

Teacher Created Materials

P U B L I S H I N G

STEM Foundation 2

Critical and Close Reading of Nonfiction Text

Meeting the Rigor of Common Core



**ARKANSAS
DEPARTMENT
OF EDUCATION**

STEM Foundation 2: Critical and Close Reading of Nonfiction Text

STEM (science, technology, engineering and mathematics) education is an interdisciplinary approach to learning where rigorous academic concepts are coupled with real-world lessons.

(Arkansas Department of Education)

STEM Foundation 2: Critical and Close Reading of Nonfiction Text

Critical and close reading of nonfiction text are integral processes that will empower the students of Arkansas to determine what the text says explicitly, to make logical inferences from it, and to cite textual evidence when writing and speaking as they support conclusions drawn from a text. Critical and close reading will lead to a deeper understanding of complex text across content areas, which will prepare students to compete in the new economy.

Professional Learning Objectives

- Learn how to structure and conduct purposeful close reading using text found in STEM classrooms
- Acquire effective techniques for modeling, conducting deep discussions, and asking text-dependent questions
- Facilitate student learning of content standards during the close reading process



Agenda

- Text Complexity and the Common Core
- Close Reading Structure
- Critical Reading Guidelines
- STEM Classroom Demonstrations and Close Reading Instructional Strategies

Text Complexity



The research shows that while the complexity of reading demands for college, career, and citizenship have held steady or risen over the past half century, the complexity of texts students are exposed to has steadily decreased in that same interval.

(CCSSO, 2010 Appendix A)

What is Close Reading?



What is Close Reading?

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What is Close Reading?



What is Close Reading?



What is Close Reading?



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What is Close Reading?

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Close Reading Structure

Close Reading is...

a **careful and purposeful rereading** of a text in order to understand it deeply

a **breakdown of a complex passage** from a larger text or challenging chunk of text

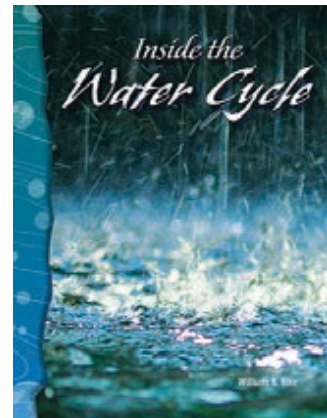
Close Reading Structure

CCSS Organization

- A. Key Ideas and Details
- B. Craft and Structure
- C. Integration of Knowledge and Ideas
- D. Range and Level of Text Complexity

Close Reading Structure

- First Read:** Key Ideas & Details
(big ideas & confusing parts)
- Second Read:** Craft & Structure
(content, language, structure)
- Third Read:** Integration of Knowledge & Ideas
(connections to own views, world, and other texts, analyze, evaluate, critique)



Close Reading Structure

First Read: Key Ideas & Details
(big ideas & confusing parts)

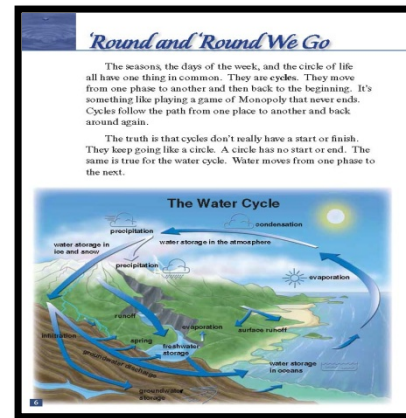


Students should be able to determine what texts say explicitly and be able to summarize them, making logical inferences, and citing textual evidence to support conclusions.

Text Complexity: Raising Rigor in Reading
(Fisher, D., 2012)

Close Reading Structure

Second Read: Craft & Structure (content, language, structure)



Students should be able to interpret the meaning of words and phrases and the structure of texts to determine how they affect meaning or tone, how points of view and purpose shape content and style.

