



# Unlocking the Knowledge in Complex Texts: Vocabulary & Reading Volume

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# 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

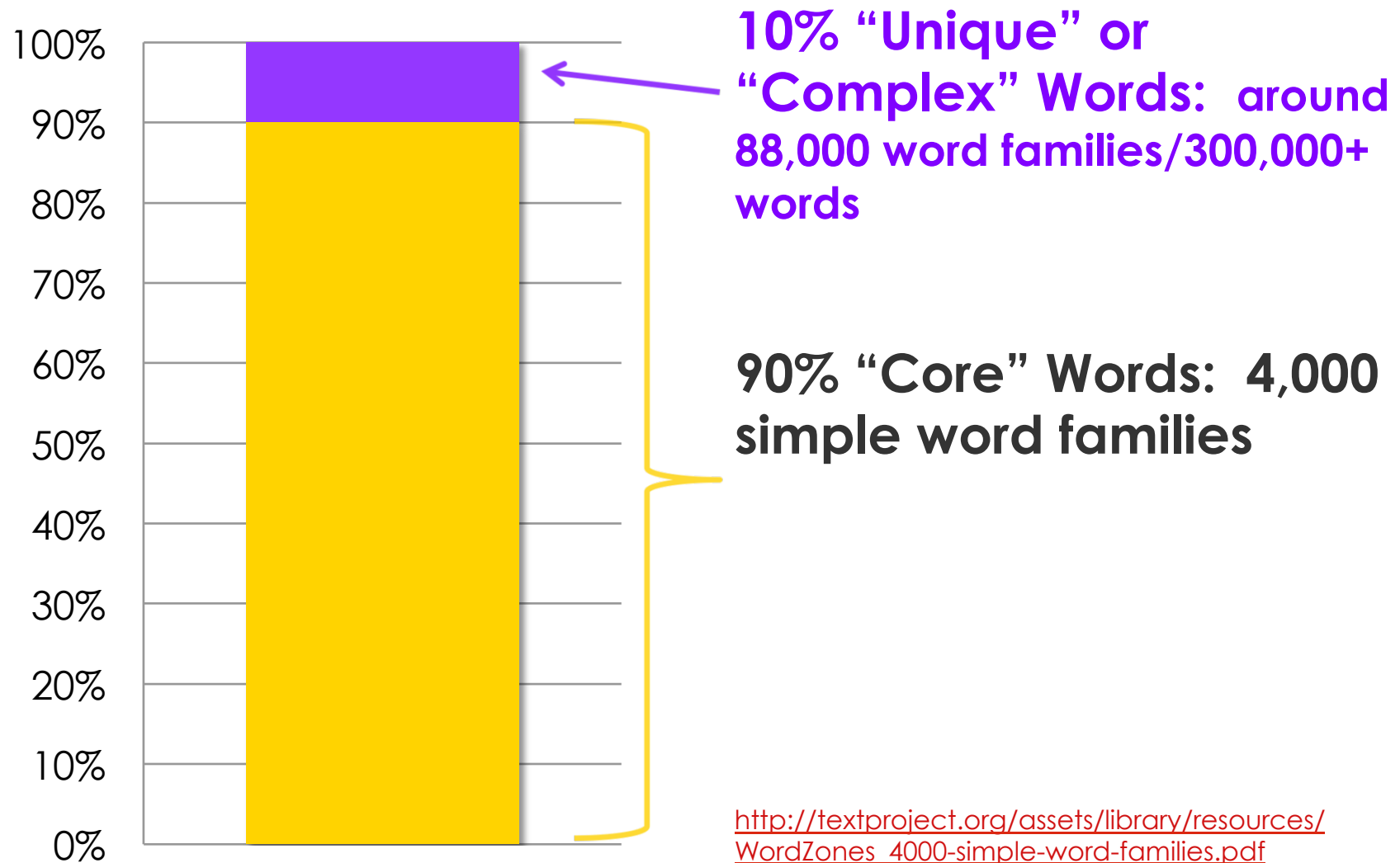
The mountain seemed much the same as it had been for the past month. Suddenly, at 8:32 a.m., Mount St. Helens erupted with incredible force. The energy released in the eruption was equal to ten million tons of dynamite.

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.



