 3: A small group of words does the heavy lifting in text, and



many of these
words come
from the
Anglo-Saxon
part of the
Vocabulary
Pyramid.

Greek/Latin

Specialized words
used mostly in
Science/ Social Studies

New Words through
compounding
of “equal” word parts:
thermosphere, geopolitical

Romance

Most literary and academic words

New Words through derivations:
frigidity, frigidness, refrigerator

Anglo-Saxon

Common, everyday, down-to-earth words

New Words through compounding:
cold-blooded, cold-natured, cold-drink, cold-running

Core Vocabulary in Common Core Exemplars

Grade	Narrative	Informational
2-3	.93	.92
4-5	.92	.91
6-8	.93	.87
9-10	.89	.91
11-CCR	.89	.87

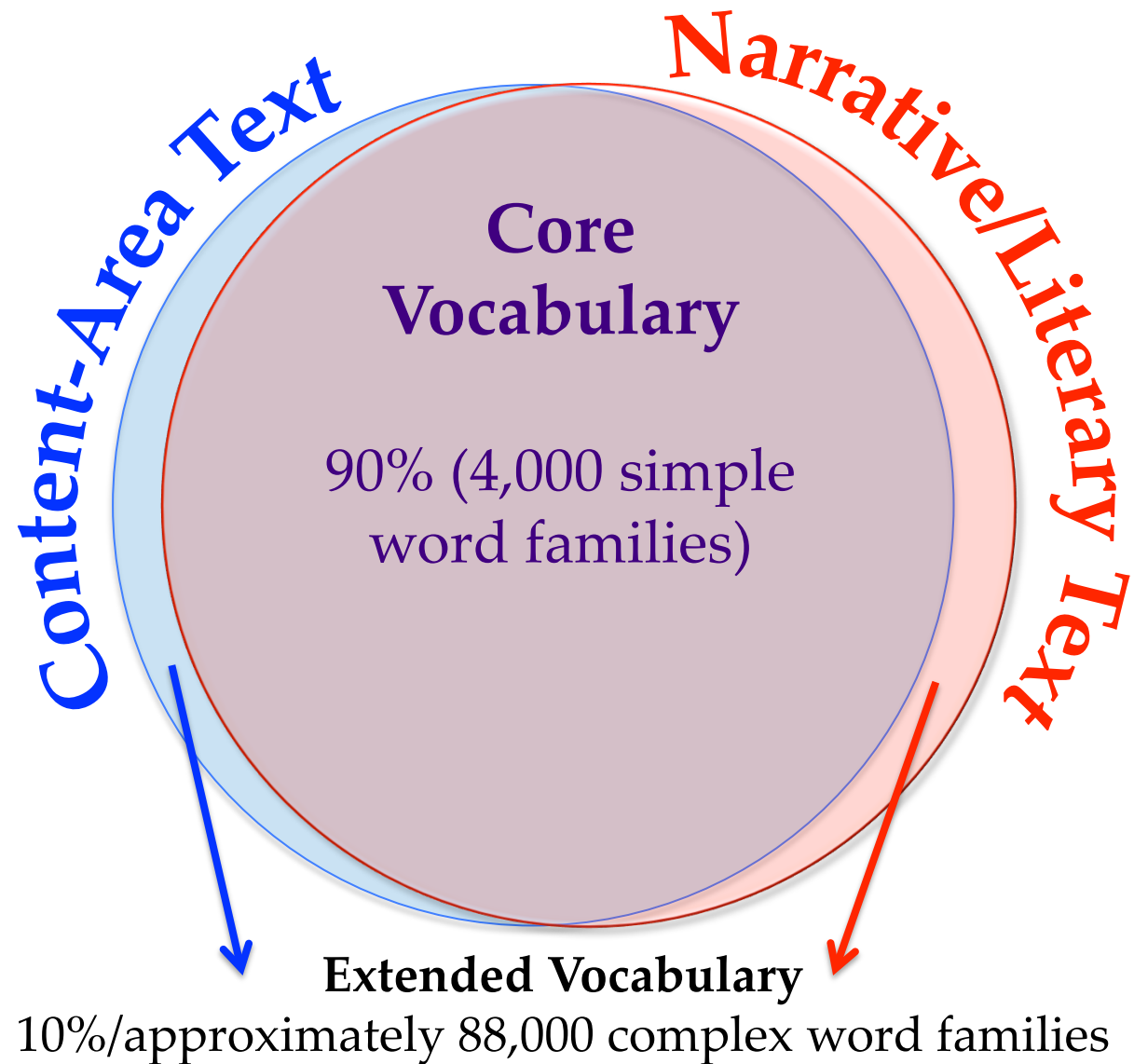
Word Fact 4:

Words are part of families.

- relate
- related
- relates
- relating
- relation
- relations
- relatedness
- interrelated
- interrelation
- correlate
- correlation
- relationship
- interrelationship
- age-related

Word Facts 5-6:

Words are parts of networks.



Narrative/Literary Text

- The month of picking **heartberries** went by. Little **Pinch** jumped off a low branch and made a huge **gash** just over his eye. Blood came pouring down and he seemed both proud of himself and sorry for himself, and he **selfishly hogged** attention for his injury to the point where **Omakayas** could hardly bear it. Mama was constantly **preoccupied** with him. Of course, that left **Neewo** more and more to Omakayas's hands, and she didn't mind that.

