

Teacher Created Materials

P U B L I S H I N G

STEM Foundation 3

Writing Across the Content Areas



ARKANSAS
DEPARTMENT
OF EDUCATION

Presenter
Kimberly Stockton

STEM Foundation 3: Writing Across the Content Areas

“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 3:

Writing Across the Content Areas

Writing Across the Content Areas Overview

- Develop a systematic writing routine to guide students through the writing process
- Integrate research-based methods for daily writing across the content areas
- Incorporate writing traits, strategies, and tools in the content areas by using writing to facilitate inquiry and reflection
- Discover innovative ways to help all students master the writing types of opinion, argument, informative, and narrative
- Learn the best approaches for scaffolding the writing process

Agenda

- Introduction to the writing process
- Best teaching practices across the curriculum
- Exploring the steps of the writing process
- STEM classroom demonstration and writing strategy overviews

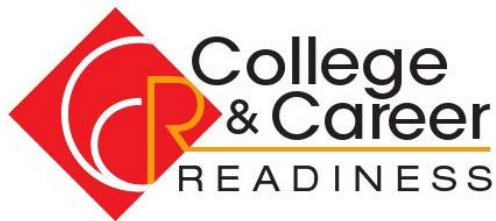
21st Century Skills

Each year in **their writing, students should demonstrate increasing sophistication in all aspects of language use, from vocabulary and syntax to the development and organization of ideas, and they should address increasingly demanding content and sources.**

Students advancing through the grades are expected to meet each year's grade-specific standards and retain or further develop skills and understandings mastered in preceding grades. The expected **growth in student writing** ability is reflected both in the standards themselves and in the collection of annotated student writing samples in Appendix C.

(CCSSO, 2010 Appendix A)

Why Do Students Need Writing Skills in the 21st Century?



to achieve in gatekeeper courses



to collaborate



**to compete
in a global
economy**



**to communicate
and share ideas
or solutions**

Learning to Write is the teaching of the writing process—all the steps writers go through to get to a finished piece *and* the teaching of all the skills necessary to write well.

The purpose is to communicate and to be understood.



Writing to Learn is expressive writing that encourages students to write about what they are thinking and learning.

The purpose is to promote active learning, encourage discussion, engage all students, and develop higher-level thinking skills.



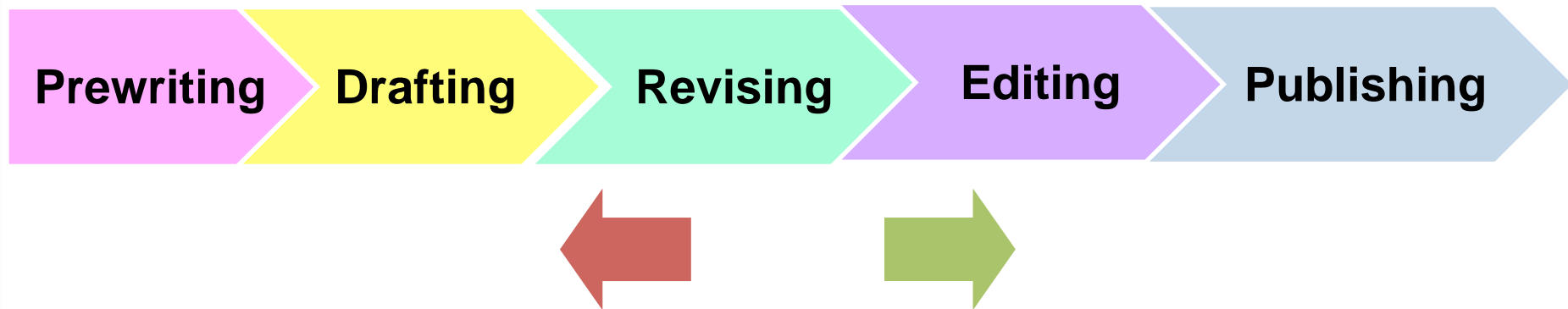
Why Write Across the Curriculum?

- **Students get actively involved in their learning**
- **Students make connections with prior knowledge**
- **Comprehension improves**
- **Students' writing skills improve**
- **Teacher grading workload is decreased**