# Core Vocabulary in Common Core Exemplars

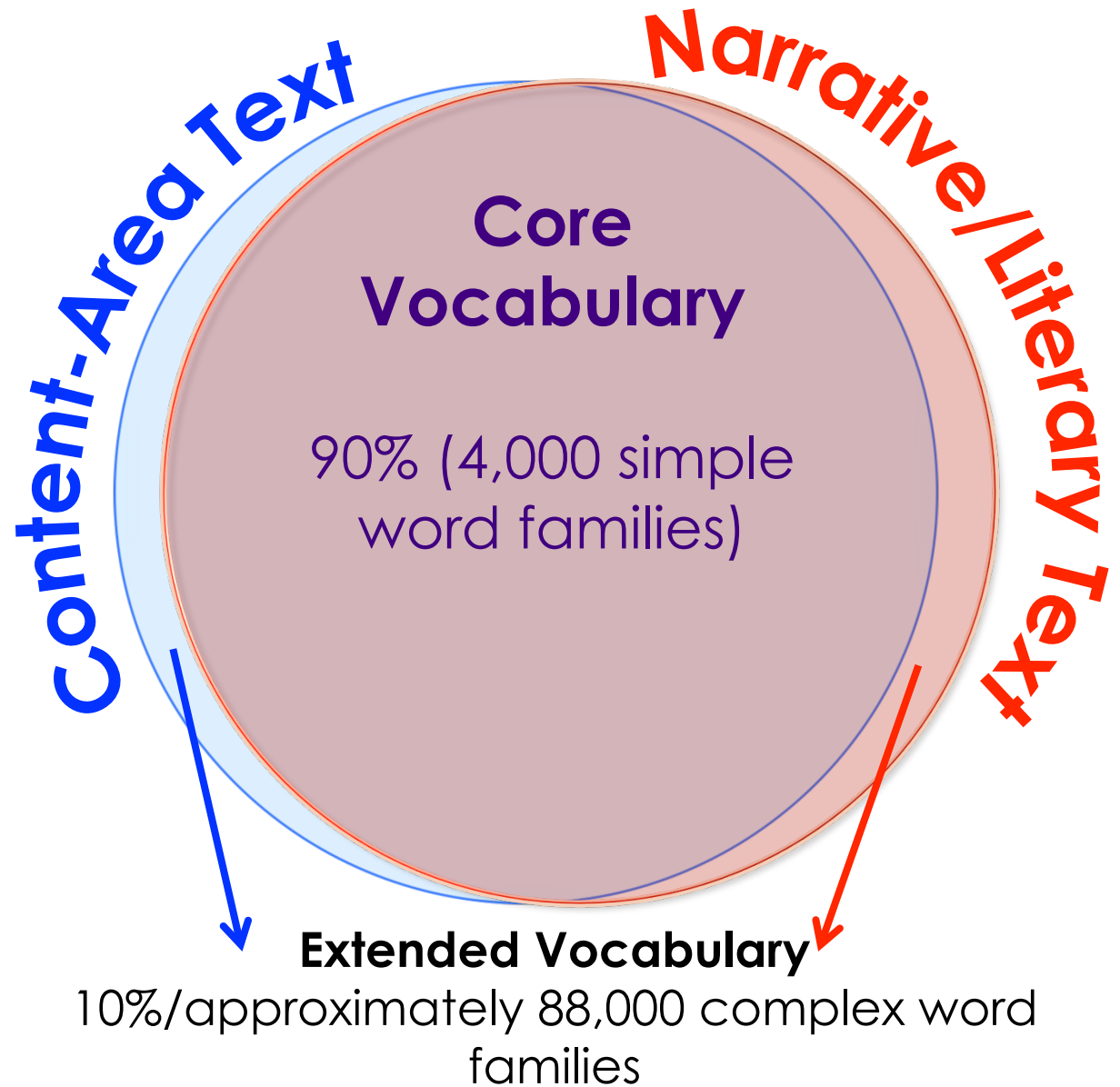
| Grade  | Narrative | Informational |
|--------|-----------|---------------|
| 2-3    | .93       | .92           |
| 4-5    | .92       | .91           |
| 6-8    | .93       | .87           |
| 9-10   | .89       | .91           |
| 11-CCR | .89       | .87           |

