

Knowledge in the Digital Age

1986<mark>2007</mark>

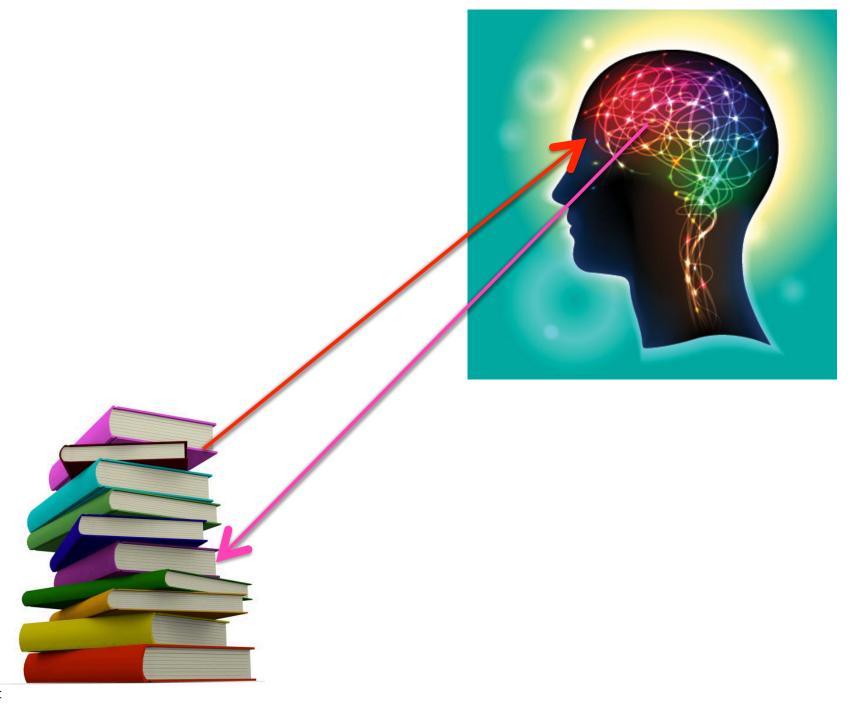
2017

Knowledge is "stored" in texts and...



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



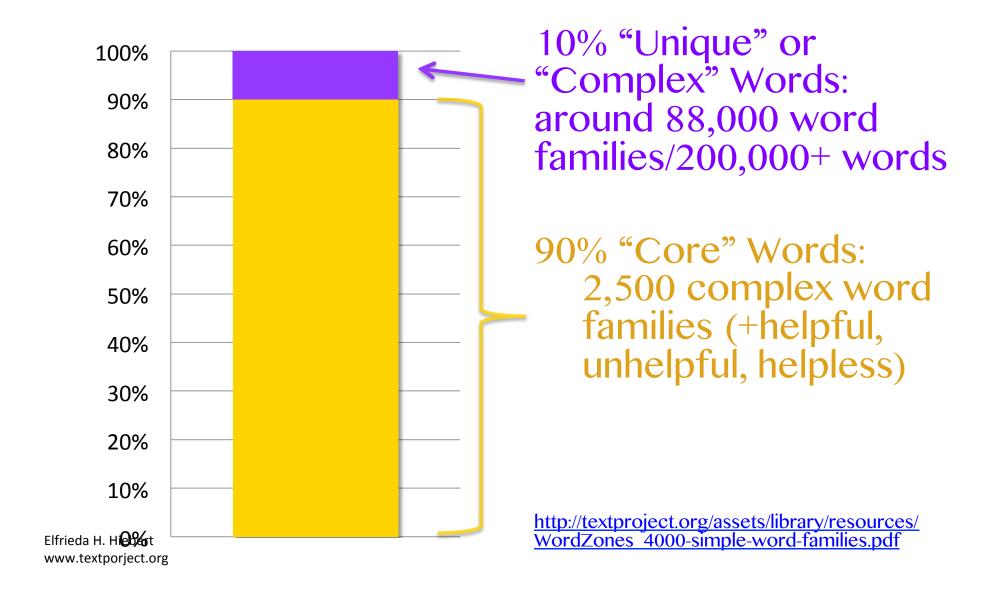




1. A small group of words does the heavy lifting in English.



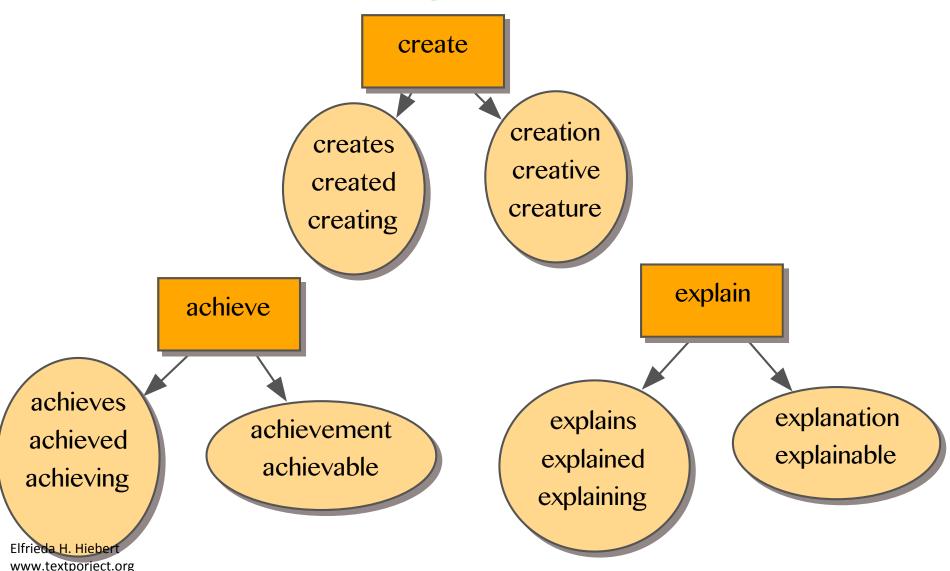
The 90:10 Distribution of Words in Writing