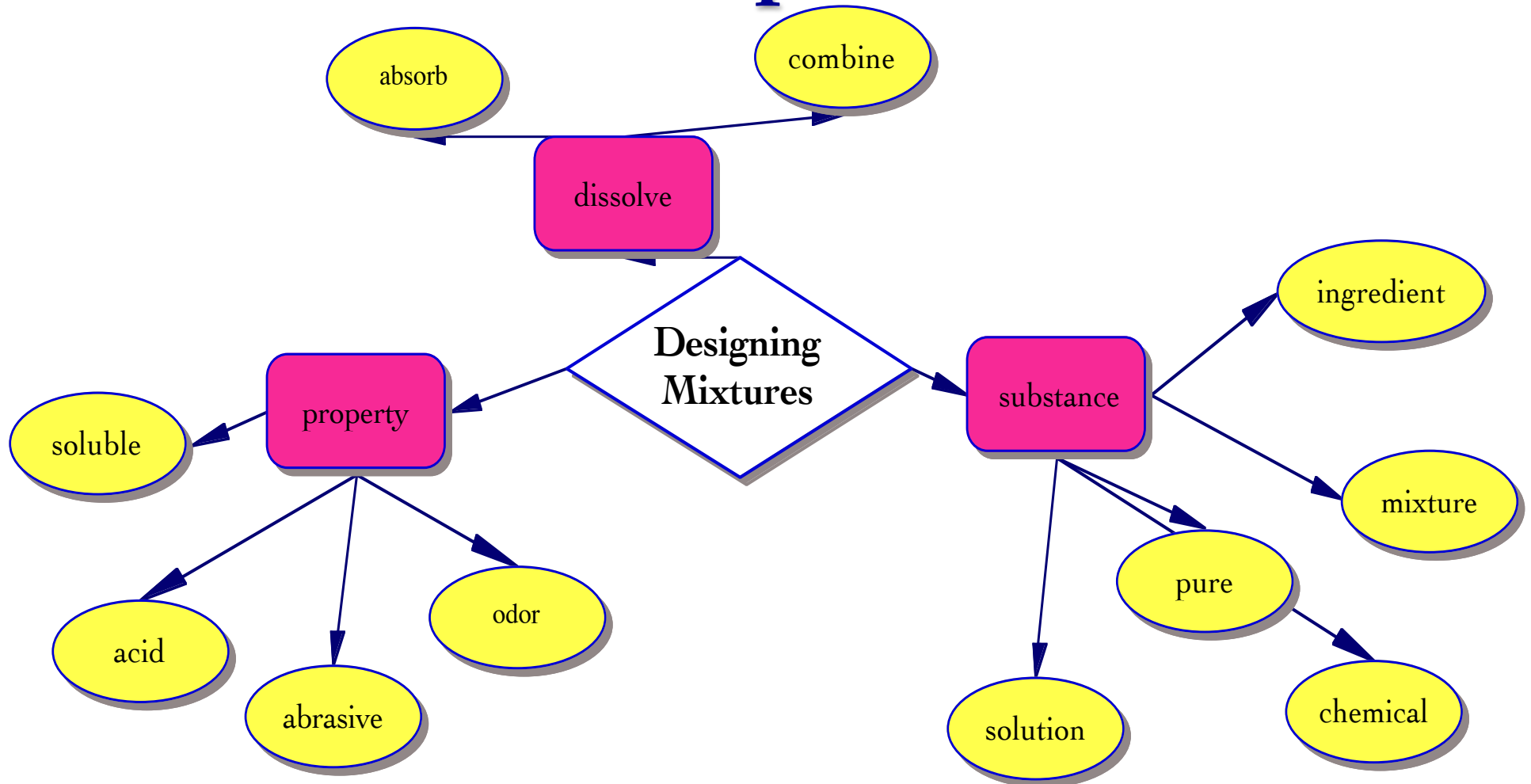
Content-Area Text

Embryological studies show that each batch of four is the result of a single fertilized egg, which divides twice. Each of the four resulting cells develops into a miniature armadillo which is born in early spring some six months after the adults have mated. All members of a young brood are of the same sex. Young armadillos have their shell covering complete, but it remains soft until they become adults, thus allowing for growth.

5. The networks in narrative texts are synonyms related to story elements (e.g., traits, actions, and emotions of characters).

Story Word	Beyond Story
amazed	enchanted enthralled spellbound captivated transfixed
fascinated	
marveled	
baffled	confused mystified perplexed confounded
bewildered	
stumped	

Word Fact 6: The networks in informational texts are topical with interrelated concept clusters.



Word Fact #7:
Concrete
words are
learned and
retained
more readily
than abstract
words.

Mineral
(min·er·al)



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GENERATIVE WORD INSTRUCTION

"Zlateh the Goat" Vocabulary Words

Blanketed	Thickly covered
Blizzard	Heavy snowstorm
Cuddled	Hold someone closely in your arms
Dense	Crowded or thick
Experienced	Lived through something
Flakes	Thin, small pieces of something
Mighty	Having great strength or force
Mild	Not too harsh
Accustomed	Used to something
Bleating	Crying by a goat or a sheep
Consisted	Made up of
Frequently	often
Hesitation	To pause before doing something
Regained	Got back; recovered
Resist	Refused to accept; go against
Satisfaction	Feeling of being content
Confirm	Support or show to be correct
Involve	To include
Influence	Sway or affect in some other way
Investigate	To examine thoroughly

Generative Word Strategy #1:

- Teach students to anticipate that complex texts will have many new words *and* that their generative word knowledge will assist them in figuring out new words.

Making Challenge Explicit

When 10-year old **Amelia** Mary **Earhart** saw her first plane at a state fair, she was not impressed. "It was a thing of **rusty** wire and wood and looked not at all interesting," she said. It wasn't until **Earhart** attended a **stunt** flying **exhibition**, almost a decade later, that she became seriously interested in **aviation**.

Generative Word Strategy #2

- Expose students to many new topics and the vocabulary associated with those topics.

Bird Nests

volume 1
issue 1



Most birds build nests, but all nests are not alike. The most common bird nest is the kind made by robins. Robins build nests that look like cups. They make a frame of twigs and sticks and cover it with mud. When this is done, robins line their nest with fine moss, feathers, and hair they find on the ground.

Barn swallows build nests of mud.

They make them in barns, close to the roof where it is safe. Sometimes several swallows build nests near one another.

Some birds build their nests in unusual ways. All birds use their beaks to help make their nests, but Tailorbirds use their beak as a needle to sew leaves together. Tailorbirds use threads they gather from the cotton in cotton plants.

Some birds don't build nests at all. Some lay their eggs right on the ground or on a rocky cliff. Auks are birds that lay their eggs on rocky cliffs near the sea.

Auks' eggs are pointed at one end. This shape lets the eggs roll in a circle if another animal tries to move them or if the wind blows hard. Because the eggs can roll in a circle, they do not roll off the cliff.

King penguins also do not build nests. Instead, they tuck their eggs into the folds of skin on their lower belly. The eggs rest on their feet and stay warm in the cold arctic winds.

Some bird species also lay their eggs in the nests of other birds. Cuckoos get other birds to keep their eggs safe and to feed their babies.

Most birds build a new nest each year. Some use the same nest for several years but clean the nest a little each year. Eagles build huge platform nests that they use for several years. However different they are, though, birds build nests that are just right for their families.



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Putting Two Words Together

volume 3
issue 2



A lot of sports that people play use balls. In basketball, players try to get a ball through a hoop. In baseball, players use a bat to hit a ball. In football, players throw a ball to get it close to the goal.

There are other words with “ball” that describe things that are round. But they are not balls with which you play a game. Meatballs are not used in any sport. But

they are great with spaghetti.

Eyeballs help in playing sports. But there isn’t a sport called eyeball where teams throw and catch eyeballs. You wouldn’t want to be in a game that uses fireballs. If you would ever see a fireball, you should get as far away as fast as you can. Then call 911 right away. You should also watch out if a cannonball is going to be fired. It is round but you don’t want to play with a cannonball. You especially do not want to catch a cannonball!

There are some words, though, that have ball in them but it has nothing to do with round. Ballpoint pens make

writing a lot easier. It’s easy to see how the “point” got into ballpoint pen. But why the ball? That part is in the name because of the tip of a pen is round. There are also rooms that are called ballrooms. People hold balls in ballrooms but they aren’t the round kind.

Other words with ball have nothing to do with round. In these words, the “ball” part of the word is not even said the same as ball in baseball or meatball. Ballerina is not ball with “erina.” Ballerinas are dancers and the word has nothing to do with ball. A ballot is used by people to vote but it is not round. You don’t even say “ball” when you say the word ballot.

Whenever you see ball as part of a word, look carefully. Usually, the word has something to do with games and sports. But remember eyeballs, fireballs, and cannonballs. These balls may be round but they aren’t used in sports! Ballerina and ballot show that some words with “ball” have nothing to do with being round.



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A Birthday Wish: Rachel Beckwith

volume 5
issue 1



In the summer of 2011, Rachel Beckwith had just finished third grade. She was looking forward to riding her bike and playing games like jump rope with her friends. Rachel also liked dancing.

Then she heard someone say that there were children in Africa who did not have clean water to drink. The person was from an organization called

charitywater.org, a charity that builds wells for towns in Africa. The wells provide people with clean water. Without wells, people often have to walk many miles to find water, then carry it home in buckets. Often, the water is not clean.

Instead of presents for her ninth birthday, Rachel asked her family and friends to donate \$9 for clean water in Africa to charitywater.org. If she could raise \$300, 15 people could get clean drinking water.

By the time her birthday came, Rachel had raised \$220. That meant that 11 people could get clean water.