Teaching Practices

The Writing Process

Instructional Steps- Recursive



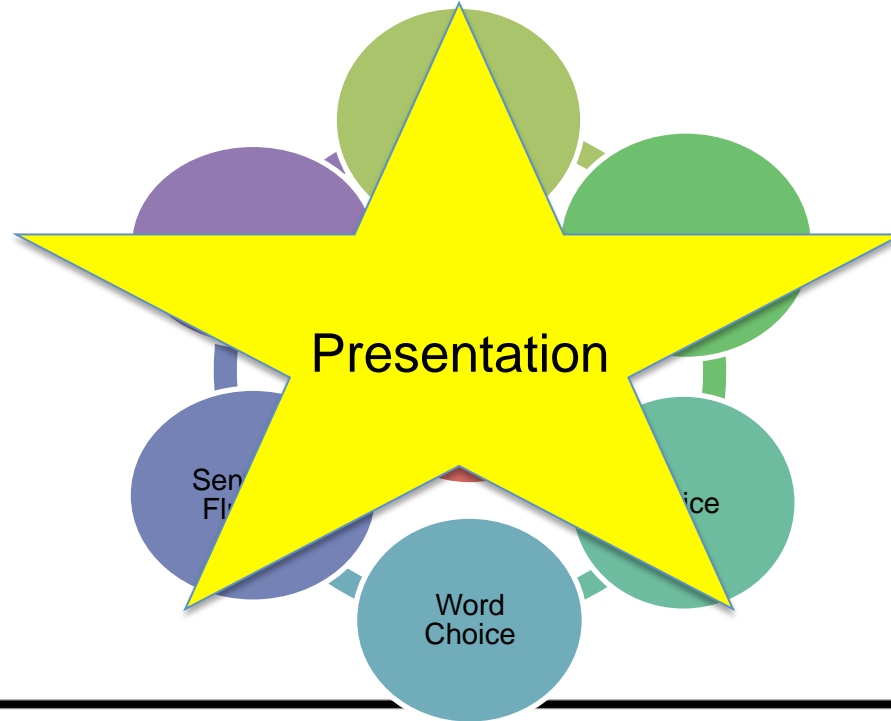
Teaching Practices

The Writing Process



Teaching Practices

The Writing Process



Teaching Practices

Managing Writing in the Classroom



Clear Expectations

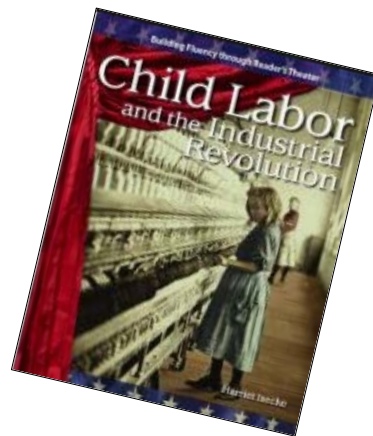


EDITING MARKS	
^	Insert a word, letter, or phrase
✂	Delete
≡	Capitalize
/	Change to lower case
⦿	Insert period
⤴	Insert comma
⋇	Insert an apostrophe
⋈	Insert quotation marks
#	Insert space

Teach Writing Skills

Teaching Practices

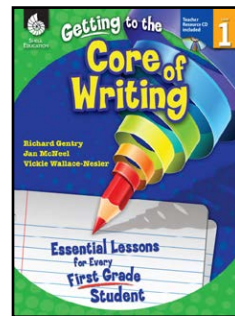
Scaffold the Writing Process



Teaching Practices

Building a Mini Lesson

- 5–15 minutes at the beginning of the writing workshop
- Introduces new writing strategies through modeling, and engaging student practice
- Focused on one specific topic



1st Grade Lesson: Germs

CCSS Writing Standard:

W1.2

Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.

1st Grade Lesson: Germs

Arkansas Health Standard:

Health and Wellness: HW.7.1.2

Describe ways to prevent the spread of germs and illness: Wash hands; Cover sneeze/cough; Bathing

Writing Essential Questions

- What are germs?
- How are germs transferred?
- Where might germs be located in your classroom?
- How can you reduce the spread of germs?