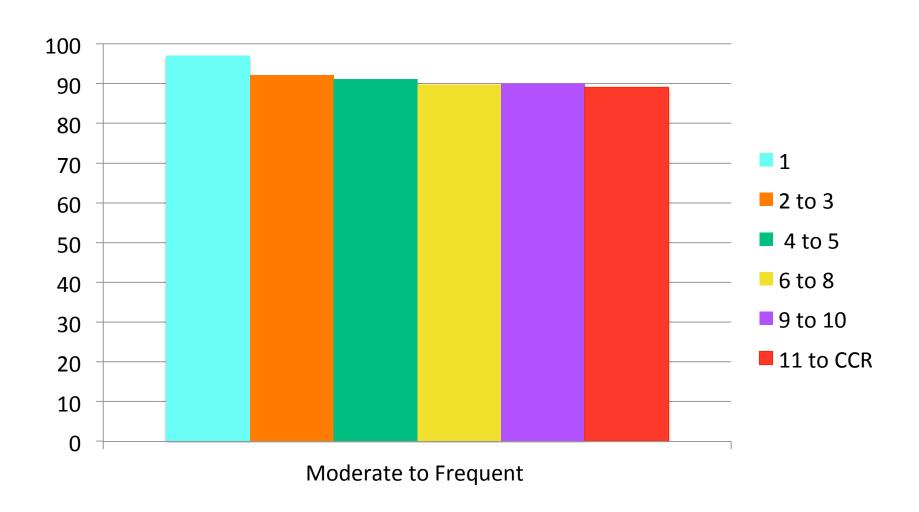
Examples of the Words in the Core Vocabulary

	words
1st 100	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

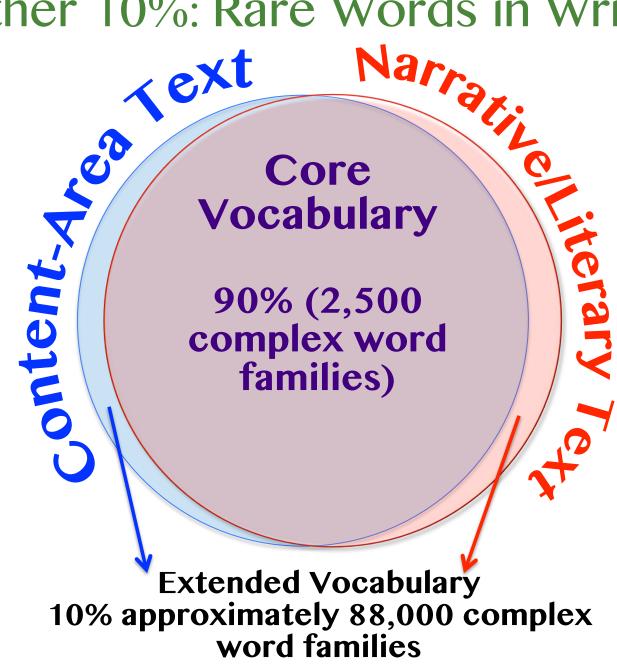
General Academic Vocabulary: Many of these words are in the 2,500 Morphological Families



