



Unlocking the Knowledge in Complex Texts: Vocabulary & Reading Volume

Elfrieda H. Hiebert

TextProject & University of California, Santa Cruz

1. How many pages of texts do your students read daily during Reading/English Language Arts? How many pages do they write?
 - a) Reading, in this case, refers to students responsible for the text—i.e., the text is not read to them or with them.
2. How many pages of texts do your students read daily during content areas (mathematics, science, social studies)? How many pages do they write?
3. Describe the three primary ways in which you teach your students vocabulary.

Alice

Abby

Alex



After one
day of
school
(one
penny=
500
words of
reading



After one
week of
school



After one
month of
school



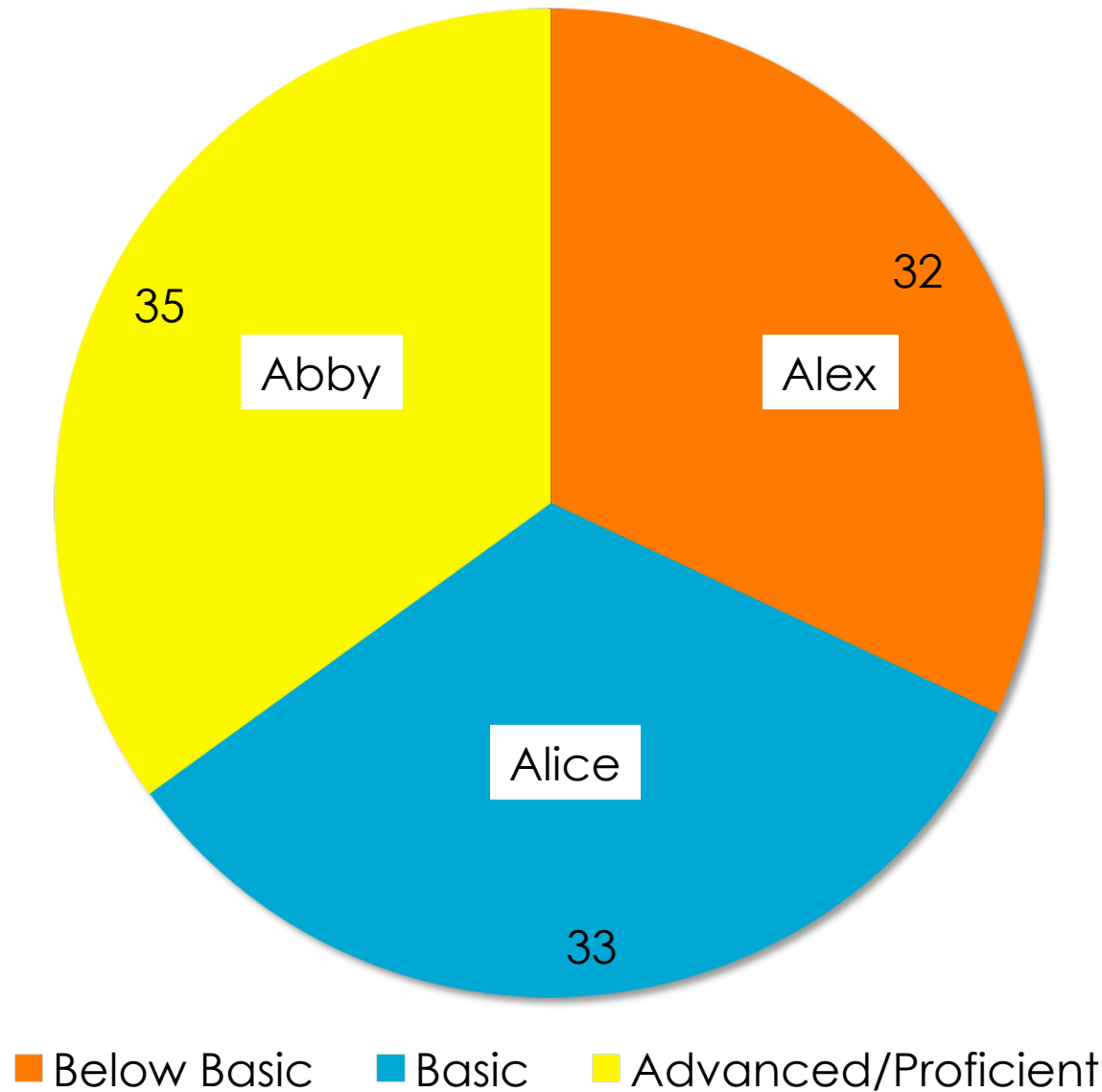
After one
year of
school



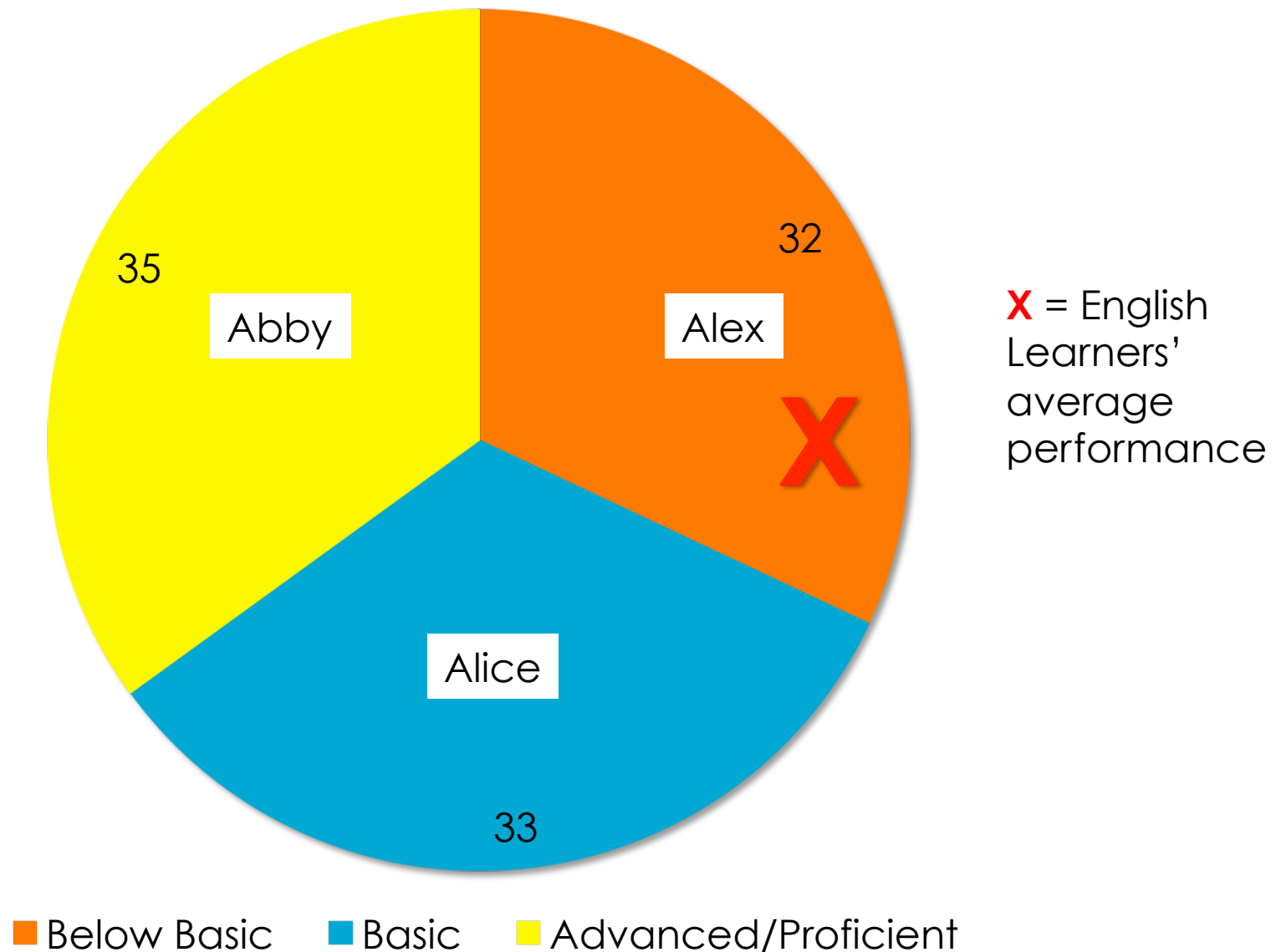
Quarters
= 500
new
words
gained
through
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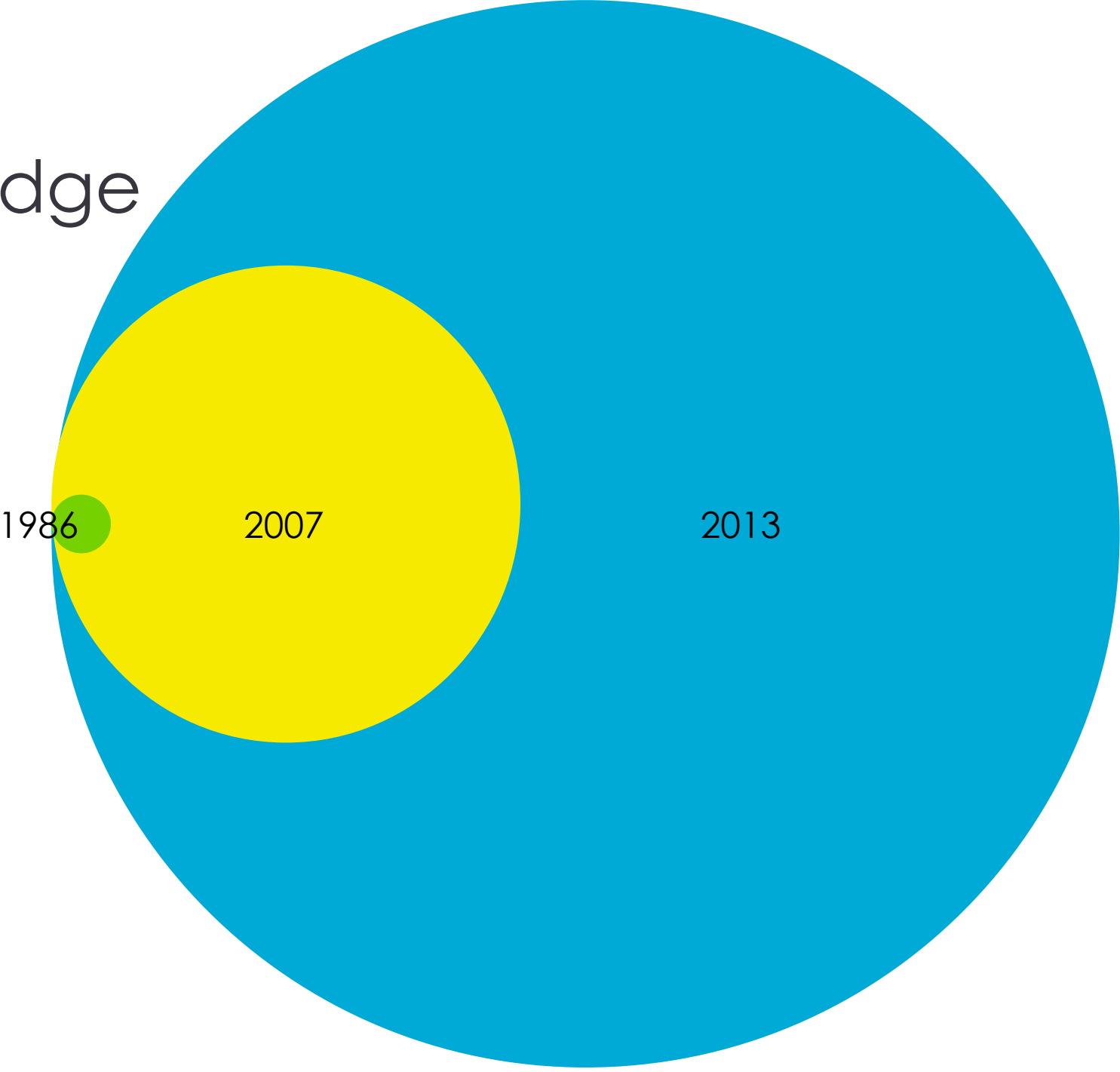
NAEP 2013 Grade 4 (Reading)