Pre-Writing

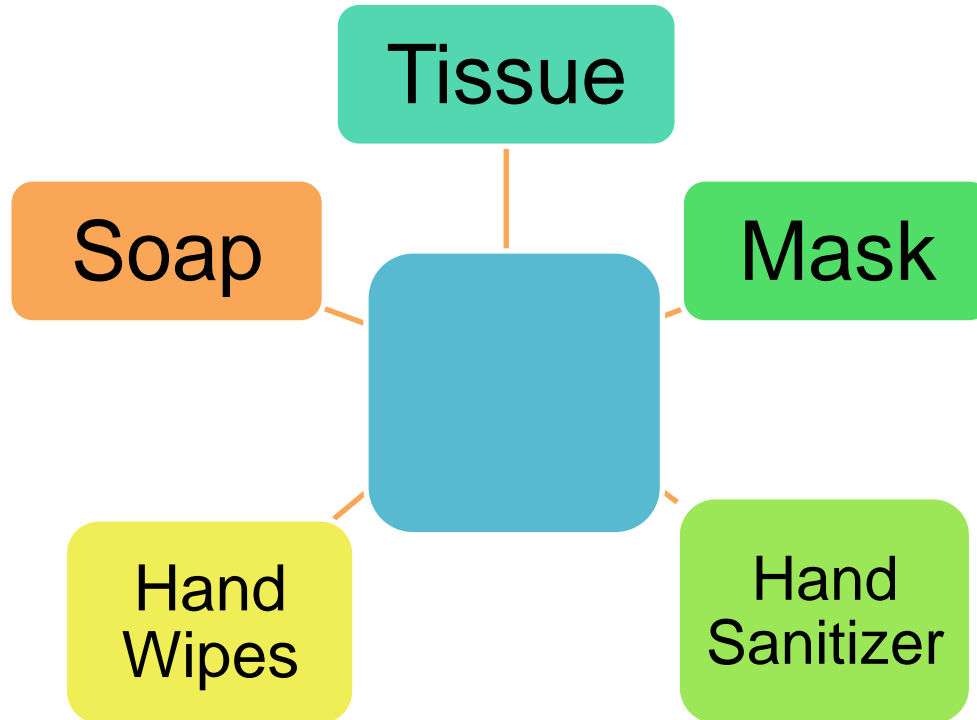
- Tissues
- Soap
- Hand Wipes
- Gloves
- Mask
- Antibacterial Hand Gel



Mystery Bag

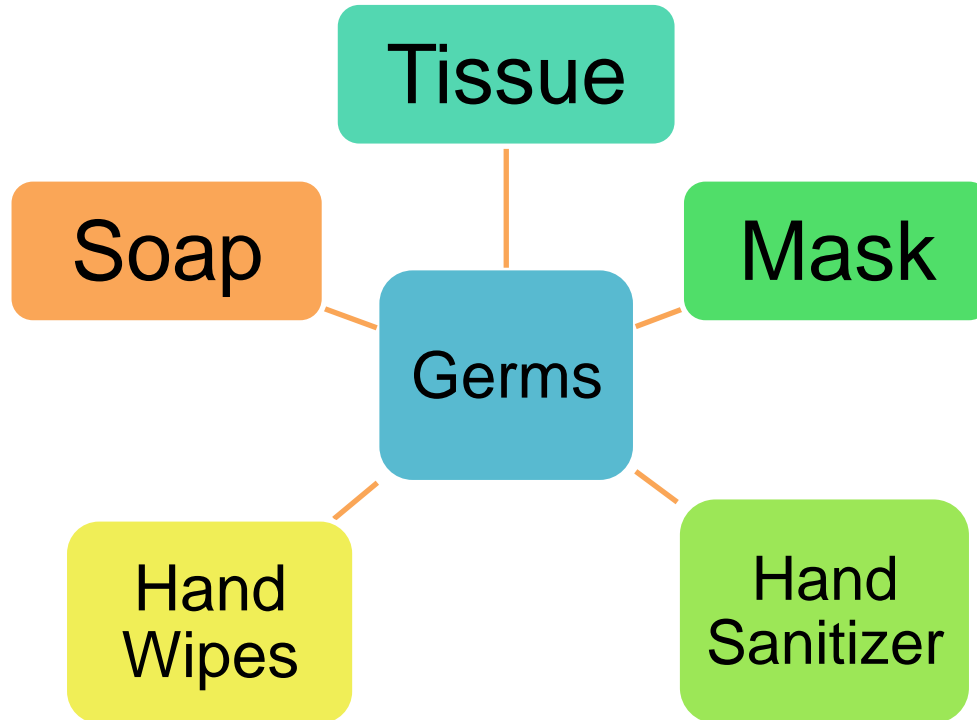


Pre-Writing Semantic Organizer





Pre-Writing Semantic Organizer



Build Background

Glittery Germs

- Students participate in a guided investigation to simulate the spread of germs.





Pre-Writing Information Chart

Germ Information

Germs are small

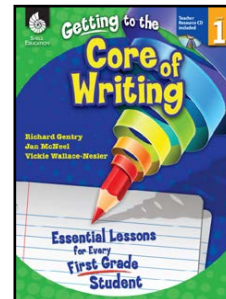
Wash your hands

Clean your desks

Sneeze in your sleeve

Cover your cough

Guided Drafting



Guided Drafting

- Gradual Release of Responsibility
- Partner Share
 - Informal Assessment
 - Correct Misconceptions
- Highlight Support Devices

This is a worksheet titled 'My Hand Plan' from Lesson 4. At the top, there are fields for 'Name: _____', 'Date: _____', and 'Organization: _____'. Below these is the title 'My Hand Plan' and a set of directions: 'Directions: Use the hand below to help you plan your writing.' The central feature is a large outline of a right hand. The fingers are labeled 'Detail' (each finger has a line for a detail). The palm is labeled 'Topic'. The wrist area is labeled 'Wrap-up'. At the bottom of the worksheet, there is a small copyright notice: '© 2015 by Teacher Created Materials, Inc. All rights reserved.' and a page number '30'.