How These Words Appear in Texts



The Other 10%: Rare Words in Writing

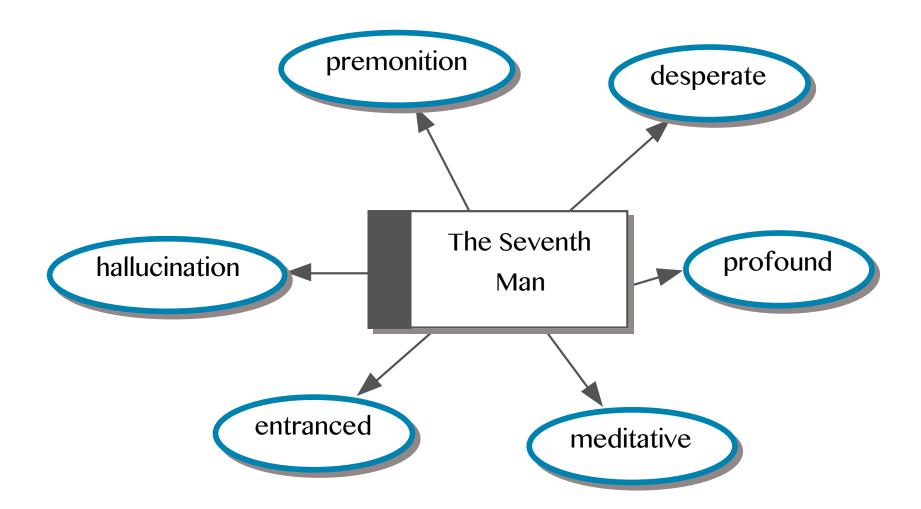


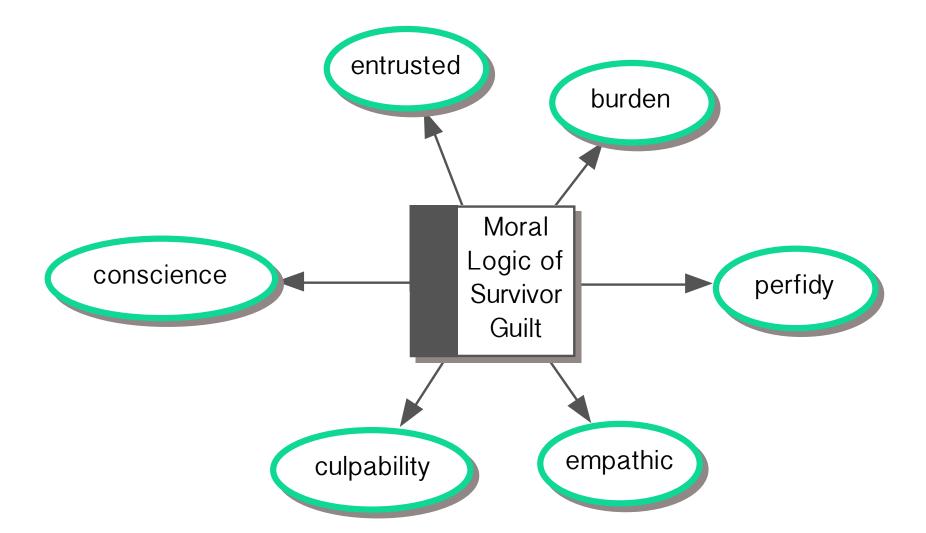
Rare Vocabulary in Narrative Texts

at first dazzled by the brilliancy of the wonderful City. The streets were lined with beautiful houses all built of green sparkling emeralds. They walked over a where the blocks were joined together glittering in the brightness of the sun.

Networks in narratives are synonyms related to story elements.

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





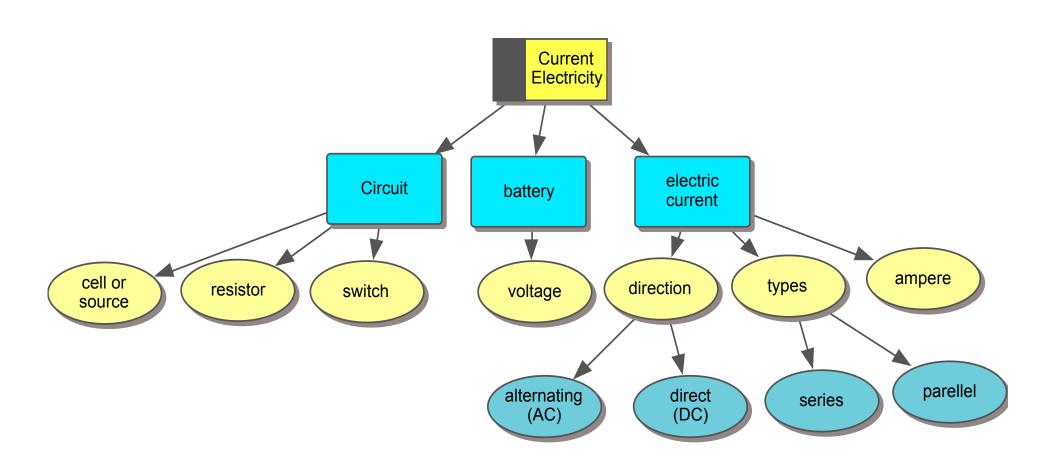
Rare Vocabulary in **Informational Texts**

Voltage is electric potential energy per unit charge. The greater a battery's voltage, the greater the electric current it can supply when it is wired into a circuit.

The amount of voltage is measured in units called volts (V). You can think of

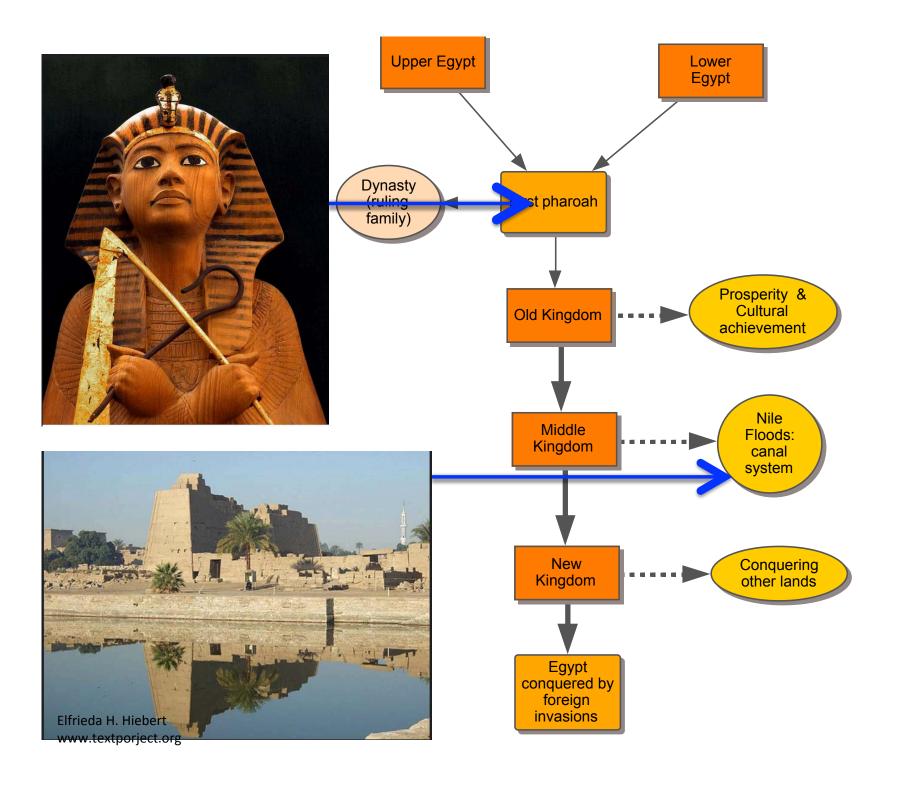
the ampere, abbreviated A. One ampere of current is the net flow of about 6 billion billion electrics every second through a point in the circuit. Elfrieda H. Hiebert