She told her mom that she would try harder the next year to raise more money for the charity.

A month later, Rachel was critically injured in a car accident. On July 23, 2011, she was taken off life support. She died soon after.

When the news about Rachel's story and her birthday wish spread, people all around the world began to donate money in her name. Some gave \$9, some \$19, some more. A month later, 30,000 people had given more than \$1.2 million. Because of Rachel Beckwith, 60,000 people in more than 100 villages now have clean water to drink.

In her honor, one village put up a sign that reads, "Rachel's great dream, kindness, and vision of a better world will live with and among us forever." Clearly, one person, even a child, can make a difference.



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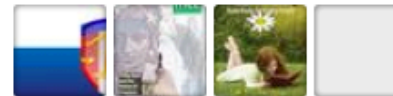
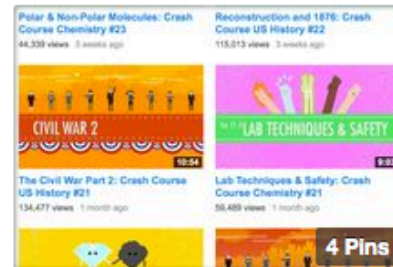
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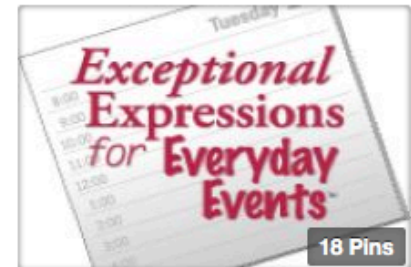
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Follow

Generative Word Strategy #3:

- Teach students about the multiple uses of many words.
 - ◆ Multiple meanings
 - ◆ Multiple parts of speech
 - ◆ Multiple uses in phrases and idioms



Talk

E4-02

Talk as in a conversation (noun)

- conversation
- chat
- discussion
- slang
- dialogue
- chatter
- lecture
- address
- speech
- meeting
- conference
- summit
- utterance
- gossip
- comment
- debate

Talk as in to speak casually (verb)

- chat/chatter
- scuttlebutt
- gossip
- comment
- smooze
- mention
- say
- utter
- remark

Talk as in to speak (verb)

- speak
- verbalize
- converse
- vocalize
- articulate
- communicate
- confer
- dialogue

Talk as in to speak in a specific way (verb)

- whisper
- flirt
- snap
- shout
- yell
- orate
- lecture
- pontificate
- address
- drone
- stammer
- bark
- slur
- bay
- jabber
- chant
- preach
- boast
- debate
- enunciate
- pronounce
- question
- ask
- declare



Talk

COMMON PHRASES

- Talk to me
- Talk back
- Talk over
- We need to talk

IDIOMS

- Talk a mile a minute
- Spit it out
- Talk big
- Talk sense
- Dance around the topic
- Speak up
- Talk it up
- Talk down
- Talk is cheap
- Talk it over
- Talking to a brick wall
- Talk of the town
- Small talk
- Speak of the devil
- Sweet talk
- Talk your ear off
- Talk in circles/riddles
- Talk shop
- Walk the talk
- Talk your way out of a paper bag
- Talk until your blue in the face
- You're a fine one to talk
- Shooting the breeze

THE SPANISH CONNECTION

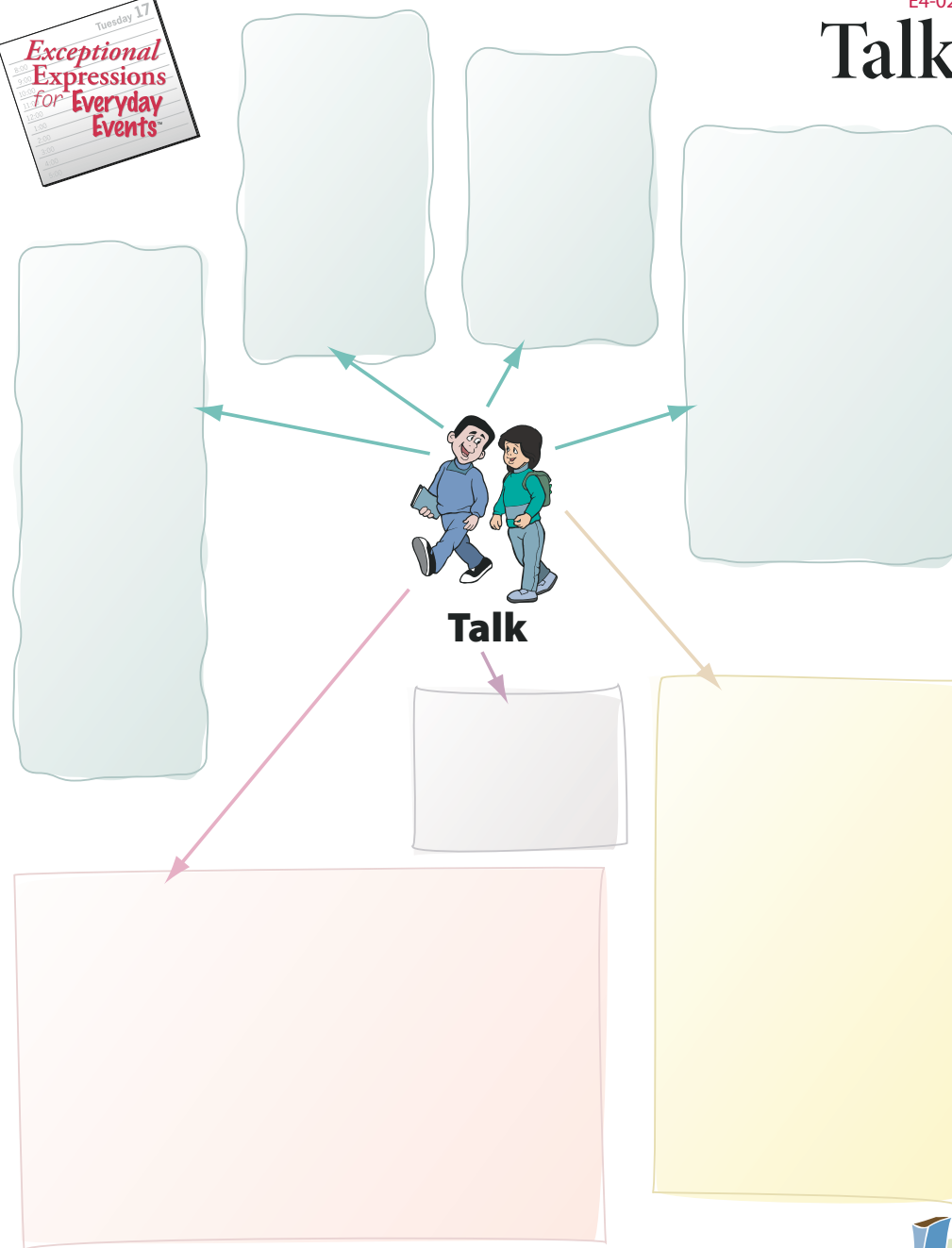
- conversation / conversación
- discussion / discusión
- to discuss / discutir
- dialogue / diálogo
- to have a dialogue / dialogar
- comment / comentario
- to comment / comentar
- to mention / mencionar
- to verbalize / verbalizar
- to converse / conversar
- to communicate / comunicar
- communication / comunicación
- pronounce / pronunciar
- to debate / debatir
- debate / debate
- enunciate / enunciar
- pronounce / pronunciar
- declare / declarar