Independent Drafting

Germs are small living things that can make us sick.

I learned...

I will...

I know...

You should...

Name: _____

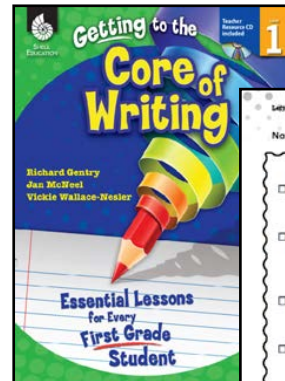
→ _____

→ _____

→ _____

→ _____

→ _____



Lesson 1

Name: _____ Date: _____

My Writing Checklist

☐ Did I put my name on my paper?
Juan

☐ Did I start my sentences with a capital letter?
My mom likes cats.

☐ Did I end my sentences with punctuation?
. ! ?

☐ Did I use good spacing?
The dog

☐ Did I spell my words correctly?

☐ Did my story make sense when I read it?

“Over the Shoulder” conferences

Revising Mini-Lesson

Awesome Adjective

- **Specific Focus**
- **Identify Word**
- **Group Lesson**
- **Try with a Peer**
- **Students Revise**

L.1.5.d

Distinguish shades of meaning among verbs differing in manner (e.g., look, peek, glance, stare, glare, scowl) and adjectives differing in intensity (e.g., large, gigantic) by defining or choosing them or by acting out the meanings.

“Over the Shoulder” conferences

Editing Mini-Lesson

Perfect Punctuation

- **Specific Focus**
- **Mentor Text**
- **“I *Spy*”**
- **Students Edit**

L.2.b

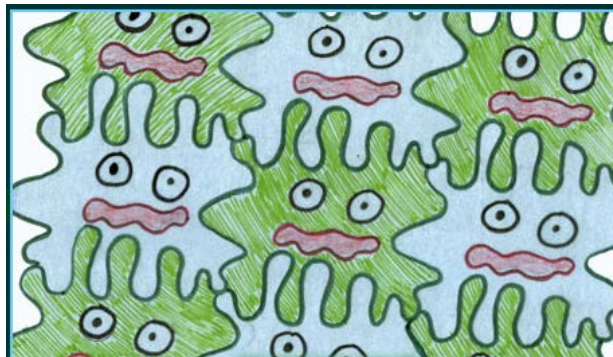
Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

- b. Use end punctuation for sentences.

***“Over the Shoulder”* conferences**

Publish

- Create a “*Class Germ Book*”
- Writer’s Theater
- Pair Share
- Type the Book
- Post the Book



1ST GRADE LESSON

8th Grade Lesson: Global Warming

CCSS Writing Standard:

W.8.1.b—Write arguments to support claims with clear reasons and relevant evidence.

b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.

8th Grade Lesson: Global Warming

Arkansas Standard:

Earth and Space Science: ESS 8.8.1

Analyze the causes and predict the consequences of global warming on the following:

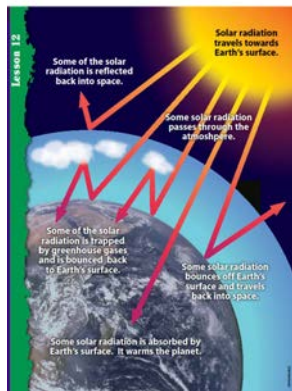
- weather
- temperature
- ocean water levels

Writing Essential Questions

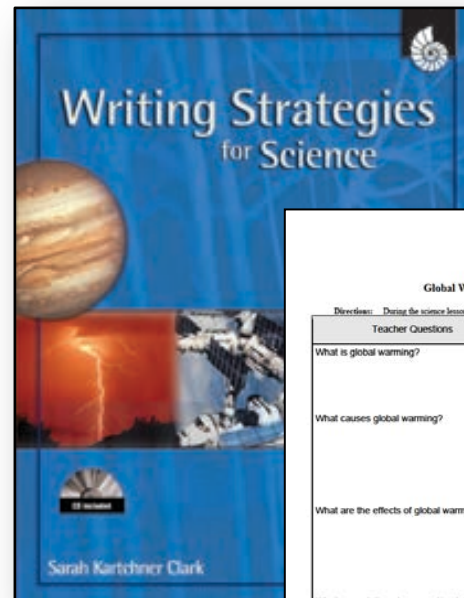
- What is global warming?
- What are the causes of global warming?
- What are the effects of global warming?
- What can we do to solve the problem?



Building Background



Students build background through reading and direct instruction.



Name: _____

Global Warming: Think Sheet

Directions: During the science lesson write answers and information.