Text Complexity: Raising Rigor in Reading
(Fisher, D., 2012)

Close Reading Structure

Third Read: Integration of Knowledge & Ideas
(connections to own views, world, and
other texts, analyze, evaluate, critique)

Inside the Water Cycle

Precipitation Tracker

Average Precipitation (in inches) Per Year for Each of the 50 States

| STATE | Precipitation (inches/year) | STATE | Precipitation (inches/year) |
|---------------|-----------------------------|----------------|-----------------------------|
| Alabama | 56.9 | Montana | 11.6 |
| Alaska | 53.2 | Nebraska | 30.3 |
| Arizona | 7.1 | Nevada | 7.9 |
| Arkansas | 49.2 | New Hampshire | 36.5 |
| California | 17.3 | New Jersey | 41.9 |
| Colorado | 15.3 | New Mexico | 8.9 |
| Connecticut | 44.4 | New York | 29.3 |
| Delaware | 41.4 | North Carolina | 45.5 |
| Florida | 50.0 | North Dakota | 15.4 |
| Georgia | 48.8 | Ohio | 37.8 |
| Hawaii | 23.5 | Oklahoma | 30.9 |
| Idaho | 12.7 | Oregon | 37.4 |
| Illinois | 33.3 | Pennsylvania | 40.3 |
| Indiana | 39.3 | Rhode Island | 41.9 |
| Iowa | 34.7 | South Carolina | 51.6 |
| Kansas | 28.4 | South Dakota | 17.5 |
| Kentucky | 43.8 | Tennessee | 48.5 |
| Louisiana | 50.7 | Texas | 24.7 |
| Maine | 43.5 | Utah | 15.3 |
| Maryland | 41.8 | Vermont | 33.7 |
| Massachusetts | 41.8 | Virginia | 45.2 |
| Michigan | 32.2 | Washington | 27.7 |
| Minnesota | 26.4 | West Virginia | 40.7 |
| Mississippi | 52.8 | Wisconsin | 30.9 |
| Missouri | 23.9 | Wyoming | 11.3 |

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Students should be able to synthesize and compare information from print and digital sources, and critically evaluate the reasoning and rhetoric of the text.

Text Complexity: Raising Rigor in Reading
(Fisher, D., 2012)

Critical and Close Reading of Text

Close examination of complex texts is exactly what is required for critical literacy.



“Reading with a pencil!”

Text Complexity: Raising Rigor in Reading
(Fisher, D., 2012)

Critical and Close Reading of Text



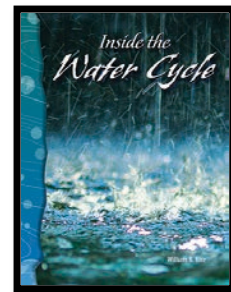
Guidelines:

- ◆ Choose your text carefully and purposefully
- ◆ Use standards to set a specific purpose for each reading
- ◆ Clearly set the purpose of each reading for your students
- ◆ Model the expectations for each reading
- ◆ Develop text-dependent questions to promote high-level thinking and the use of textual evidence

4th Grade Lesson: The Water Cycle



Critical and Close Reading
of Informational Text



Strategies Utilized in this Lesson

- Coding the Text
- Gradual Release of Responsibility Model

Student Reading Strategy

Coding the Text

- Place the sticky notes in the text or jot the code in margins if using a consumable text.
- Use the code to mark your thinking while reading the text.

! = main idea

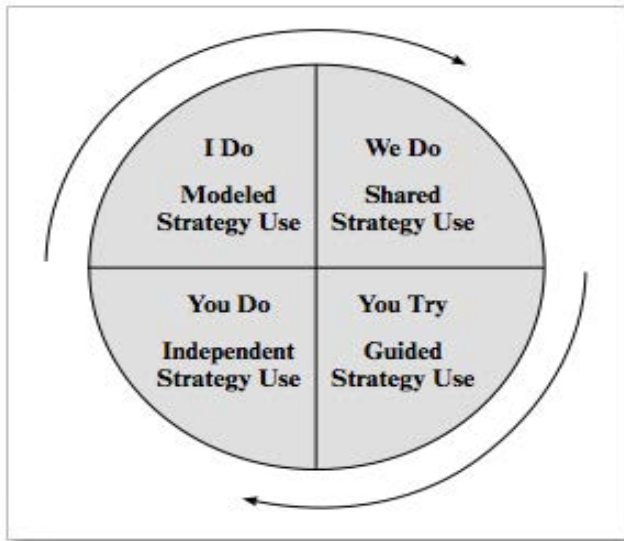
*** = details
(words or phrases)**

? = confusing parts

Teaching Practice

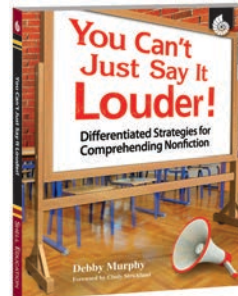
Gradual Release of Responsibility Model

Figure 1.1 The Gradual Release of Responsibility Model



As we increase the complexity of text, we must model our thinking particularly when reading informational text!