E4-02

Talk



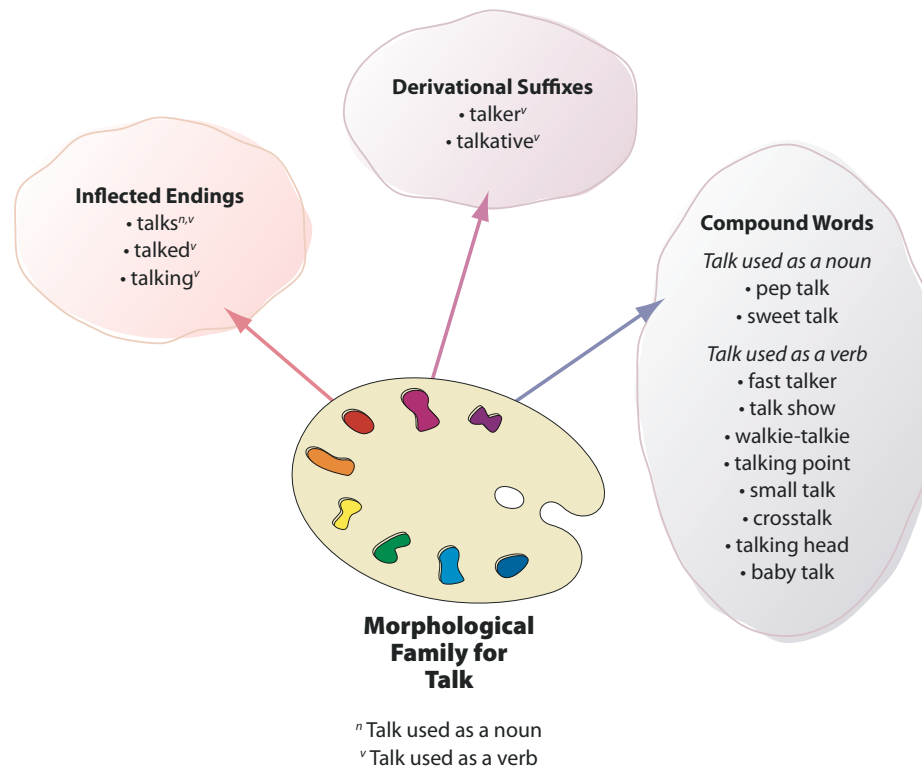
Generative Word Strategy #4:

- Teach students words in families, not just single words.
 - ◆ Attend to compounding as well as inflected endings (i.e., ed, ing, s, 's', er, est) and derivatives (i.e., prefixes and suffixes)



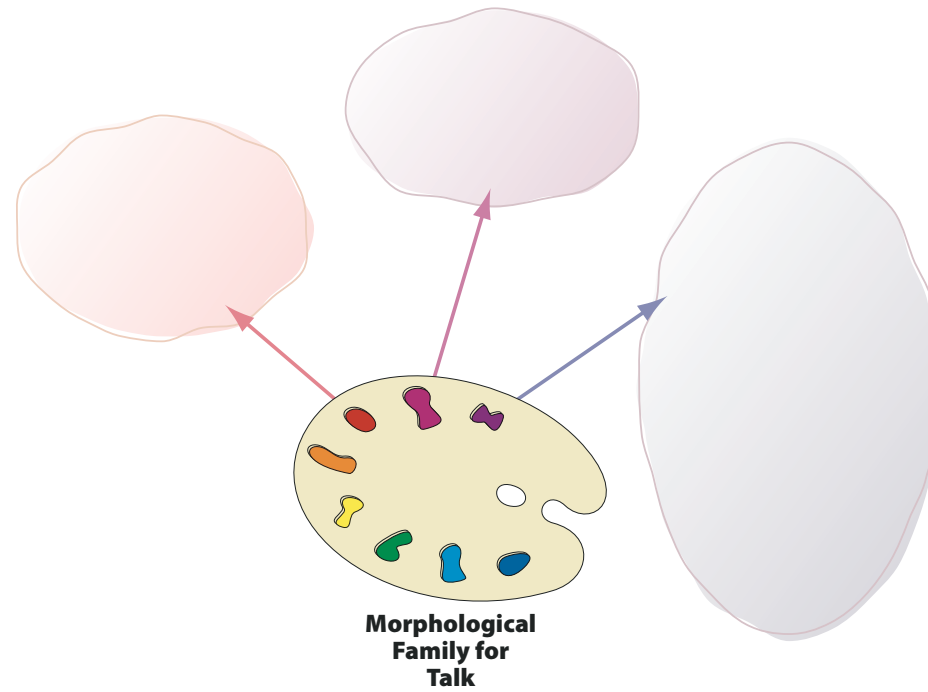
E4-02

Talk





E4-02
Talk



32 lessons
available for
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E4-01

Listen

Exceptional Expressions for Everyday Events

An everyday event in classrooms revolves around listening—listening to peers, teachers, CDs, DVDs, announcements on the school sound system, and so on. Listening is an integral part of learning.

Listen is typically used as a verb. For example, teachers may ask students to listen carefully to a guest speaker. In this instance, **listen** is used as “to hear attentively.” Another use of the word **listen** can be exemplified by a student complaining to a friend or teacher that someone isn’t listening to what is being said. In this instance, **listen** is used to describe the act of paying attention. This second use of **listen** is as a command as when someone says, “Listen! It’s important to hear the announcement.”

Although **listen** is commonly used as a verb, **listen** can also be used as a noun. A person can ask that someone give an idea or a song a listen. In this case, **listen** is used to describe trying something out by listening to it.

Follow-Ups

- How is listening different from hearing?
- How might vigilant listening differ from observant listening? Listening circumspectly and listening respectfully?
- What are some things we can do to help others listen to our ideas?

The Spanish Connection

Listen comes from an Old English word that was spoken in the northern region of the British Isles—*lysna*. The Spanish word that means **to listen** is *escuchar*. *Lysna* and *escuchar* are not cognates. None of the synonyms for **listen** have Spanish cognates.

Word Changes

- The idiom “lend me your ears” comes from Shakespeare’s *JULIUS CAESAR*. The meaning of the idiom is to ask people to listen to what is about to be said. The idea is that the speaker wants the listener’s undivided attention and is asking for the listener’s metaphorical ears.