Teacher Questions	My Questions/Thoughts
What is global warming?	
What causes global warming?	
What are the effects of global warming?	
What are solutions to prevent/curtail global warming?	

#10053—Writing Strategies for Science ©Shell Education

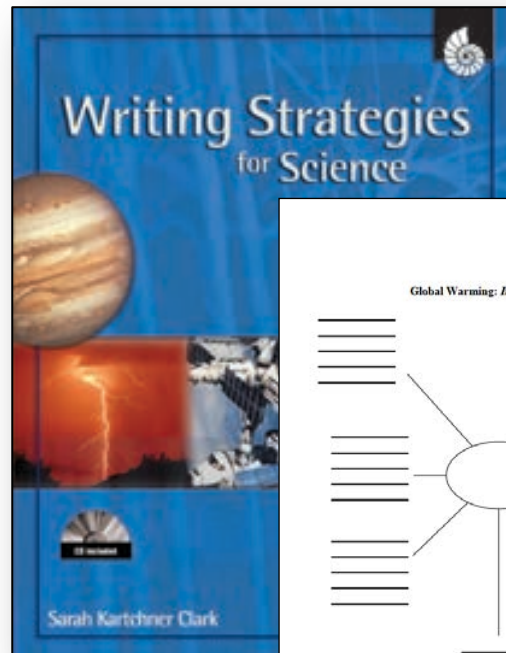
Pre-Writing

Peer Pre-Write

- Students work in small groups
- Semantic Organizer is enlarged
- Present findings to class

Group Pre-Write

- Review *Think Sheet*
- Are all questions answered?



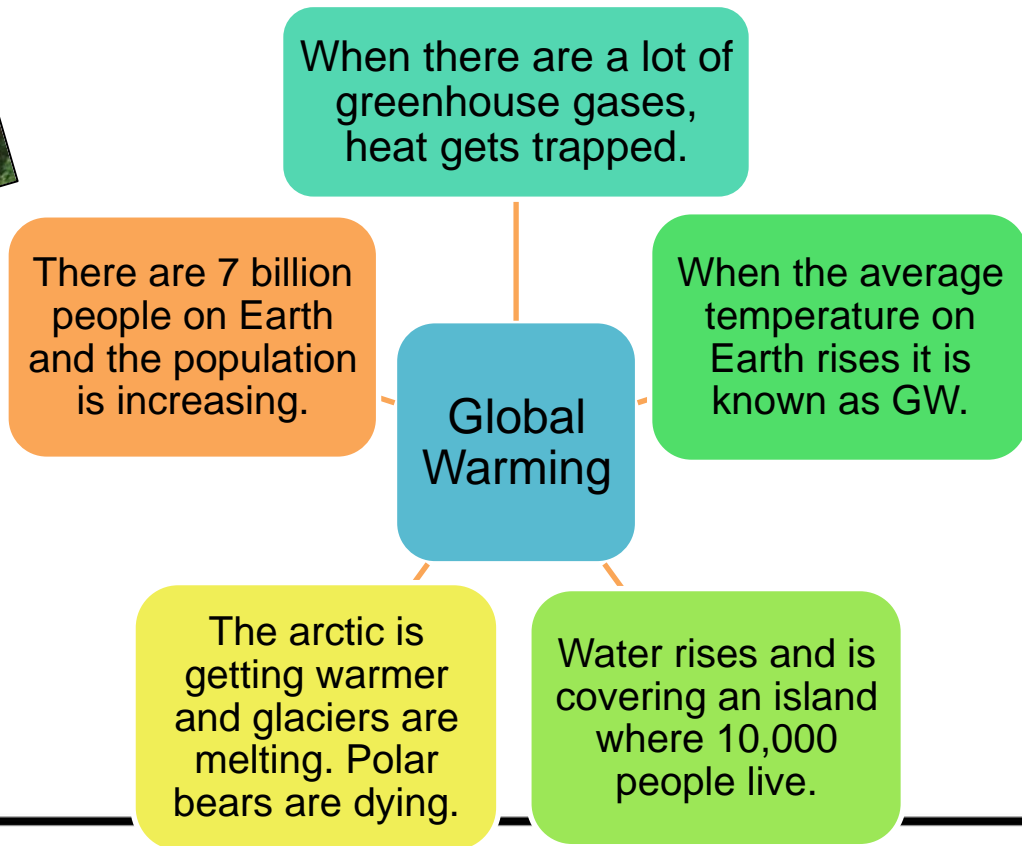
Name: _____

Global Warming: Information Map

#50017—Writing Strategies for Science ©Shell Education



Pre-Writing



Drafting

Mini-Lesson

- Introduce Mentor Text
- Argument Writing
- RAFT Graphic Organizer

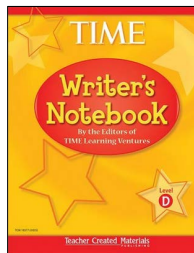
Revising Mini-Lesson

Call to Action

- **Specific Focus**
- **Direct Instruction**
- **Introduce Rubric**
- **Mentor Text**
- **Peer Review**
- **Students Revise**

WHST 8.1.e.

