

Learning Words.... And How Words Work



Elfrieda H. Hiebert
TextProject &
University of California,
Santa Cruz

Knowledge in the Digital Age

1986



2007

2019





Discussion #1:

1. How many words do you estimate you teach in English/Language Arts instruction in a year?
2. What percent of the English vocabulary is this?



Idea 1: You can't teach all English words but you can teach students about the underlying systems.

**ENGLISH HAS THREE DISTINCT
MORPHOLOGICAL SYSTEMS.**



Small Changes for Understanding the English Lexicon



**GREEK/
LATIN**

Technical words
New words by com-
pounding: graph, para-
graph (s), photograph (s),
telegraph

ROMANCE

Most literacy and academic words
New Words through derivations:
separate, separates, separating, separ-
ated, separation, separately, separable

ANGLO-SAXON

Common, everyday, down-to-earth words
New words through compounding:
field (s), airfield (s), battlefield (s), cornfield (s)

Idea	Action	Open-Access Resource
1. English has more words than can be taught.	1. Teach students to expect new words in texts.	1. Vocabulary Triangle
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; those in informational texts in topic networks.	3. Teach students prolific synonym networks & organize topics into networks.	3. •Super Synonym Sets for Stories (S4) •Exceptional Expressions in Everyday Events (E4)

DISCUSSION 2

1. What percentage of the vocabulary is the same across end-of-year texts for Grades 3, 5, & 7?

TN—Grade 3

Ever wish you could speak to a sparrow, chat with a cheetah, or babble to a baboon? Then think about becoming an animal trainer. Brett Smith is a trainer at Chicago's Lincoln Park Zoo. He says training animals is almost like talking to them.

In a zoo or aquarium, an animal and its trainer are a team. Trainers learn to read their animals' behavior to figure out what each animal wants and needs. Animals learn to cooperate with their teachers. This teamwork makes it possible for each animal to live comfortably and get the best care.

TN—Grade 5

There's nothing like racing across the playground or sprinting along the beach with the wind at your back. That sudden burst of speed can make you feel like a cheetah chasing its prey or a horse galloping on an open plain. It's as if you were born to run.

Running also strengthens bones and muscles, controls weight, and keeps your heart healthy. Most of all, it can be a lot of fun!

If you're inspired to become a runner, make sure that you have a good pair of running shoes. These special sneakers are designed to cushion the impact of running.

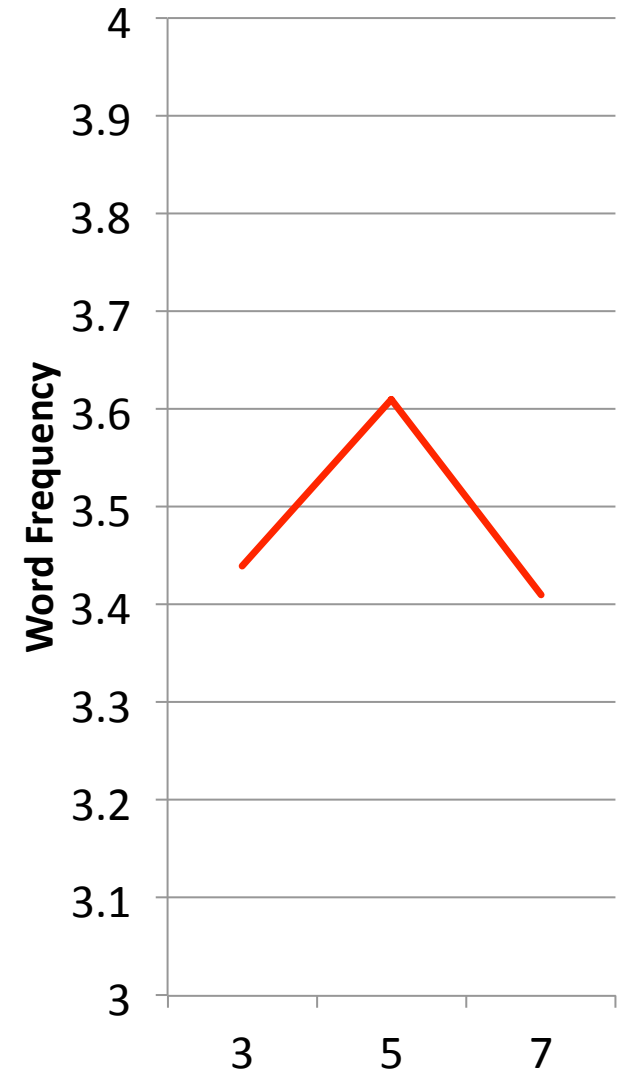
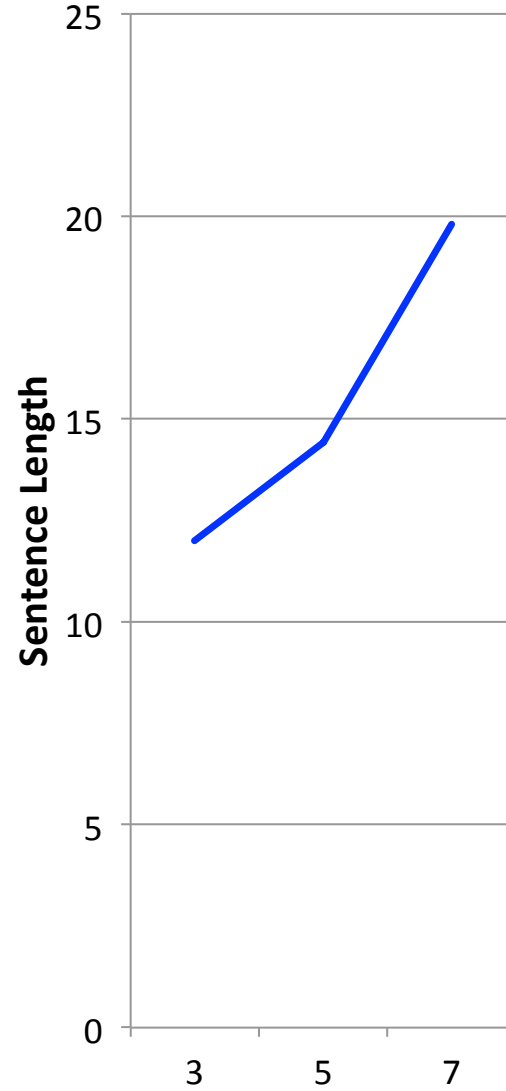
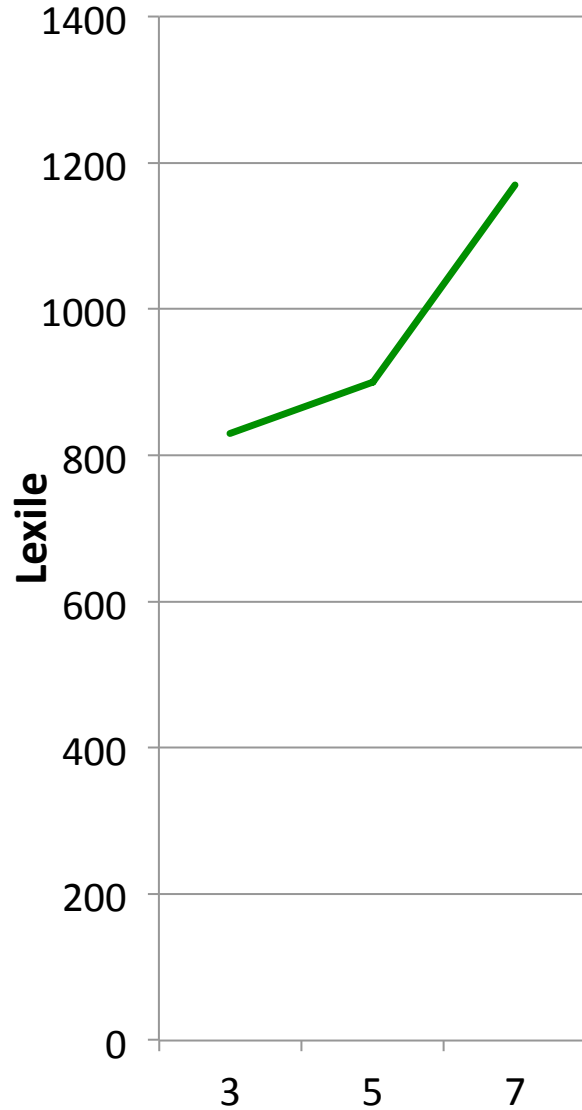
TN (Grade 7)

"The kids who go through this process are rare and amazing," said Michael Stanley, the program's founder and formerly of Far Hills.