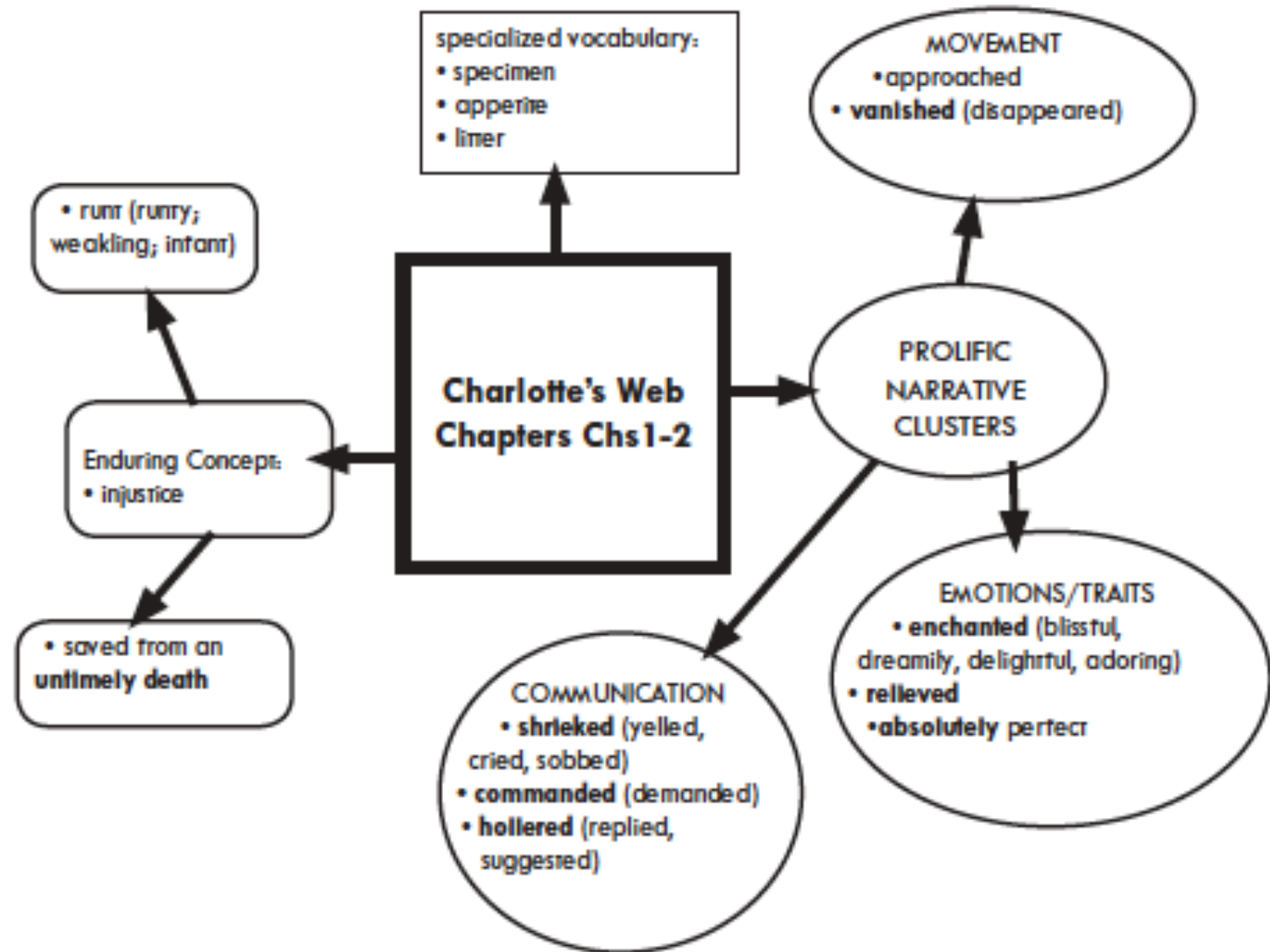
Generative Word Strategy #5

- Teach students about the rich networks of similar-meaning words from which authors of narratives choose words for traits/attributes, emotions, motion, and communication.

Prolific Groups in Narrative/Literary Texts

Communication/ Internal Processes (verbs)	Emotions (adjectives)	Movement (verbs)
think	glad	go
argue	sad	send
observe	mad	start
guess	selfish	stop
say	fear	stay

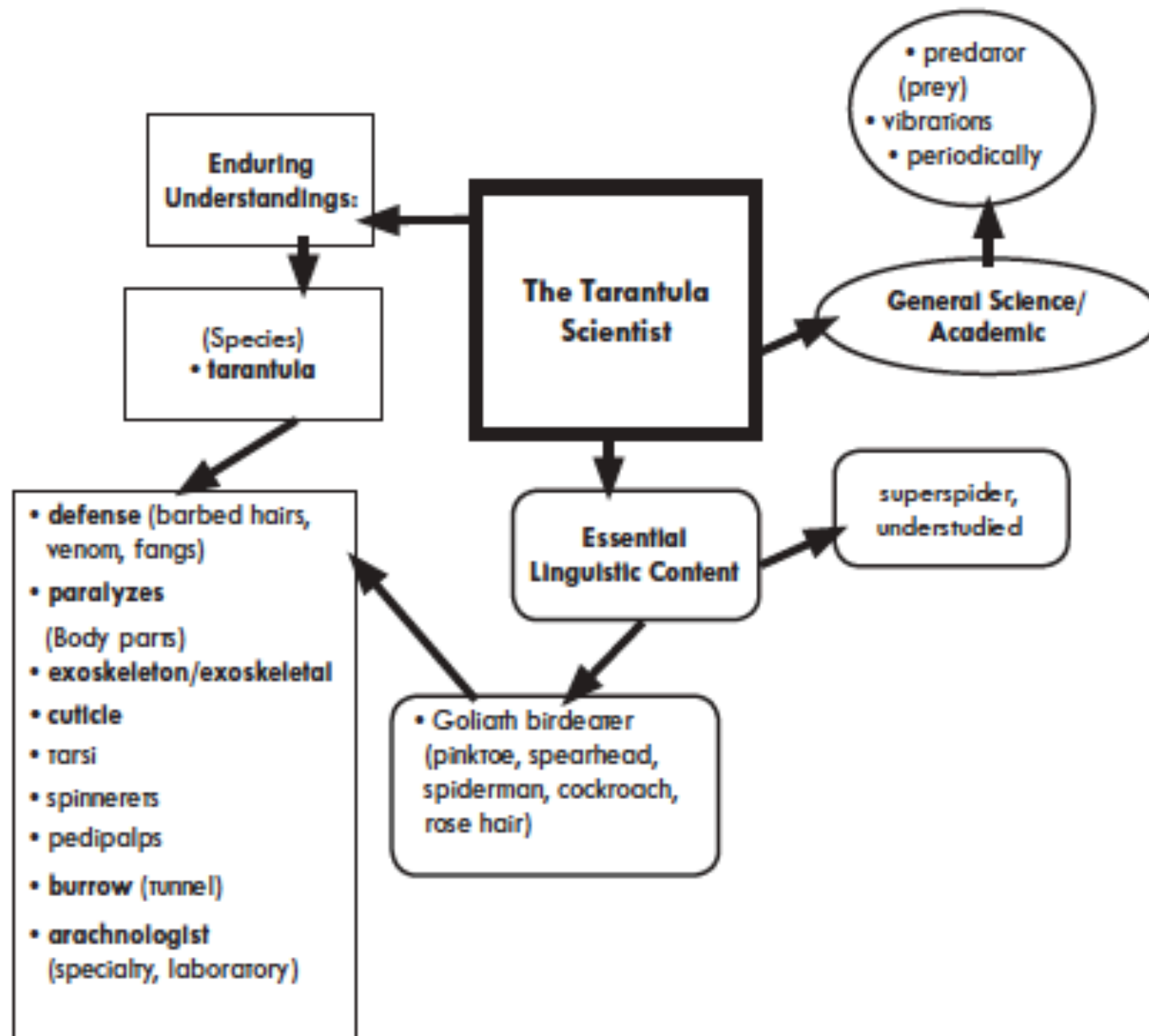
Word Map for Chapters 1-2 of *Charlotte's Web*