Provide a concluding statement or section that follows from and supports the argument presented.



“Over the Shoulder” conferences

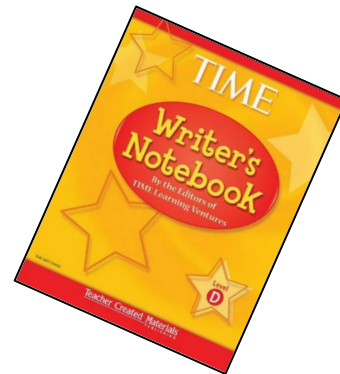
Editing Mini-Lesson

Author's Voice

- Specific Focus
- Direct Instruction
- Partner Game
- Students Edit

L8.1.b.

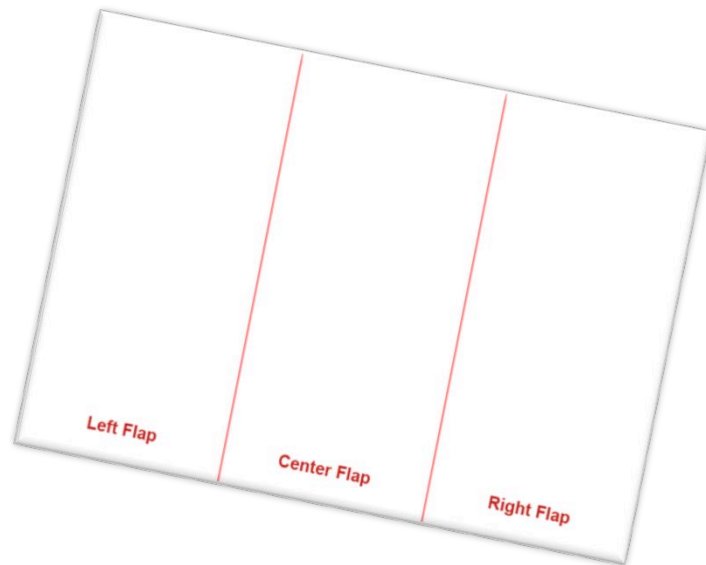
Form and use verbs in the active and passive voice.



“Over the Shoulder” conferences

Publish

- Word Document Template
- Create a full color tri-fold brochure



8TH GRADE LESSON

9th/10th Grade Lesson: PSA

CCSS Writing Standard:

W9-10.2.a

Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

9th/10th Grade Lesson: PSA

Arkansas Curriculum Content Framework:

Fundamentals of A/V, Tech, and Film

2.3—Examine employability skills needed to obtain and have success in job performance in the AVT and film pathway

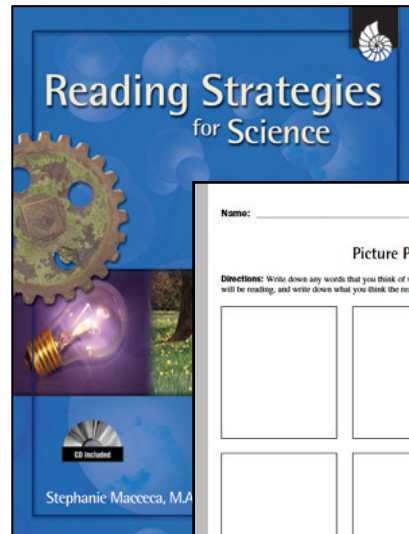
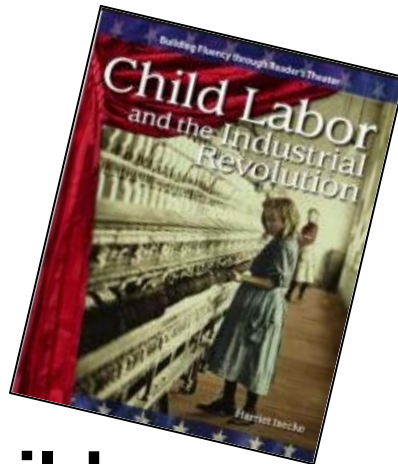
4.3.1—Create a storyboard for a video presentation/
production

Writing Essential Questions

- What writing elements should you include in an effective PSA?
- What are obstacles to teens seeking employment?
- What are solutions to these obstacles?
- What steps can employers take to make their businesses accessible to teens for employment?
- What difficulties may you encounter when applying for work as a teenager and a full-time student?