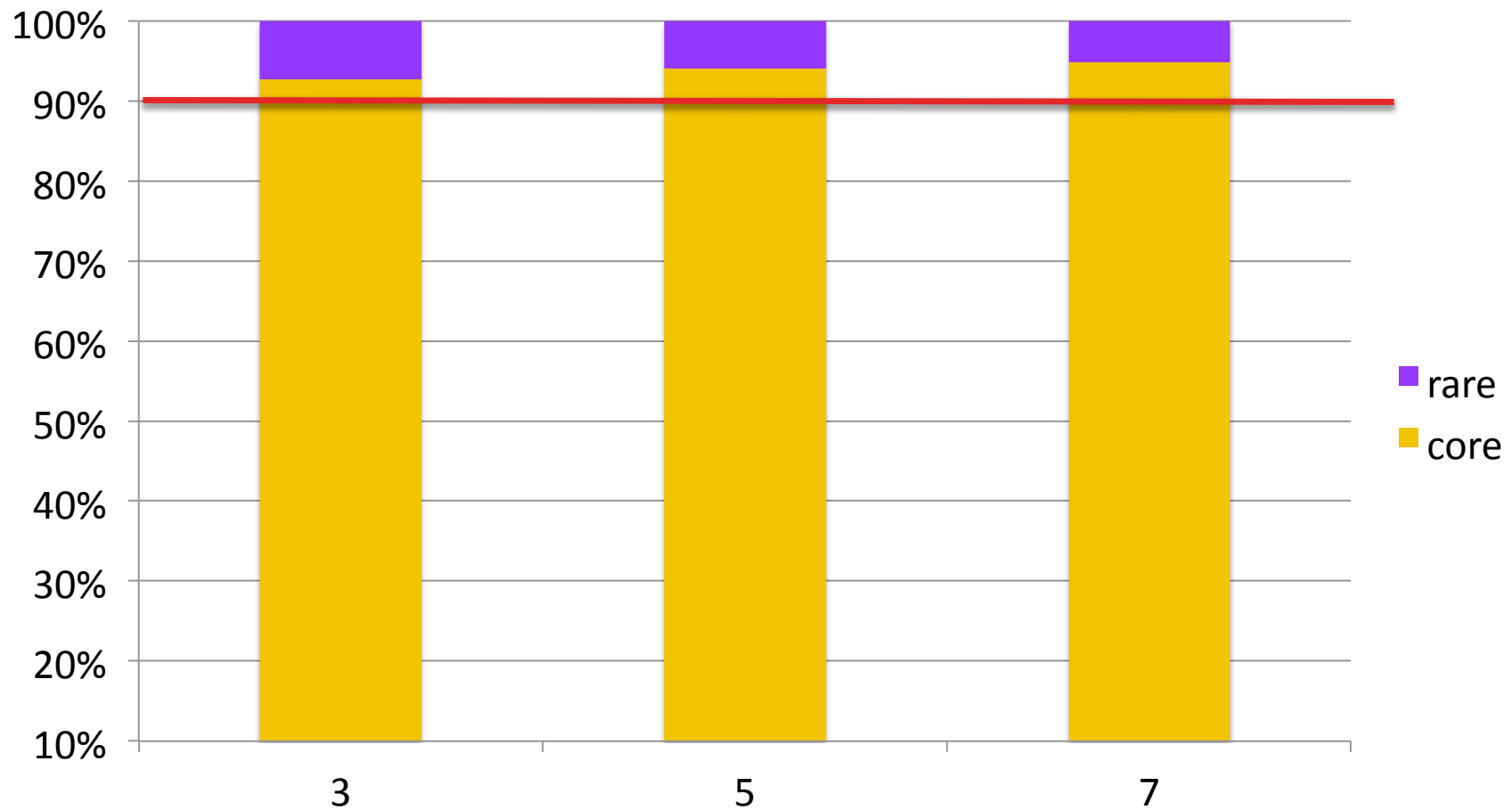
Stanley said this year's program included students from both suburban and inner-city communities across the state. They choose a mix in order to have teens from various backgrounds work together to meet the challenges that nature will throw at them.

Stanley is an ex-finance professional who departed the canyons of Wall Street for the great outdoors 25 years ago. He said the program is designed to create difficult situations which the group is forced to overcome.

Lexiles of Texts



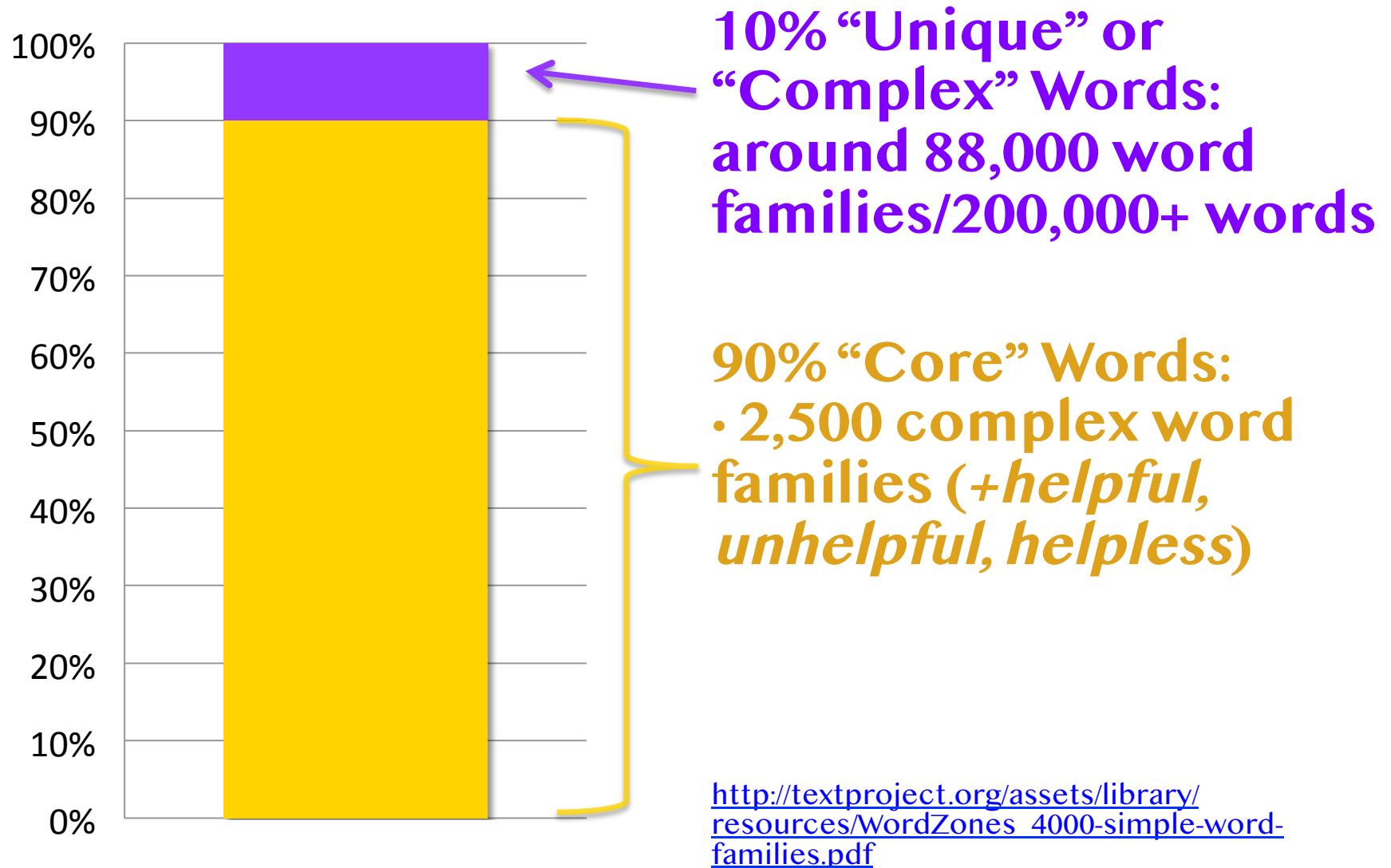
Word Patterns in Texts





Idea 2: A small group of words does the heavy lifting in English.

The distribution of words in written English



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

Small Changes for Supporting students' core vocabulary





2a. Hold Conversations About Ratio of Rare to Core Words in Texts

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).

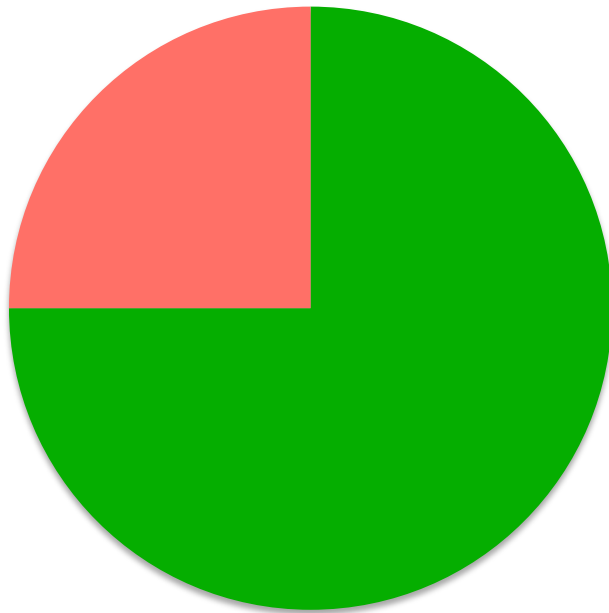
How?

- Demonstrate the nature of vocabulary with texts.

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.