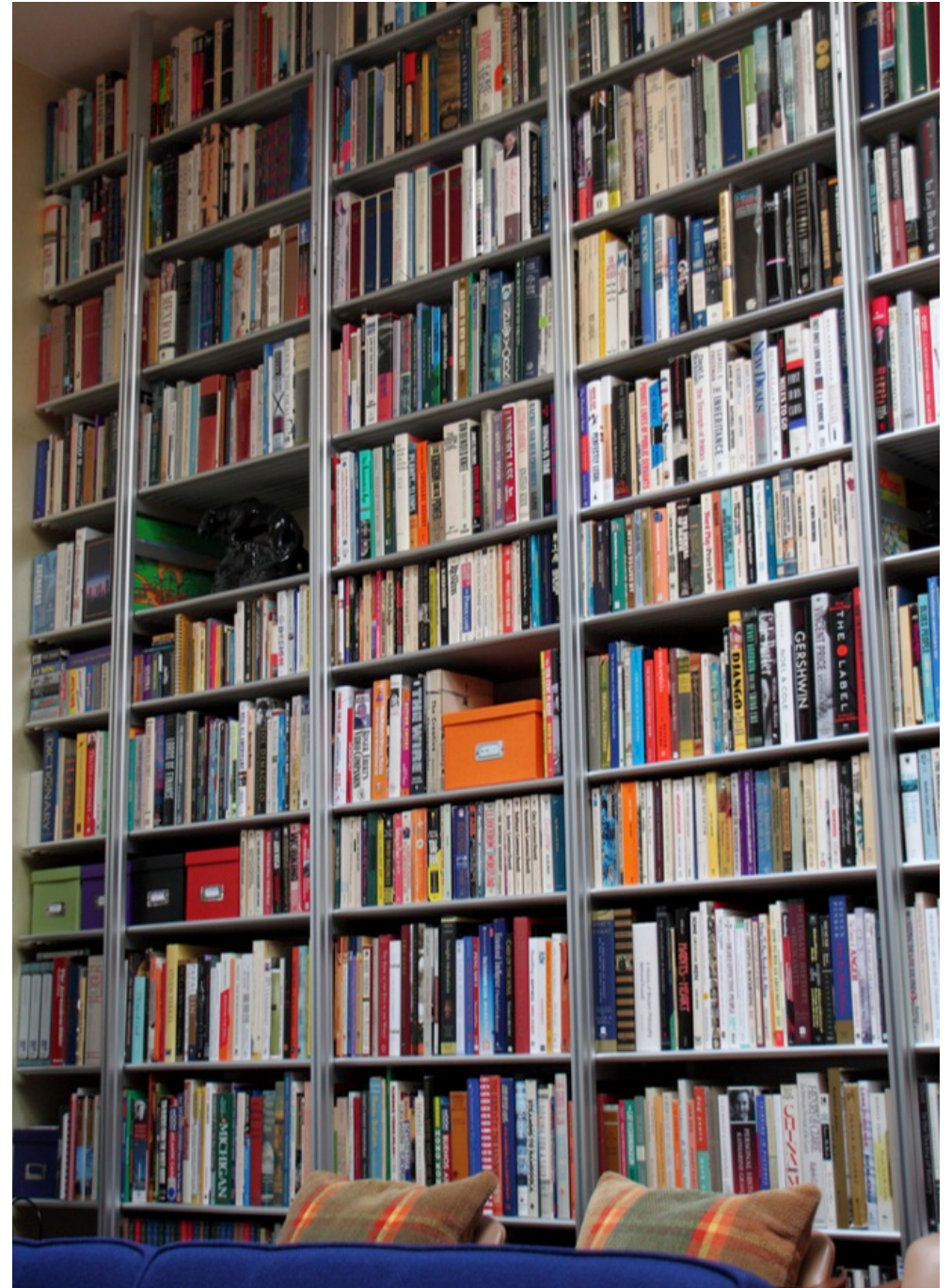
NAEP 2013 Grade 4 (Reading)



World Knowledge



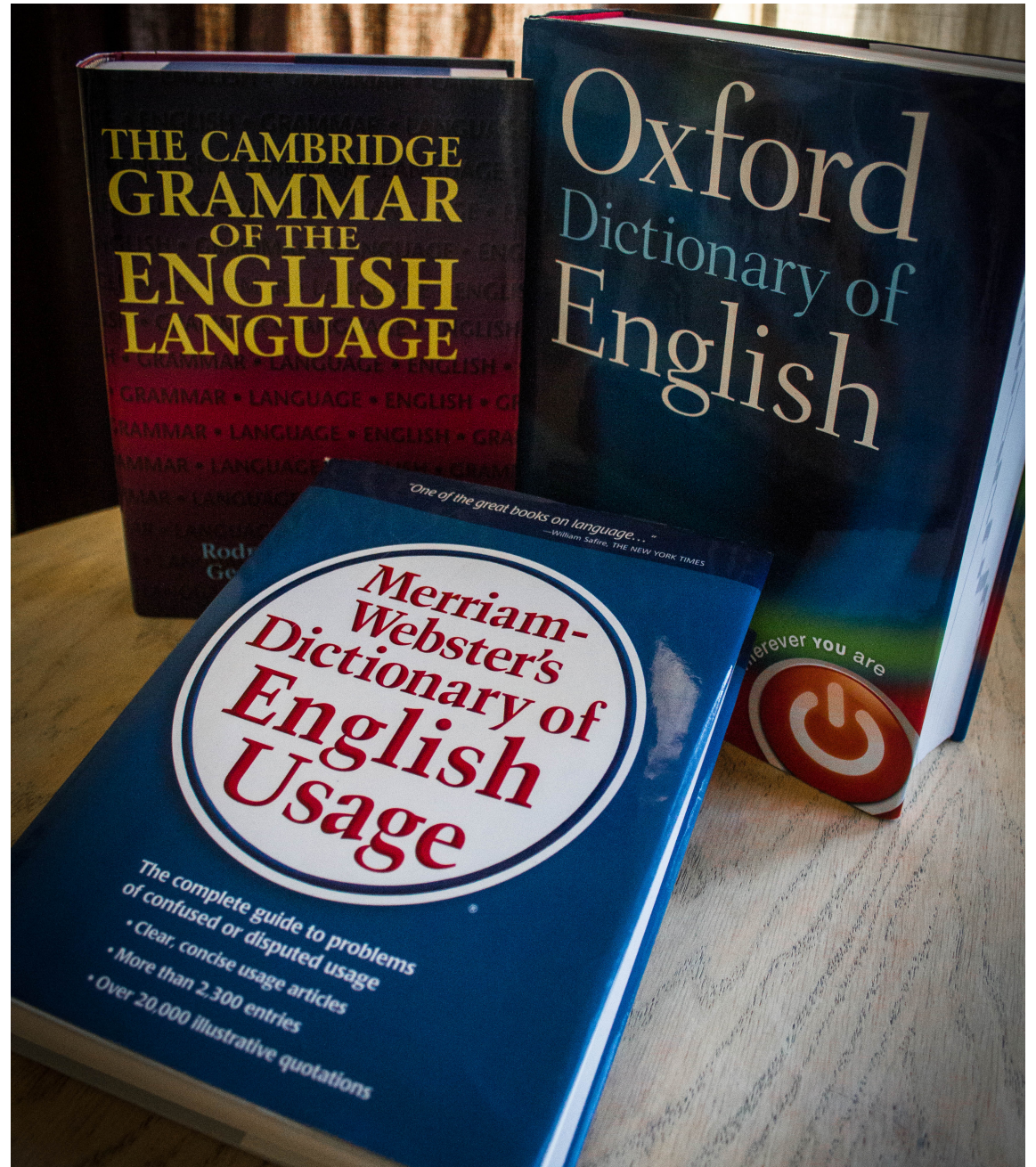
Knowledge is
“stored” in
texts,



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



English has a vast repository of words, making it impossible to teach all words.



