

Learning Words and Learning How Words Work: The Foundation for Reading Complex Text

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Knowledge, Text, and What it means for Vocabulary Instruction



Complex Text & Vocabulary

The Birchbark House

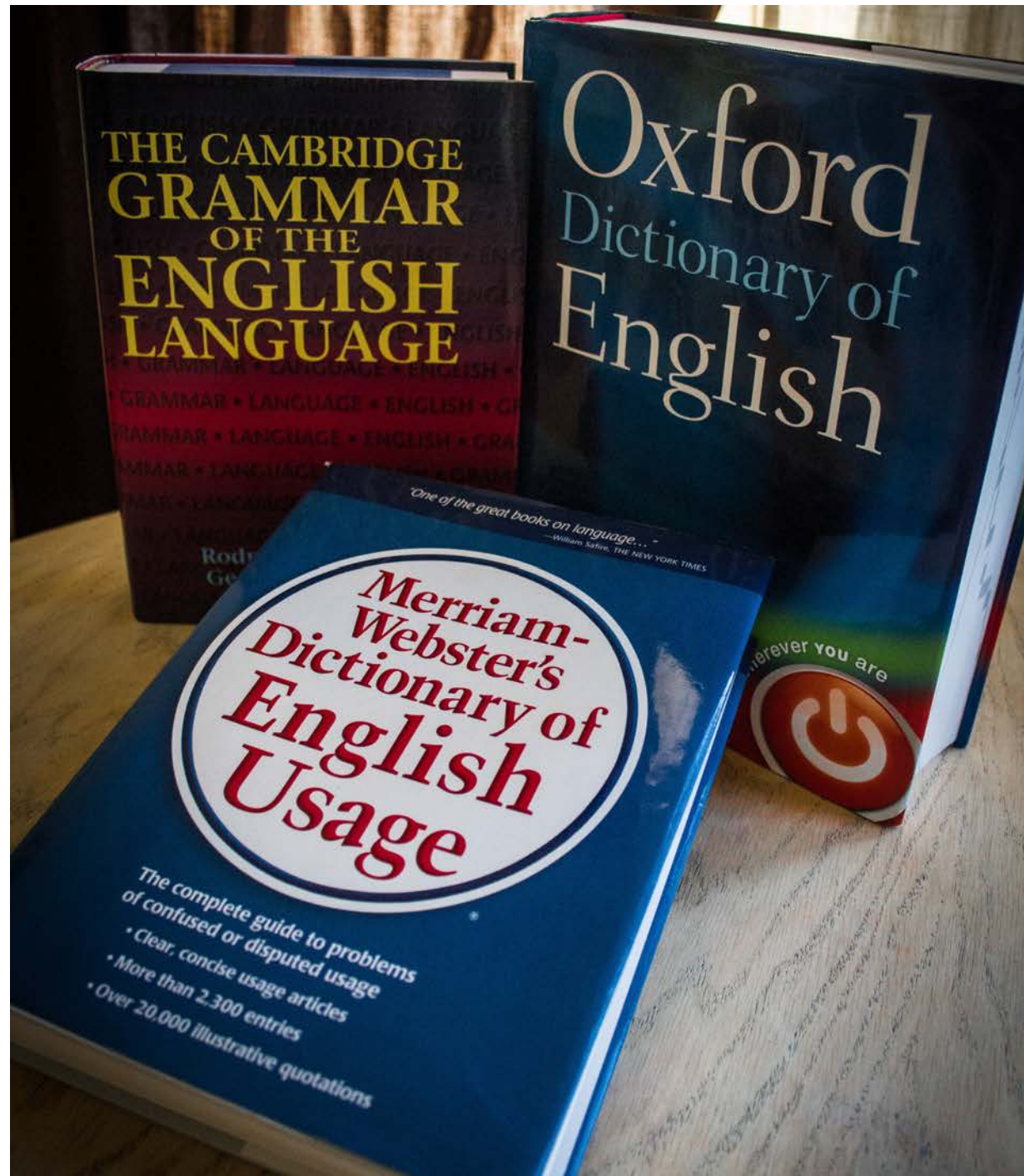
Startled, Omakayas slipped and spun her arms in wheels. She teetered, but somehow kept her balance. Two big, skipping hops, another leap, and she was on dry land. She stepped over spongy leaves and moss, into the woods where the sparrows sang nesting songs in delicate relays.

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.

Idea 1: The number of words in English far outnumbers opportunities to teach each individually.



Why does English have so many words?

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



Talking Points for Teachers™: New Words in New Texts

- **ACTION #1:** Conduct conversations where students learn to expect a critical group of unknown words in new texts, including (starting in third grade) sharing the vocabulary pyramid

Why?

Develop the understanding that every complex text has new, challenging vocabulary. Vocabulary instruction gives students the means for figuring out new words in text, not instruction in every single word that might appear in new texts.

When?

Talks about the vocabulary of new texts need to occur across a school year (with extra doses prior to assessment periods).

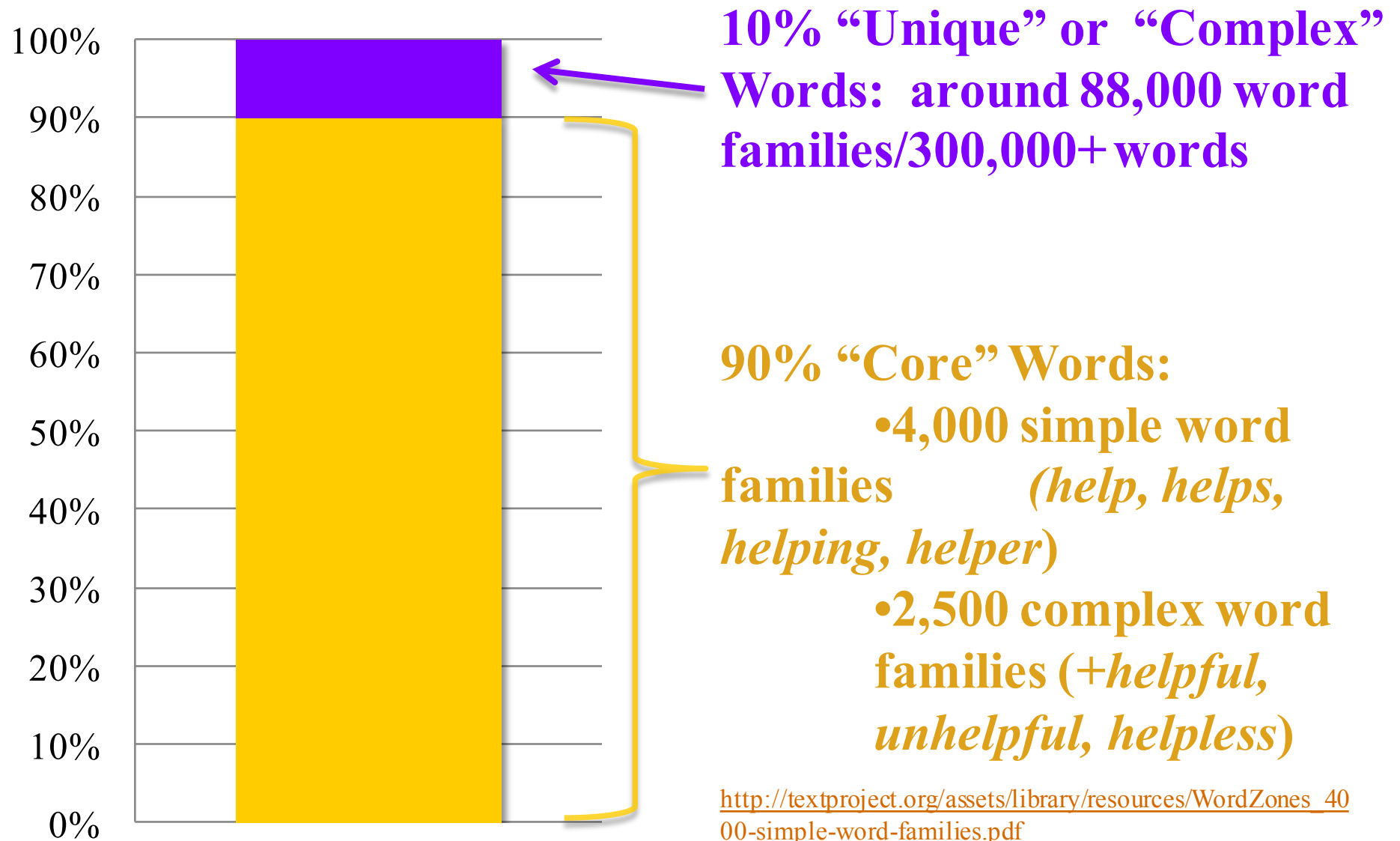
How?

- Take a portion of the text (25 or 50 words is enough). Use a highlighter to mark the words in the 1,000-2,000 most-frequent words (List of 4,000 simple word families at: <http://textproject.org/classroom-materials/lists-and-forms/lists/word-zones-for-5-586-most-frequent-words/>)
- Mark the words that are potentially challenging with a different colored highlighter.
 - An example of a snippet of text for a board/projection is the following, which comes from a PARCC sample assessment for Grade 7 (<http://www.parcconline.org/samples/english-language-artsliteracy/grade-7-reading-informational-text-%28Amelia-Earhart-2%29>)

Idea	Action	Open-Access Resource
1. English has more words than can be taught.	1. Teach students to expect new words in texts.	1. Talking Points for Teachers: New Words in New Texts
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Idea 2: A small group of words does the heavy lifting in English. Students need to automatically recognize these words—including their multiple meanings.

The distribution of words in written English



Examples of the Words in the Core Vocabulary

1st 100 words	the, by, no, through, must
101-300	long, great, put, last, family
301-1,000	power, north, story, strong, answer
1,001-1,500	valley, imagine, motion, nearby, importance
1,501-2,000	character, responsible, design, presence, trail
2001-2,500	mixture, discovery, civilization, attitude, assume

In the high and far off days when men were heroes and walked with the gods, Peleus, king of the Myrmidons, took for his wife a sea nymph called Thetis, Thetis of the Silver Feet. Many guests came to their wedding feast, and among the mortal guests came all the gods of high Olympus. But as they sat feasting, one who had not been invited was suddenly in their midst: Eris, the goddess of discord, had been left out because wherever she went she took trouble with her; yet here she was, all the same, and in her blackest mood, to avenge the insult.