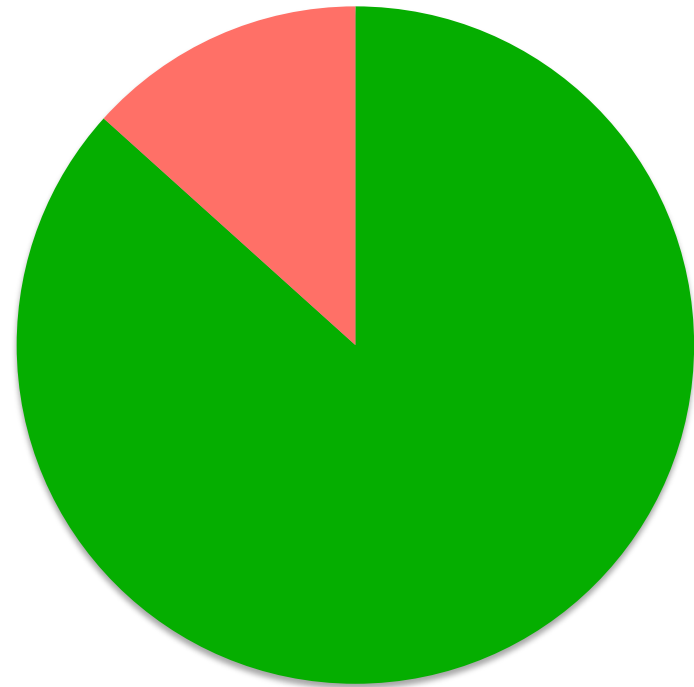
2b. Increase students' RESPONSIBILITY FOR READING text

**Reading Instruction (1970s
to late 1980s)**



■ Instruction ■ Time Spent reading

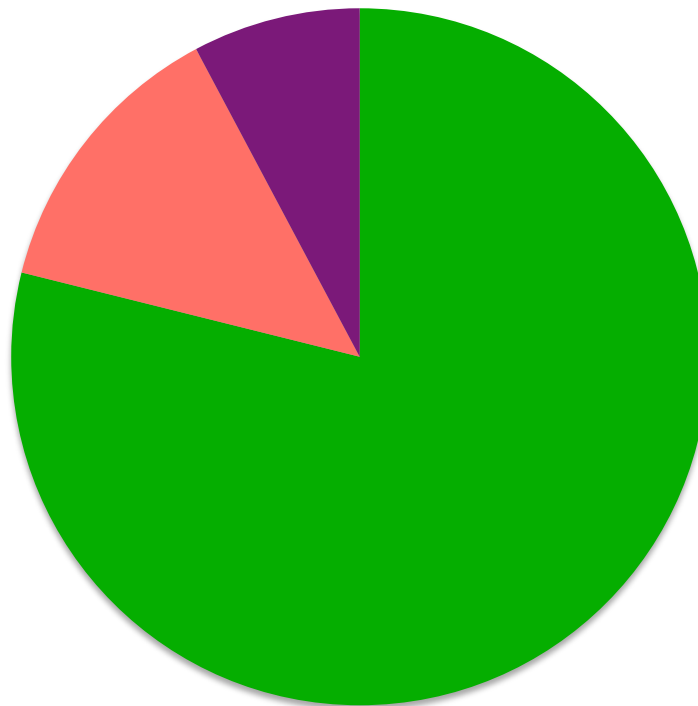
Reading Instruction (late 1990s -)



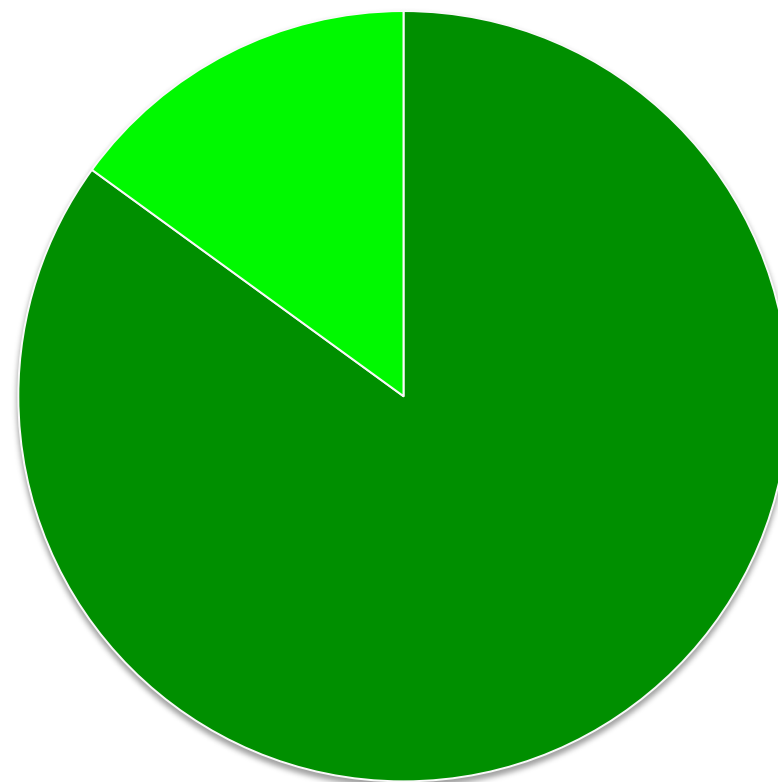
■ Instruction ■ Time Spent reading

7 Minutes of Additional Reading

**Reading Instruction
(w/ 7 additional minutes)**

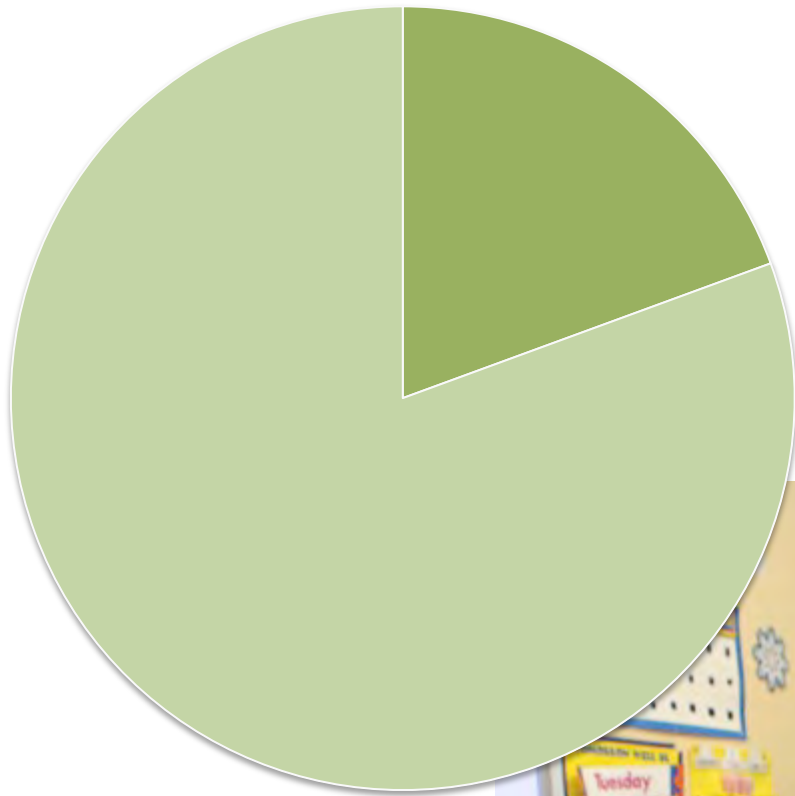


■ Instruction ■ Time Spent reading ■ Additional 7 minutes



■ Other activities ■ Reading

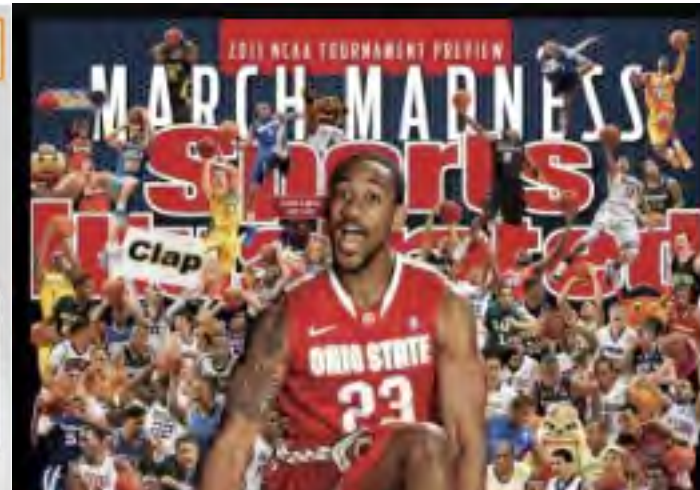
Swanson, Wanzek, McCulley, Stillman-Spisask, Vaughn, Simmons, Fogarty, & Hairrell, 2015.