"Zlatah 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

(from Calfee & Drum, 1981)

The Pyramid of English Words

Greek/ Latin

Specialized words in sciences: New Words by compounding
“equal” word parts: geopolitical

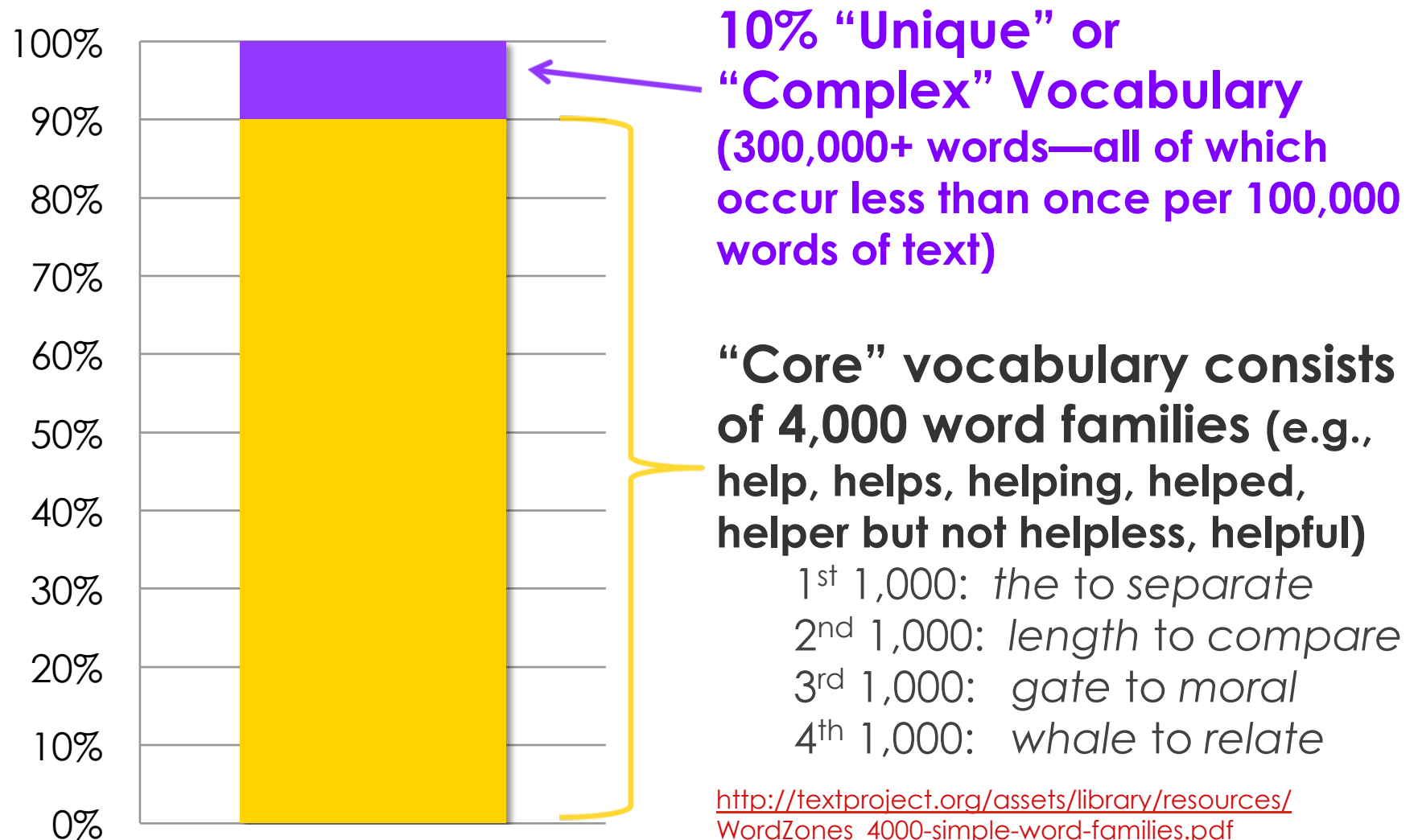
Romance

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

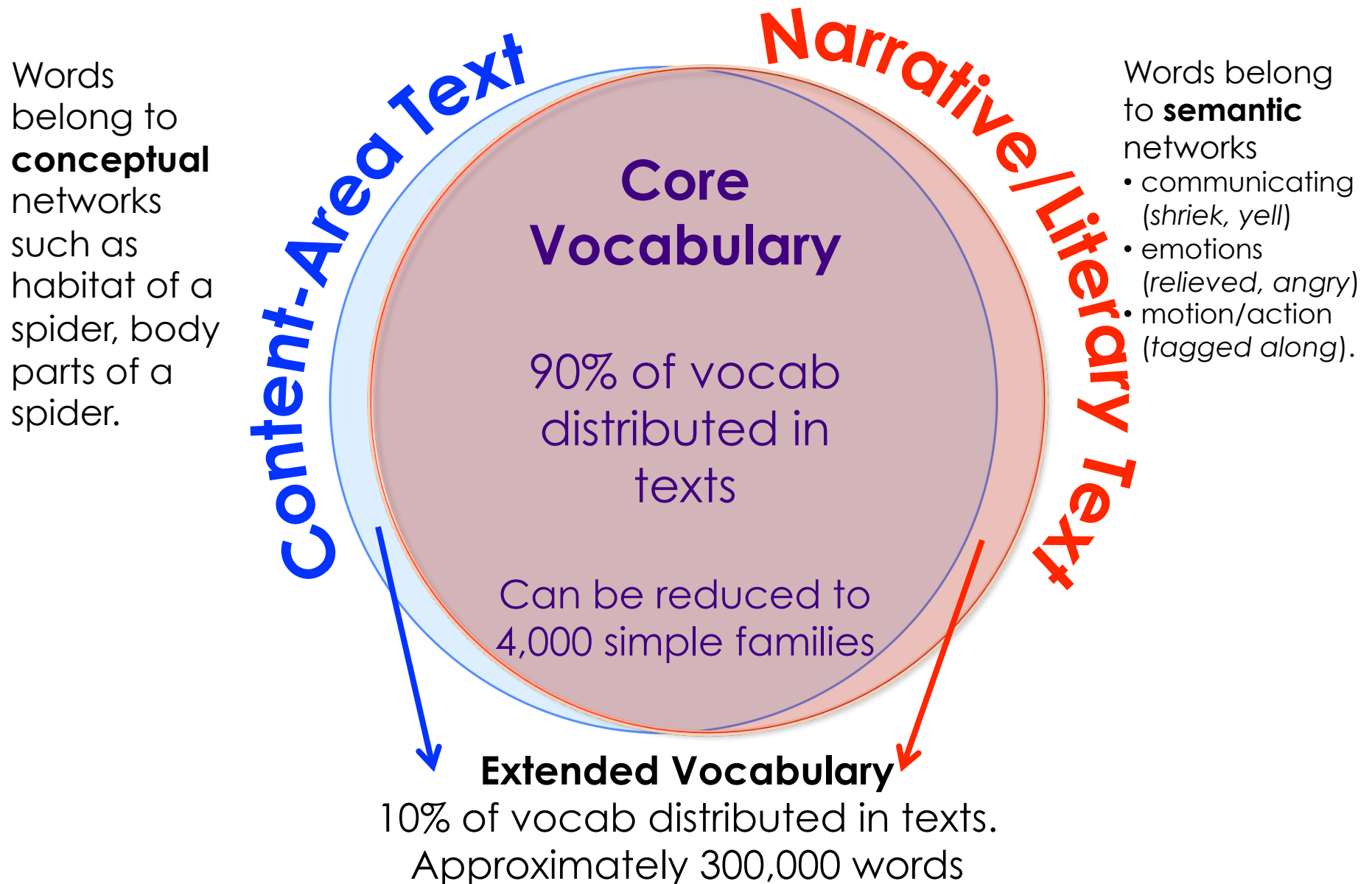
Proportion of Vocabulary



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

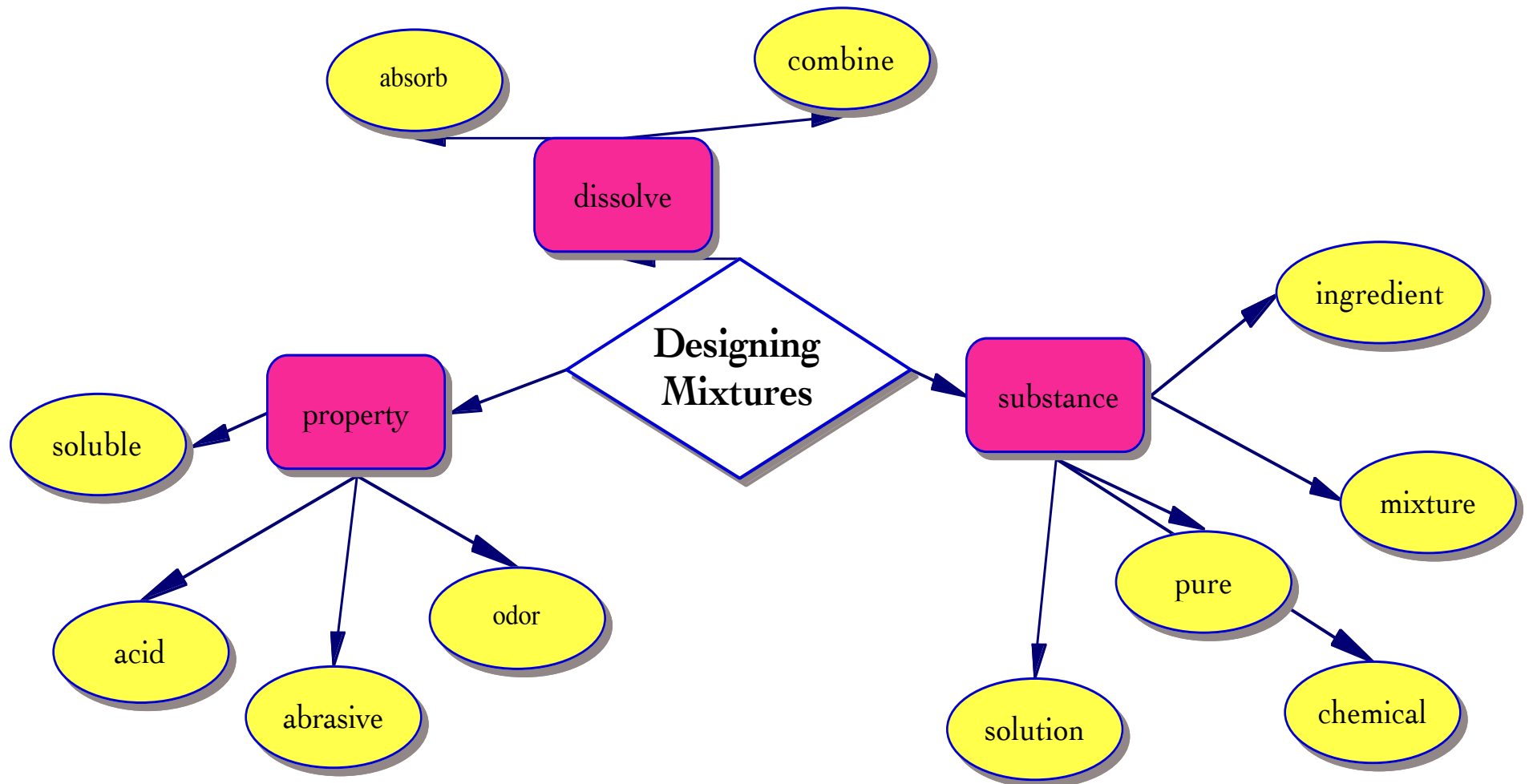
90-10 Vocabulary Distribution in Texts



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.

Teaching Content-Area Vocabulary: An Illustration



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.