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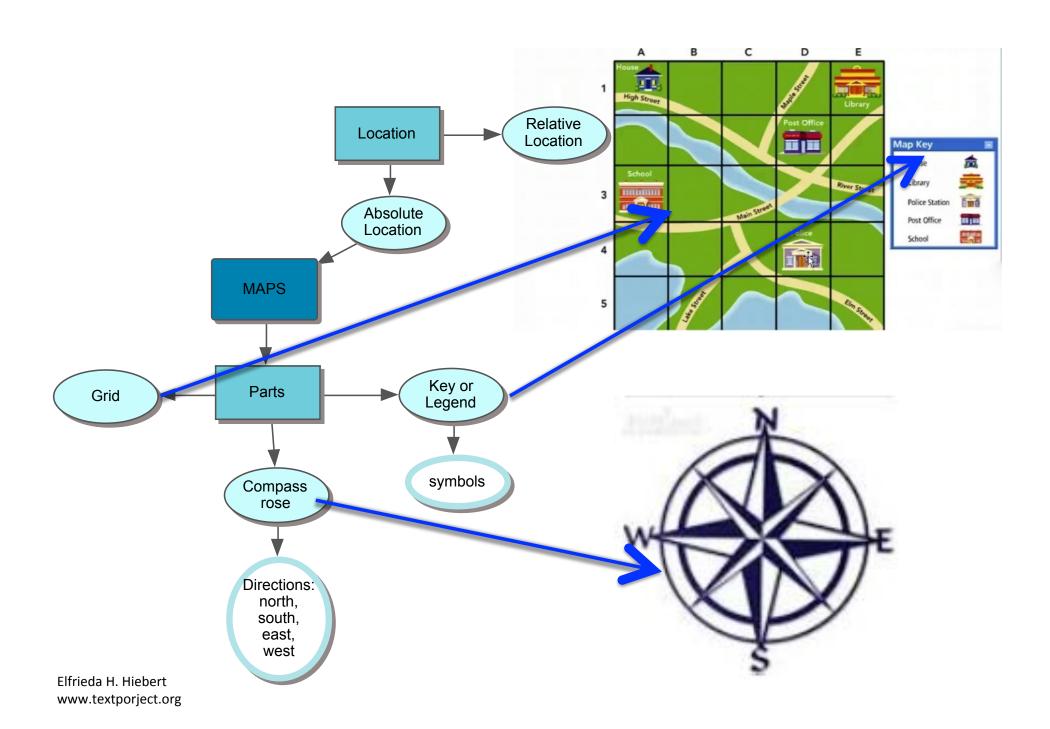


High Point and Decline. The New Kingdom followed more civil wars and invasions. The New Kingdom lasted from about 1550 B.C. to 1070 B.C. New Kingdom pharaohs conquered lands in Asia and Africa. This was the high point of ancient Egyptian power and prosperity.

However, the New Kingdom eventually weakened and broke apart. Egypt faced foreign invasions. One late dynasty gained power only with the help of the Assyrians. Still later, Egypt was conquered by the Persian empire. In 332 B.C., the Greek army of Alexander the Great conquered Egypt.



small community. A postal worker uses absolute You can use a map on the Internet. Type in your help. Directions will pop up telling you how to





Actions for 1: "A small group of Elfrieda H. Hiebertwords does the heavy lifting."

1.1. Teach students about the 3 systems of English

Greek
Technical words:
New words
through compounding
root words:
geopolitical

other Sources: Words from other languages, proper names for places and people, acronyms, & echoic words

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-running

Elfrieda H. Hiebert

Plus Other Language Contributions To English



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1.2. Talk often about90:10 distribution

Why?

New Words in New Texts

 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 www.textporlect.org 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 mostfrequent words (list on textproject.org)
- Mark the words that are potentially challenging with a different colored highlighter. (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/
- --An example of a snippet of text for a board/projection is the following, which comes from a sample assessment for Grade 7 http://www.parcconline.org/samples/english-language-artsliteracy/grade-7-reading-informational-text-(Amelia-Earhart-2)

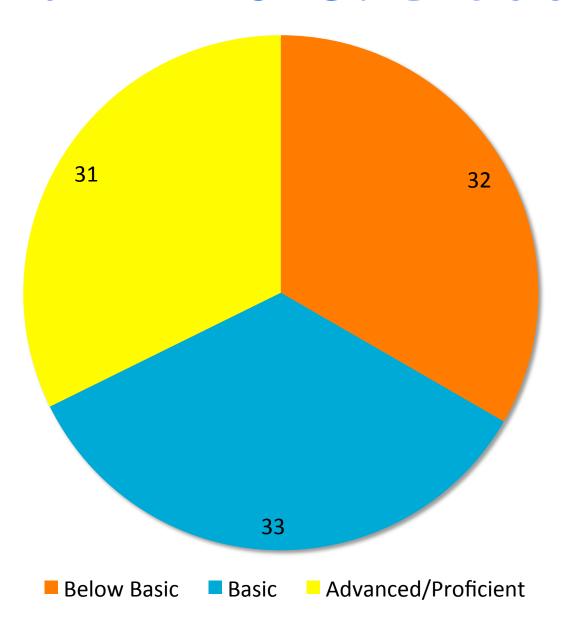
When 10-year old Amelia Mary Earhart saw her first plane at a state fair, she was not impressed. "It was a thing of rusty wire and wood and looked not at all interesting," she said. It wasn't until Earhart attended a stunt flying exhibition, almost a decade later, that she became seriously interested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