■ Silent Reading

■ Listening, Following Along to Oral Reading

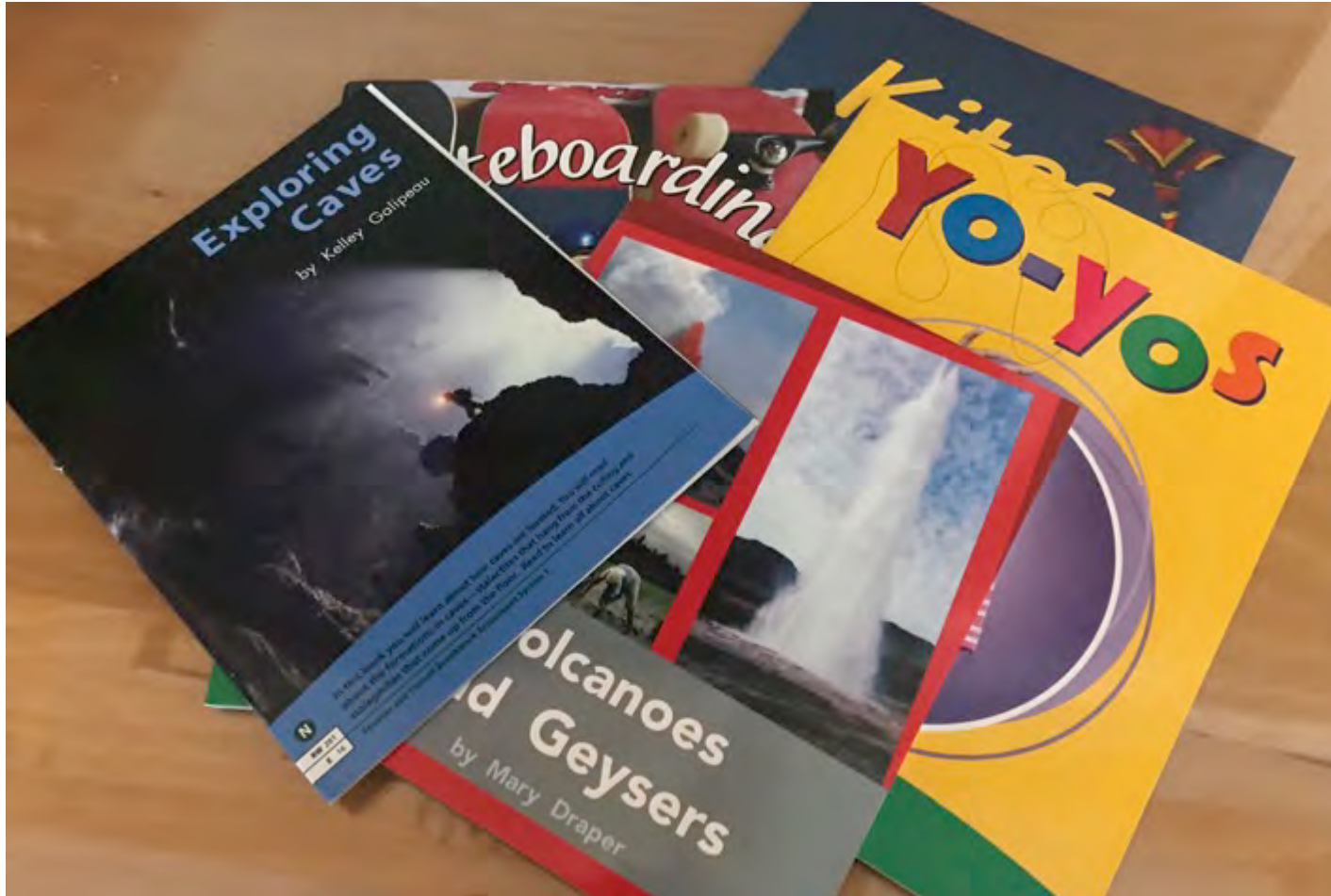




Increase students' reading:
Topically connected articles

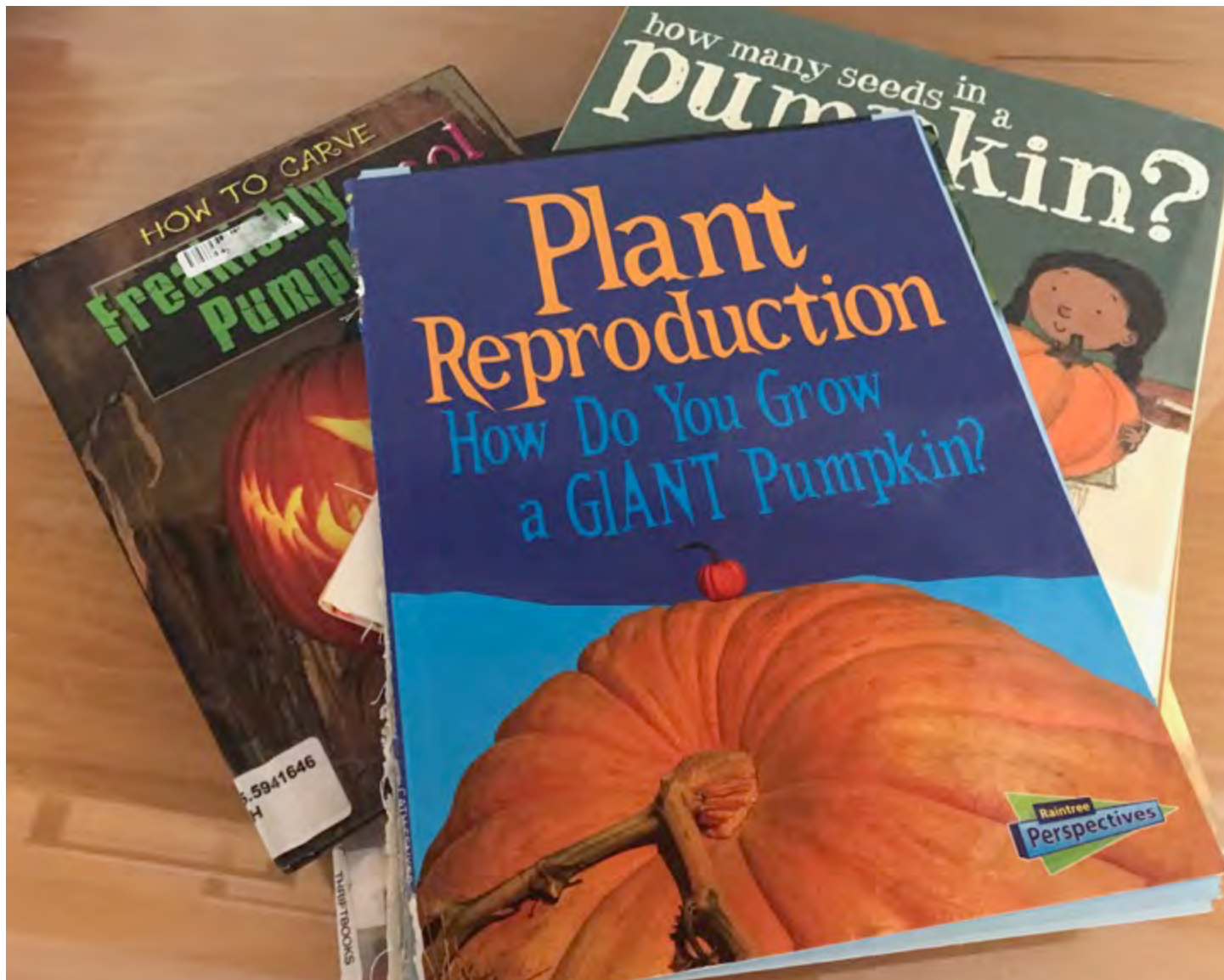


Texts Leveled by Text Complexity [Grade 3]



*Texts from Leveled Literacy Intervention, Heinemann

Texts Selected for Topic & Text Complexity [Grade 3]



Repeated Words (3 times plus)¹ in Word Zones 4 to 8 From Texts Leveled on Different Criteria

Text Complexity	Topic + Text Complexity
anaconda 4	adult 4
arson 3	carving 9
backpack 3	competition 4
chemicals 3	counting 5
competitions 7	create 4
creativity 3	dangerous 3
dormant 3	fertilized 3
double 4	flowers 6
erupted 4	fruits 6
explorers 5	gardeners 6
freestyle 3	giant 15
journey 4	lanterns 6
kakapo 8	meters 3
melted 4	nutrients 4
meters 3	paddles 3
music 6	patch 6
palace 3	perfect 3
potatoes 8	pollination 5
protect 3	pruning 3
safety 5	pumpkins 123
scarf 4	rotten 3
scents 4	taste 3
sculpture 3	transported 3
skateboarding 7	trucks 4
skates 16	varieties 5
<u>snarks</u> 5	vegetables 9
sniffer 6	weighed 5
toothpicks 6	witch 3
trained 4	
tricks 5	
volcanoes 8	
wharf 4	

¹Proper names and words with 4 or fewer letters excluded

**Readworks.org has
approximately 4,500 free
passages for Grades 1-High
School—including 450
curated sets of articles in the
Read-an-Article-a-Day
initiative**



Clouds and Rain

ARTICLE-A-DAY SET

Earth & Space Science

1st Articles range from 220L to 790L Informational



Animals from Different Places

ARTICLE-A-DAY SET

Sports, Health & Safety, Life Science, Earth & Space Science

1st Articles range from 300L to 540L Informational



Jobs and Careers

ARTICLE-A-DAY SET

Geography & Societies, Sports, Health & Safety, School & Family Life, Arts & Culture, Technology & Engineering

2nd Articles range from 270L to 650L Informational



Health and Body

ARTICLE-A-DAY SET

Sports, Health & Safety, School & Family Life, Life Science

2nd Articles range from 480L to 710L Informational

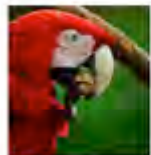


Animal Senses, Safety, and Homes

ARTICLE-A-DAY SET

Geography & Societies, Life Science

2nd Articles range from 500L to 630L Informational



Exploring Continents

ARTICLE-A-DAY SET

World History, Geography & Societies, Life Science, Earth & Space Science

2nd Articles range from 530L to 710L Informational



Inventions

ARTICLE-A-DAY SET

Winter Season, Technology & Engineering

1st Articles range from 250L to 570L Informational



Amphibians and Reptiles

ARTICLE-A-DAY SET

U.S. History, Geography & Societies, Life Science, Earth & Space Science

2nd Articles range from 430L to 760L Informational

The Article-a-Day Initiative: Sets of articles for a week around a topic; articles cover a range of complexity levels

Illustration: Article-a-Day

Dances around the World

ARTICLE-A-DAY SET

[Articles](#)

Book of Knowledge

[China's Lion Dance](#)

Hawaii's Traditional Hula Dance

The Argentine Tango

India's Classical Dance: Bharatanatyam

The Traditional Irish Step Dance

Gumboot Dance from South Africa

China's Lion Dance

356 words



Lion dance performed in Singapore

If you have ever seen a celebration of the Chinese New Year, you may have seen a large, colorful creature dancing to the sounds of drums, cymbals, and gongs. Of course, this is not a real beast. It's actually skilled dancers in costume, performing a lion dance. When these dancers come together, they form the colorful dancing creature!