You Can't Just Say It Louder!
(Murphy, D., 2010)

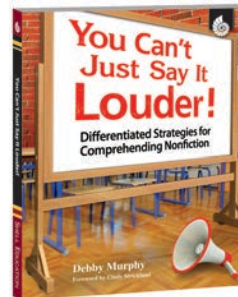
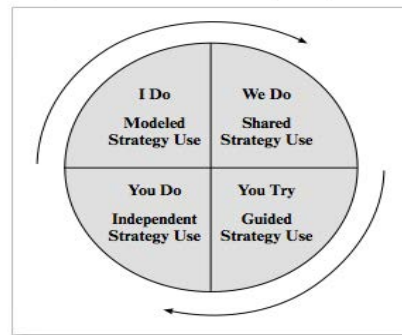


Teaching Practice

Gradual Release of Responsibility Model

Targeted language allows teachers to demonstrate the ideas and procedures behind such cognitive processes as summarizing the important ideas of a text or creating an inference after reading. Carefully designed “teacher talk” and modeling assist students by allowing them to “see into” the mind of a reader.

Figure 1.1 The Gradual Release of Responsibility Model



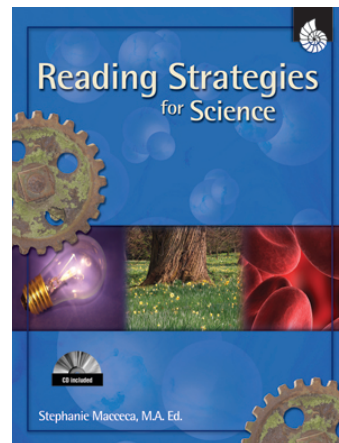
You Can't Just Say It Louder!
(Murphy, D., 2010)

Teaching Practice

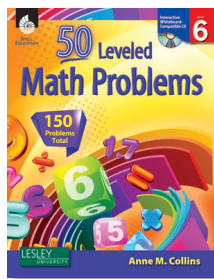
Think Alouds

“Think alouds (Ryder and Graves 2003), also known as mental modeling are strategies to verbalize a teacher’s thoughts aloud to students while reading a selection orally.”

Reading Strategies for Science
(Macceca, S., 2007)



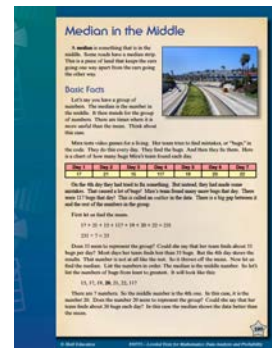
6th Grade Lesson: Determining the Best Central Tendency



Critical and Close Reading of Informational Text

Strategies Utilized in this Lesson

- Semantic Word Maps
- Jigsawing/Flexeogeneous Grouping



Student Reading Strategy

Semantic Word Map

Name: _____

Semantic Word Map

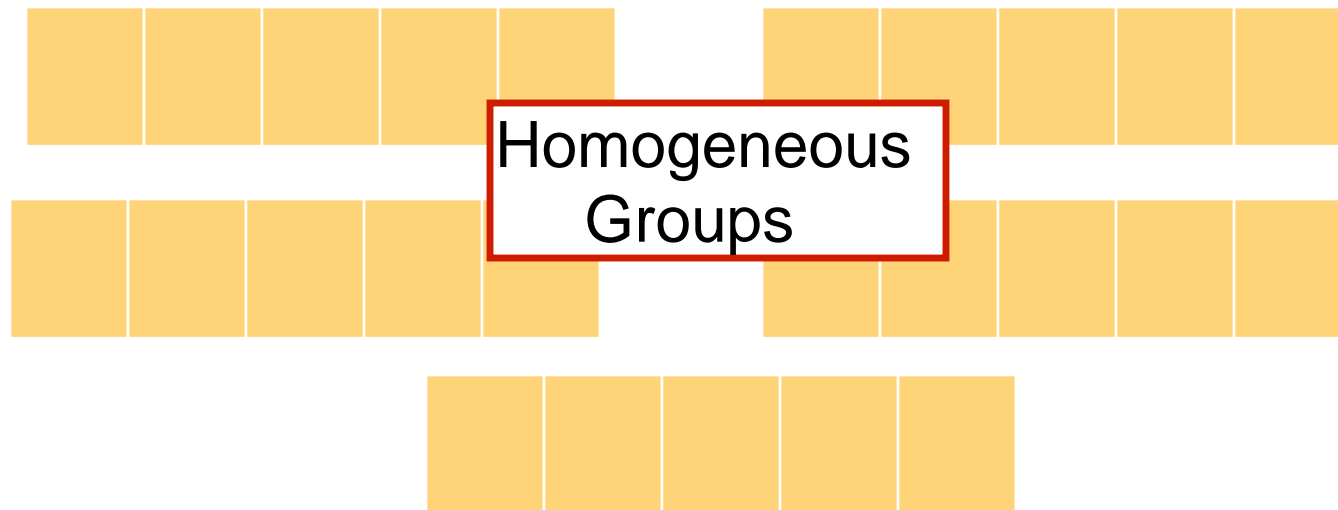
© Shell Education #50015—Reading Strategies for Mathematics 59