All she did—it seemed a small thing—was to toss down on the table a golden apple. Then she breathed upon the guests once, and vanished.

from *Black Ships Before Troy*, Rosemary Sutcliff

My knowledge of Canuck French derives from motion pictures usually with Nelson Eddy and Jeanette MacDonald, and it consists largely of "By gar." It's odd, but I didn't hear a single one of the potato pickers say "By gar," and they must have seen the pictures and known what is right. The women and girls wore pants usually of corduroy and thick sweaters, and they covered their heads with bright-colored scarves to protect their hair from the dust that rises from the fields with the smallest wind. Most of these people traveled in big trucks covered with dark canvas tarpaulins, but there were some trailers and a few camper tops like Rocinante. At night some slept in the trucks and trailers, but also there were tents pitched in pleasant places, and the smells that came from their cooking fires indicated that they had not lost their French genius for making soup.

from Travels with Charley, John Steinbeck

Chicago in 1871 was a city ready to burn. The city boasted having 59,500 buildings, many of them-such as the Courthouse and the Tribune Building-large and ornately decorated. The trouble was that about two-thirds of all these structures were made entirely of wood. Many of the remaining buildings (even the ones proclaimed to be "fireproof") looked solid, but were actually jerrybuilt affairs; the stone or brick exteriors hid wooden frames and floors, all topped with highly flammable tar or shingle roofs. It was also a common practice to disguise wood as another kind of building material. The fancy exterior decorations on just about every building were carved from wood, then painted to look like stone or marble.

from *The Great Fire*, Jim Murphy

"Don't **peck** at one another, children. Don't you wish we had the money Papa lost when we were little, **Jo**? Dear me! How happy and good we'd be, if we had no worries!" said Meg, who could remember better times.

"You said the other day you thought we were a deal happier than the King children, for they were fighting and **fretting** all the time, in spite of their money."

"So I did, Beth. Well, I think we are. For though we do have to work, we make fun of ourselves, and are a pretty **jolly** set, as Jo would say."

"Jo does use such **slang** words!" observed Amy, with a **reproving** look at the long figure stretched on the rug.

from Little Women, Louisa May Alcott

- Increase the amount that students read texts and ensure that texts give opportunities to increase exposure to core vocabulary (i.e., 2,500 complex word families) as well as new rare vocabulary.

Action 2: INCREASE VOLUME OF READING

Putting Two Words Together

volume 3
issue 2



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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



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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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Young Heroes:

Rachel Beckwith

volume 5
issue 1



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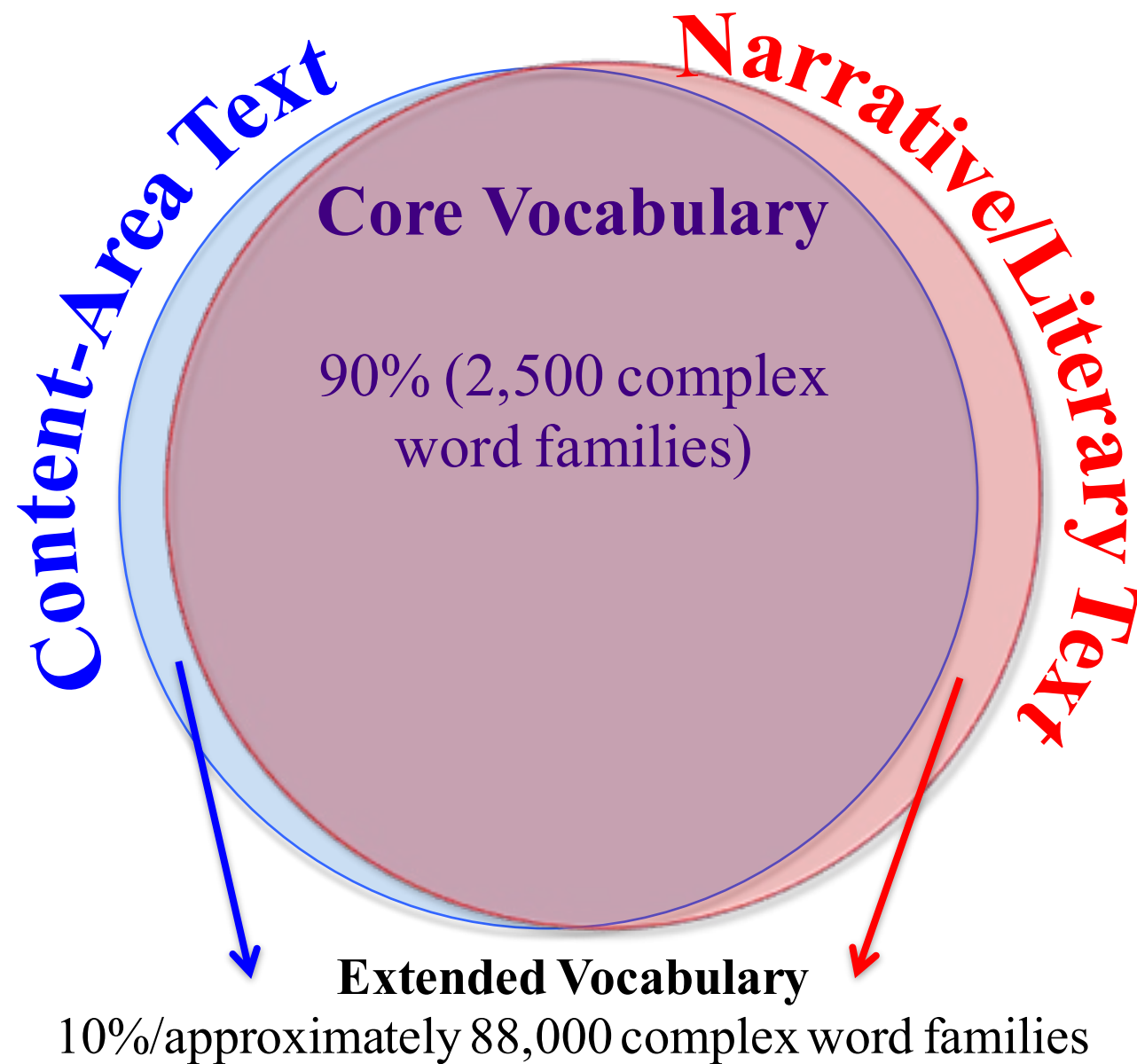
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Readworks.org has approximately
1,500 free passages for Grades 1-
early high school

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**Idea 3: Rare words in
narrative texts come from
synonym networks.**



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.

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.

Narrative texts from a 6th Gr. Program

Even with eyes protected by the green spectacles, Dorothy and her friends were at first dazzled by the brilliancy of the wonderful City. The streets were lined with beautiful houses all built of green marble and studded everywhere with sparkling emeralds. They walked over a pavement of the same green marble, and where the blocks were joined together were rows of emeralds, set closely, and glittering in the brightness of the sun. The window panes were of green glass; even the sky above the City had a green tint, and the rays of the sun were green.

From *The Wonderful Wizard of Oz* (Chapter 11), Frank Baum

Kaddo was very pleased with himself. 'When the bricks are ready, I will build a magnificent wall around my house,' he said proudly.

But when the villagers heard his plan they stormed to his house to voice their disapproval of his plans.

'We have never heard of a man building a wall of millet around his home. Kaddo, you cannot use food in this way. So many people are hungry.'

Kaddo stared angrily at them and was very displeased.

'No one in our history has created a wall out of valuable food,' they continued, trying to reason with him.

Rage grew in Kaddo. 'This grain belongs to me and I may do with it what I want. It is my right.'

From Tale of a Wealthy Man (*Folktales from Africa* retold by Dianne Stewart)

Instead there was some commotion that I didn't understand and the kicks stopped coming. There was a snarling growl that seemed to come from the bowels of the earth, followed by the sound of ripping cloth, screams, and then the fading slap of footsteps running away. For another minute I remained curled up, then opened my eyes to find that I was alone. But when I rolled over I saw the dog.

It was the one that had been beneath the stairs. Brindled, patches of hair gone, one ear folded over and the other standing straight and notched from fighting. He didn't seem to be any particular breed.

From Dirk the Protector, Gary Paulsen

**Networks in
narratives
are
synonyms
related to
story
elements.**

Story Word	Other Possibilities
dazzled	hypnotized awed
brilliancy	effulgence luminosity
glittering	shimmering radiance

Story Word	Other Possibilities
agitated	disturbed upset
indignant	annoyed resentful
angrily	crossly heatedly
rage	fury wrath

story word	Other Possibilities
commotion	upheaval turmoil muddle welter*
brindled	dappled mottled streaked variegated
notched	nicked jagged serrated