The lion dance is a traditional part of Chinese culture. It is often performed on the eve of the Chinese New Year (or Spring Festival). It's also performed for other special occasions, like weddings. The dance is thought to bring good luck, and prosperity, or success.

While there are many different tales of how lion dance began, one legend traces it back to a village in China hundreds of years ago. The legend says that the people of the village were attacked by a monster called a nien. A lion chased the nien away. But a year later, the nien returned, and this time the lion was unable to help. So the people of the village created a lion costume of their own. Their fake lion danced, pranced, roared, and chased the nien away. For this reason, people perform the lion dance on the night before the Chinese New Year – they chase evil away for another year.

The lion dance is performed by two dancers. One dancer performs as the lion's head and front legs, and the other performs as the body and back legs. The head of the lion costume is made out of materials like papier-mâché and bamboo. The body of the costume is a long cloth attached to the head.

There are two different styles of lion dance. In a southern lion dance, the dancers base their performance on a lion's behavior. Their lion may scratch or shake its body. The dance can even be funny.

The other style is the northern lion dance. This style is closely related to the martial art form kung fu. It can involve rolling, leaping, and jumping.

Both styles require skill and practice to perform. And both are very entertaining to watch!

Hawaii's Traditional Hula Dance

300 words



Dancers performing hula dance

The Hula is a traditional Hawaiian dance. It is known partly for its smooth and graceful movements of the arms, hands, and hips. Hula dancers often mimic movements from nature. Their movements may look like trees in the wind or waves in the water. The dancers also tell a story with their movements. Chants, or *mele*, go along with the movements to help tell the story.

There are many myths as to how the hula dance originated. One legend says that Pele, the volcano goddess, danced the first hula dance. According to this myth, Pele was running from her sister, the goddess of the oceans. She was trying to find a place where she couldn't be touched by the ocean waves. She finally found such a place. It was a chain of craters on the island of Hawaii. There, Pele danced the first hula to show that she had beaten her sister!

Although people today dance the hula freely, the dance was actually banned during part of the 1800s. It was banned by Christian missionaries who arrived in Hawaii in 1820. Before then, the hula was used in religious ceremonies. But the missionaries did not approve of the religious ceremonies the people of Hawaii were holding, or the dancing that went with them. After it was banned, the dance continued to be taught and danced secretly. But as more Hawaiians started becoming Christians, the dance became a dying part of Hawaiian culture.

All of this changed during the reign of Hawaii's last king, David Kalakaua. He was the king from 1874 to 1891. He encouraged hula dancing to come back out into the open. As a result, the dance resurfaced, now with new movements, costumes, and song. Today, the hula tradition lives on in Hawaii.

India's Classical Dance: Bharatanatyam

287 words



Bharatanatyam dancer

India is home to many different classical dance styles. One of the oldest classical dances of India is Bharatanatyam (Ba-ra-tha-NAA-tium).

The name Bharatanatyam comes from the language Sanskrit. "Bha" is short for *bhava*, the Sanskrit word for feeling. "Ra" comes from the word *raga*, which means music or melody. "Ta" comes from *taala*, or rhythm. And finally, "natyam" is the word for dance. So the name Bharatanatyam speaks for itself! It is a dance that includes music, rhythm, and emotion.

People first began dancing Bharatanatyam in the Hindu temples of southern India many centuries ago. Only women dancers performed the dance style. The dance expressed the religious themes of Hinduism, one of India's main religions and one of the oldest religions in the world. Much later, in the 1900s, the dance style began to be performed on stages and in theaters.

Bharatanatyam dance often involves telling a religious story. The dancer uses hand movements to tell a tale. Certain hand positions and gestures have certain meanings in the dance style. But the dancer's facial expressions are important to the tale, too. Along with eye and neck movements, facial expressions can affect the meaning or mood of the story a dancer is trying to tell.

This dance style also involves complex rhythms. The dancer's feet beat out different patterns that go along with the music. Often, the dancer wears bells around his or her ankles. These bells jingle along with the beat, too.

Today, Bharatanatyam is one of the most popular Indian dance styles. It is performed all over India by both men and women. And now, this beautiful and powerful dance style is taught, learned, and performed all over the world!

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	2a. Hold conversations about rare:core ratio in texts 2b. 7 minutes of additional reading daily, especially of topically related content
3. Rare words in narrative texts belong to synonym networks; those in informational texts in topic networks.	3. Teach students prolific synonym networks & organize topics into networks.	3. •Super Synonym Sets for Stories (S4) •Exceptional Expressions in Everyday Events (E4)

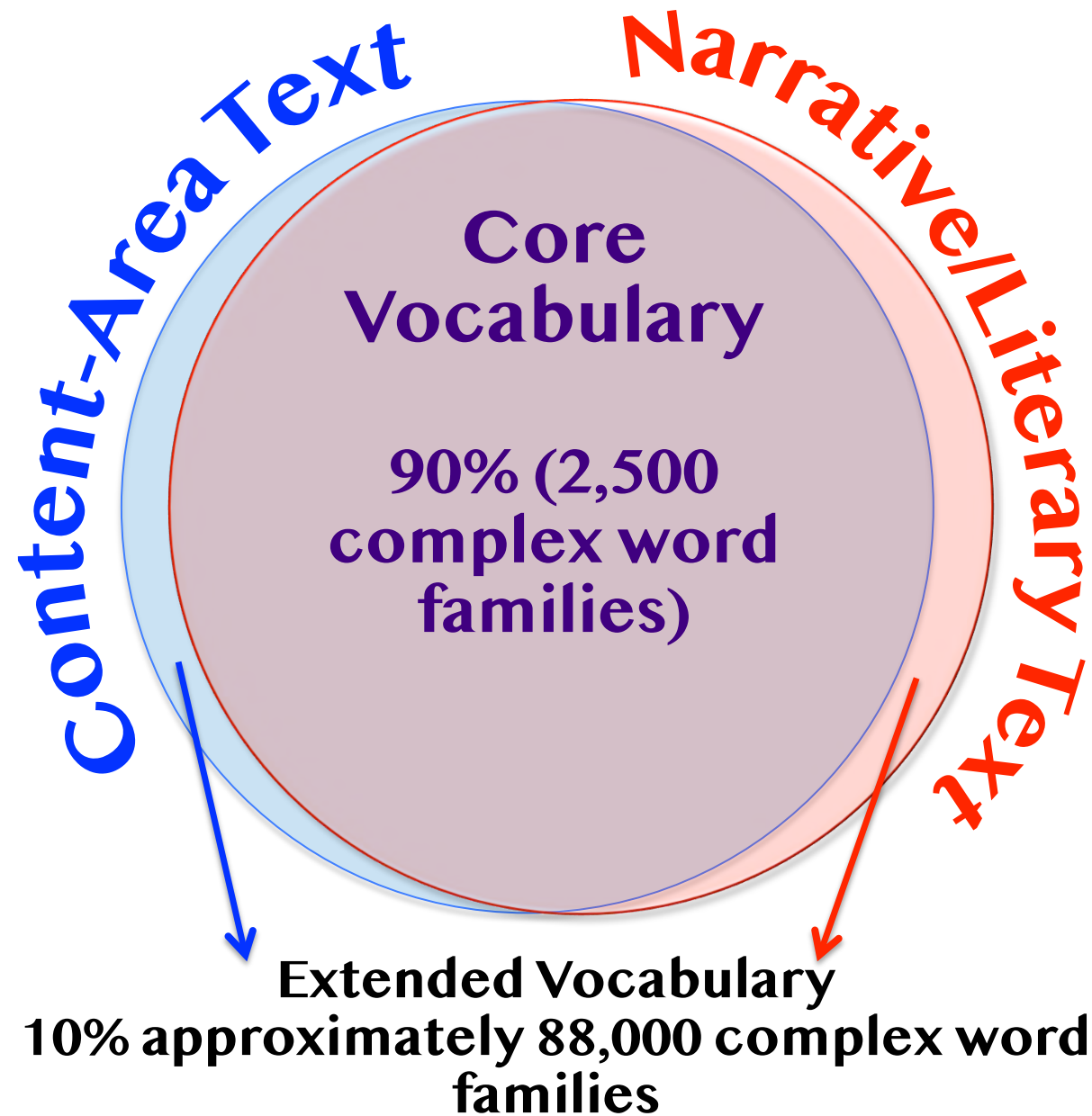
Discussion 3

- 1. How do you teach rare vocabulary in narrative texts? In expository texts?