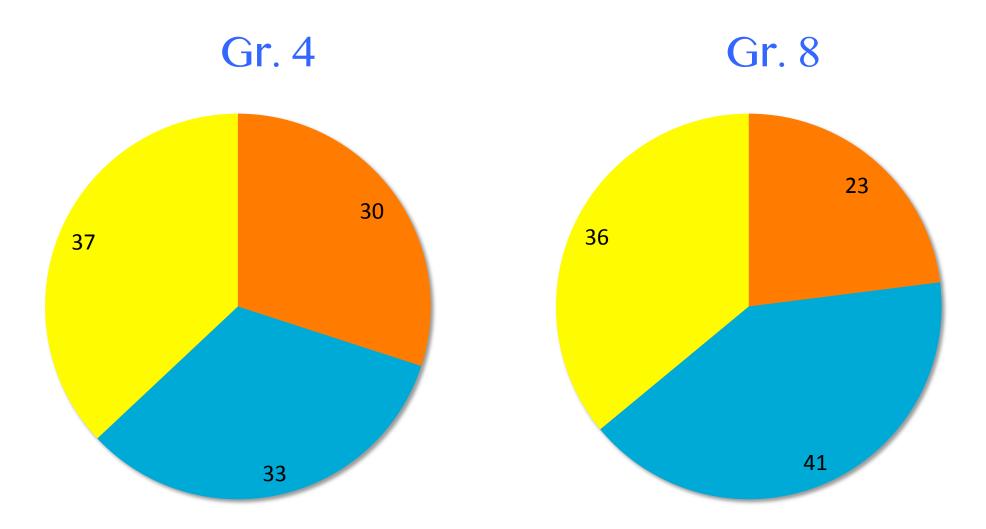
2. ALMOST ALL STUDENTS CAN RECOGNIZE ALMOST ALL WORDS. BUT.... THEY HAVEN'T READ A LOT AND THEIR READING IS SLOW & TEDIOUS. Elfrieda H. Hiebert

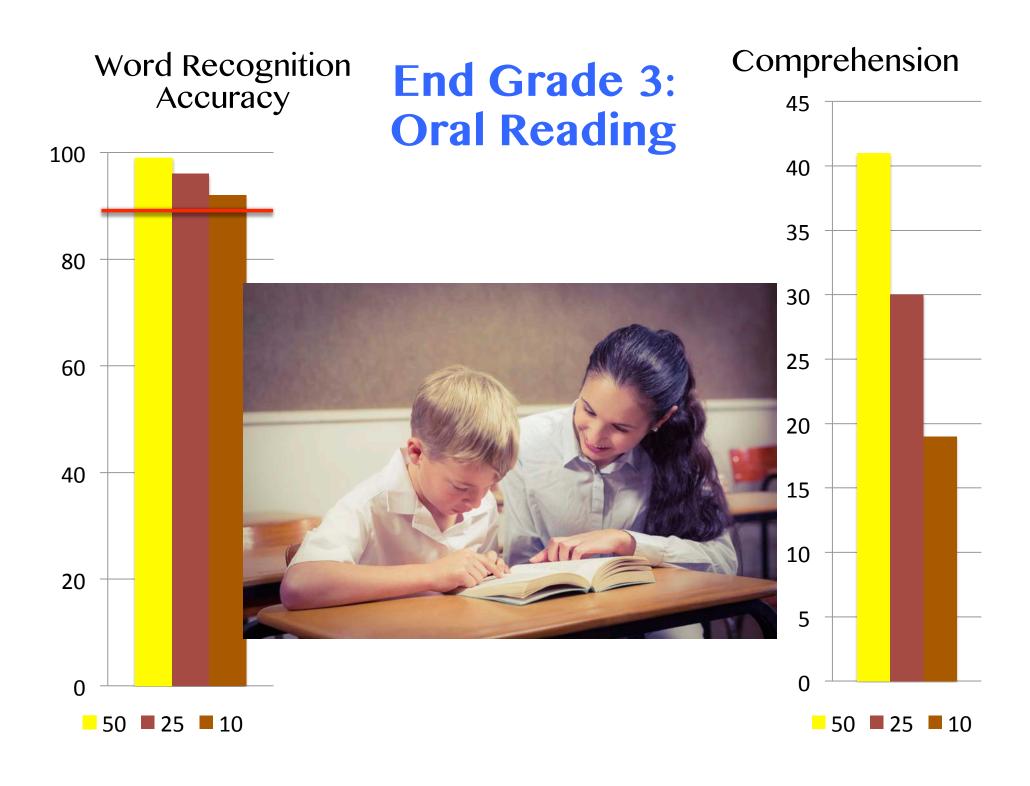
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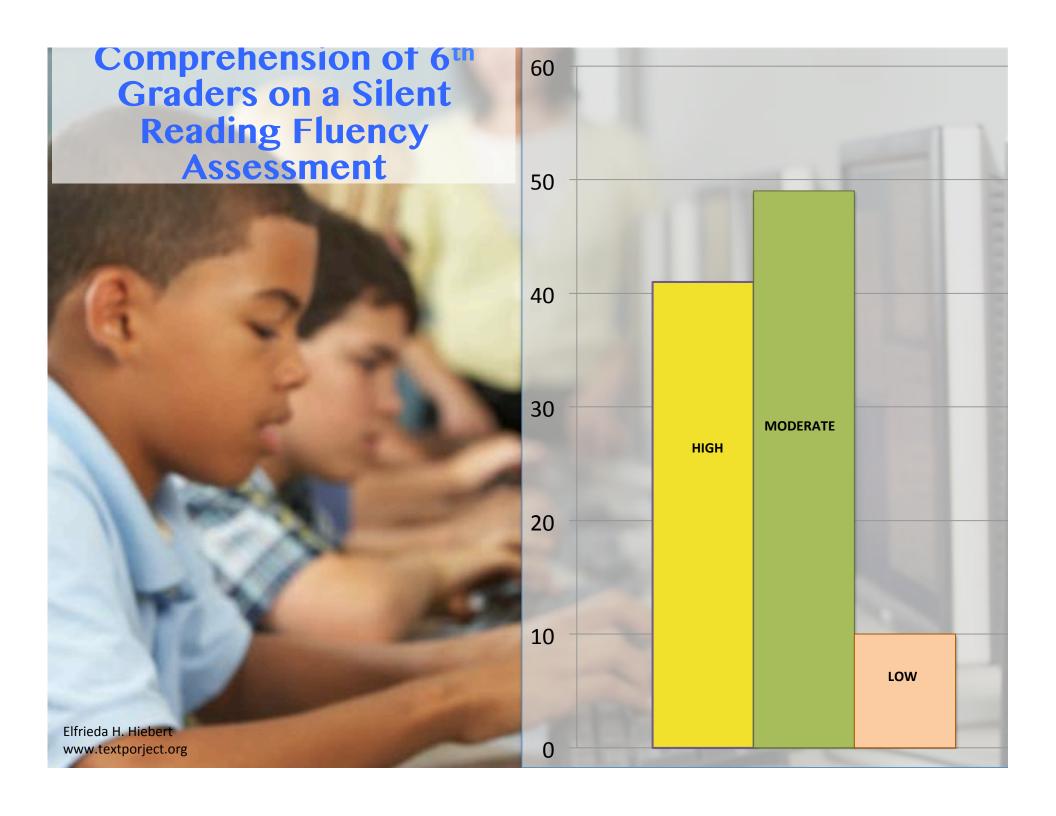
NAEP 2015: Grade 4