“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

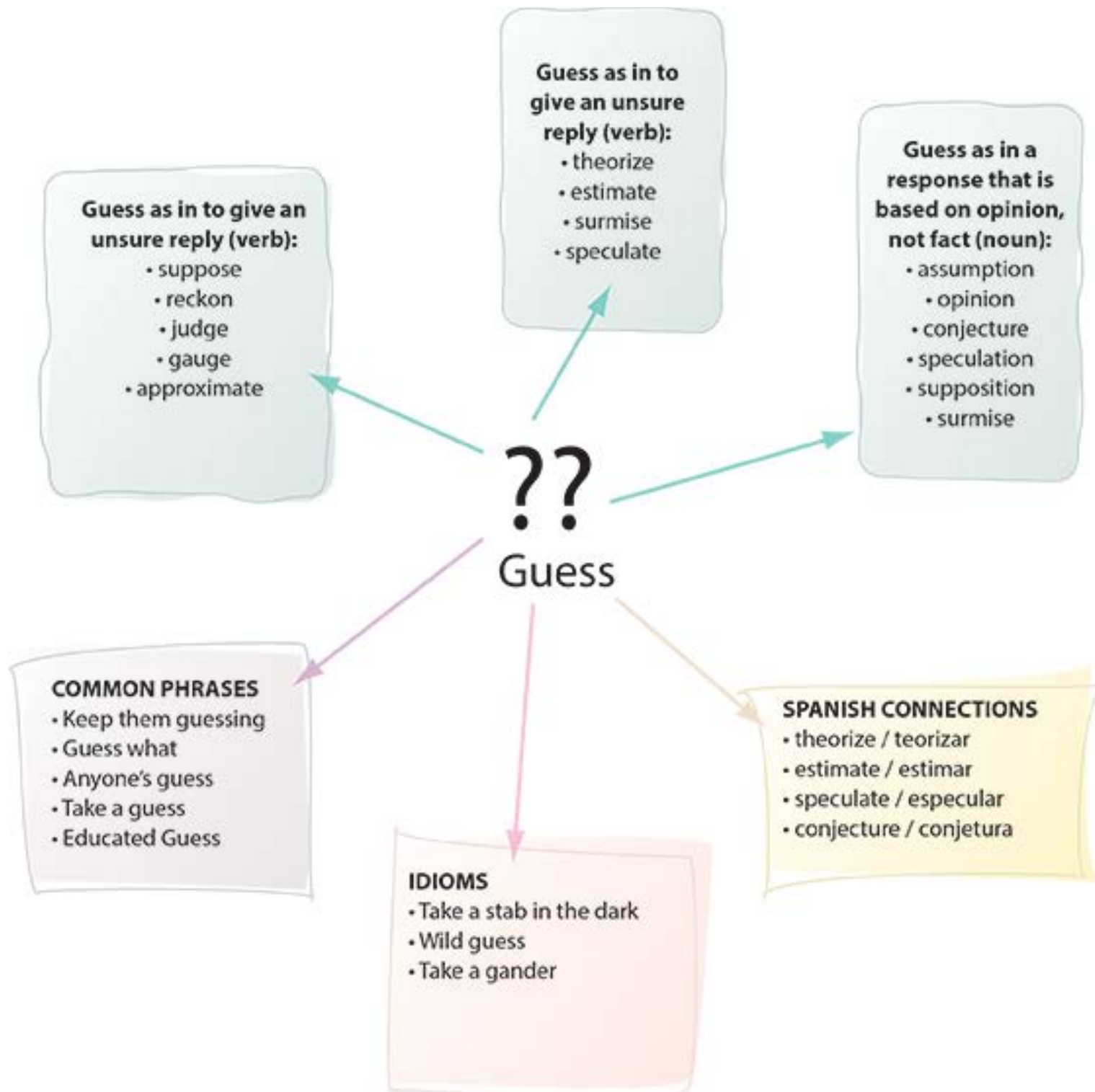
Action 3: TEACH STUDENTS PROLIFIC SYNONYM NETWORKS



Synonym Networks in Narrative Texts

Prolific Groups of Synonyms

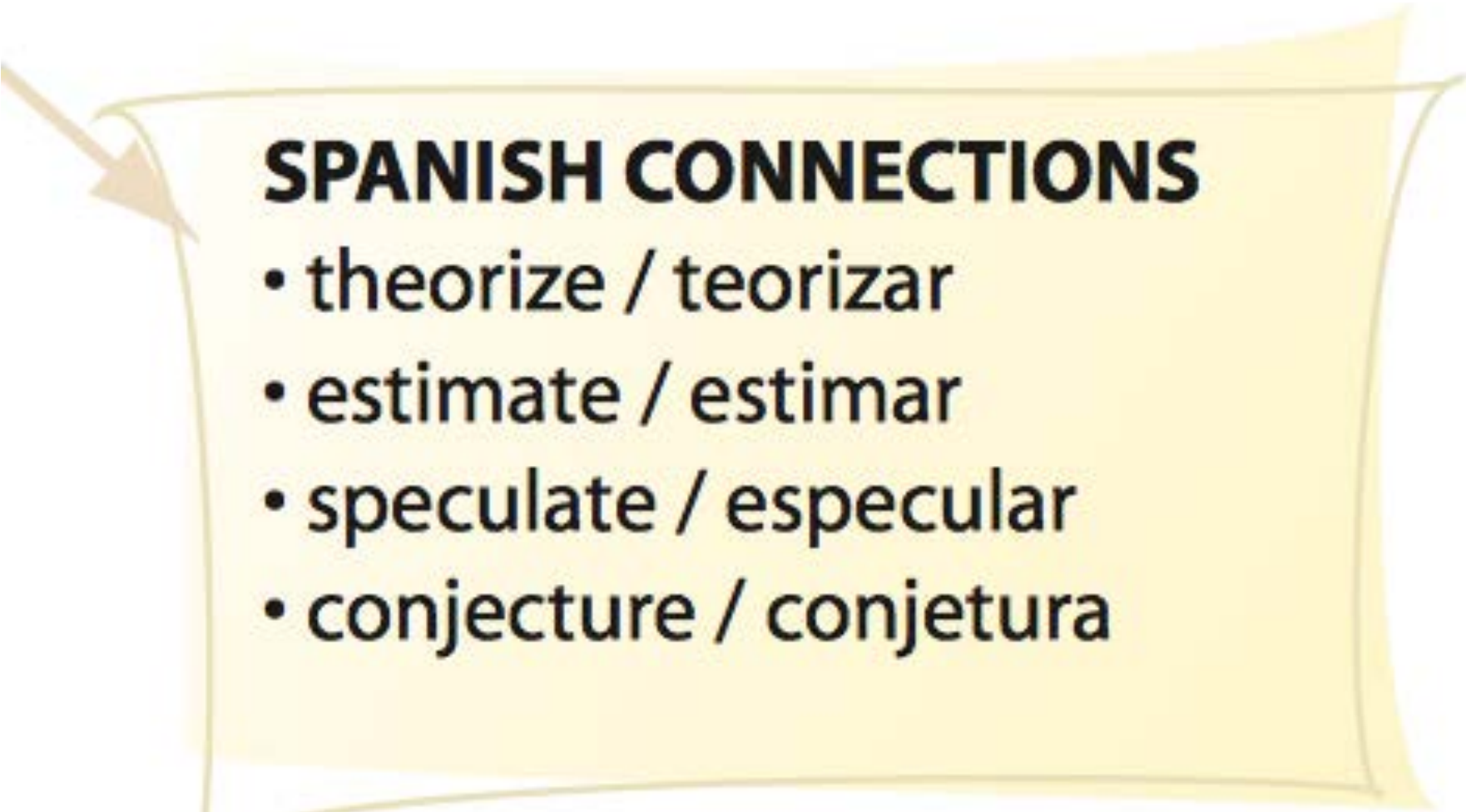
Communication /Internal Processes (verbs)	Emotions (adjectives)	Movement (verbs)	Traits (adjectives)
think	glad	go	funny
argue	sad	send	smart
observe	mad	start	brave
guess	selfish	stop	selfish
say	fear	stay	shy



**Guess as in to
give an unsure
reply (verb)**

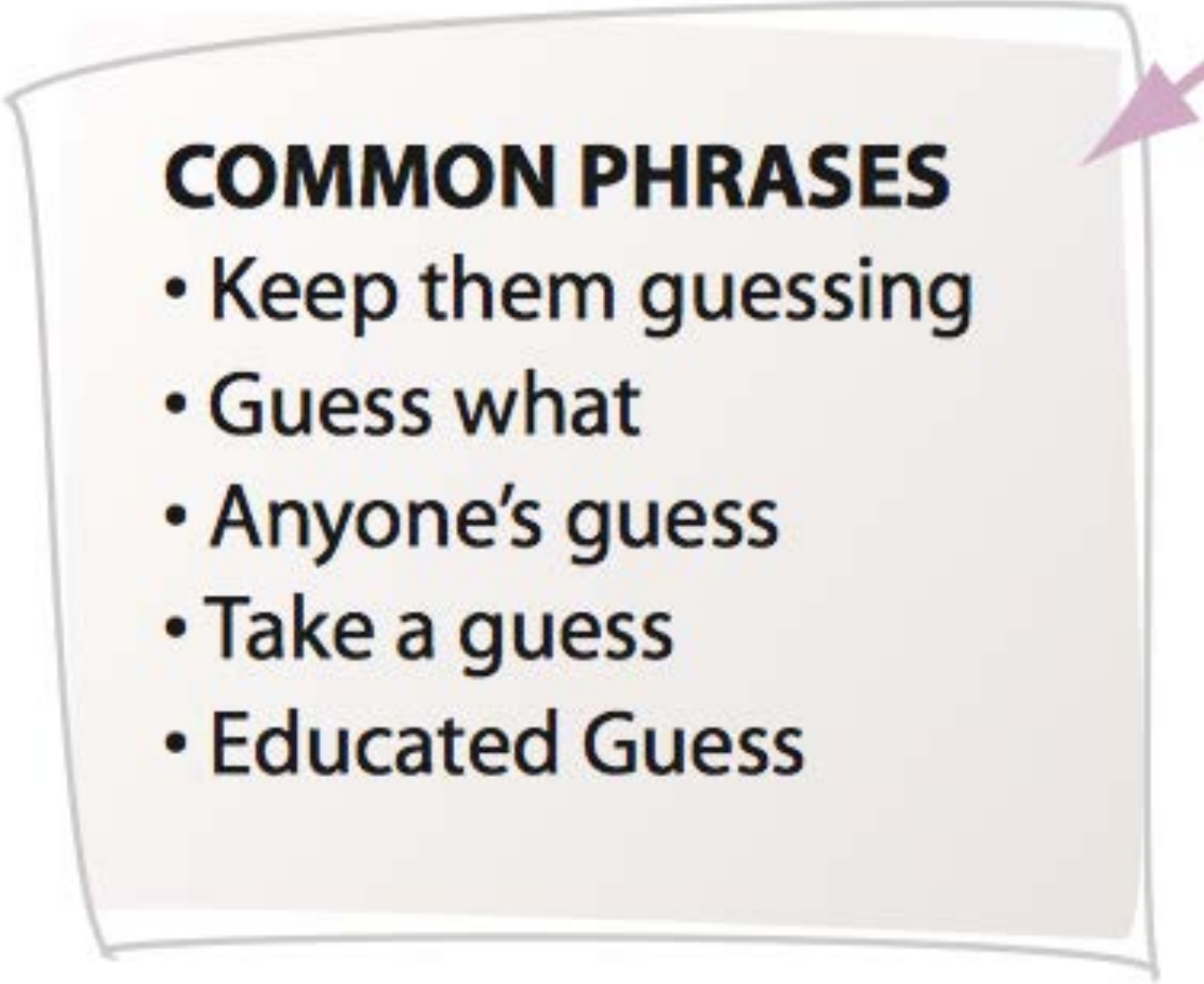
- theorize
- estimate
- surmise
- speculate





SPANISH CONNECTIONS

- theorize / teorizar
- estimate / estimar
- speculate / especular
- conjecture / conjetura