Idea 3: Rare words are part of networks

The Other 10%: Rare Words in Writing



Narrative Text

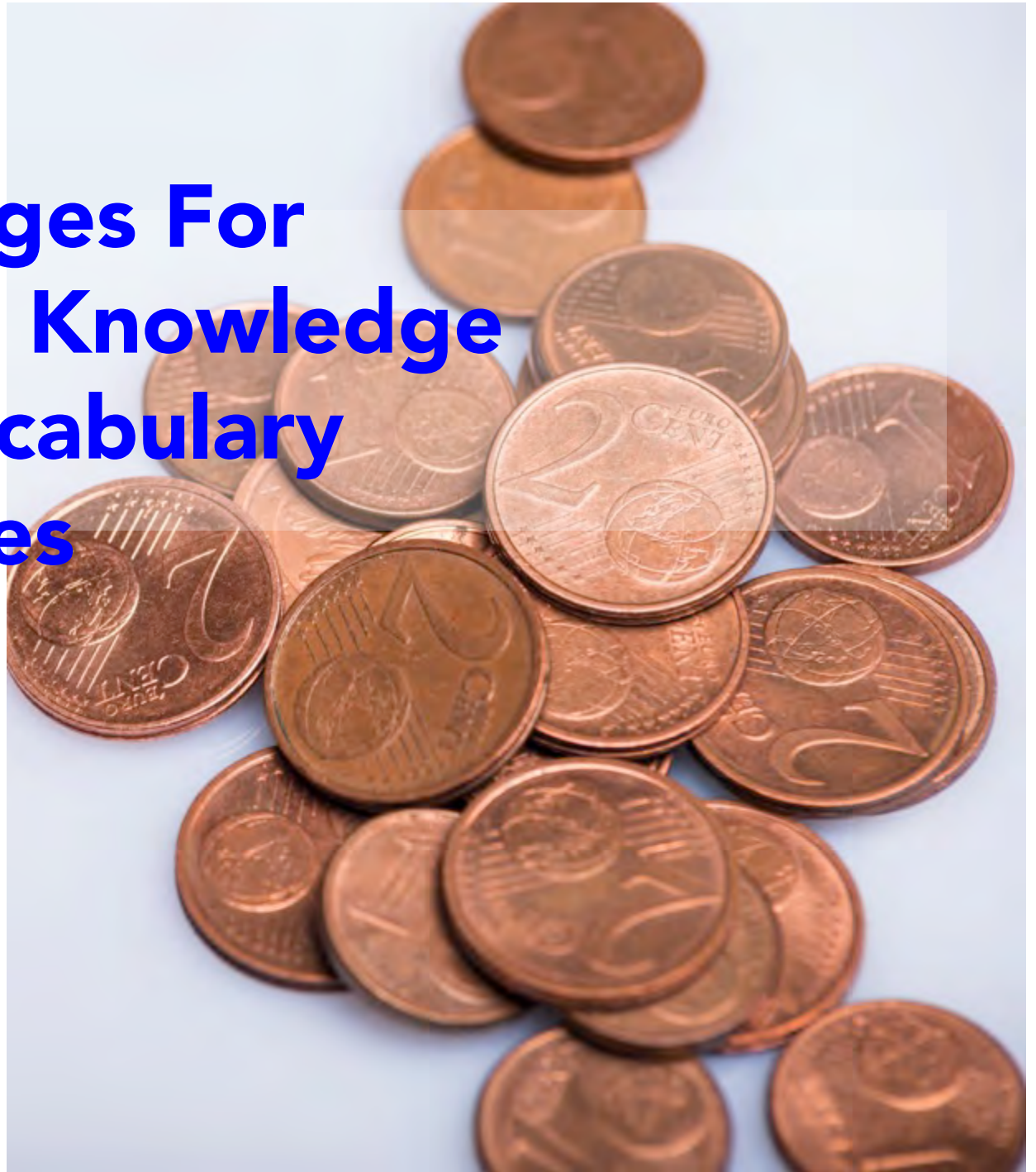
Even with eyes protected by the green spectacles, Dorothy and her friends were at first dazzled by the brilliancy of the wonderful City. The streets were lined with beautiful houses all built of green marble and studded everywhere with sparkling emeralds. They walked over a pavement of the same green 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* Frank Baum)

(a)
**Networks in
narratives
are
synonyms
related to
story
elements.**

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

Small Changes For Supporting Knowledge Of Rare Vocabulary In Narratives

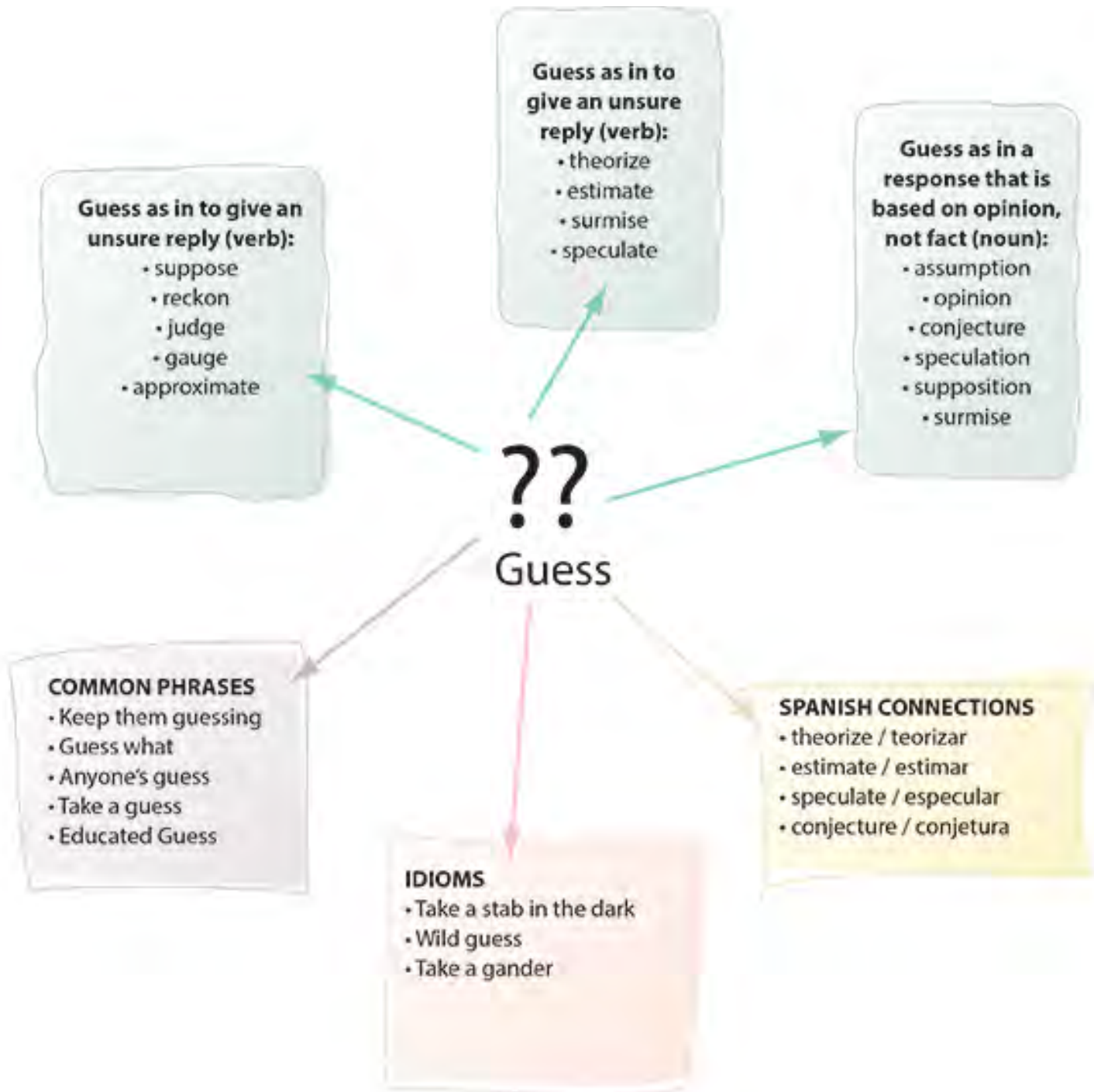




Synonym Networks in Narrative Texts

Prolific Groups of Synonyms

Communication /Internal Processes (verbs)	Emotions (adjectives)	Movement (verbs)	Traits (adjectives)
think	happy	go	funny
argue	sad	send	smart
look	mad	start	brave
guess	hope	stop	selfish
said	fear	stay	shy