- Place the key concept in the center.
- Write a key word or phrase which describes that concept in each section
- Add details to help in the understanding of the central concept

Teaching Practice

Jigsawing/Flexogeneous Grouping

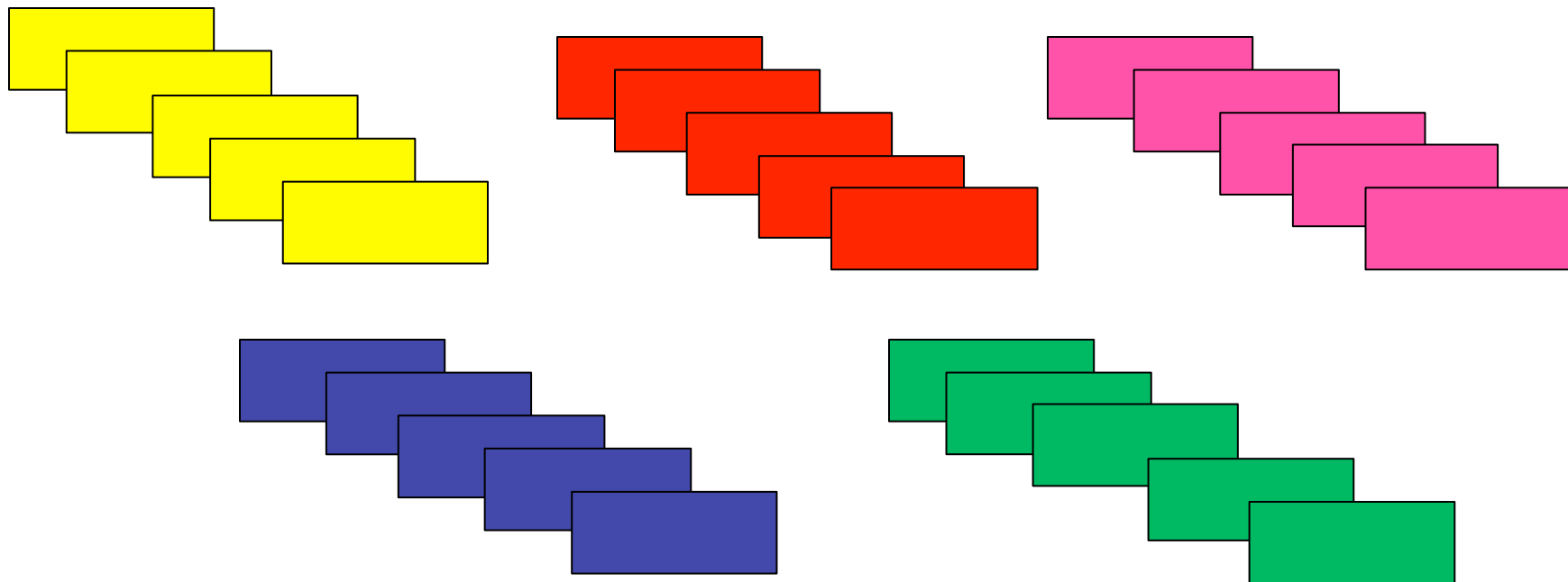
Start with your regular groups



Teaching Practice

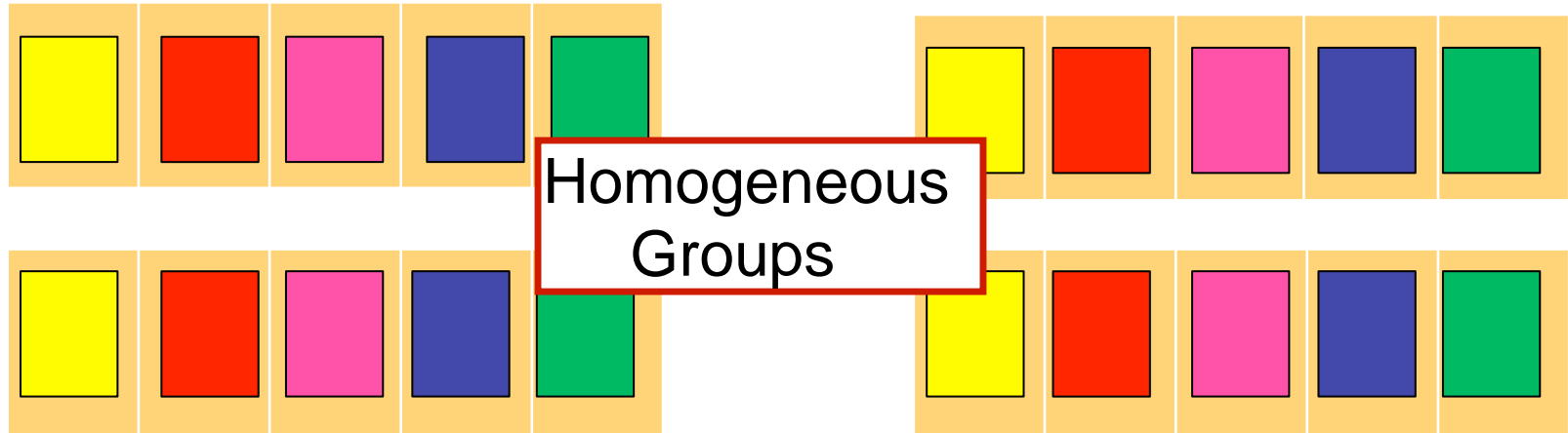
Jigsawing/Flexogeneous Grouping

Make color-coded cards

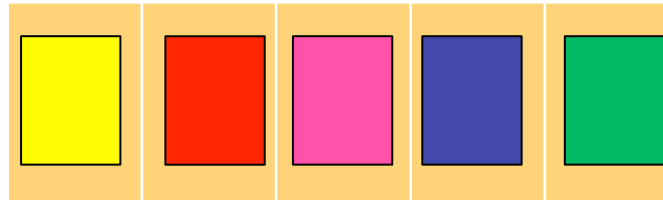


Teaching Practice

Jigsawing/Flexogeneous Grouping

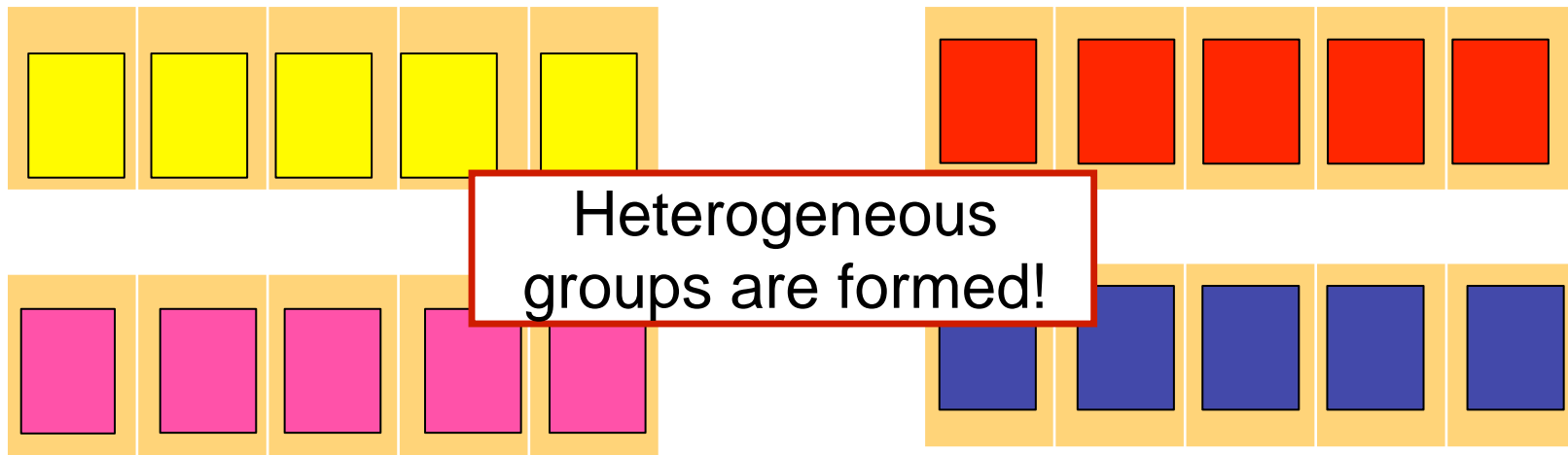


Distribute the color
cards among the
groups

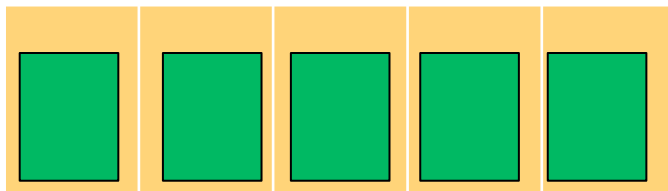


Teaching Practice

Jigsawing/Flexogeneous Grouping



Instruct students to
group with like
colored cards



9th Grade Lesson: Non-Newtonian Fluid and Newton's Law of Viscosity

Critical and Close Reading
of Informational Text



Strategies Utilized in this Lesson

- Read-Retell-Record
- Venn Diagram

Student Reading Strategy

Read-Retell-Record

Read-Retell-Record

An Active Reading Strategy for Small Leveled Groups

Preparation:

- ♦ Group students into groups of three based on reading level and determine the appropriate leveled text for each group.