Generative Word Strategy #6

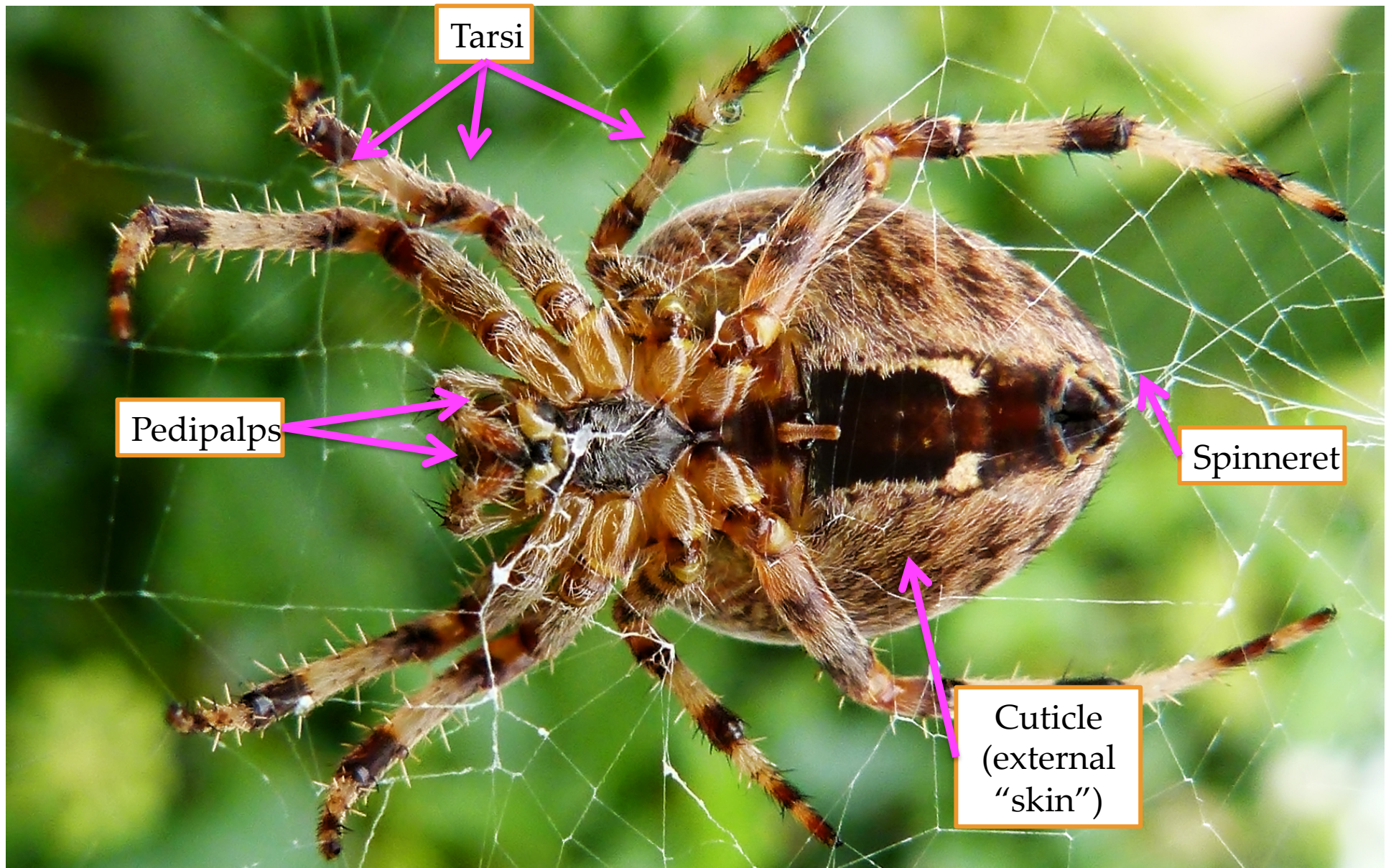
- With the vocabulary of informational texts, teach students about relationships among concepts of critical topics

Word Map for Chapters 1-2 of *The Tarantula Scientist*



Generative Word Strategy #7

- When appropriate, introduce new concepts with pictures and illustrations.





Oceans

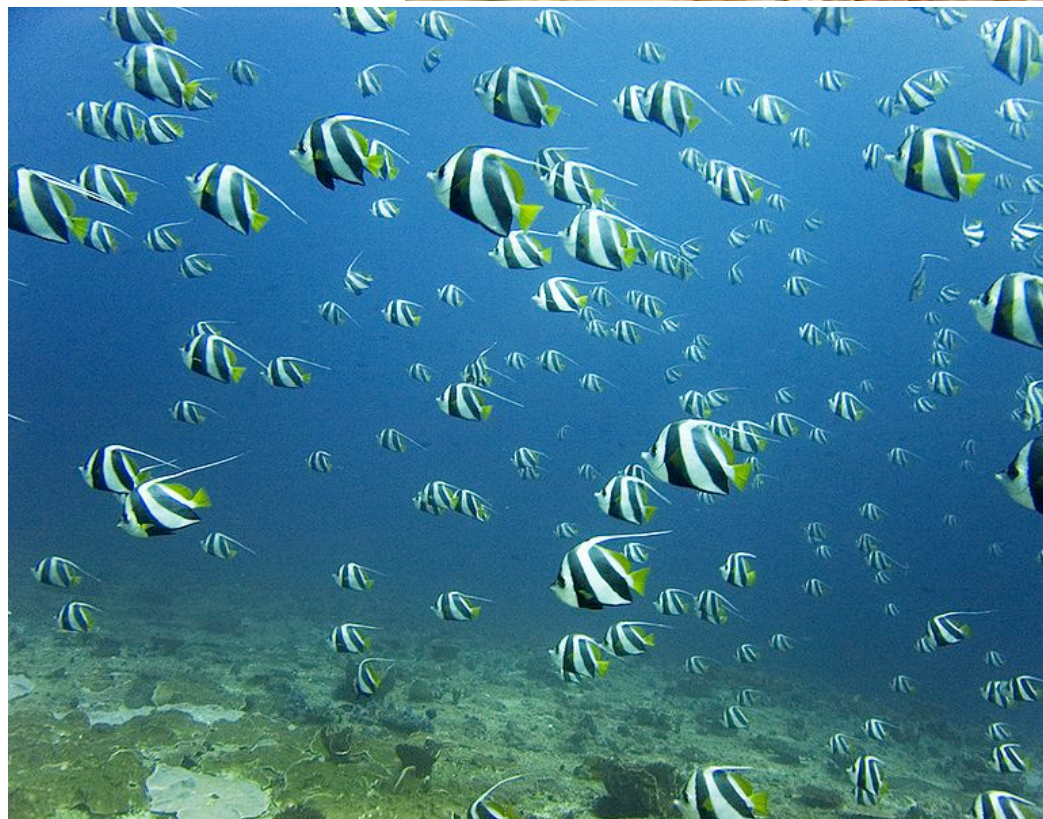


Photo: A surfer negotiates a steep take-off on a big winter day in California while his friend watches. January, 2005. Released into public domain by Ljsurf in en:wikipedia.
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Photo: **A school of bannerfish** off the coast of Mozambique. April, 2007. ©2007 by jon hanson from london. Some rights reserved

Corresponds to QuickReads Level C, book 2,
Earth Science, *Oceans*.