S4-02

Guess

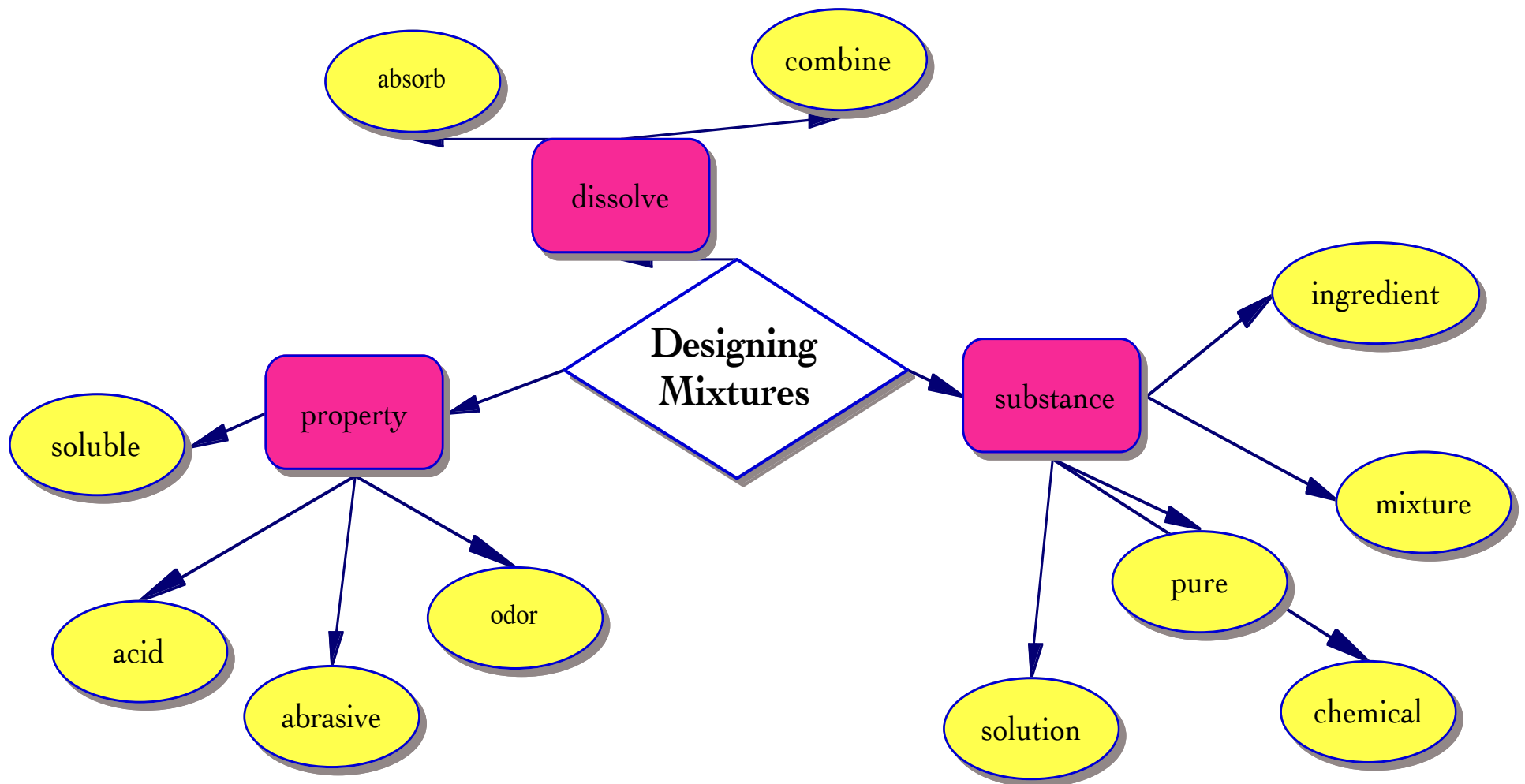


(b) The rare words in
informational texts
belong to topical
networks.

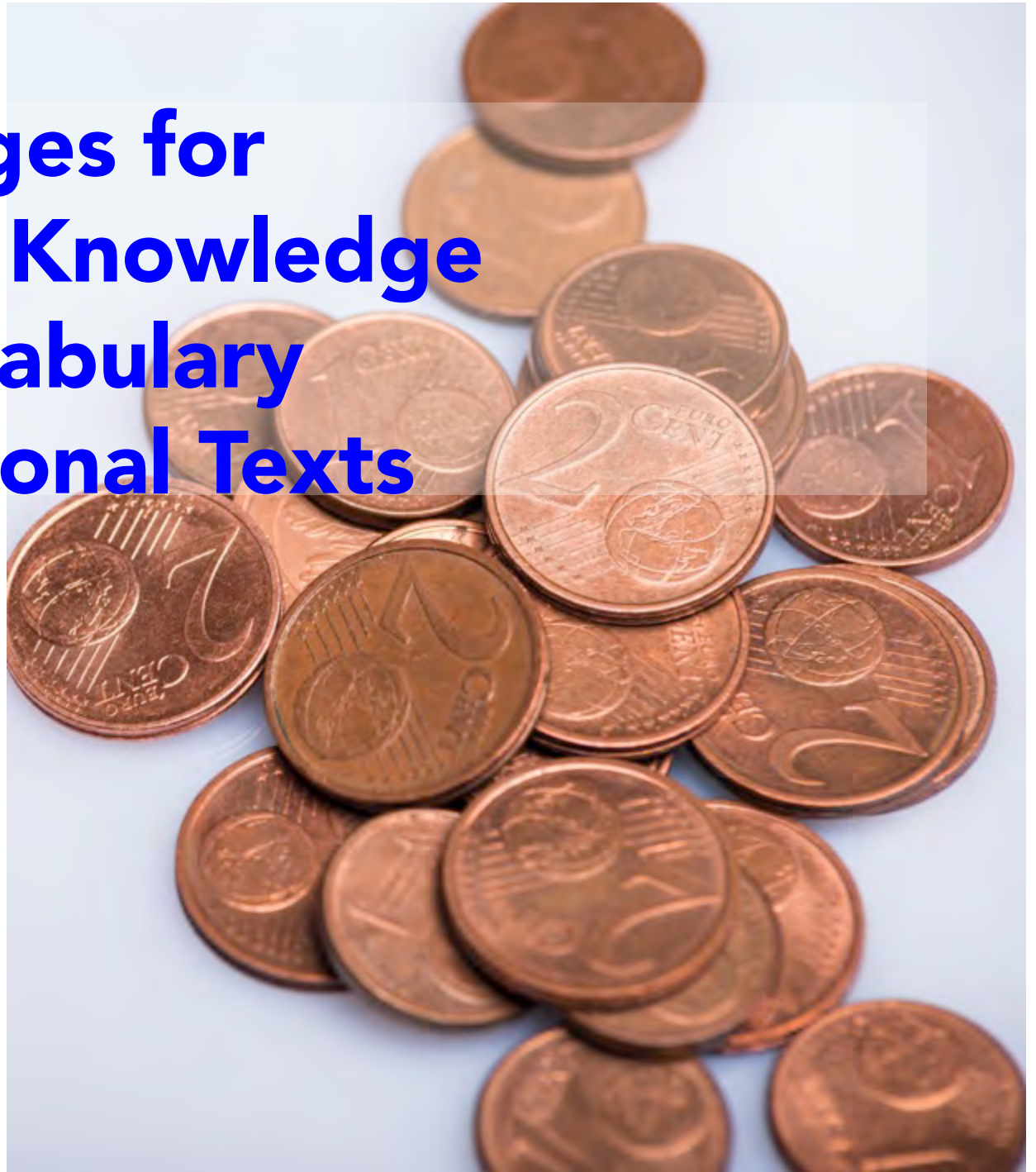
Informational Text

A simple solution is basically two substances that are evenly mixed together. One of them is called the **solute** and the other is the **solvent**. A solute is the substance to be dissolved (sugar). The **solvent** is the one doing the dissolving (water). As a rule of thumb, there is usually more **solvent** than **solute**. The amount of **solute** that can be dissolved by the **solvent** is defined as **solubility**.

An Example of a Topical Network



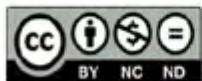
Small Changes for Supporting Knowledge of Rare Vocabulary in Informational Texts