## Word Fact 4:

### Words are part of families.

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

# Word Fact 5: Words are parts of networks.



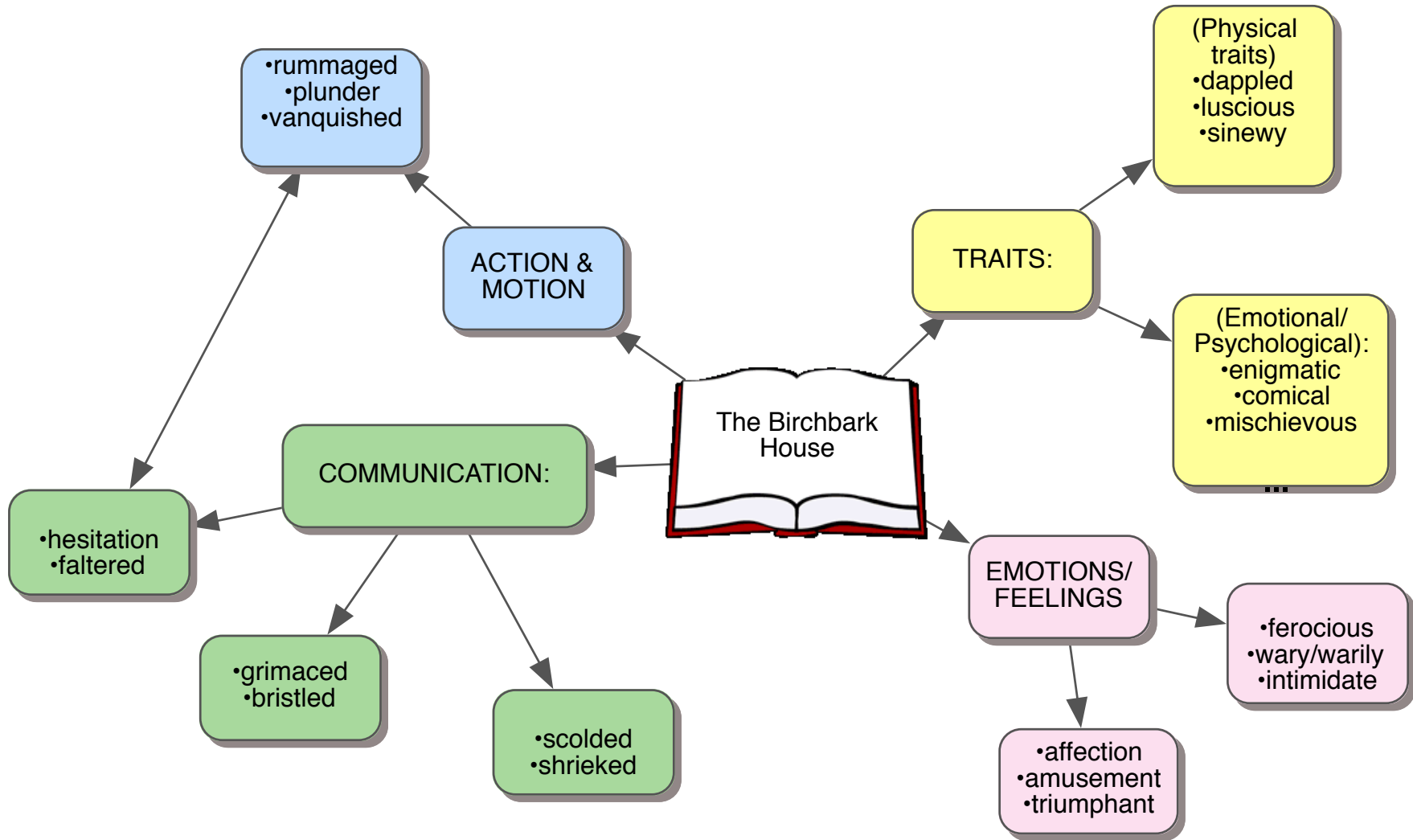


**The networks  
in narrative  
texts are  
synonyms  
related to  
story  
elements  
(e.g., traits,  
actions, and  
emotions of  
characters).**

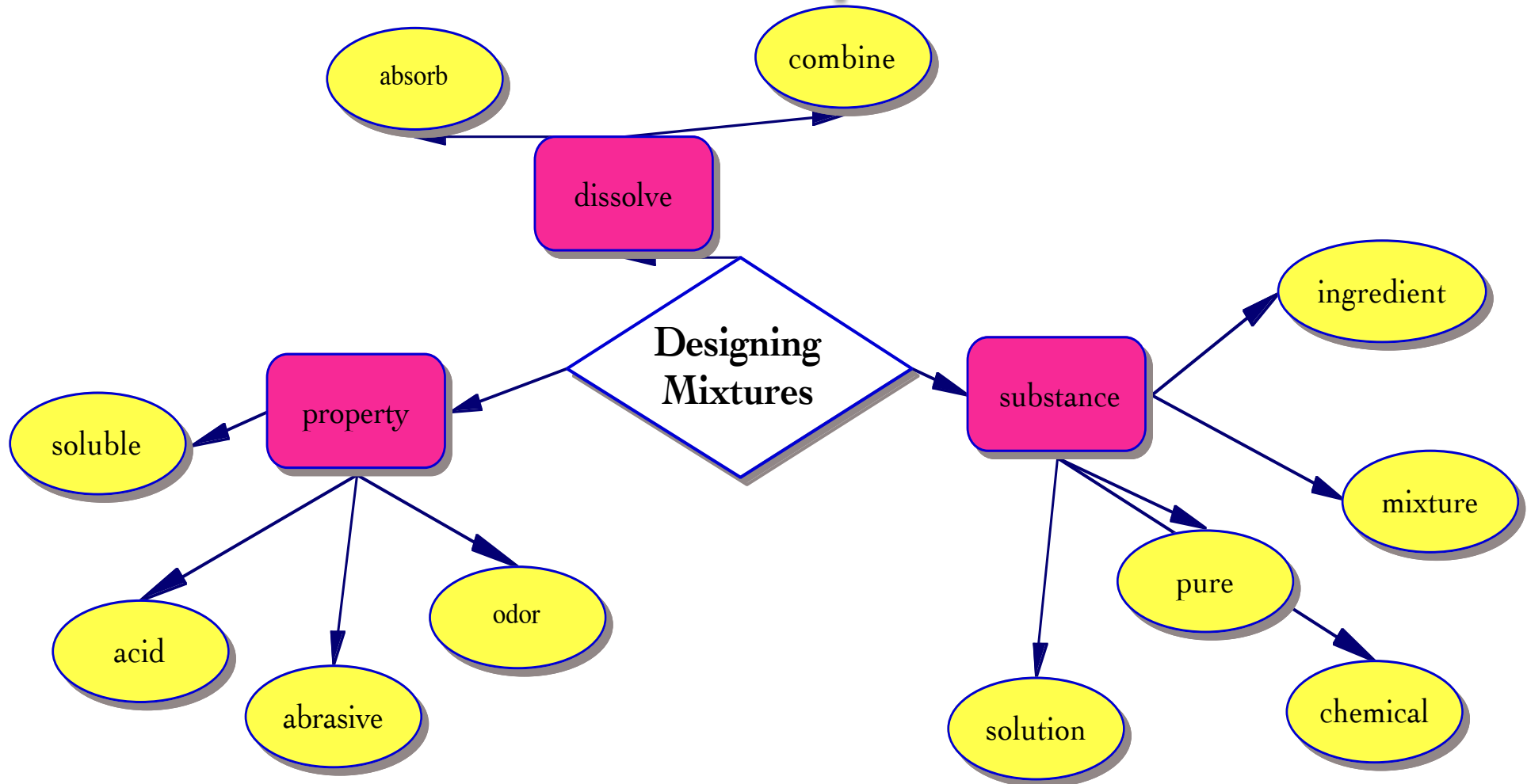
| Story Word | Beyond Story                                                      |
|------------|-------------------------------------------------------------------|
| amazed     | enchanted<br>enthralled<br>spellbound<br>captivated<br>transfixed |
| fascinated |                                                                   |
| marveled   |                                                                   |
| baffled    | confused<br>mystified<br>perplexed<br>confounded                  |
| bewildered |                                                                   |
| stumped    |                                                                   |