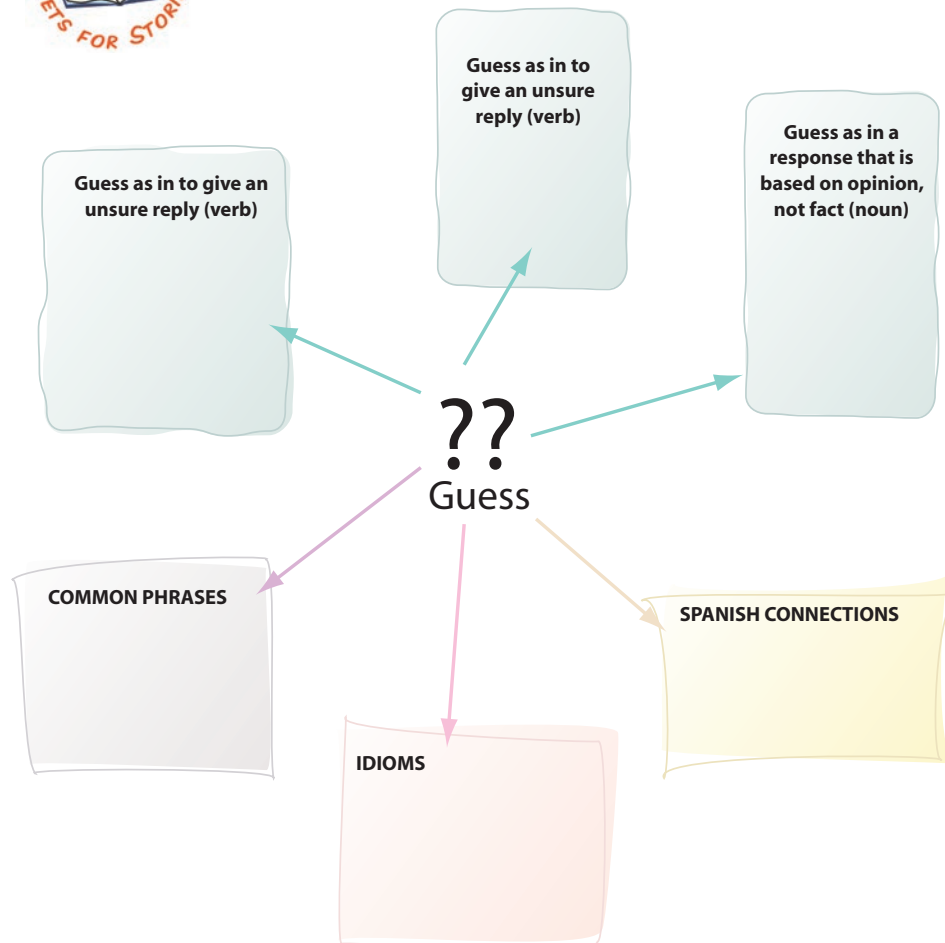
COMMON PHRASES

- Keep them guessing
- Guess what
- Anyone's guess
- Take a guess
- Educated Guess



S4-02

Guess

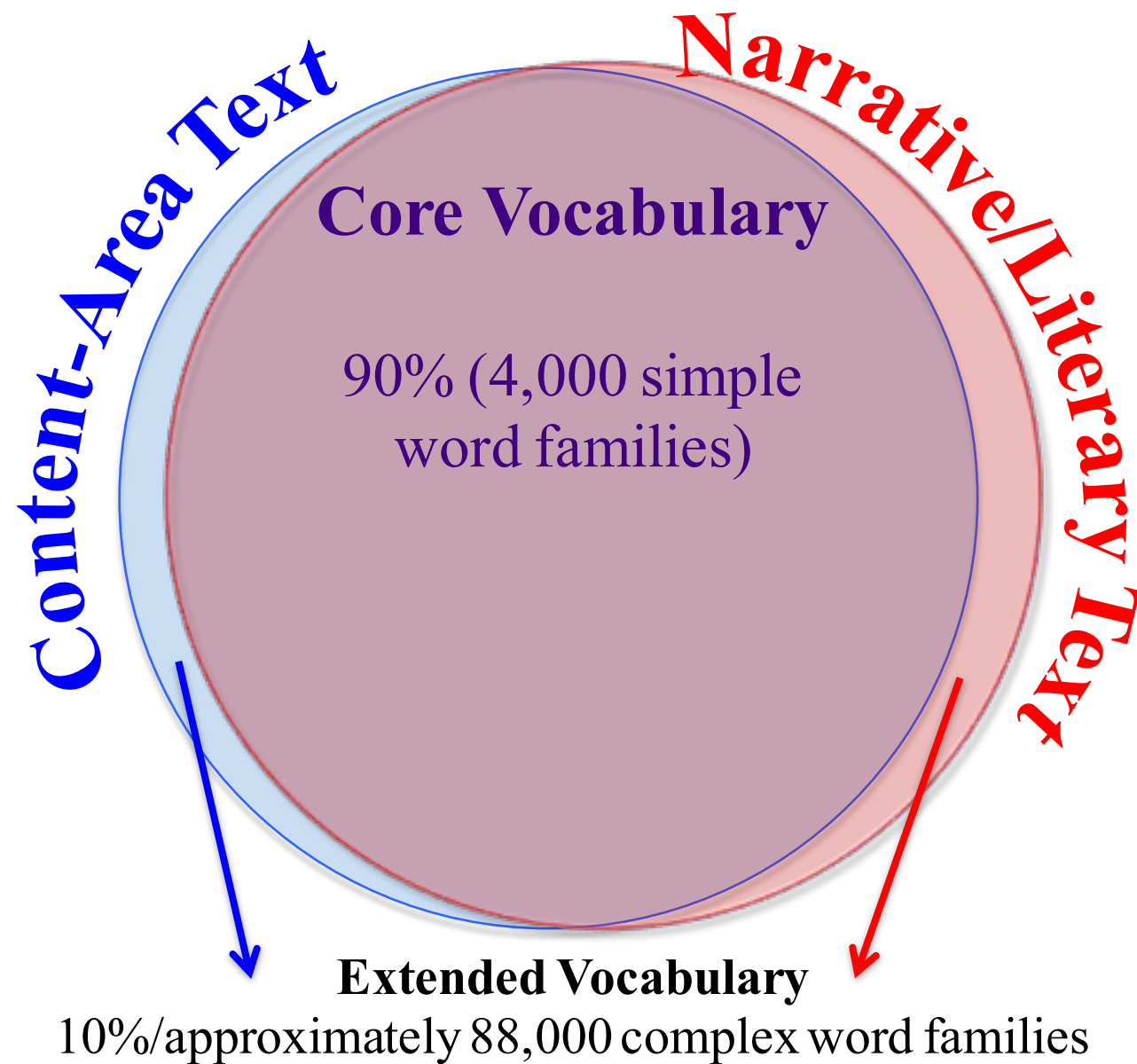


www.textproject.org/s4

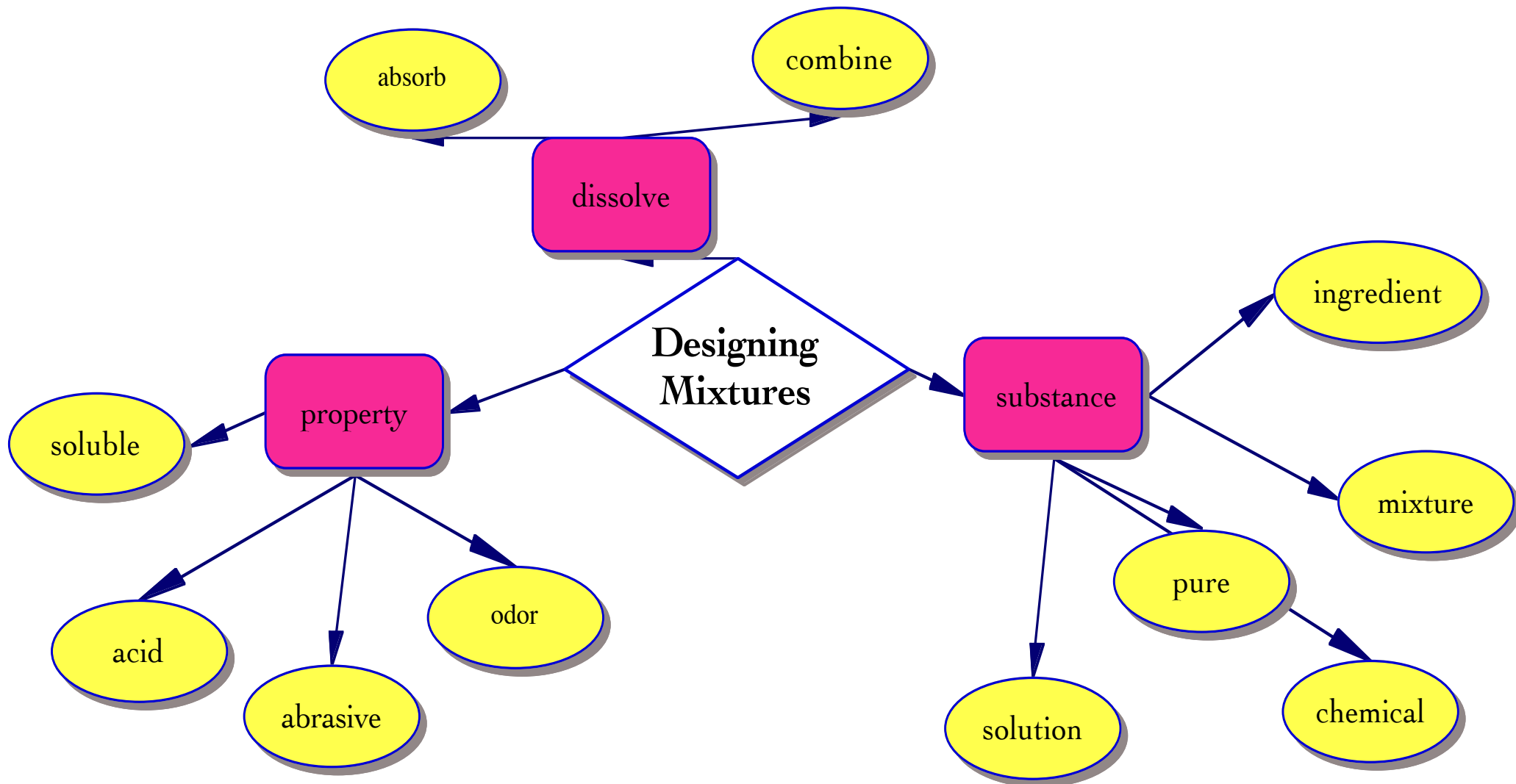
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2. A small group of words does the heavy lifting in English.	2. Increase volume of reading	2. •FYI for Kids •ReadWorks.org
3. Rare words in narrative texts belong to synonym networks.	3. Teach students prolific synonym networks	3. •Super Synonym Sets for Stories (S4) •Exceptional Expressions in Everyday Events (E4)
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**Idea 4: The rare words in
informational texts
belong to topical
networks.**



An Example of a Topical Network



Sixth-Grade Text Set:

World Wonders

Today, however, neglect, misuse, and modernization threaten the giant dragon. Although the wall once stretched nearly 4,000 miles across China's northern border, only about 1,500 miles of China's Great Wall remain. The rest has fallen apart and disappeared.