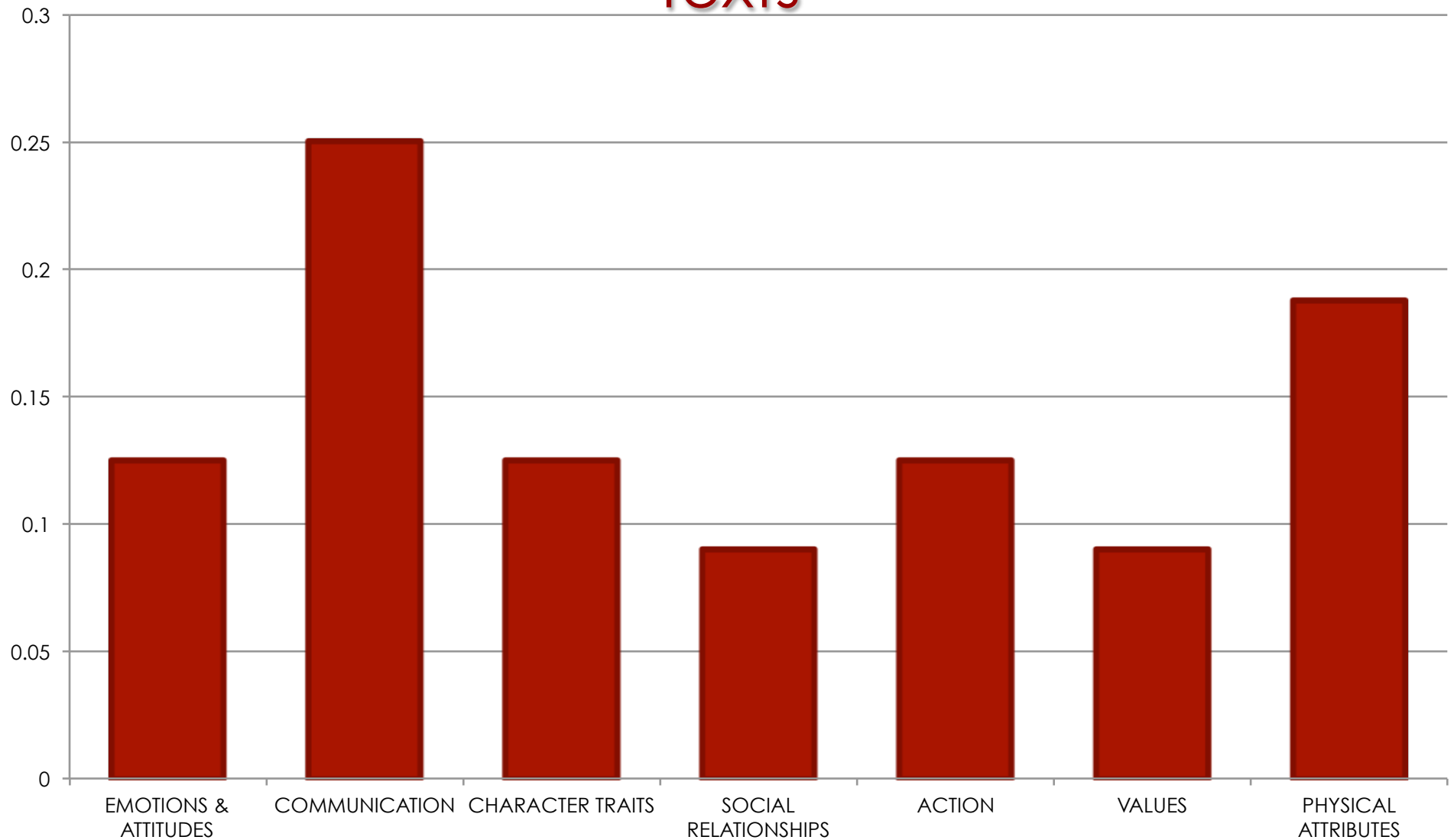
Teaching Narrative/Literary Words

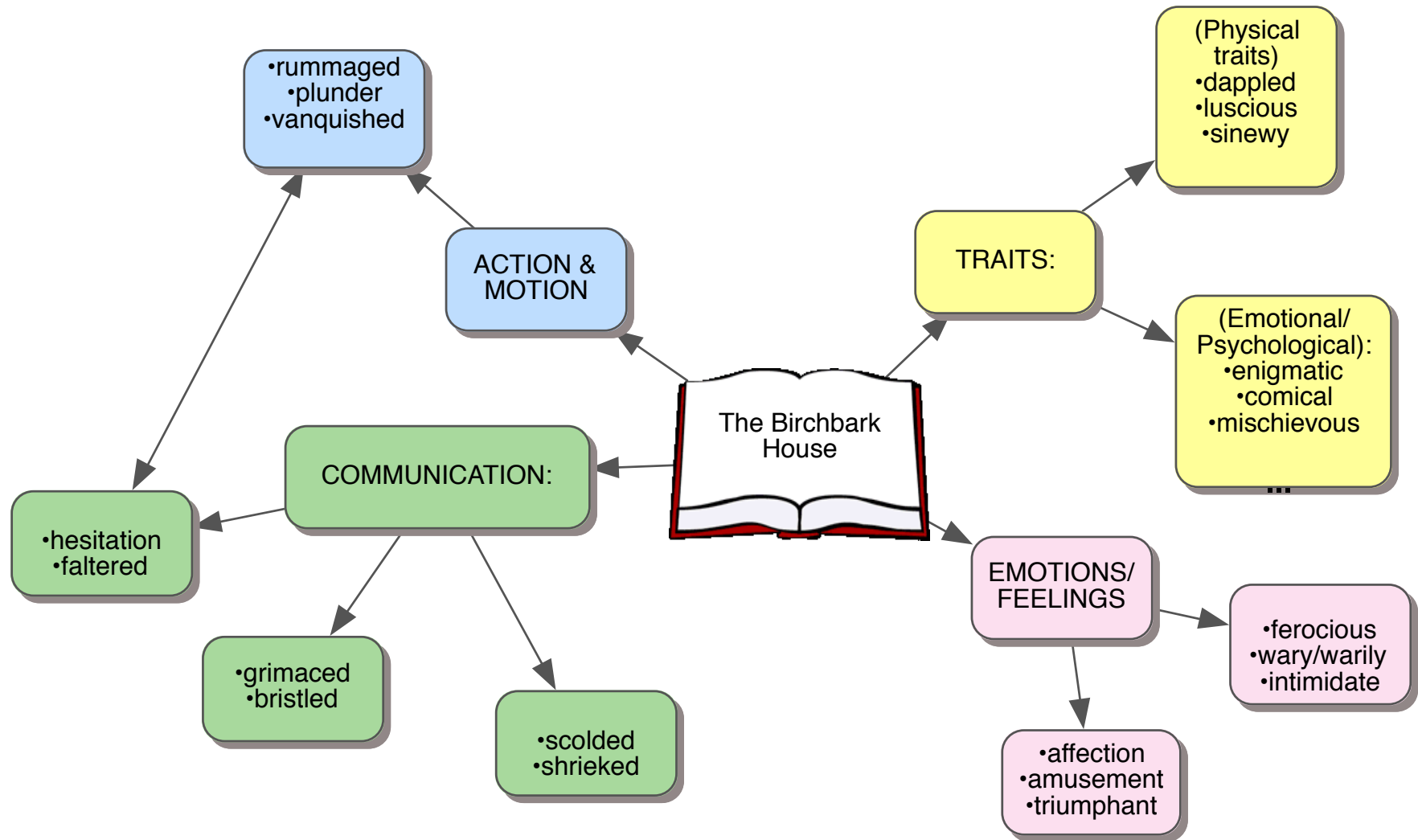
Story Word	Examples of Words in Cluster (Beyond Story)
amazed	enchanted enthralled spellbound captivated transfixed
fascinated	
marveled	
baffled	confused mystified perplexed confounded
bewildered	
stumped	

Rare words in Chapters 1-2 (*The Birchbark House*)

	Unique Words/ Total Words	Rare Words
Birchbark	1,557/ 5,718	345 (about 6 unique per 100 words)

Categories of Unique Words in Narrative Texts





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

32 lessons
available for
free
download



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.



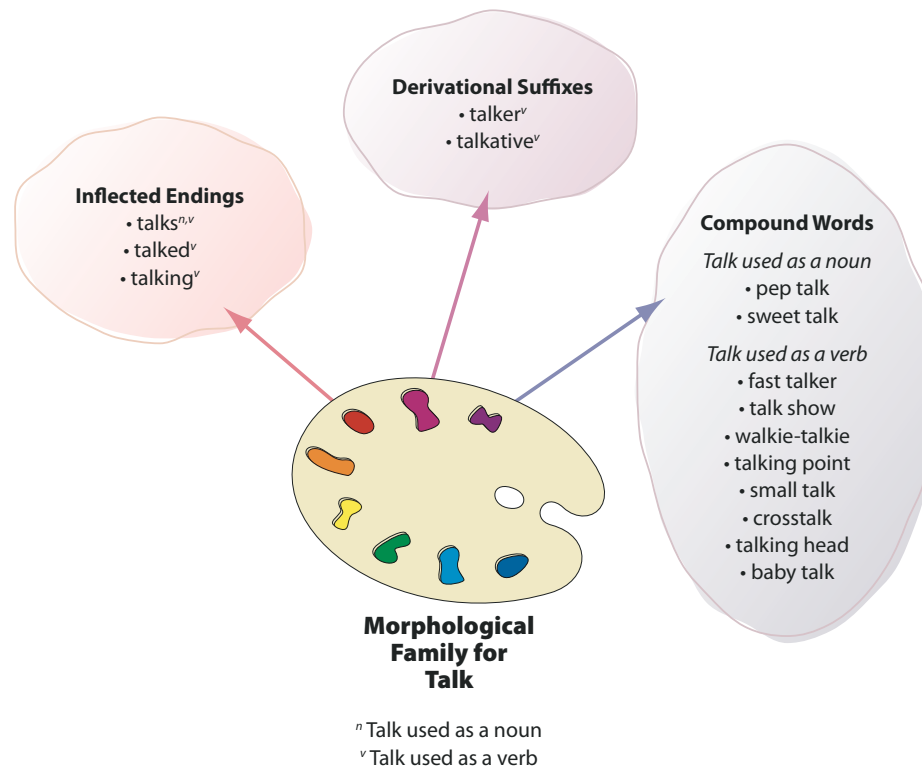
Words are part of families.

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



E4-02

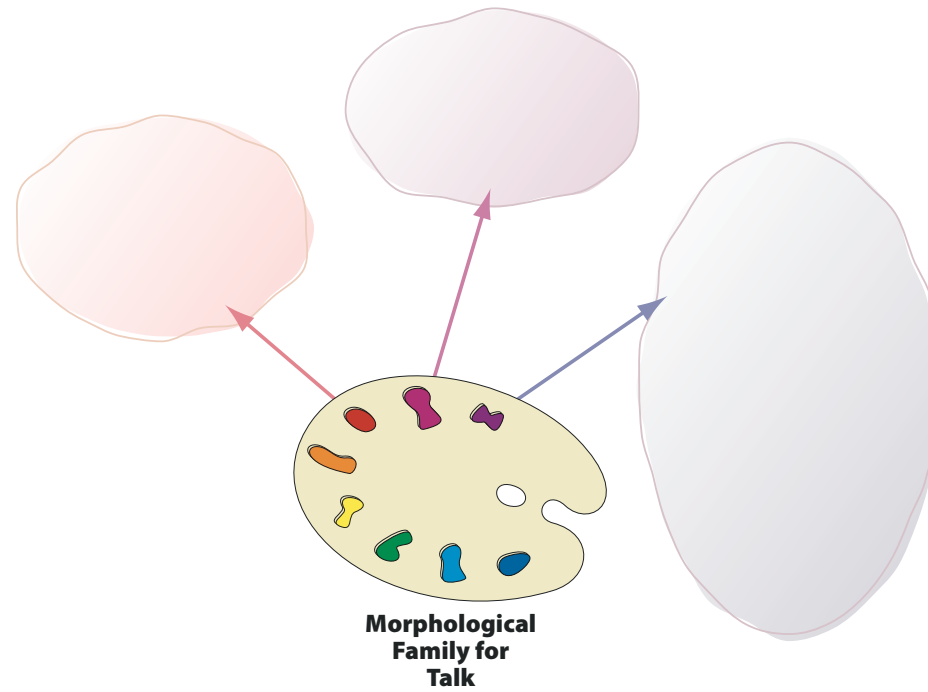
Talk





E4-02

Talk



Concrete
words are
learned and
retained
more readily
than
abstract
words.

Mineral

(min·er·al)



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Children, like adults, learn concrete words more readily than abstract words. A way to close the vocabulary gap for students (especially English Learners and students of poverty) is to support them in connecting written words and the concrete objects these words represent. TextProject Word Pictures provides a vault of carefully chosen pictures to assist educators in making such connections.

Here are the TextProject Word Pictures

titles, organized by usage.



Core Vocabulary

The core vocabulary consists of the 4,000 simple word families which account for 90% of the words in written English. Function words (e.g., the, of) and general academic words (e.g., compare, relate) are prominent in the core vocabulary but there are also many concept words which can be pictured.

Topics

[Core Vocabulary](#)



Literature Words

Many of important concepts in literature can be easily explained using pictures. This set of TextProject Word Pictures provides pictures of concepts that are critical to particular literary texts.



QuickReads

Originally designed to supplement QuickReads print edition, TextProject: Word Pictures helps English Language Learners connect key words to concepts they may already know.



Content Area

Vocabulary in content area can represent key ideas. For example, vocabulary from a study of plant may include *photosynthesis*, *roots*, and *leaves*. Without the understanding of these key vocabulary, a student's understanding of a topic may be deficient. This set of TextProject Word Pictures provides pictures of imagable concepts that are critical to particular content areas.