# 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.



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



# 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.

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

**Mineral**  
(min·er·al)



# **GENERATIVE WORD INSTRUCTION**

# 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, including “stories” about how words work and their histories.

# 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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# 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

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



## Talk

**COMMON PHRASES**

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

**IDIOMS**

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

**THE SPANISH CONNECTION**

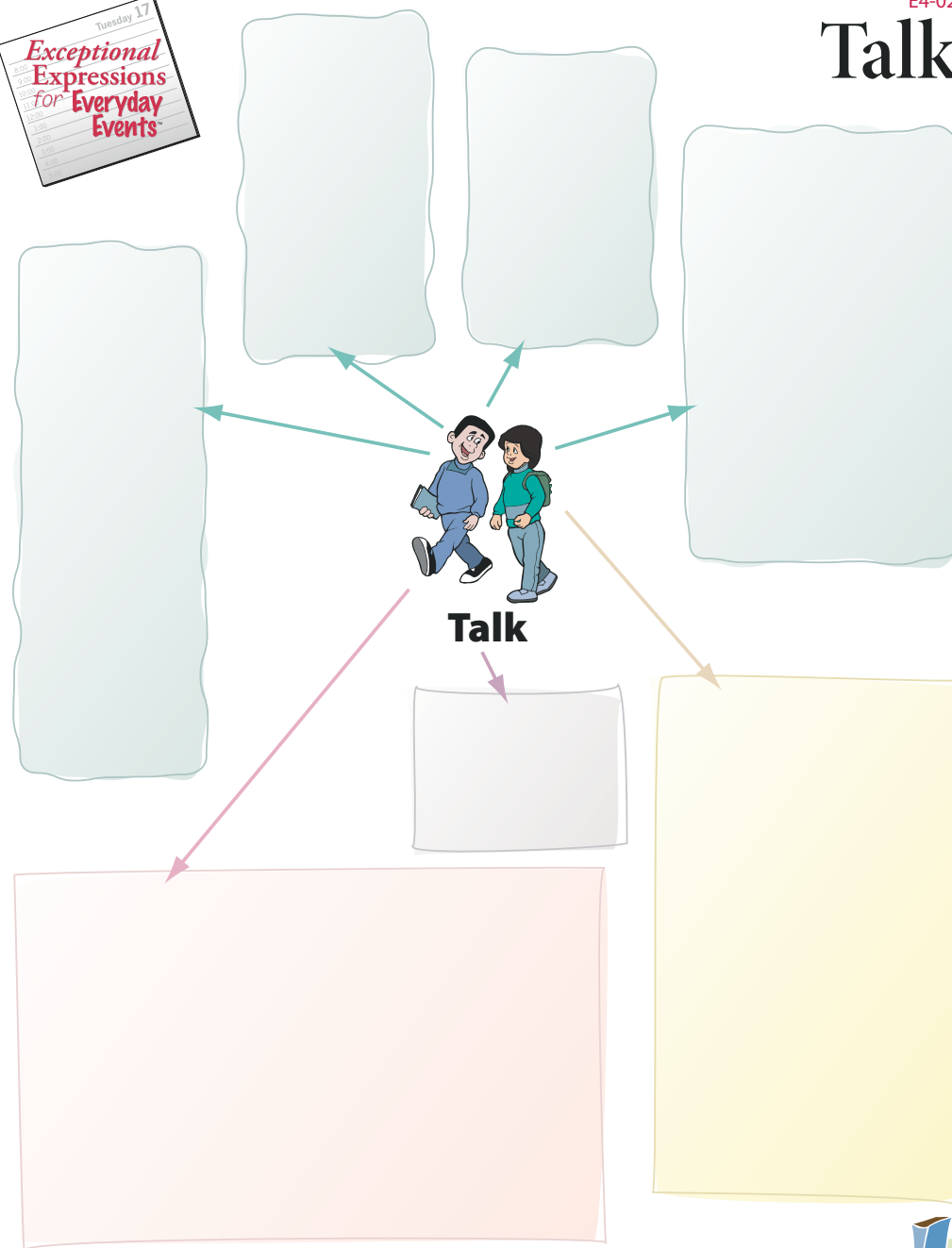
- conversation / conversación
- discussion / discusión
- to discuss / discutir
- dialogue / diálogo
- to have a dialogue / dialogar
- comment / comentario
- to comment / comentar
- to mention / mencionar
- to verbalize / verbalizar
- to converse / conversar
- to communicate / comunicar
- communication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