This year, the World Monuments Fund placed the Great Wall on its list of 100 Most Endangered Sites. The group hopes to protect what's left of the wall and to encourage the Chinese government and others to save the historic structure. According to a World Monuments Fund report, "[The wall] was built to protect China; now China must protect it."

From *The Rise and Fall of China's Great Wall: the Race to Save a World Treasure*, *Current Events*

PHARAOHS' TOMBS Pyramid of Giza, Egypt: **PROBLEM:** **WEATHERING.** These colossal pyramids have stood in the desert outside of Cairo, Egypt, for more than 4,000 years. Ancient Egyptians built the tombs to honor their Pharaohs, the kings whom they believed to be gods. The blocks they used to build the pyramids were cut out of limestone, a sedimentary rock formed when layers of soil are deposited on top of each other. The pyramids once had smooth sides, but wind-blown sand has scoured away most of their outer shell. This weathering has exposed jagged inner layers. Archaeologists have learned much about ancient Egyptian culture by examining the pyramids, though they still debate how builders put the heavy blocks in place. However the pyramids were created, they were built to last.

From World's Wonders, Worn Down? Cody Crane, Science World

The criticisms are a measure of how important the complex is to India and the world, as a symbol of historical and cultural glory, and as an architectural marvel. It was constructed of brick covered with marble and sandstone, with elaborate inlays of precious and semiprecious stones. The designers and builders, in their unerring sense of form and symmetry, infused the entire 42-acre complex of buildings, gates, walls and gardens with unearthly grace. "It combines the great rationality of its design with an appeal to the senses," says Ebba Koch, author of *The Complete Taj Mahal*, a careful study of the monument published in 2006.

from How to save the Taj Mahal? Jeffrey Bartholet, Smithsonian

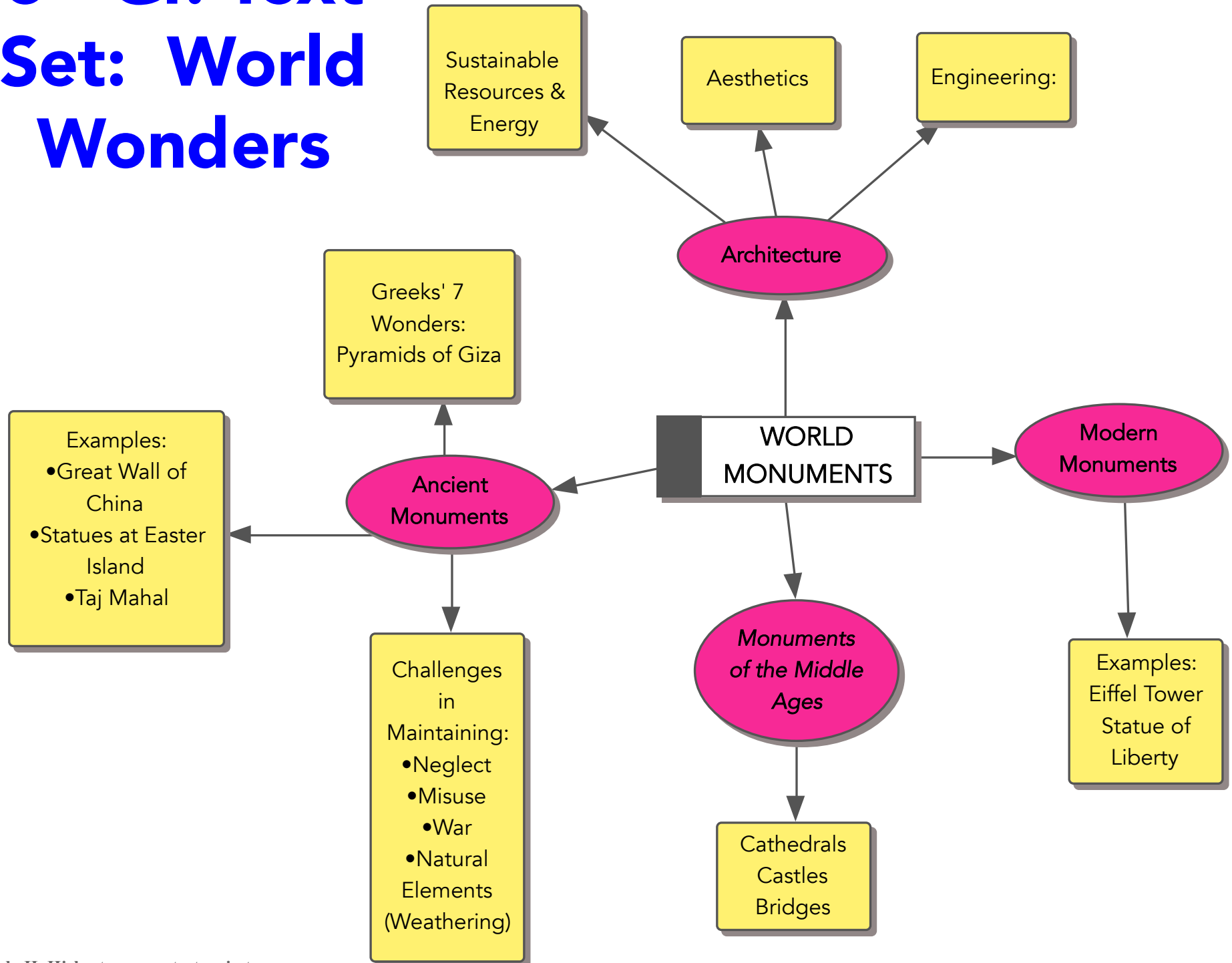
Nature has also taken its toll. At the wall's western end, desert sandstorms have worn down much of China's great wonder. Dong Yaohui said, "Saving the Great Wall is now the most urgent task facing our country. Its splendor must be rebuilt."

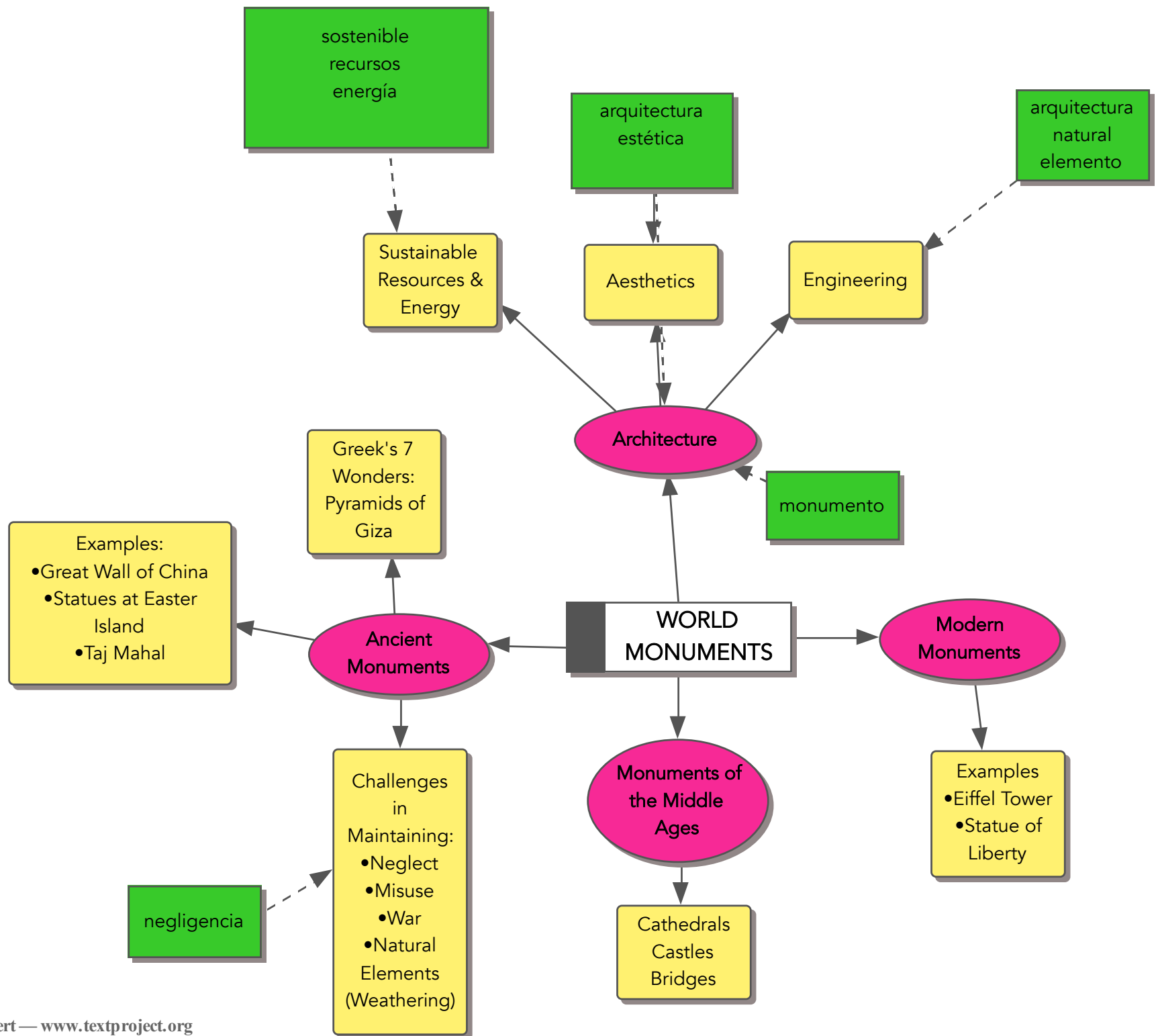
Preservationists also argue that commercial developers are destroying the aesthetic beauty of China's Great Wall. Developers have turned parts of the wall into a tourist destination. Visitors to the wall at the Badaling section near Beijing can take one of five cable cars to the top of the wall, bungee-jump off a section of the wall, paraglide along the wall, or ride a toboggan down the mountain.

from Talking about World Wonders, Joy Nolan

Action 4: TEACH WORDS IN INFORMATIONAL TEXTS IN TOPICAL NETWORKS

6th Gr. Text Set: World Wonders





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4. Rare words in informational texts belong to topical networks.	4. Teach words in informational texts in topical networks.	4. •Word maps
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Idea 5: Knowledge is “stored” in texts and...