Missouri







Low/Moderate-Low **Comprehenders:**

Words Per Minute

188

183

178

173

168

163

158

Online

Paper-and-Pencil

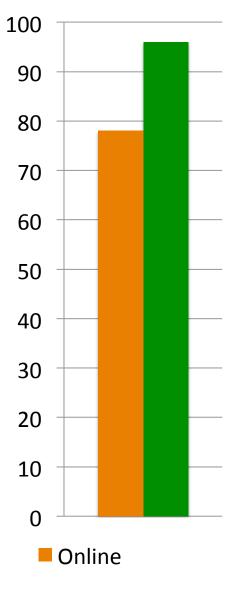
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Silent Reading Tasks



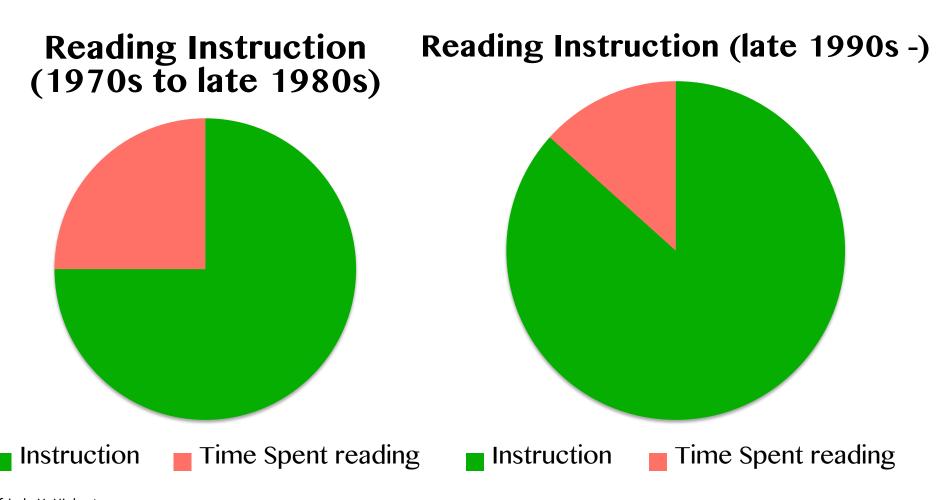
Elfrieda H. Hiebert

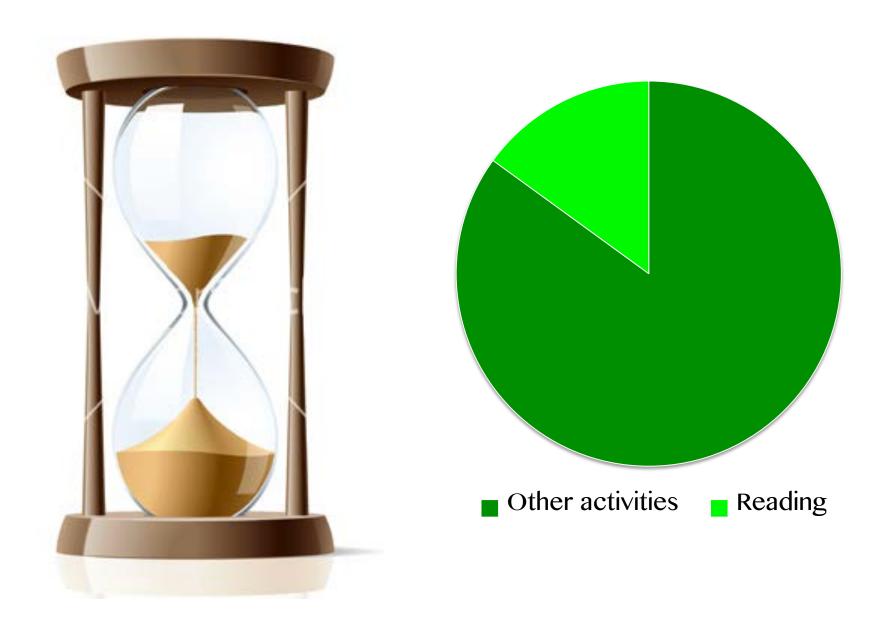
Comprehension



Paper-and-Pencil

Time Spent in Reading Instruction & "Eyes on Text"





Swanson, Wanzek, McCulley, Stillman-Spisask, Vaughn, Simmons, Fogarty, & Hairrell, 2015.

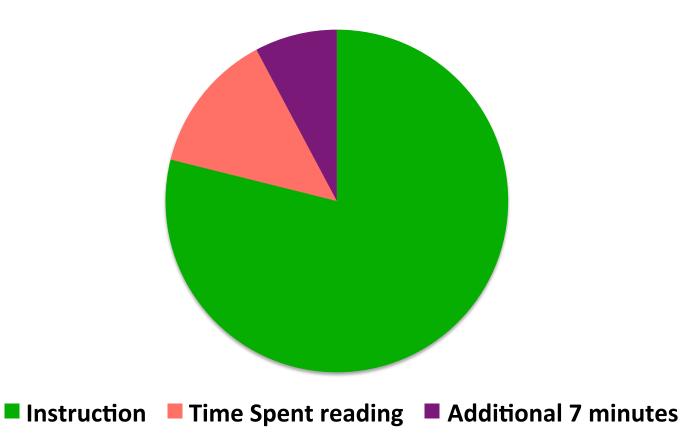


Listening, Following Along to Oral Reading



7 Minutes of Additional Reading

Reading Instruction (w/ 7 additional minutes)





Actions for #2: "Students can read--Elfrieda H. Hiebert
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but don't do it much."