E4-02

# Talk



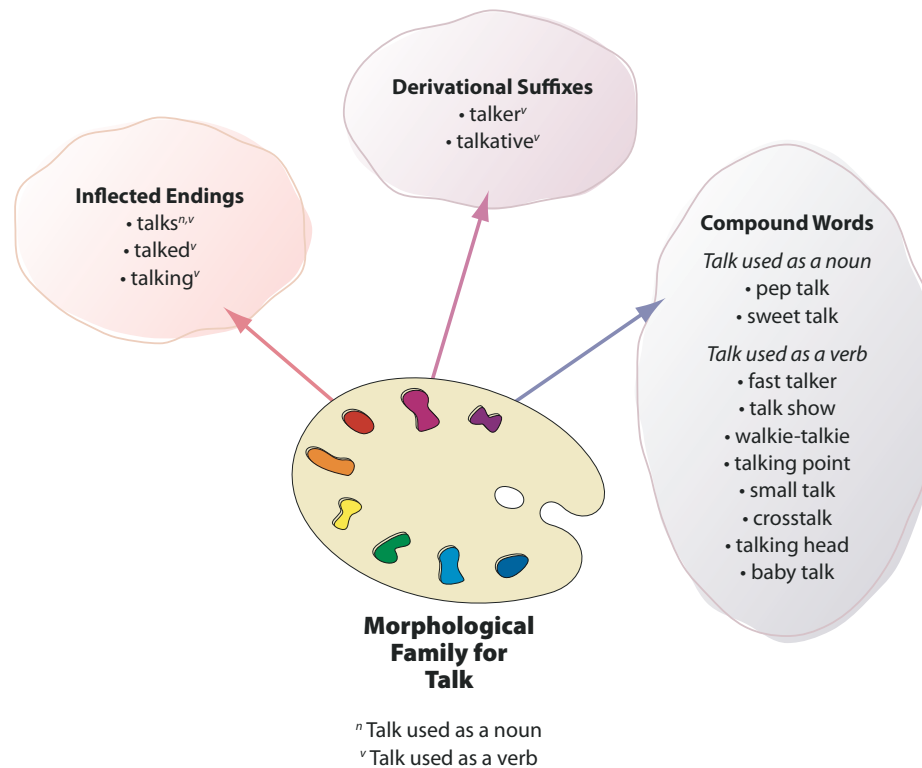
# Generative Word Strategy #4:

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

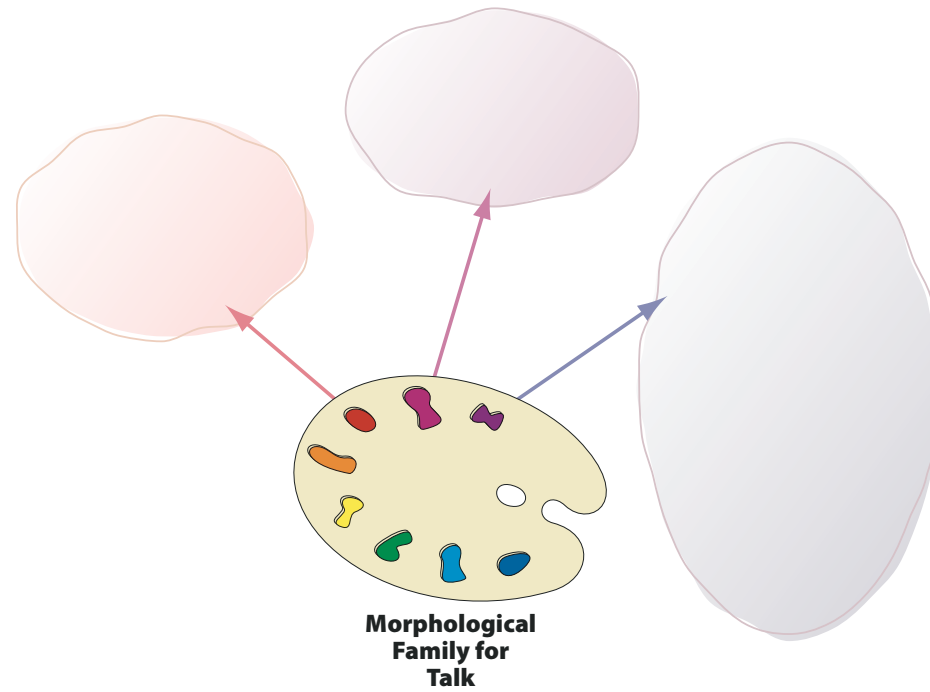






E4-02

# Talk



# 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.

32 lessons  
available for  
*free*  
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# 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.