Building Background



**Students build
background through
reading and direct
instruction.**



Name: _____

Picture Prediction

Directions: Write down any words that you think of when you look at the pictures. Think about what you will be reading, and write down what you think the reading will be about.

Words

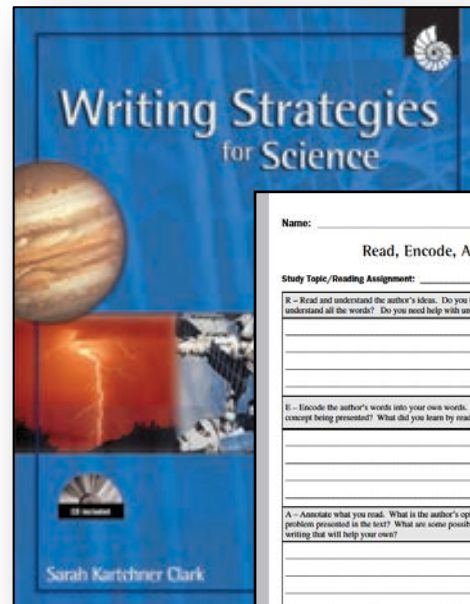
My Prediction

92 m0053—Reading Strategies for Science © 2nd Edition

Pre-Writing

Small Group Pre-Write

- Students read in small groups
- Complete Graphic Organizer
- Brainstorm Details



Name: _____

Read, Encode, Annotate, Ponder

Study Topic/Reading Assignment: _____

R – Read and understand the author's ideas. Do you understand what you are reading? Do you understand all the words? Do you need help with understanding anything?

E – Encode the author's words into your own words. What is the author saying? What is the main idea or concept being presented? What did you learn by reading this passage? Explain it in your own words.

A – Annotate what you read. What is the author's opinion on the subject? How can you tell? What is the problem presented in the text? What are some possible solutions? What can you learn from the author's writing that will help your own?

P – Ponder what you have written. Does it make sense? Would someone else understand what you have written? Is it accurate? Do you need to change anything? Did you use your own words?

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Pre-Writing

Group Pre-Write

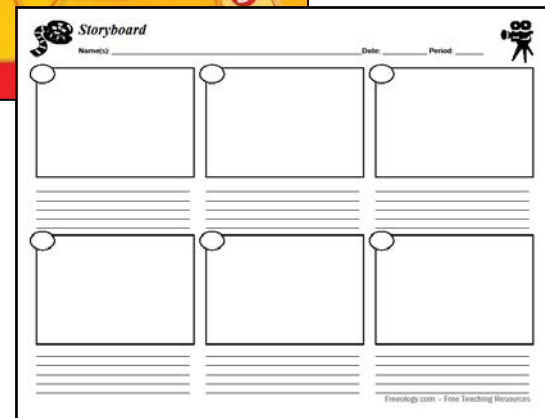
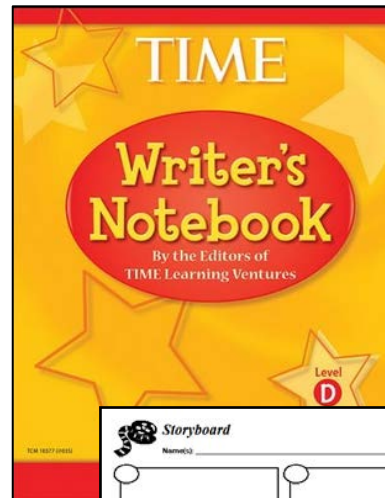
- Graph *Important Details*
- Are all questions answered?



Drafting

Mini-Lesson

- Introduce Storyboarding
- Writing Organization



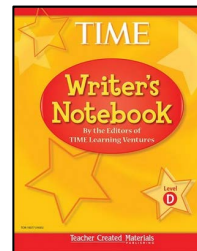
Revising Mini-Lesson

Style

- **Specific Focus**
- **Direct Instruction**
- **Exemplars**
- **Peer Review**
- **Students Revise**

L9-10.3

Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.



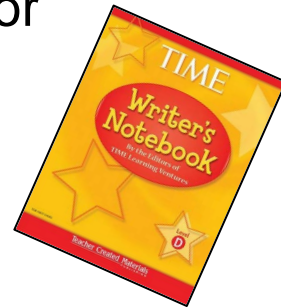
Editing Mini-Lesson

Phrases and Clauses

- **Specific Focus**
- **Direct Instruction**
- **Group Game**
- **Students Edit**

L9-10.1.b

Use various types of phrases and clauses to convey specific meanings and add variety and interest to writing or presentations.