2.1. Have Students set Goals

Goal: Increase amount of reading each trimester of the school year.

Step 1: Get baseline data:

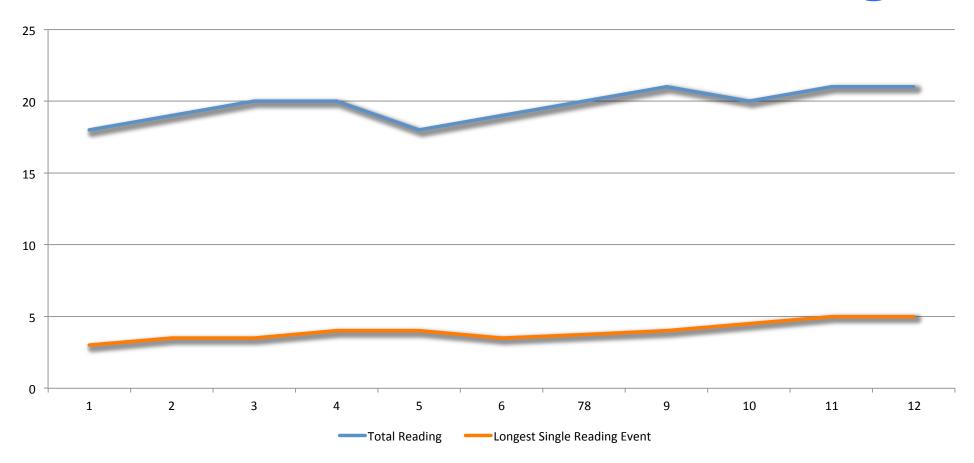
- Establish length of time spent reading
- Establish length of typical reading event

Step 2: Set the goal (students in charge in Grades 3+; students guided in Grades 2-)

Example: Goal for trimester: 22 min. daily, with at least one event for 5 min.

Step 3: Always keep a record of what you've learned from reading

Illustration of Student Goal Setting:



Record of what I learned from reading:

- Fibonacci patterns (I read Blockhead; Patterns of Nature):
- Musicians (John's Secret Dreams; Lives of the Musicians): Some people like John Lennon use music to deal with hard things in their lives. Often, musicians need to make many sacrifices to do what they do.

2.2. Use a chunking strategy

BEFORE READING:

- Set purpose for reading (e.g., question about evidence from text)
- Have students do quick scan for essential, unknown vocabulary

DURING READING:

 Have a set strategy for students who read faster than other students, such as "If you finish your chunk, locate the evidence and rehearse your answer. Writing your answer is a good way to rehearse."

AFTER READING:

• Follow-up with a consistent, immediate response to purpose-setting question.

Examples of Teacher Talk Before Students Read a Chunk of Text

- With third graders reading *Schools of Long Ago*: "You're going to read the first three pages by yourself to find out the kinds of schools of long ago. Remember: keep track of words about which you weren't sure and are important to understanding."
- With middle graders about to read a portion of *Black Ships before Troy*: "Greeks turn to *cunning* to win the war. Read to identify evidence in the text that demonstrates what the Greeks meant by *cunning*.



3. CONTENT & TASKS MATTER IN ENGAGING STUDENTS IN READING.

Elfrieda H. Hiebert www.textporject.org

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.

Deep knowledge of some topics



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Broad Knowledge Of Many Topics







Kites: Dancers in the Wind



You're on a beach, and the wind is blowing off the ocean. Your kite floats and swirls, dancing in the wind.

Kites were invented in China more than 2,000 years ago. They were first used by the Chinese military, but about 1,000 years ago, people started flying kites for fun. Since then, kites have been used for celebrations, in competitions, and

for science. In addition, kite festivals show off the many shapes and colors of kites. These festivals are held in Japan, Pakistan, and many other countries.

The first kites were made of silk. After paper was invented, around the year 100 AD, people used it to make kites. Today, most kites are made of paper or cloth, with sticks to hold them in shape and string to hold onto them. However, there are also kites for skiing or for moving a buggy on a beach.

In ancient times, kites carried lines across rivers. These lines helped build bridges. In the 1880s, kites temperatures.

The word kite is from an Old English word that means "a kind of hawk." Kites were probably given this name because of the way they look when they fly.

were first used to take photographs. In the early 1900s,

with weather prediction. The kites measured winds and

the United States Weather Bureau used kites to help

To fly a kite, find a large open area, such as a park or a beach. Make sure there are no trees or power lines the kite can get caught on. Then hold the kite's string up and run. The kite will lift when it catches the wind. Guide your kite by pulling the string. Make sure you look around when you're running so you don't run into anything.

As you watch the kite, notice how it moves. If the wind is just right, your kite will dance, too, swirling as

the wind takes it high up into the sky.



volume 3

issue 15

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Putting Two Words Together



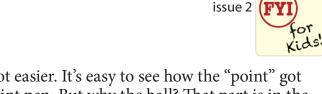
A lot of sports that people play use balls. In basketball, players try to get a ball through a hoop. In baseball, players use a bat to hit a ball. In football, players throw a ball to get it close to the goal.