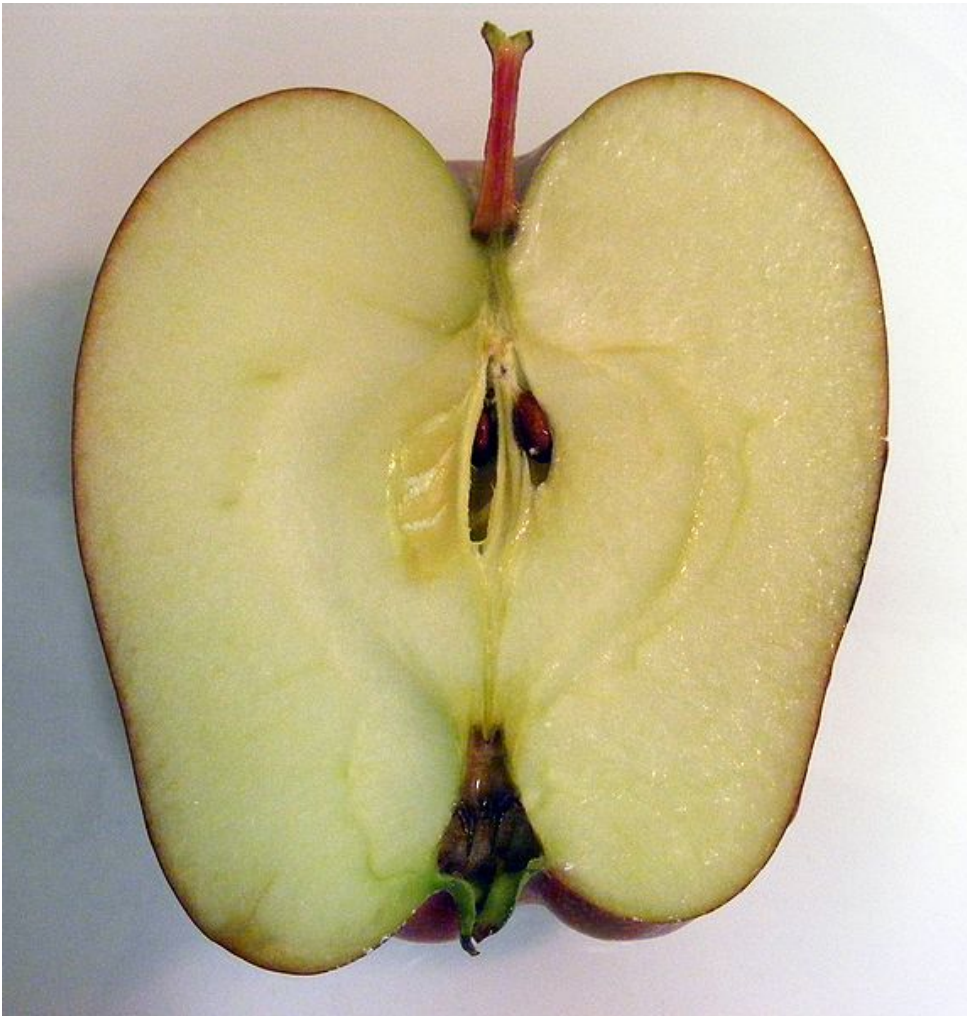
A coconut



A plant



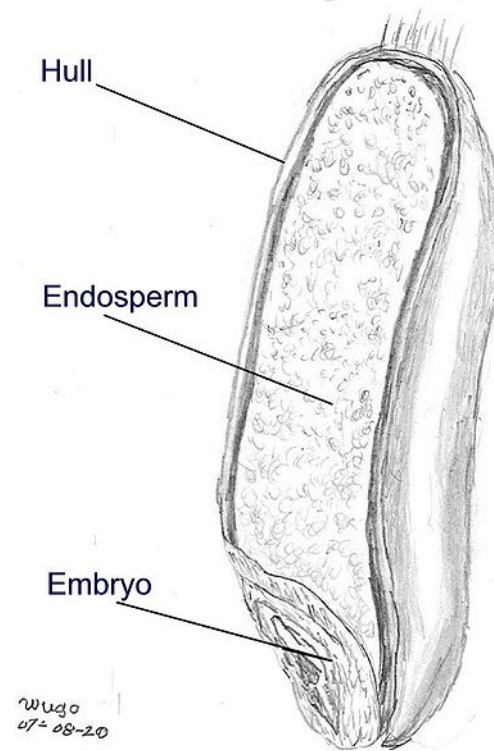
An apple seed and an apple



A pumpkin seed and a pumpkin



Parts of a seed—inside a seed



Germination



Animals eating hay

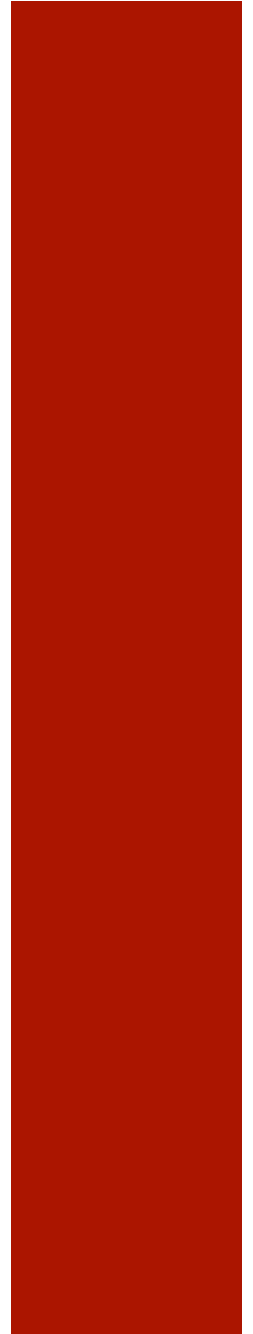


People eating greens



Reading Volume

Getting good at anything—including reading—comes from spending time doing the thing (including reading).

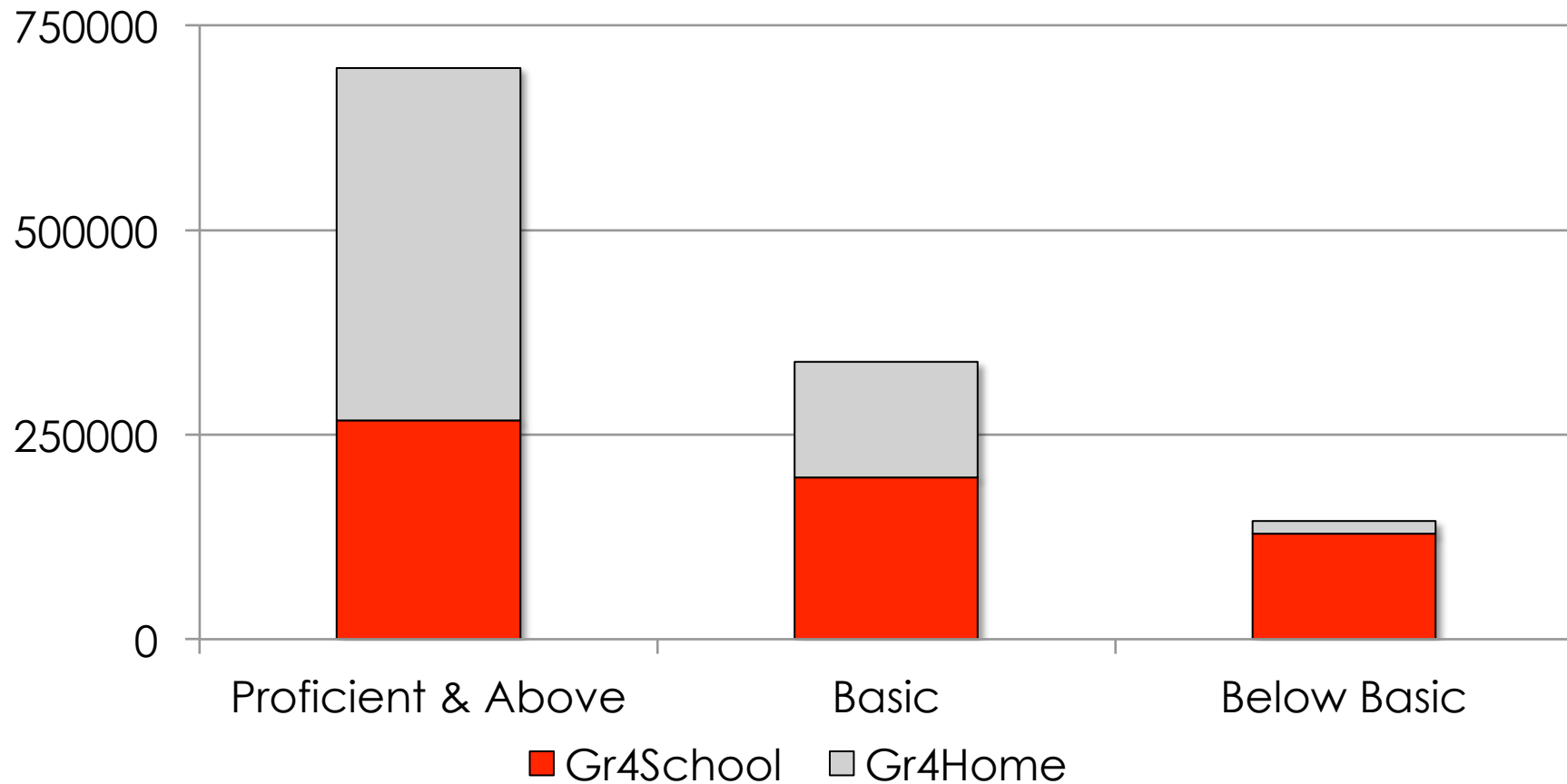








Reading in School & at Home



Home: Anderson, R.C., P.T. Wilson, and L.G. Fielding. 1988. Growth in reading and how children spend their time outside of school. *Reading Research Quarterly* 23(3):285-303.

School: Guthrie, J.T., Schafer, W.D., Huang, C.W. (2001), Benefits of opportunity to read and balanced instruction on the NAEP. *Journal of Educational Research*, 84, 145-162.