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



- **Knowledge (including in stories) is stored in texts.**
- **Knowledge is represented by vocabulary.**
- **Success in English/Language Arts is based on students' ability to comprehend texts with a diverse range of content.**

Correlation between Background Knowledge & Comprehension = .94

Reading for Understanding Network Study of Comprehension in Grades 7-12

Slide is from the presentation of David Francis (April 19, 2013). CCSS Assessments and Students with Disabilities and English Language Learners. Plenary session at Institute on Assessment in the Era of the Common Core State Standards, International Reading Association.

Blue crabs are very strong. Their big claws can make a painful pinch. When cornered, the crabs boldly defend themselves. They wave their outstretched claws and are fast and ready to fight. Keith and I had to be very careful to avoid having our fingers pinched.

Crabs are arthropods, a very large group of animals that have an external skeleton and jointed legs.

Spider was a hungry one, he always wanted to eat. Everybody in Ashanti knew about his appetite. He was greedy, too, and always wanted more than his share of things. So people steered clear of Spider.

But one day a stranger came to Spider's habitation out in the back country.

A red sky at night does not usually cause wonder. But on the evening of April 26, 1777, the residents of Ludingtons' Mills were concerned. The crimson glow was in the east, not from the west where the sun was setting.

The Ludington family sat at supper, each one glancing now and again toward the eastern window.

Jason heard his mom calling him. Instead of answering her, he slipped deeper into the tall weeds behind his house. He closed his eyes, thinking of what he had done.

He had gotten up that morning in a good mood. Raspberry pancakes were on the table when he walked into the kitchen rubbing his eyes and yawning.

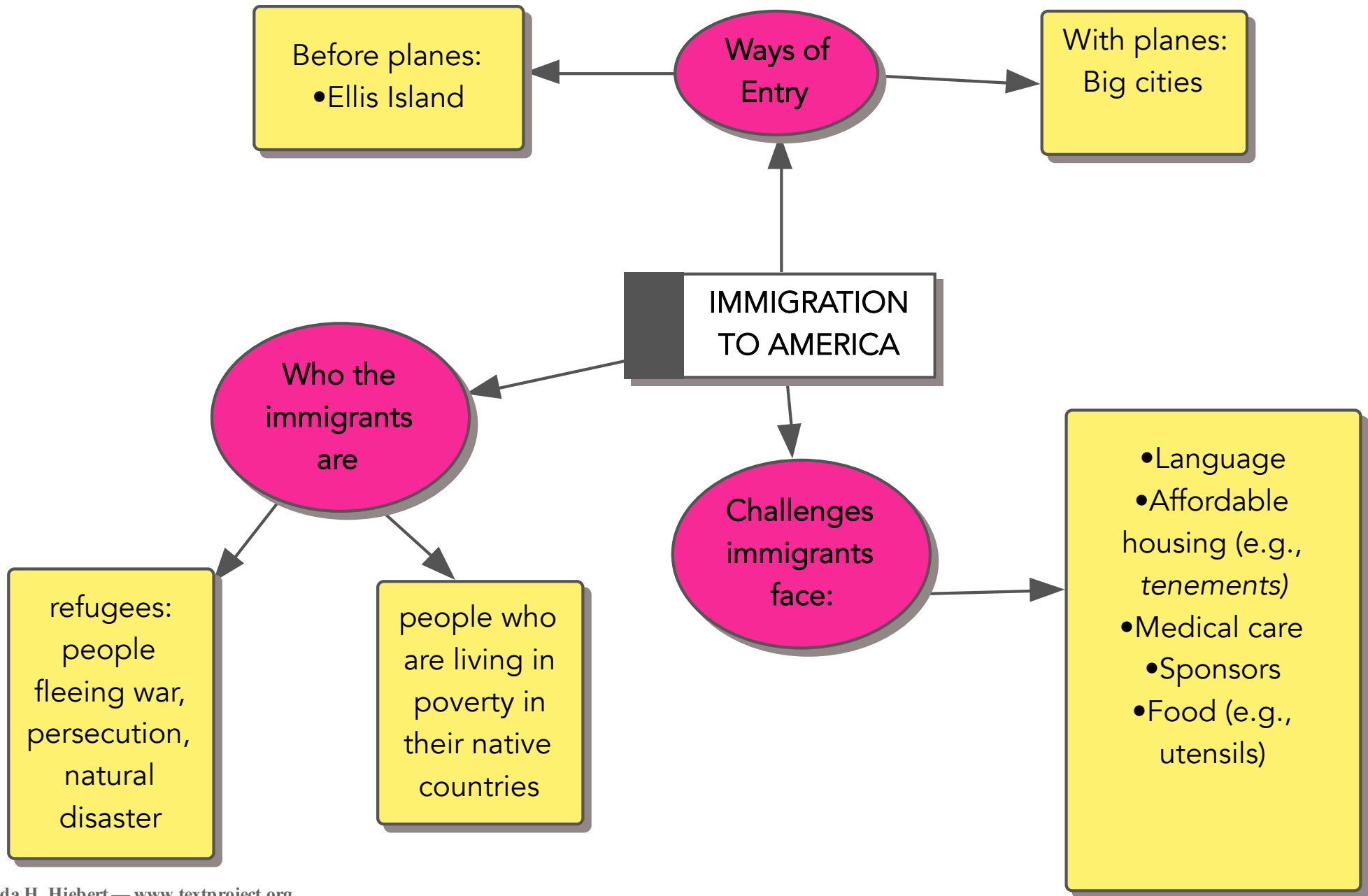
Imagine shivering on a cold winter's night. The tip of your nose tingles in the frosty air. Finally, you climb into bed and find the toasty treat you have been waiting for—your very own hot brick.

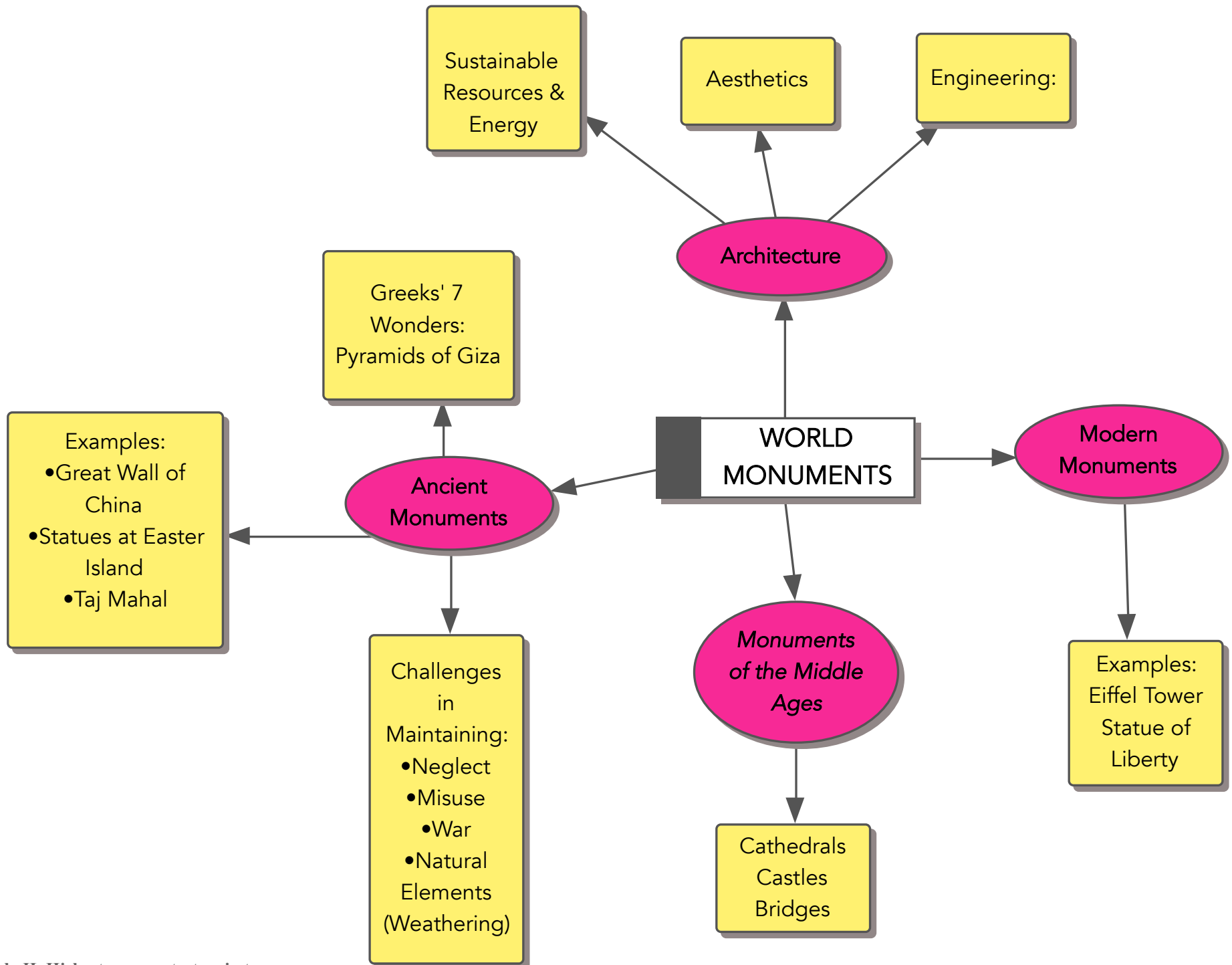
If you had lived in colonial days, that would not sound as strange as it does today.

It was a hot Sunday afternoon in Hawarden, a small town in western Iowa. Amanda Clement was sixteen years old. She sat quietly in the grandstand with her mother, but she imagined herself right out there on the baseball diamond with the players. Back home in Hudson, South Dakota, her brother Hank and his friends often asked her to umpire games.