- ♦ Create a "reading card" for each group (this can be a colored index card or bookmark).

Procedures:

- ♦ Explain the strategy and roles to the class. Model the strategy using two students and yourself to demonstrate the three roles.
- ♦ Be sure to mention that the group needs to discuss the "big idea" and reach consensus before it can be recorded.

- | | |
|---------|---|
| Role 1: | Read one sentence or paragraph aloud to your group. |
| Role 2: | Retell the "big idea" in your own words. |
| Role 3: | Record the "big idea" on a sticky note. |

- ♦ Students then rotate the jobs and repeat the process until they've completed the portion of leveled text you've assigned.
- ♦ When finished, students should read all of their sticky notes in order to summarize what they have read.

Role 1: Read one sentence or paragraph aloud to your group.

Role 2: Retell the "big idea" in your own words."

Role 3: Record the "big idea" on a sticky note.

Student Reading Strategy

Read-Retell-Record

Read-Retell-Record

An Active Reading Strategy for Small Leveled Groups

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- Role 1: Read one sentence or paragraph aloud to your group.
 - Role 2: Retell the "big idea" in your own words.
 - Role 3: Record the "big idea" on a sticky note.

- ♦ Students then rotate the jobs and repeat the process until they've completed the portion of leveled text you've assigned.
- ♦ When finished, students should read all of their sticky notes in order to summarize what they have read.

- Provides a specific strategy for "tracking thinking" as students read
- Requires collaboration in breaking down the meaning of complex texts
- Promotes instructional conversations
- Helps students to become metacognitive as they read

Student Reading Strategy

Venn Diagram

- Provides visual depiction of similarities and differences
- Builds confidence for students in comparing and contrasting more complicated information by using a familiar organizer
- Promotes the use specific comparisons and similarities of complex concepts

Newton's Law of Viscosity & Non-Newtonian Fluid

Name: _____

Venn Diagram

Directions: Write on the top two lines the concepts you are comparing and contrasting. List the ways in which they are similar in the center section of the Venn Diagram. Write the ways they are unique in the outer sections of the circles.