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



volume 3

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



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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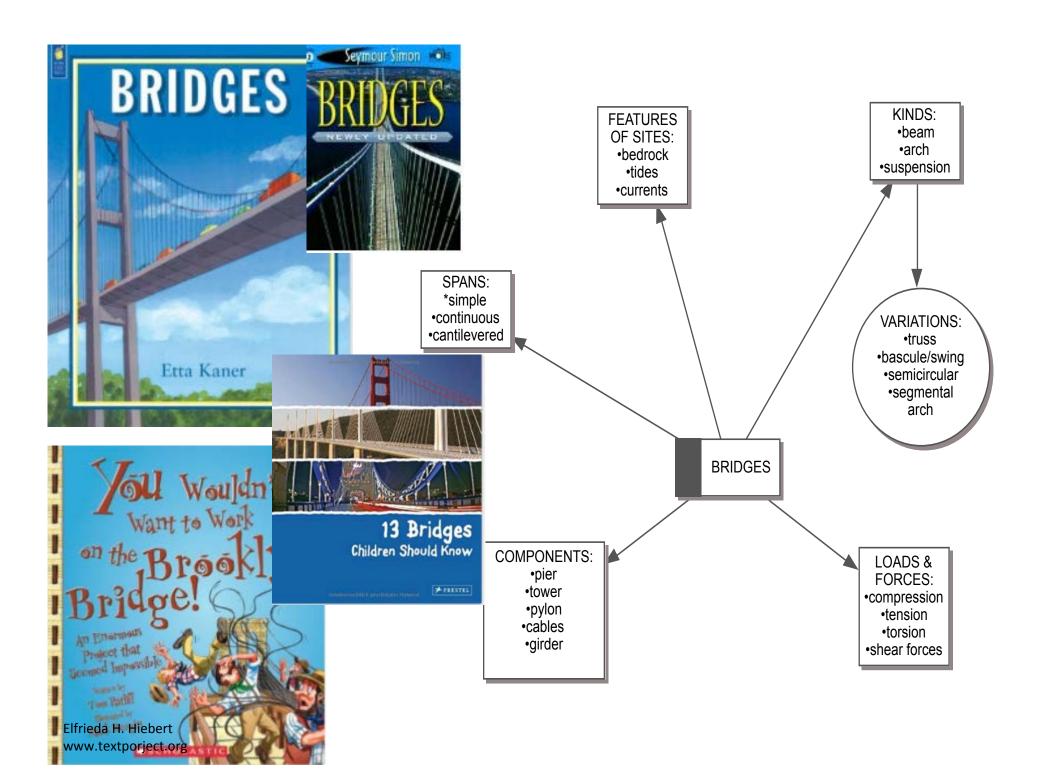
3.2. Support agency: Knowledge logs & choices

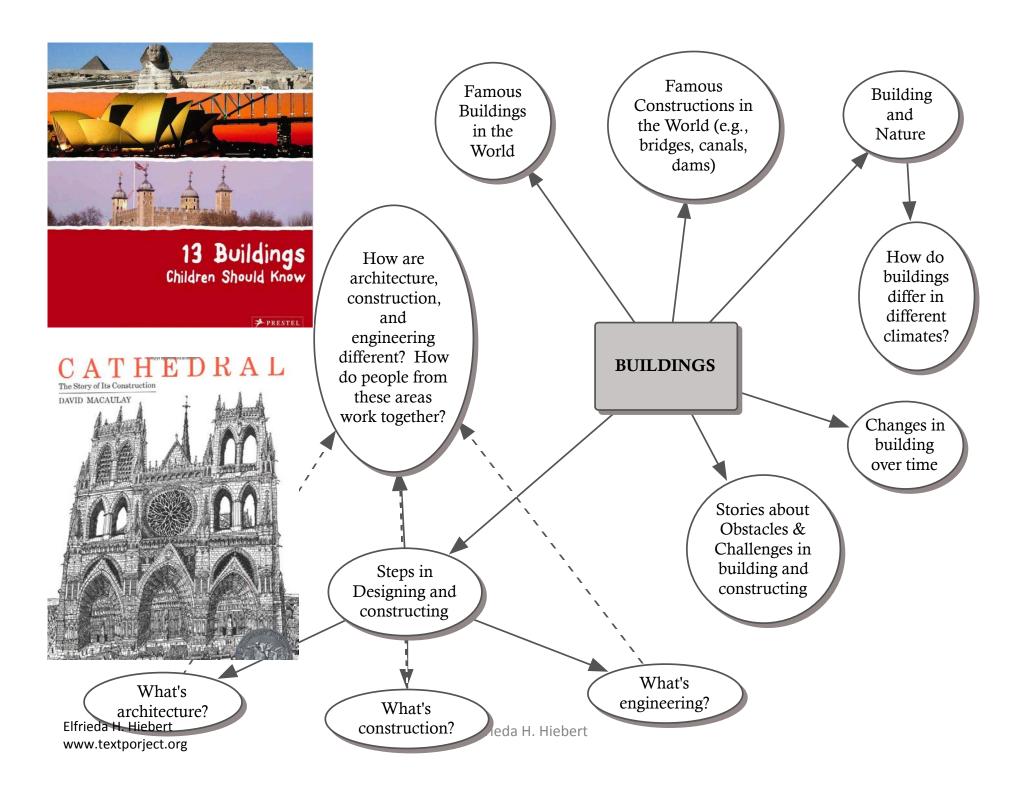


СБАРНАМ СОМНОН FAST PUTNEY CLAPHAH SOUTH BATHAM SOUTHFIELDS TRINITY ROAD 1001HI NO TOOTING BROADWAY WITHRUDON PARK COLUERS WOOD SOUTH WIMBLEDON HINTER WIMBLEDON MORDEN

BAKERLOO UNE CENTRAL LINE INNER CROLE METEOPOLITAN AND LINES UNDER CONSTRUCTION ...

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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 principles¹. 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 frivolity² or emotion. Instead, Greek buildings define order.

Columns are one hallmark³ 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.

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 plague² 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.

ReadWorks The Influence of the Arch

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.

ReadWorks.org THE SOLUTION TO READING COMPREHENSION

Elfrieda H. Hiebert www.textporject.org CONCEPTS OF COMPREHENSION: Explicit Information 3rd GRADE UNIT

Reading Passage

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.



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.



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