Increasing Reading Volume

1. Make Students Responsible for Texts— Sharing the Challenge

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. Let Students Become Experts

....Integrated Homework

	Genre/ Theme	Shared Text	
Third Grade	American Tall Tales	American Tall Tales (Mary Pope Osbourne)	• Casey Jones: The story of a brave engineer (G. Rounds) • The Morning the Sun Refused to Rise: An original Paul Bunyan Tale (G. Rounds) • Baloney (J. Scieszka) • I was Born about 10,000 Years Ago: A tall tale (S. Kellogg) • John Henry: An American legend (E.J. Keats) • Sally Ann Thunder Ann Whirlwind Crockett (S. Kellogg) • Dona Flor: A tall tale about a giant woman with a great big heart (P. Mora) • Thunder Rose (J. Nolan)
Second Grade	Discovering Nature	The Raft (Jim LaMarche)	• Fireflies (J. Brinckloe) • Owl Moon (J. Yolen) • Come on, Rain! (K. Hesse) • When I Was Young In The Mountains (C. Rylant) • Night in the Country (C. Rylant) • Crab Moon (R. Horowitz) • The Seashore Book (C. Zolotow) • Whose Tracks are these? (J. Nail) • Over in the Forest (M. Berkes) • A Drop of Water (W. Wick) • Water Dance (T. Locker)

3. Have Students Set Goals

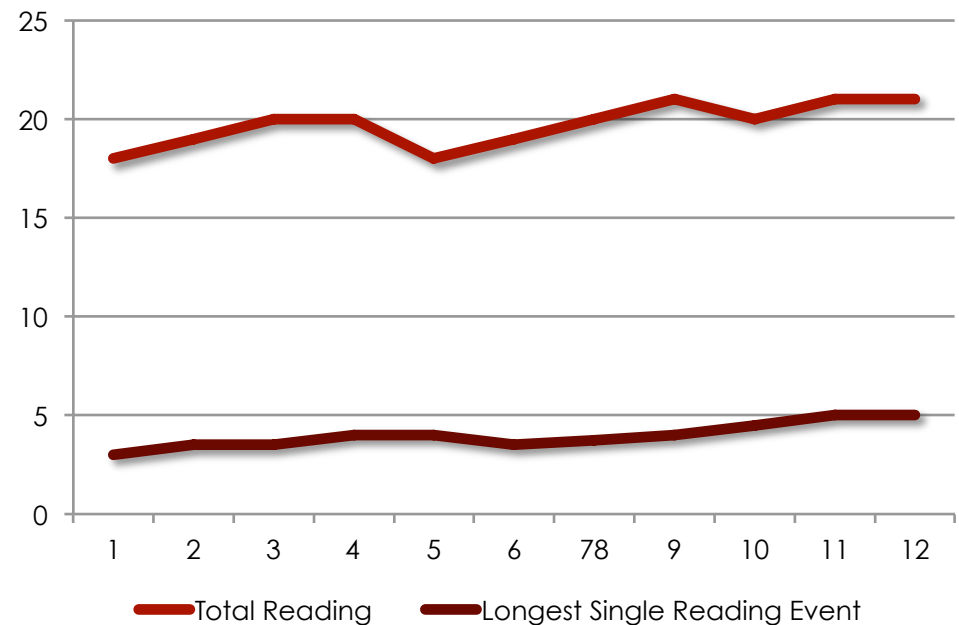
Goal: Increase the amount of reading 10% per trimester

Step 1: Get baseline data
—Time spent reading & longest single silent reading event

Step 2: Students set goal

- Trimester goal: 22 minutes/day, with one+ 5-minute event

Step 3: Always keep record of knowledge gained

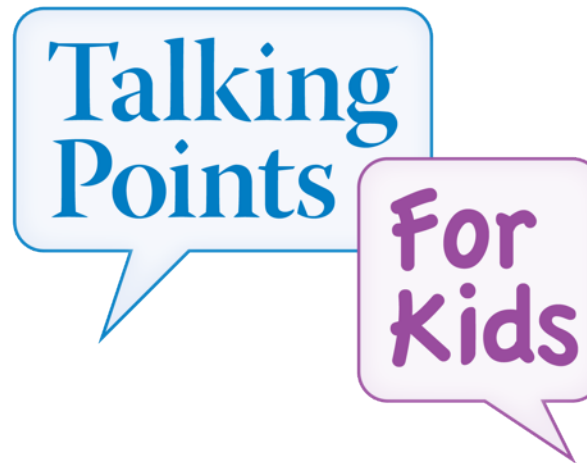


Record of what I learned from reading:

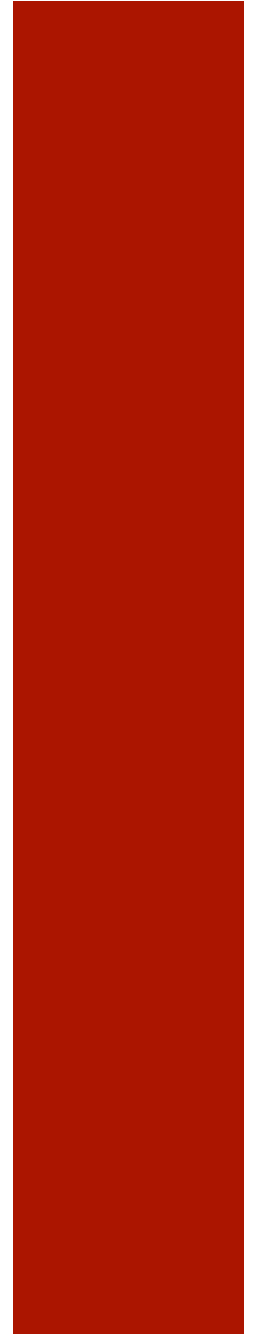
- Fibonacci patterns (I read *Blockhead*; *Patterns of Nature*)
- Musicians (*John's Secret Dreams*; *Lives of the Musicians*)

Vocabulary & Volume in Pursuit of Knowledge

- Example: Magazine Reading:
 - FYI for Kids, & TP4K
(free downloads at www.textproject.org)



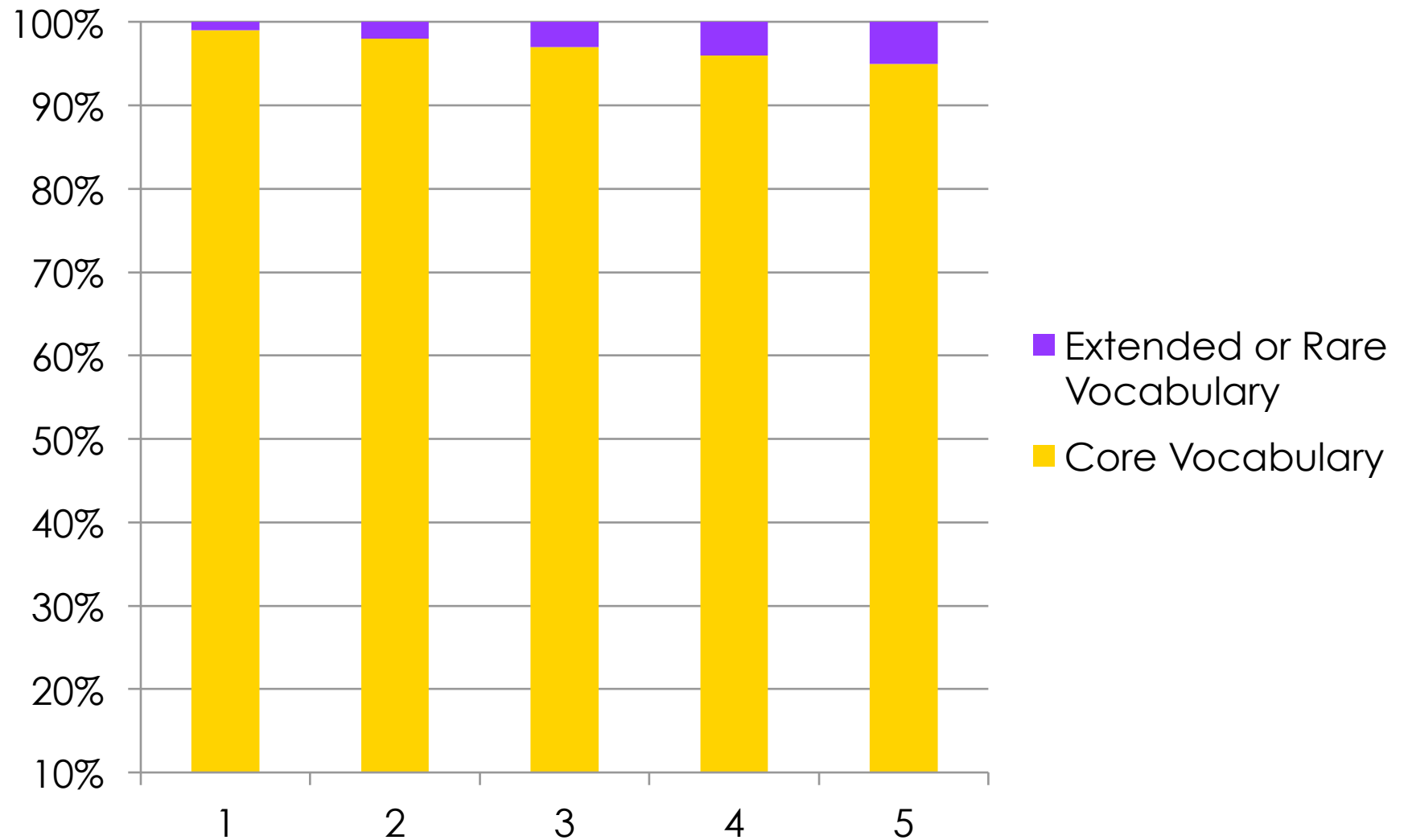
READWORKS.ORG



Content Domain	Themes	Examples of a Magazine Article in FYI for Kids
Art and Music	Art; Music	Nesting Dolls
Human Interest	Fashion & Crafts; Young Heroes; Sports & Games; Young Inventors	A Birthday Wish: Rachel Beckwith
Language Studies	Text Study; Word Study	Putting Two Words Together
Science	Earth Science; Life Science; Physical Science	Counting Animals
Social Studies	Civics; Culture; History; Geography & Economics	Totem Poles



Five Complexity Levels



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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Physical Exercise



Written by Elfrieda H. Hiebert

What *Some People* Say About: Physical Education

Pacifica Examiner: Letter to the Editor

Dear Editor,

I am in the 4th grade at North Shore Elementary. Every week on Friday we have a PE class. I used to hate PE classes. We used to just play games like football and basketball. I am not very good at them. Now we do exercises and play other sports. We run relays and play tennis. Our PE teacher, Mr. Kroger, says these skills will last us a lifetime.