Newton's Law of Viscosity

Non-Newtonian Fluid

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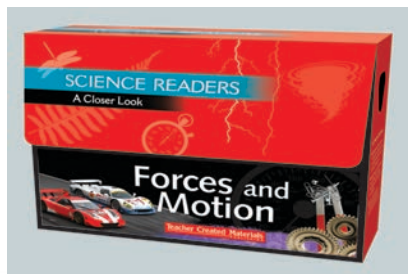
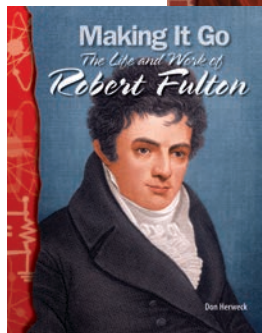
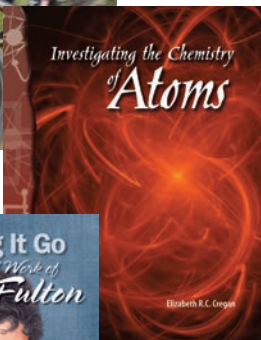
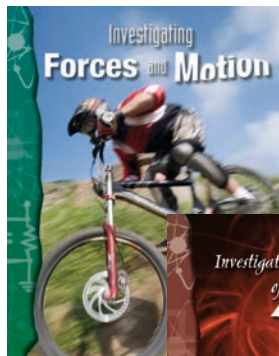
Teacher Created Materials

- A family-owned company
- Founded more than 35 years ago
- Trusted name among PreK-12 educators
- Develops curriculum solutions and professional resources
- Materials have been used in the U.S. and 89 countries



Classroom Resources

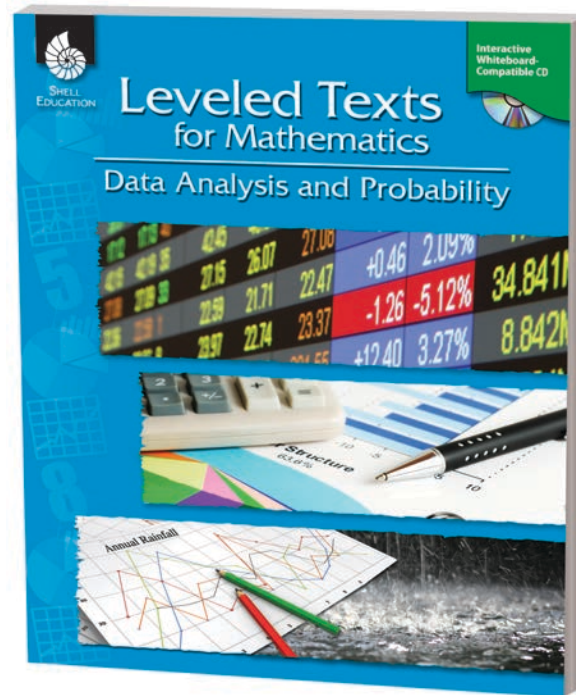
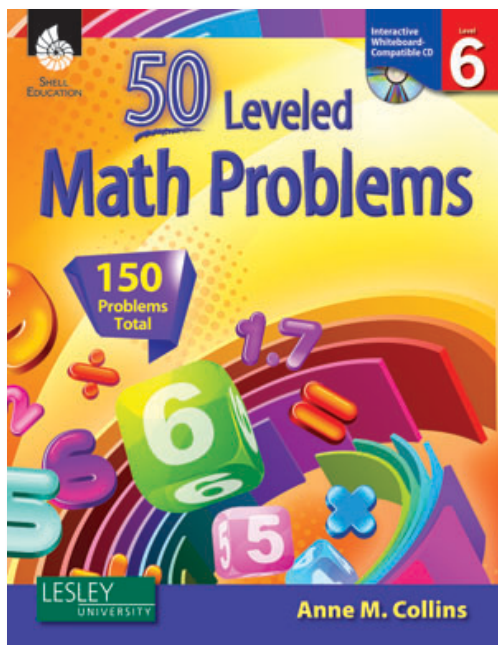
- **Science Readers – A Closer Look K- 2**
 - Hands-on lab activities, leveled readers
- **Discovering Science Through Inquiry 3-8**
 - Complete inquiry using 5E Model
- **Science Readers 4-8 – Life, Physical, Earth & Space - Building science & literacy**



Professional Resources



Professional Resources



Critical and Close Reading of Text

In Closing...

Readers need more opportunities to grapple with and make sense of high-quality texts!