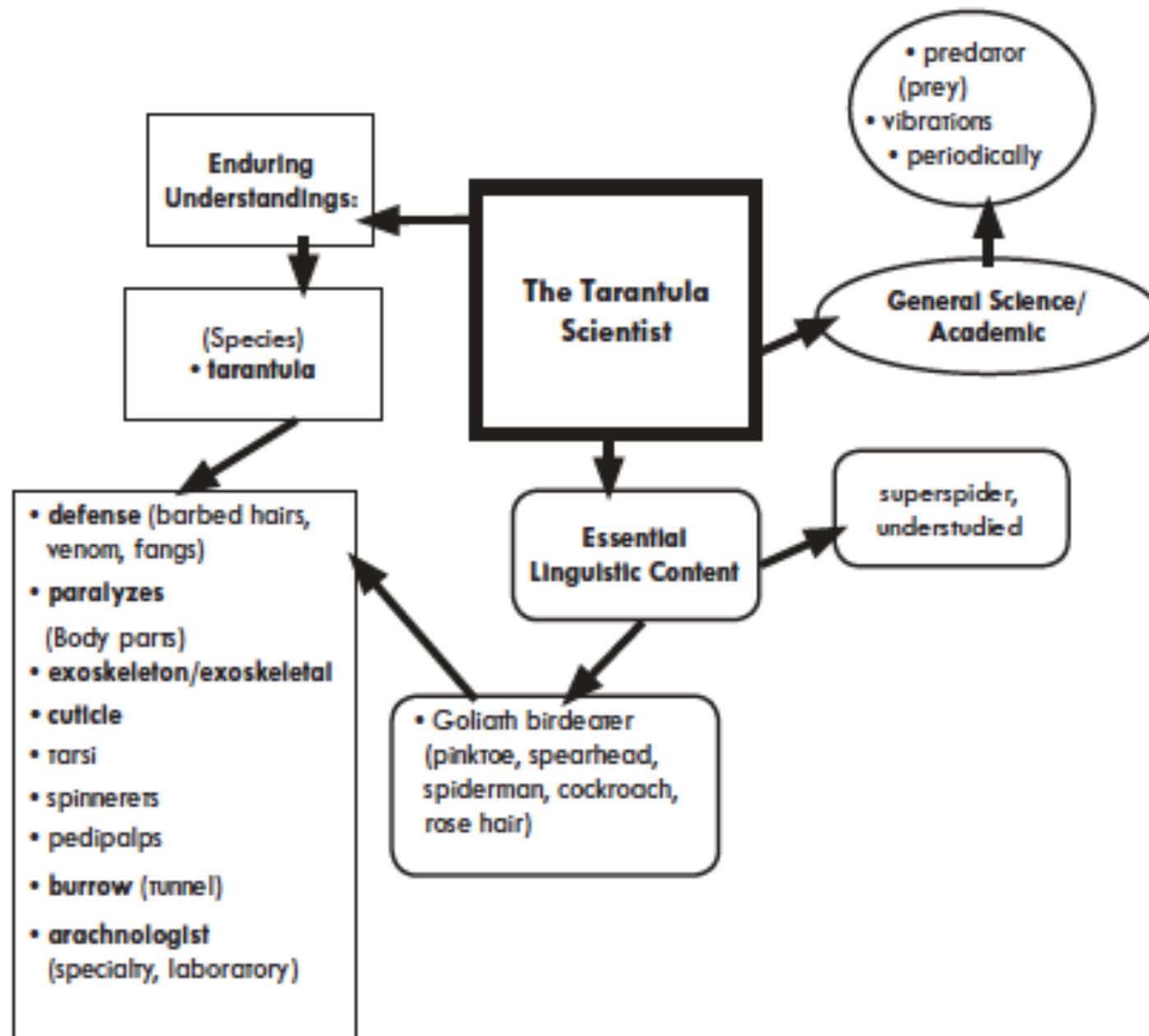
# Prolific Groups in Narrative/Literary Texts

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

# **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.



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.