Beaches

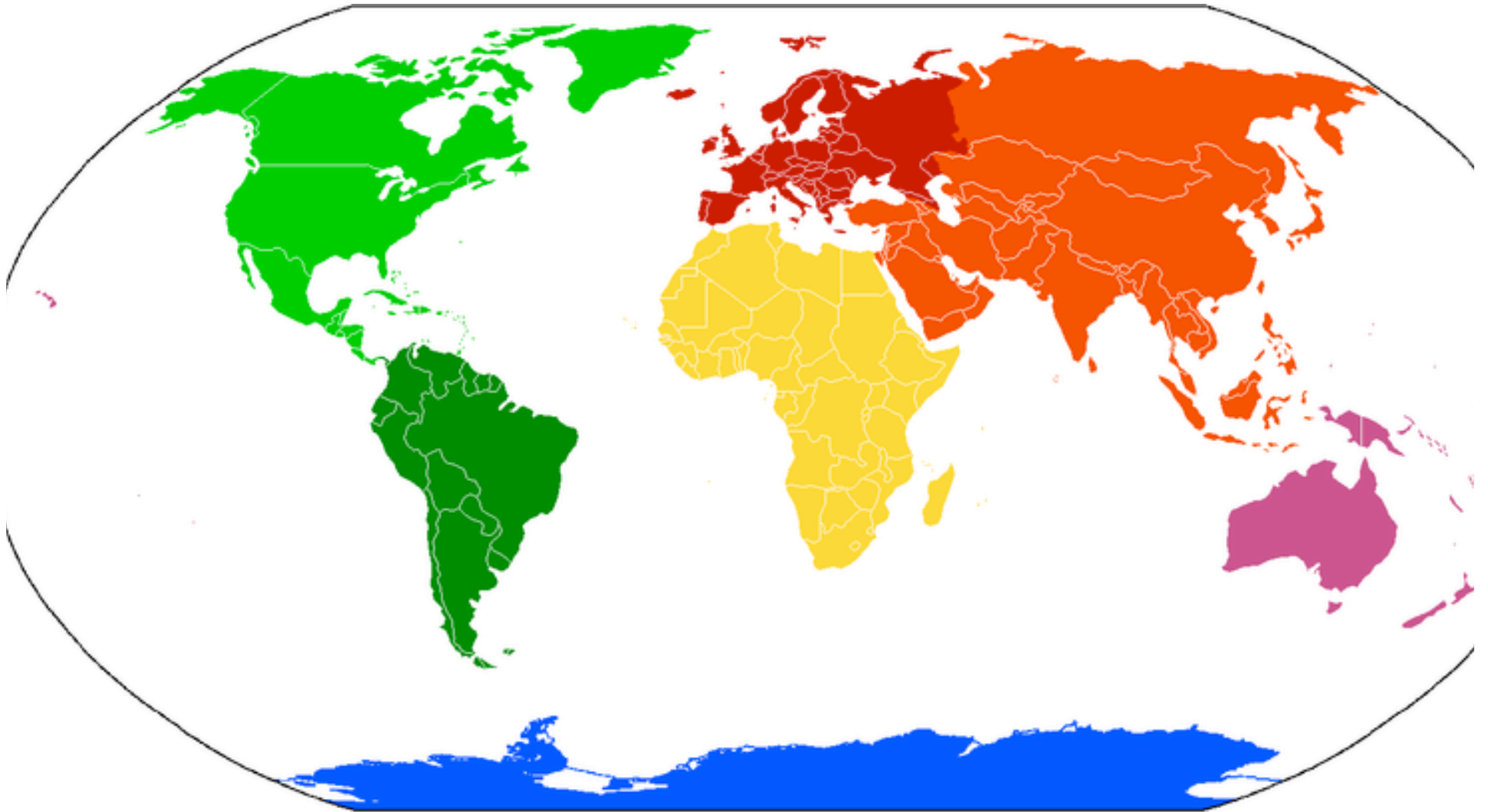


Photo: View of the west coast of Gili Meno, Indonesia looking south. August, 2005. Released into public domain by Davenbell.

Photo: Child making a sandcastle on a beach. Decemeber, 2010. Released into public domain by Fadhela.

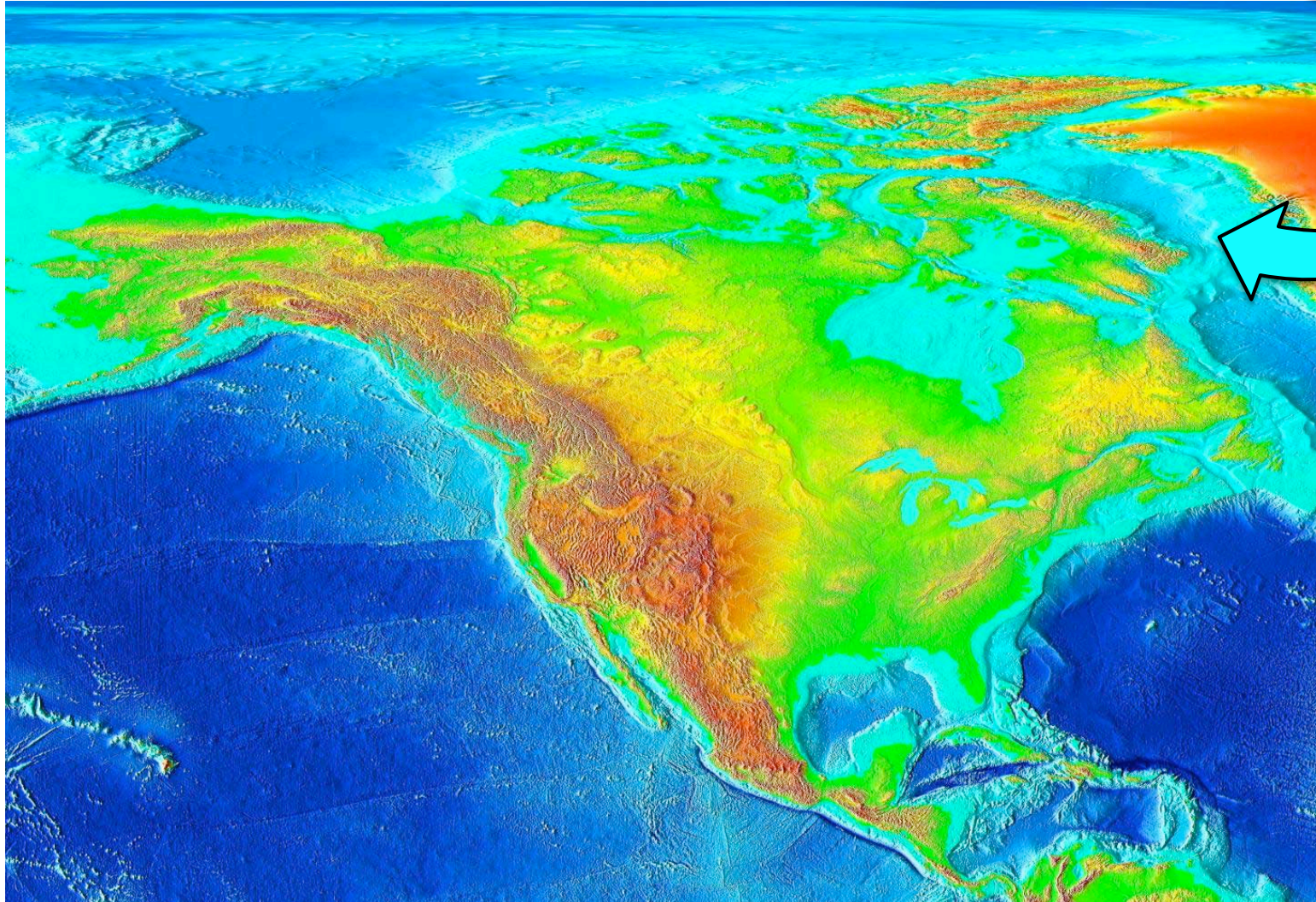
Photo: Picture of Isola Bella in Taormina from above the beach. June, 2005. ©2005 by Herandar in en:wikipedia. Some rights reserved <http://creativecommons.org/licenses/by-sa/3.0/deed.en>

Continent



Continental Shelf

The area of land on the edge of a continent that slopes down into the bottom of the ocean.
Example: In the map below the *continental shelf* is highlighted in the color of light blue.