Now our principal, Ms. Blair, says that our school is going to get rid of PE class because our test scores are so low. She also said that we are getting enough exercise after school and at recess, and that we don't need PE class. I am not very good at soccer and basketball, and so I am not signed up for after-school sports. PE class is one of the only times that I

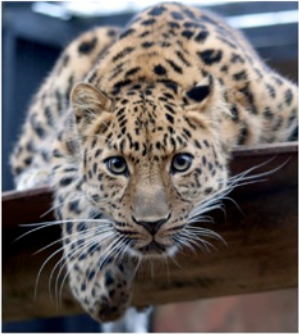
Talking
Points

For
Kids

get to run around and have fun. I think it is important to have a time during school where we learn about exercise, just like we learn about math and science. Please don't get rid of our PE class!

Sincerely,
Gregory Diller





Written by
Alice Lee Folkins &
Andrew Funk

The Story of Knut

In 2006, twin polar cubs were born at a zoo in Germany. For unknown reasons, the cubs' mother couldn't take care of them. The zookeepers stepped in and took care of the cubs. But one cub died. The other cub they named him Knut. Zookeepers fed, bathed, played, and even slept next to him.

Visitors to the zoo fell in love with Knut. Because of Knut, people became interested in polar bears. They learned that ice and snow are slowly melting in the northern homes of the polar bears. This change makes it difficult for polar bears to survive. The interest in Knut led people to ask for laws to save wild polar bears.

When he was only four years old, Knut suddenly died. His unexpected death stunned people around the world. Doctors found that Knut had been sick for weeks. Many questions were asked about whether Knut would have lived longer in the wild, even if his mother had not cared for him. These are hard questions without easy answers. But many believe that Knut's story has helped many people care about wild polar bears and the places they live.

Photo: Polar Bear Knut at age 2. Zoo of Berlin, Germany. December, 2008. ©2008 by Aconcagua. Some rights reserved: GNU Free Documentation License and Creative Commons Attribution-Share Alike 3.0 Unported

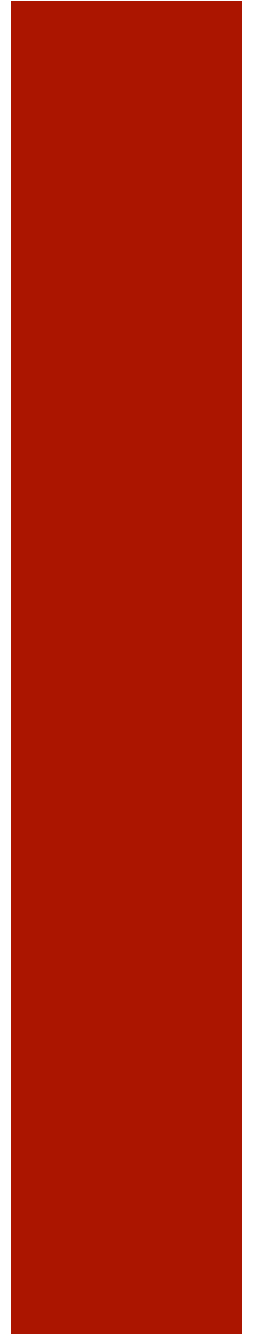
Talking
Points

For
Kids

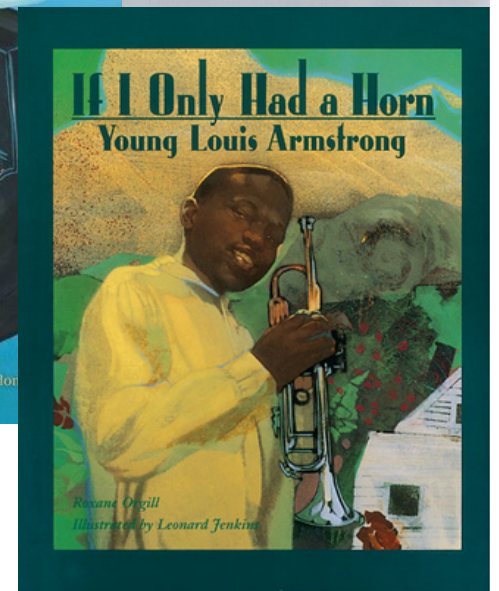
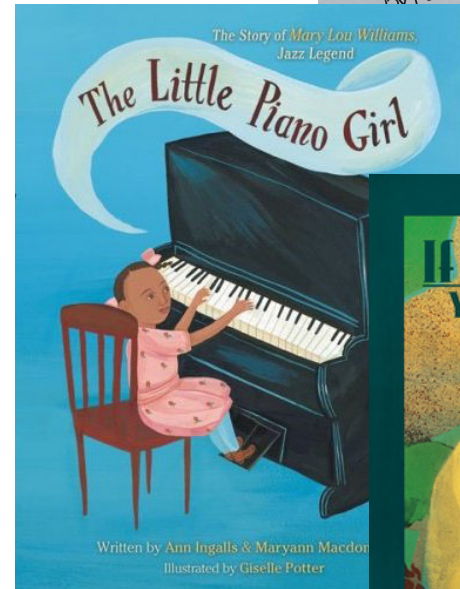
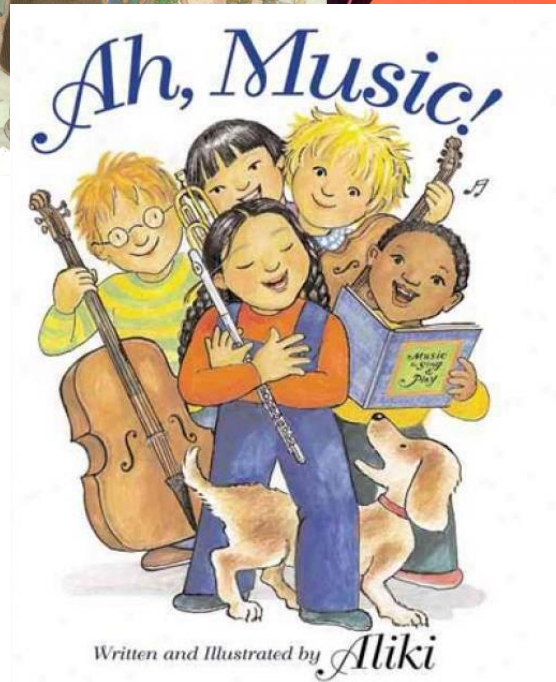
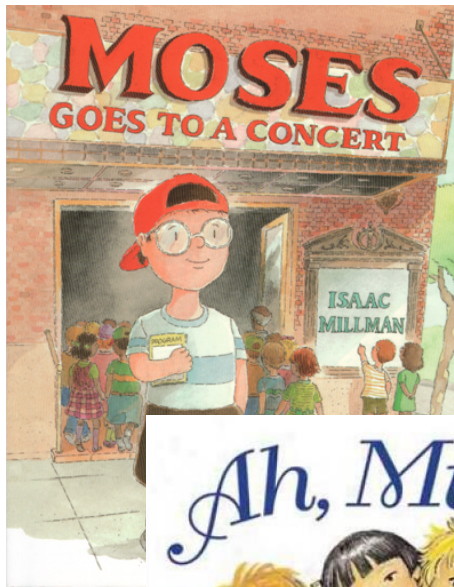


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Read-Alouds & Vocabulary



Planful Read-Alouds



Conclusion: To Ensure that Students Can Read Complex Text:

1. Read more.
2. Mostly silent.
3. Focus on knowledge.



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TextProject

Search

Go

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

Text Complexity



Assessment

[More topics](#)



Essential Insights into Text Complexity and the New Assessments: Three Articles from Reading Today

We've gathered three of Freddy's *Reading Today* articles. Now her articles on Text Complexity with regards to beginning readers, the purpose of the CCSS exemplars, and getting students ready for the new assessments are in one accessible book.

[Download Freddy's Reading Today articles!](#)

Student Resources

Free sets of texts



Stop the summer slump

"Read to learn" while learning to read



Increase text-based discussions



A magazine-based reading program

Teacher Resources

Free evidence-based lessons and lists



Use everyday words to teach new words



Use pictures to teach complex words

WORD LISTS

Be informed about vocabulary

Read-Aloud Favorites

Increase student knowledge through read-alouds

Professional Development Resources

Free resources for teacher learning

Keep up with the latest research



Learn about complex text

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Answers to frequently asked questions

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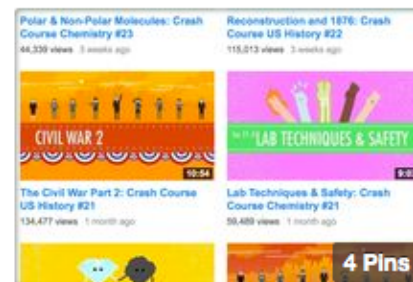
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Next Steps

- Are there places where your students could be reading more—responsible for the texts?
- Are there ways in which you could increase the vocabulary exposure and guidance your students receive?

Questions & Queries:
info@textproject.org