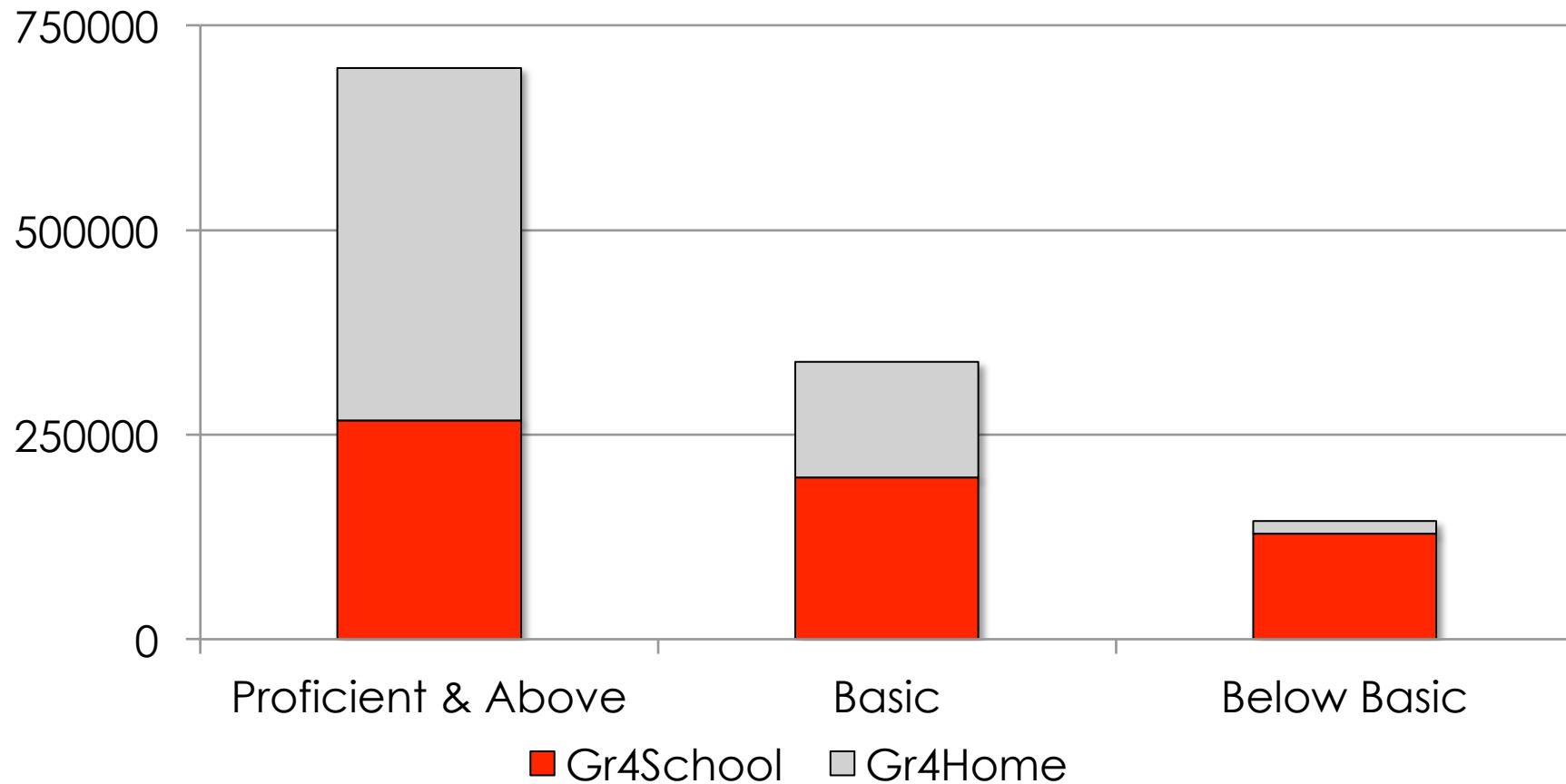
## SUMMARY

| 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.    |

# 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/<br>Theme        | Shared<br>Text                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------|------------------------|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Third<br>Grade  | American<br>Tall Tales | American<br>Tall Tales<br>(Mary Pope<br>Osbourne) | <ul style="list-style-type: none"><li>• Casey Jones: The story of a brave engineer (G. Rounds)</li><li>• The Morning the Sun Refused to Rise: An original Paul Bunyan Tale (G. Rounds)</li><li>• Baloney (J. Scieszka)</li><li>• I was Born about 10,000 Years Ago: A tall tale (S. Kellogg)</li><li>• John Henry: An American legend (E.J. Keats)</li><li>• Sally Ann Thunder Ann Whirlwind Crockett (S. Kellogg)</li><li>• Dona Flor: A tall tale about a giant woman with a great big heart (P. Mora)</li><li>• Thunder Rose (J. Nolan)</li></ul> |
| Second<br>Grade | Discovering<br>Nature  | The Raft<br>(Jim<br>LaMarche)                     | <ul style="list-style-type: none"><li>• Fireflies (J. Brinckloe)</li><li>• Owl Moon (J. Yolen)</li><li>• Come on, Rain! (K. Hesse)</li><li>• When I Was Young In The Mountains (C. Rylant)</li><li>• Night in the Country (C. Rylant)</li><li>• Crab Moon (R. Horowitz)</li><li>• The Seashore Book (C. Zolotow)</li><li>• Whose Tracks are these? (J. Nail)</li><li>• Over in the Forest (M. Berkes)</li><li>• A Drop of Water (W. Wick)</li><li>• Water Dance (T. Locker)</li></ul>                                                                |

### 3. Have Students Set Goals

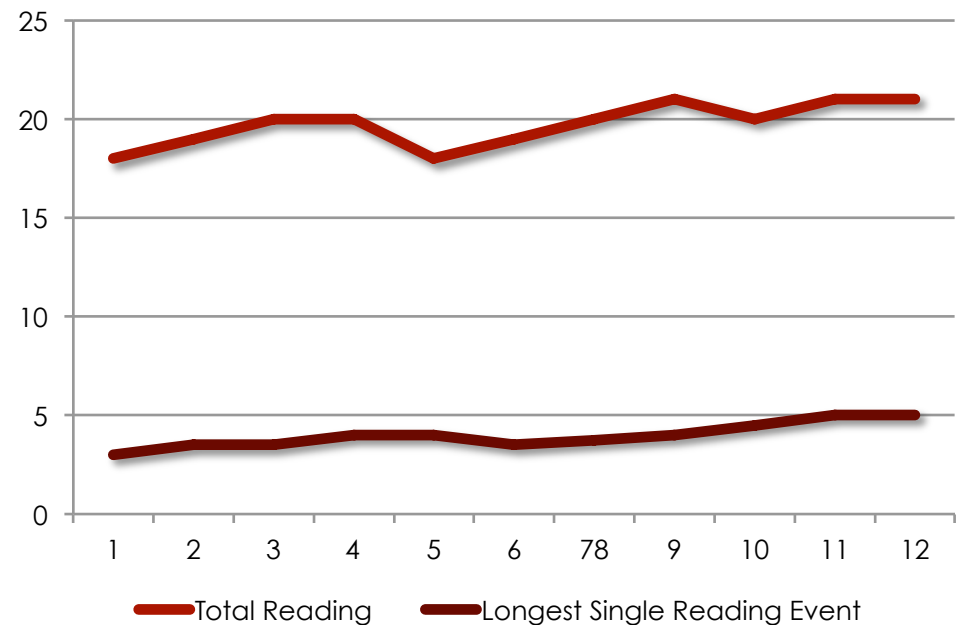
Goal: Increase the amount of reading 10% per trimester