Action 5: Develop bodies of knowledge in English/Language Arts instruction

1. Knowledge Maps





2. Providing *CHOICES* to go into more depth on topics



Architecture
The Parthenon

Architecture, like painting, literature, and other forms of art, reflects the ideals of the people who build it. The Parthenon is the best example of ancient Greek architecture. The structure, created between 447 B.C.E. and 432 B.C.E., tells us a lot about the Greek way of thinking.

In Greece, balance and order were important **principles**¹. The Greeks believed that everything around them happened for a reason. They wanted to find out this reason and discover the order of the world around them. Their buildings were beautiful, but they do not overflow with **frivolity**² or emotion. Instead, Greek buildings define order.

Columns are one **hallmark**³ of classical structure that we associate with Greece and Rome. The Parthenon was built with eight columns on the front and 17 on each side. The building is symmetrical and balanced. Mathematical principles make the design stable. Almost the entire structure is made of marble. Elfrieda H. Hiebert — www.textproject.org

Architecture
The Duomo



The Duomo
Florence, Italy

One building, more than any other, marks the arrival of the Renaissance to Europe. Did you know that “naissance” means “birth” in French and that the Renaissance was the rebirth of classical learning in Italy? Art and architecture took off during the Renaissance. Many new ideas influenced design. The Duomo, with its grand dome, is a perfect example of new ideas and **innovation**.

Work on the Duomo cathedral, in Florence, Italy, actually started before the Renaissance, in 1296. But the building took 140 years to complete. The **plague**² and many wars prevented construction from continuing on the building as planned. By 1420, the building was almost finished, but there was one serious problem. The plans for the building called for a huge cupola, or dome—bigger than anything built up to that point. No one knew how to build such a dome.

The Influence of the Arch

By ReadWorks



The lasting influence of ancient Rome is apparent in many areas of our contemporary society. Sophisticated elements of law, engineering, literature, philosophy, architecture, and art can all be traced back to the Roman Empire. But perhaps one of the most lasting contributions from Roman civilization is something we see nearly every day: the Roman arch.

An arch is a curved structure designed to support or strengthen a building. Arches are traditionally made of stone, brick, or concrete; some modern arches are made of steel or laminated wood. The wedge-shaped blocks that form the sides of an arch are called voussoirs, and the top center stone, called the keystone, is the last block to be inserted. During construction, the arch is supported from below before the keystone is put in. The curve of an arch may take different shapes, but it is often a rounded or pointed semicircle.

The Party's Over

Parties and **stunts** at the Great Wall of China are now against the law. A stunt is a dangerous or an unusual act that is done for attention.

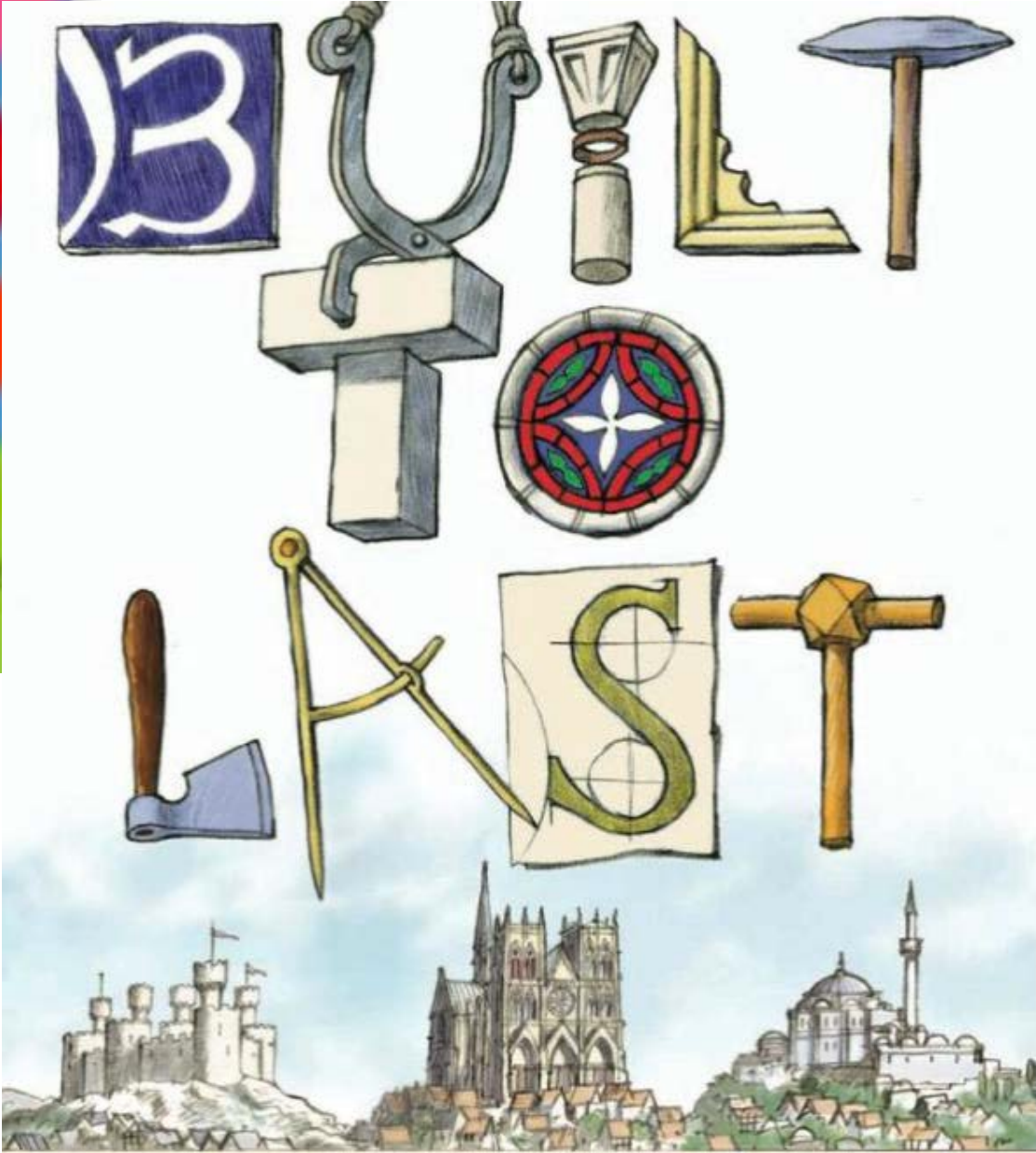
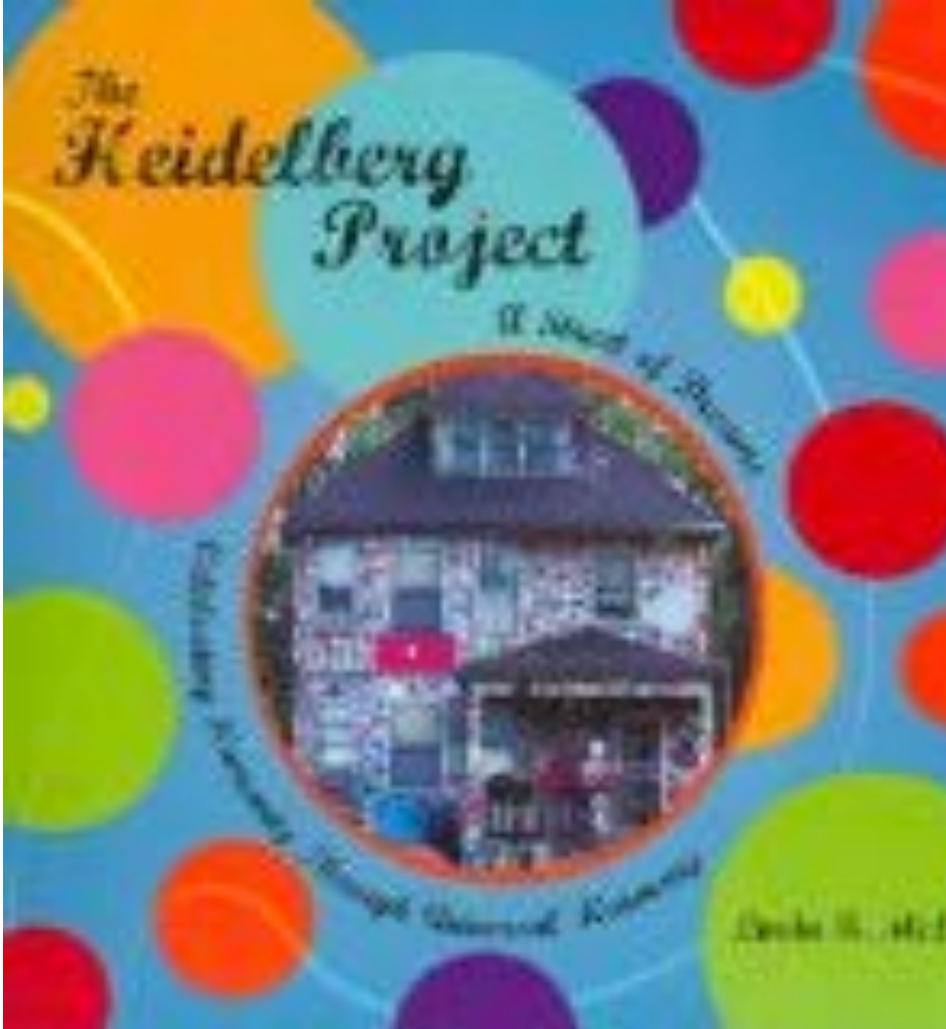


Leigh Haeger

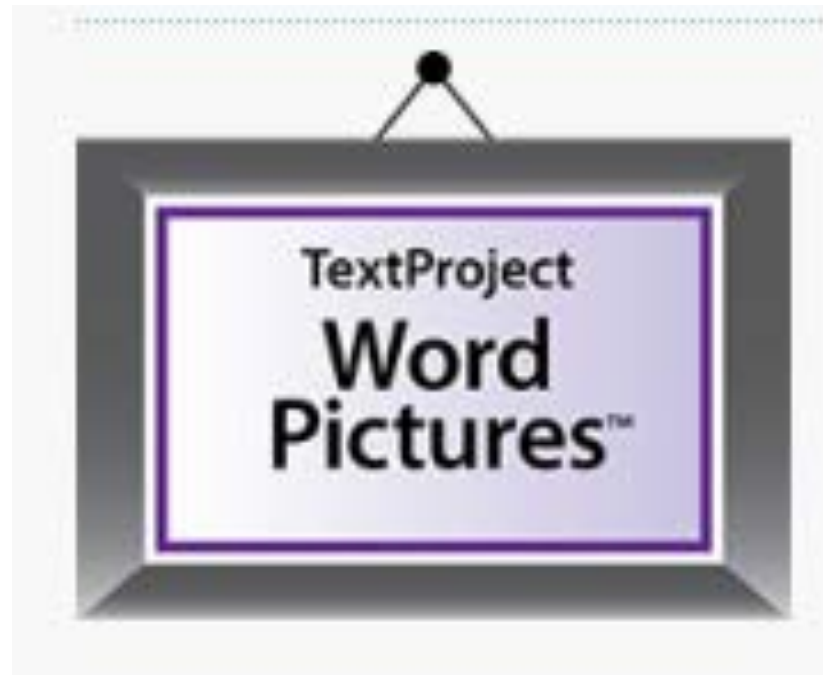
In 2005, Danny Way became the first person to jump over the Great Wall on a skateboard. Over the years, many tourists have climbed the famous wall. Others have jumped over the wall on motorcycles.