Source: Elevation map of the North America continent. March, 2006. This work is in the public domain in the United States because it is a work of the United States Federal Government under the terms of Title 17, U.S. Code, Section 105 of the US Code.

Coral Reef



Photo: Inland reef in Ras Muhammad Nature Park, Egypt, July 2006. ©2006 by Mikhail Bogov. Some rights reserved CC-BY-SA-3.0 (www.creativecommons.org/licenses/by-sa/3.0/)

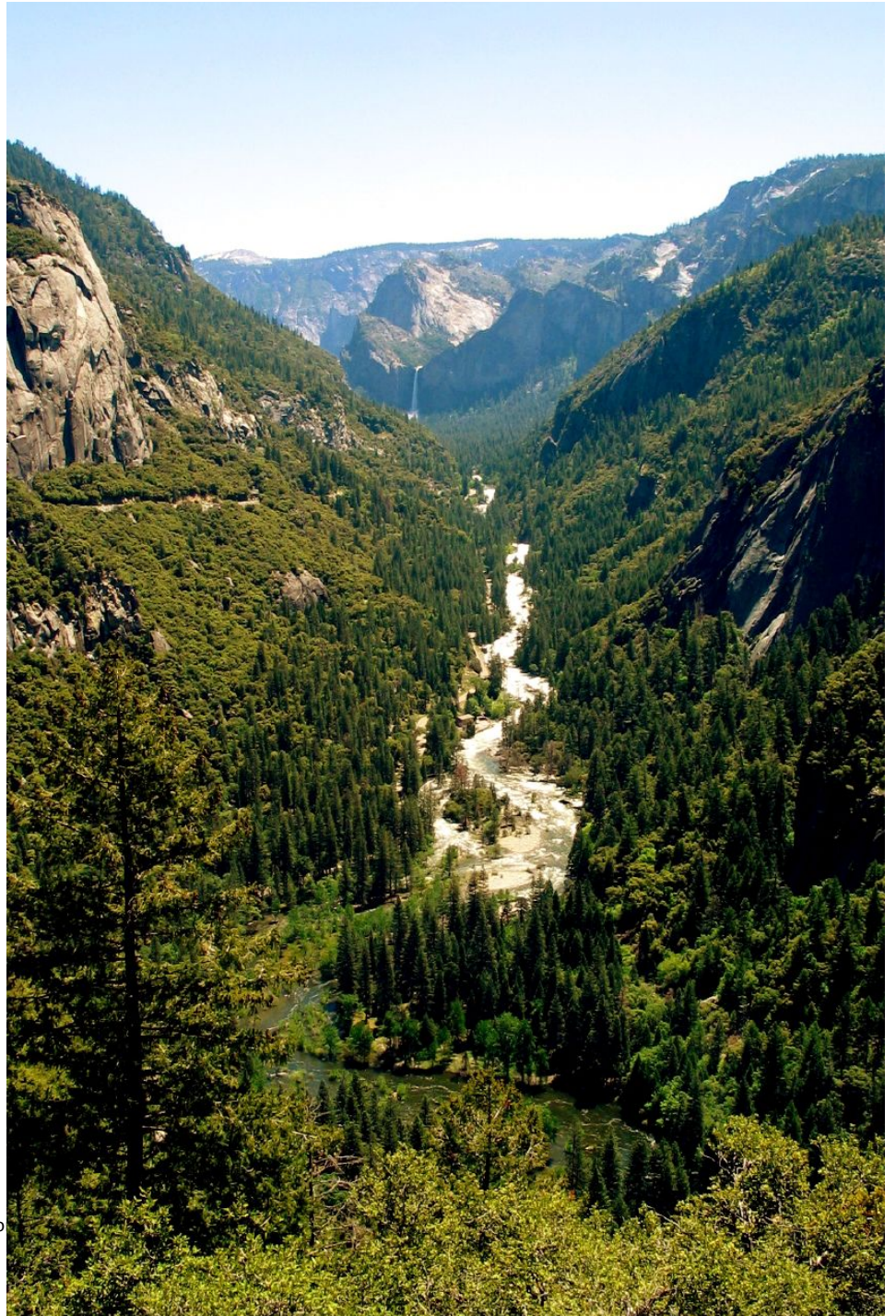
Inland

An inland area, city etc. is not near the coast.

Example: There are more redwood forests *inland* than there are near the ocean.



Photo: Sequoia sempervirens in Redwood National Park - Jedediah Smith Unit. Here the forest moon of Endor scenes were filmed for Star Wars Episode VI - Return of the Jedi.
Photo: Yosemite National Park, California. November, 2006. ©2006 by David McConeghy. Some rights reserved <http://creativecommons.org/licenses/by/2.0/deed.en>



Slopes

If the ground or surface slopes, it is higher at one end than the other.
Example: Look at how the beach slopes towards the water.



Valleys

An area of lower land between two lines of hills or mountains.

Example: The ocean has *valleys* just like on land.



Photo: A giant trevally swimming over reef on Leeward Island. July, 1969. Released into public domain by the National Oceanic and Atmospheric Administration.

Land Mass

A very large area of land (such as a continent)

Example: From the boat we could see a large *land mass* in the distance.



And a Word About Evidence-Based Practice:

Vocabulary needs to be pronounced

Injustice (in jus tice)

- injustice starts the way you'd expect:
 - in like in
 - jus like bus
 - The last part (syllable) is different than you'd expect. You might think it would be like mice but it's not. It is a short i and the ce makes the sound that usually goes with the letter s
- If you know Spanish: injusticia

SUMMARY

Word Facts	Generative Word Strategies
1. More rare words in texts than talk.	1. Teach students to expect new words in texts.
2. Many more English words than school time.	2. Expose students to many topics & use of context
3. Small group of words does heavy lifting in text.	3. Teach multiple uses of words.
4. Words are part of families.	4. Teach words in families.
5. Networks in narratives are sets of synonyms.	5. Teach networks of similar-meaning words in stories.
6. Networks in informational texts are topical.	6. Teach networks of concepts in topics.
7. Concrete words are learned faster than abstract ones.	7. When possible, teach new concepts with pictures.



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TextProject aims to bring beginning and struggling readers to high levels of literacy through a variety of strategies and tools, particularly the texts used for reading instruction.

TextShelf



TextProject Topics



Common Core State Standards



Knowledge and Informational Texts

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Building Funds of Information with Read Alouds

What kind of books should teachers read aloud? View this [informative video](#) on the goals and non-goals of read aloud time. Then take a look at some books that we think would be great for read alouds.

Student Resources

Free sets of texts



Stop the summer slump

"Read to learn" while learning to read



Talking Points

For Kids

Increase text-based discussions



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Use everyday words to teach new words



Use pictures to teach complex words



Be informed about vocabulary



Increase student knowledge through read-alouds

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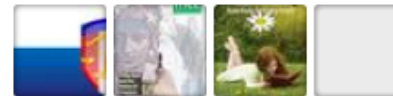
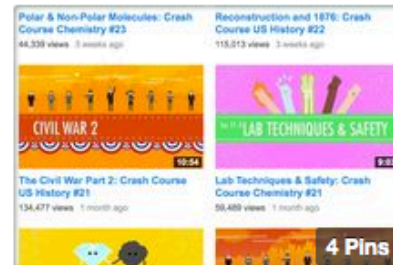
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Instruction by E.H. Hiebert & P. D. Pearson:**

**[http://textproject.org/library/research-
digest/generative-vocabulary-instruction/](http://textproject.org/library/research-digest/generative-vocabulary-instruction/)**

Questions & Queries:

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