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

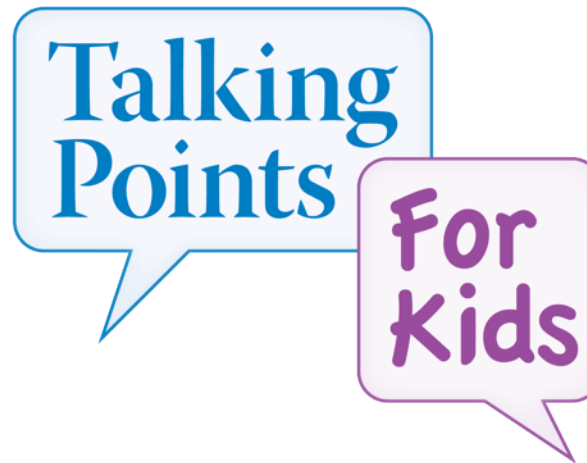


Record of what I learned from reading:

- 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](http://www.textproject.org))

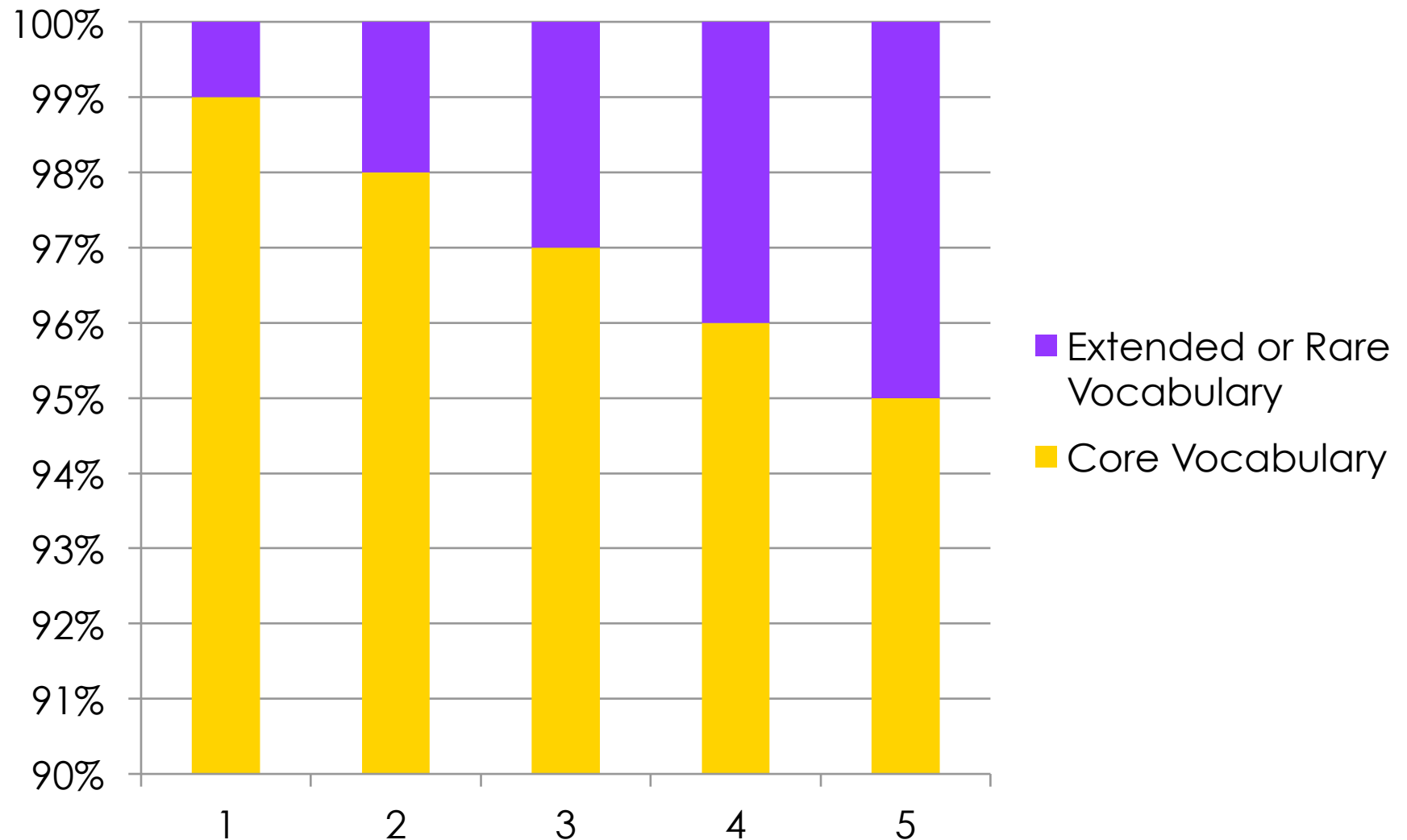


| Content Domain   | Themes                                                                   | Examples of a Magazine Article in FYI for Kids |
|------------------|--------------------------------------------------------------------------|------------------------------------------------|
| Art and Music    | Art; Music                                                               | Nesting Dolls                                  |
| Human Interest   | Fashion & Crafts;<br>Young Heroes;<br>Sports & Games;<br>Young Inventors | A Birthday Wish:<br>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



# 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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## 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 4<sup>th</sup> 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



## **Conclusion: To Ensure that Students Can Read Complex Text:**

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

**To learn more, read Generative Vocabulary  
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:  
**[info@textproject.org](mailto:info@textproject.org)**