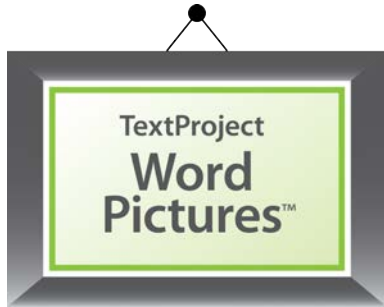
Parties and stunts have caused serious damage to the Great Wall, say officials. The Chinese government has now issued new rules to protect the famous landmark.

The Great Wall is the longest structure ever built. It twists and turns for more than 4,000 miles through China. Parts of the wall are more than 2,000 years old.



3. Build Breadth & Interest through Word Pictures





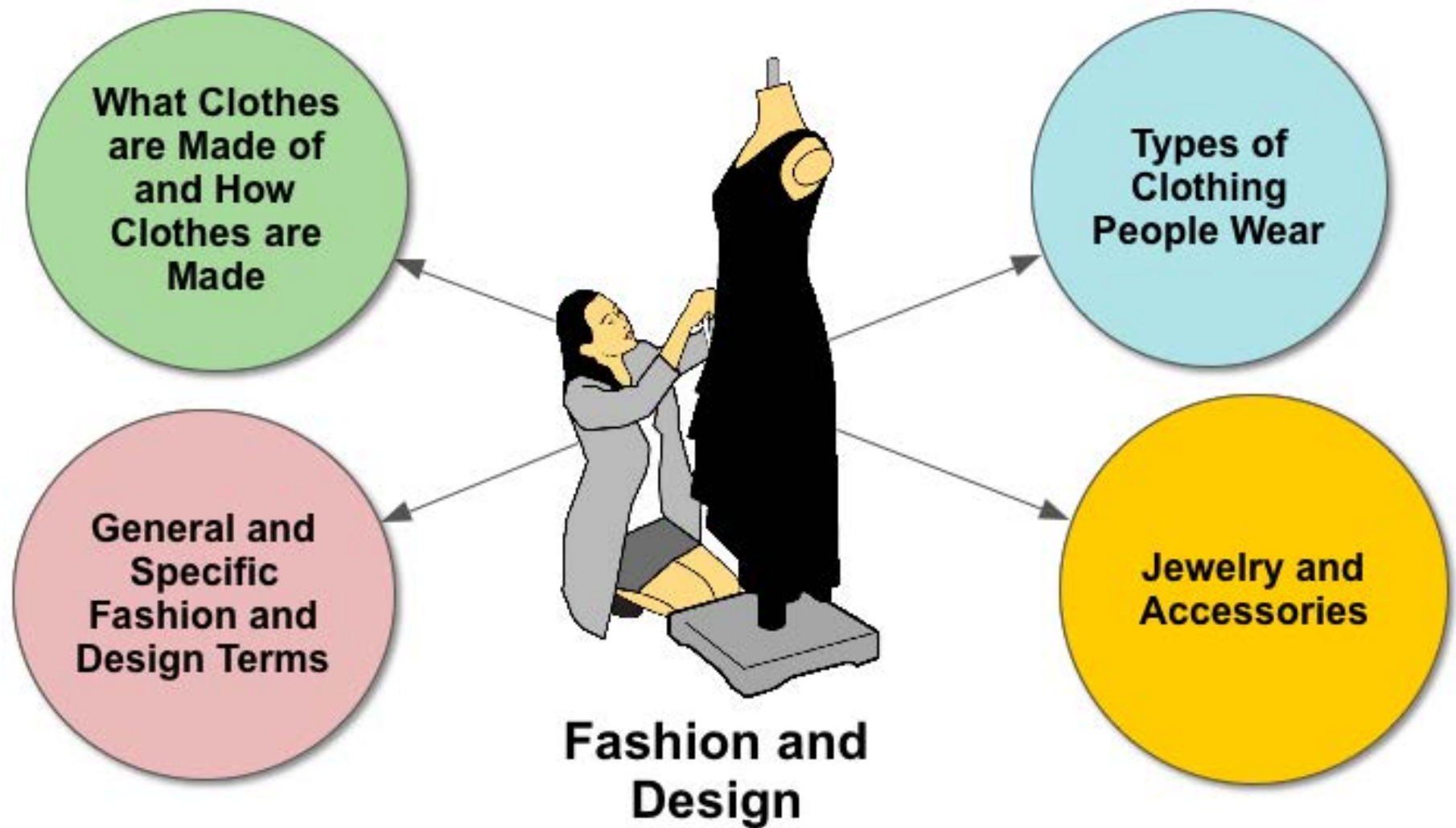
Fashion and Design—

General and Specific Fashion and Design Terms



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fashion

(fash·ion)

Fashion is a common style during a particular time or among a certain group. Different groups like different fashion and fashion changes over time.

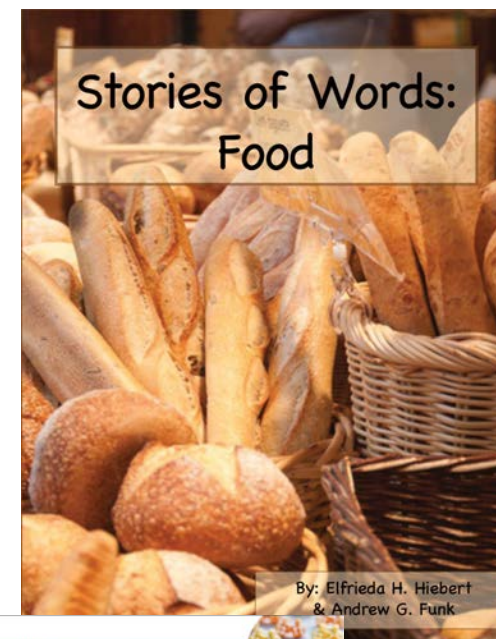
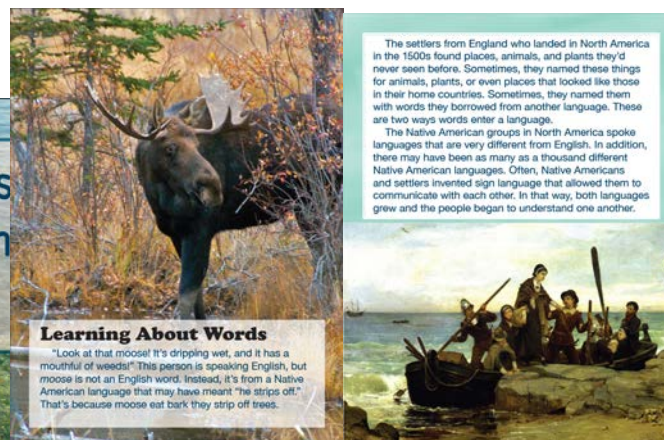
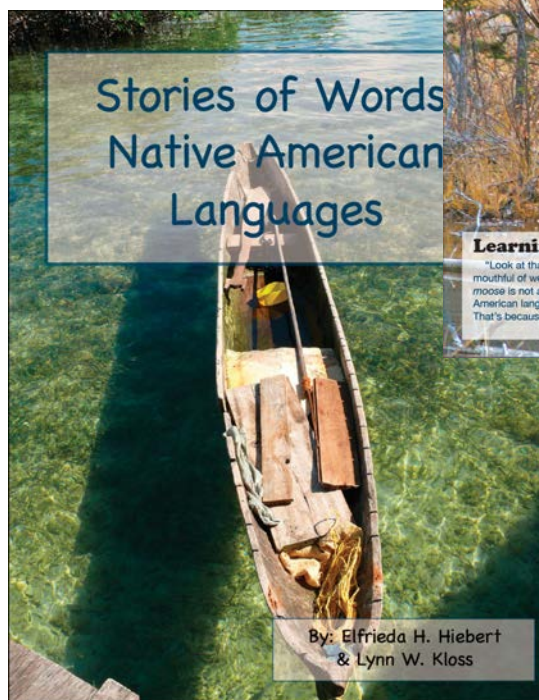


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Idea	Action	Open-Access Resource
1. English has more words than can be taught.	1. Teach students to expect new words in texts.	1. Talking Points for Teachers: New Words in New Texts
2. A small group of words does the heavy lifting in English.	2. Increase volume of reading	2. •FYI for Kids •ReadWorks.org
3. Rare words in narrative texts belong to synonym networks.	3. Teach students prolific synonym networks	3. •Super Synonym Sets for Stories (S4) •Exceptional Expressions in Everyday Events (E4)
4. Rare words in informational texts belong to topical networks.	4. Teach words in informational texts in topical networks.	4. •Word maps
5. Knowledge matters in proficient reading	5. Develop bodies of knowledge in ELA instruction.	5. •Word Pictures •ReadWorks Lessons



Italian Noodles

The names of most pastas describe how they look. Here are some examples.

Name for Pasta	How the Pasta Looks	The Word's Meaning in Italian
farfalle	bow ties or butterflies	farfalle: butterflies
linguini	flat, narrow strips	linguini: little tongues
penne	medium-sized tubes	penne: feathers or quills
spaghetti	long, rod-like strands	spago: a thin string or cord (spaghetti: little strings or cords)
vermicelli	long, very thin strands	vermicelli: little worms





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