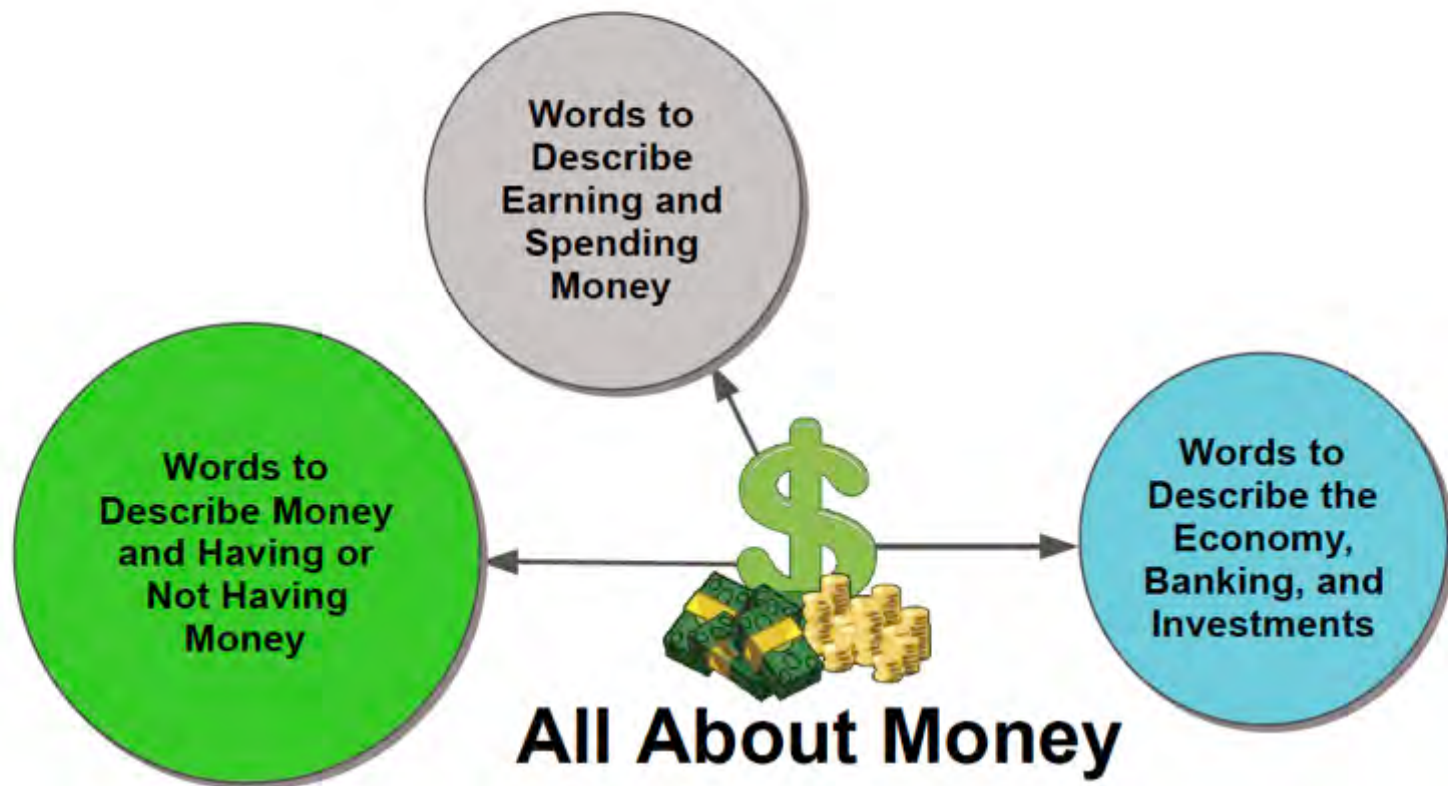
All About Money—

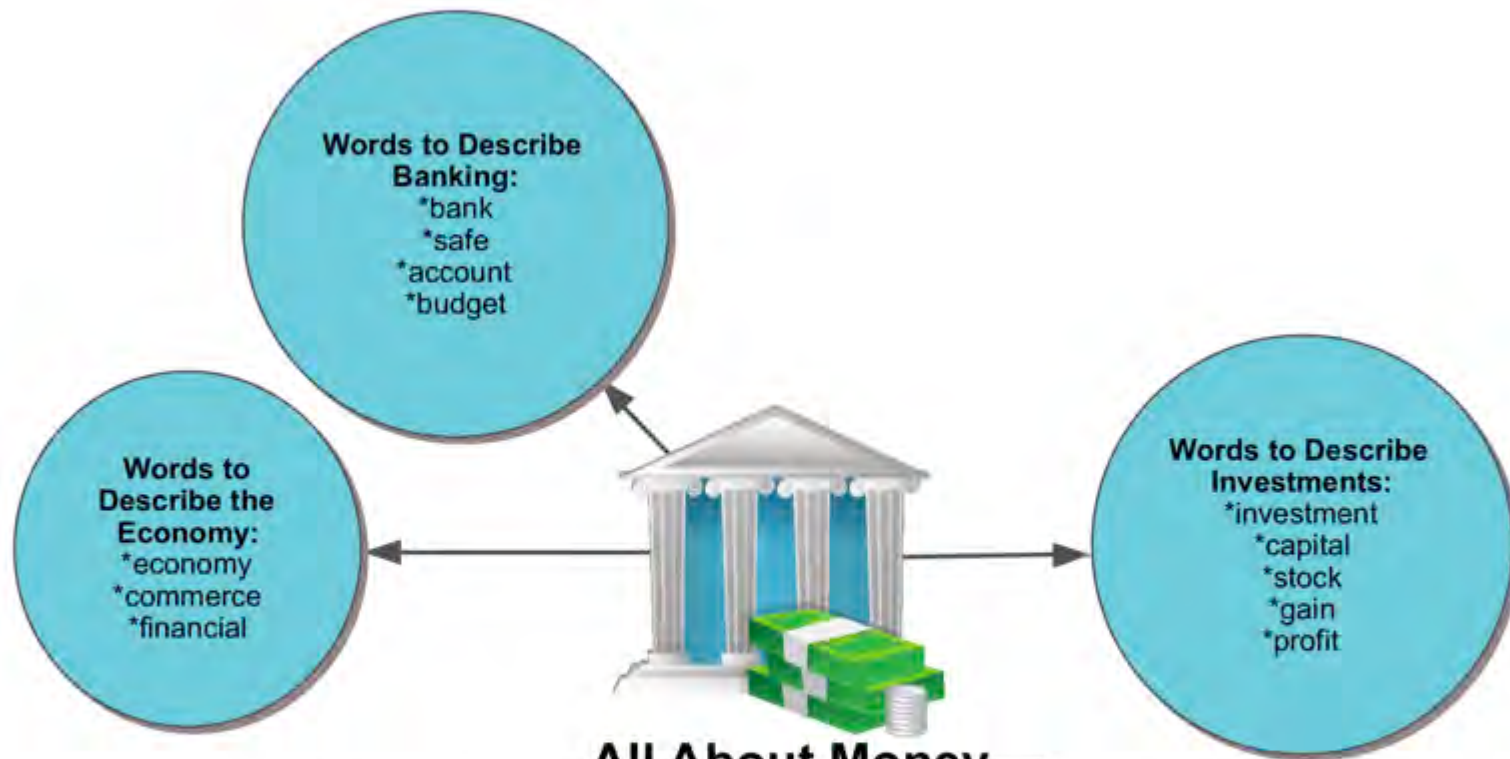
Words to Describe Money and Having
or Not Having Money



For more information about TextProject, visit www.textproject.org
v.1.0 © 2015 TextProject, Inc. Some rights reserved
<http://creativecommons.org/licenses/by-nc-nd/3.0/us/>

©2014 by Pictures of Money at Flickr. Some rights reserved. <https://creativecommons.org/licenses/by/2.0/>





**All About Money—
Words to Describe the Economy, Banking,
and Investments**



commerce

(com·merce)

Commerce describes the buying and selling of goods.



The Arts— About the Arts



For more information about TextProject, visit www.textproject.org
v.1.0 © 2015 TextProject, Inc. Some rights reserved
<http://creativecommons.org/licenses/by-nc-nd/3.0/us/>

©2014 by cgc76 at Flickr. Some rights reserved. <https://creativecommons.org/licenses/by-nc-nd/2.0/>

©2008 by Nikki Tysie at Flickr. Some rights reserved. <https://creativecommons.org/licenses/by/2.0/>



Elements, Minerals, and Rocks

Elements and Minerals



For more information about TextProject, visit www.textproject.org
v.1.0 © 2015 TextProject, Inc. Some rights reserved
<http://creativecommons.org/licenses/by-nc-nd/3.0/us/>

©2011 by Barnshaws Metal Bending Ltd at Flickr. Some rights reserved. <https://creativecommons.org/licenses/by-nc-nd/2.0/>



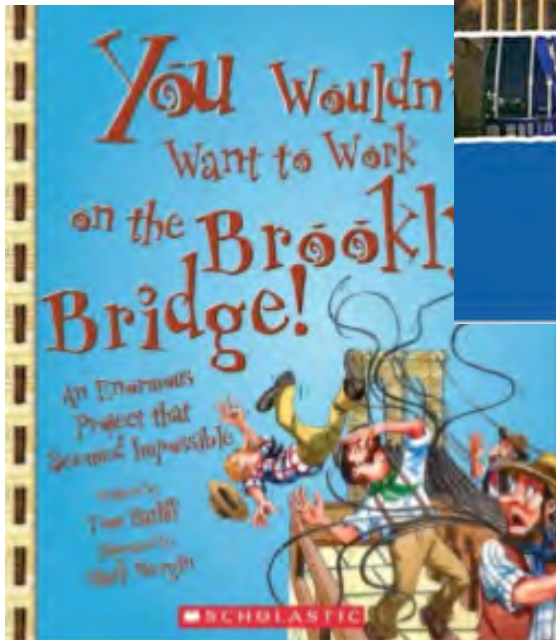
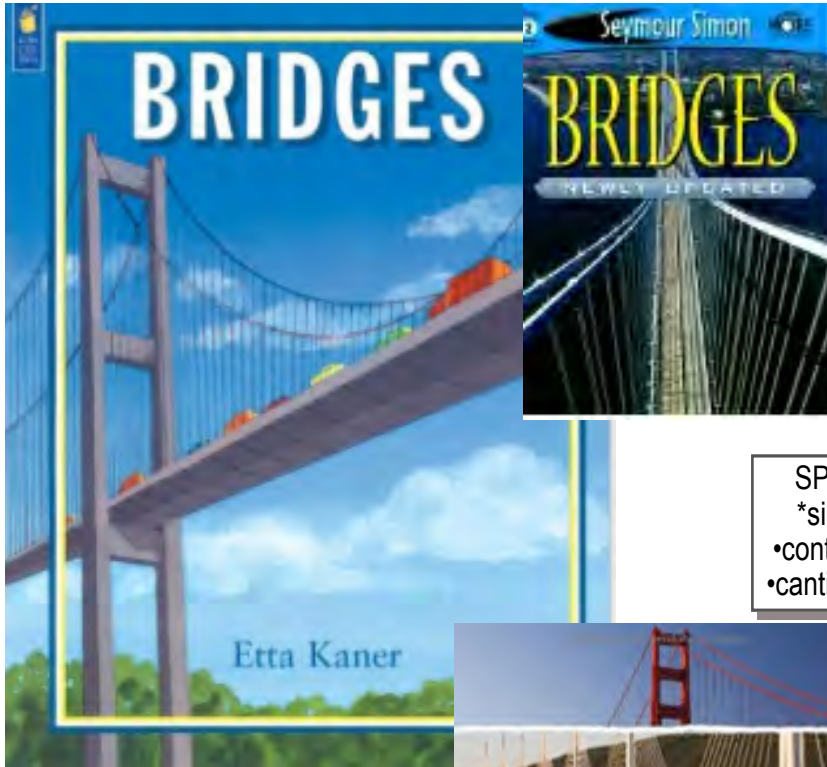
Fashion and Design—

General and Specific Fashion and Design Terms



For more information about TextProject, visit www.textproject.org
v.1.0 © 2015 TextProject, Inc. Some rights reserved
<http://creativecommons.org/licenses/by-nc-nd/3.0/us/>

©2010 by Roberto Trm at Flickr. Some rights reserved. <https://creativecommons.org/licenses/by/2.0/>



SPANS:
 •simple
 •continuous
 •cantilevered

FEATURES
 OF SITES:
 •bedrock
 •tides
 •currents

KINDS:
 •beam
 •arch
 •suspension

VARIATIONS:
 •truss
 •bascule/swing
 •semicircular
 •segmental arch

BRIDGES

COMPONENTS:
 •pier
 •tower
 •pylon
 •cables
 •girder

LOADS &
 FORCES:
 •compression
 •tension
 •torsion
 •shear forces

Idea	Small Change	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. 7 minutes of additional reading daily, especially of magazine articles
3. Rare words in narrative texts belong to synonym networks; those in informational texts in topic networks.	3. Teach students prolific synonym networks & organize topics into networks.	3. •Super Synonym Sets for Stories (S4) •Exceptional Expressions in Everyday Events (E4)