“Over the Shoulder” conferences

Publish



<http://www.xtranormal.com/watch/13489549/online-gaming-addiction-psa>

Publish

- Transfer dialog to technology platform
- Select camera angles, characters, voice, special effects



9TH/10TH GRADE LESSON

Teacher Created Materials

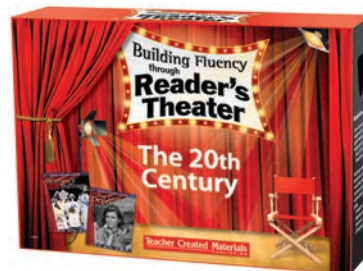
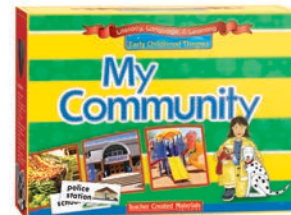
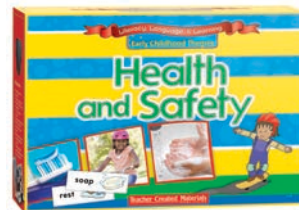
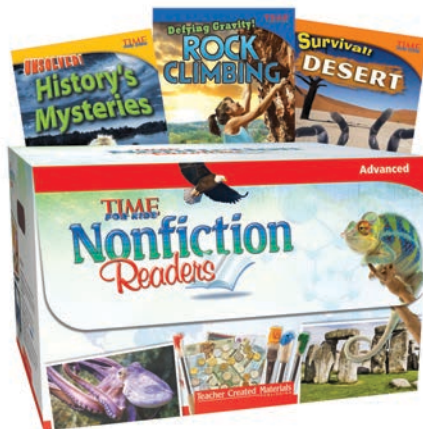
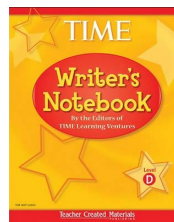
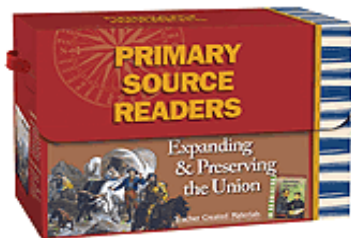
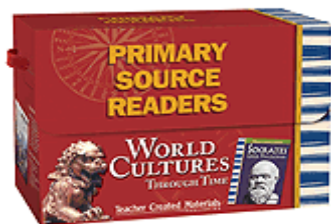
- A family-owned company
- Founded 36 years ago
- Trusted name among PreK–12 educators
- Develops curriculum solutions and professional resources
- Materials have been used in the U.S. and 89 countries



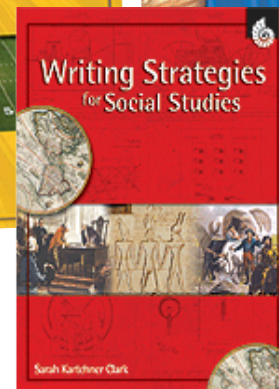
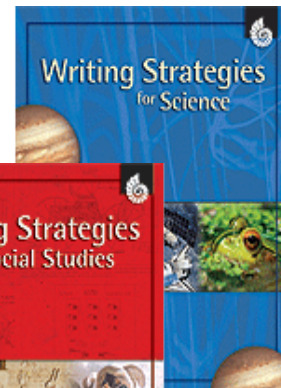
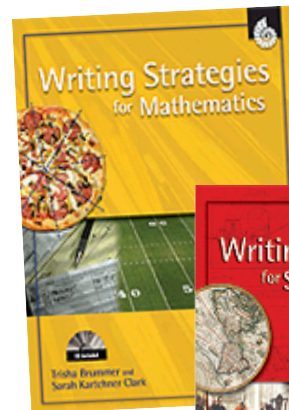
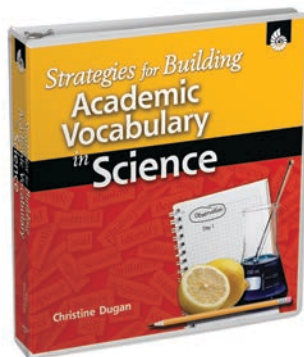
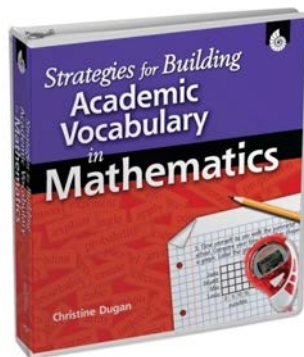
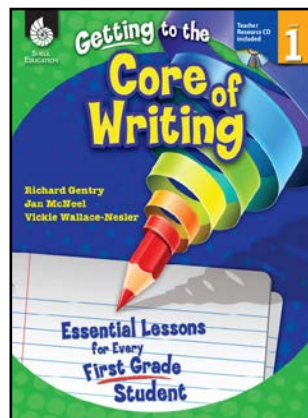
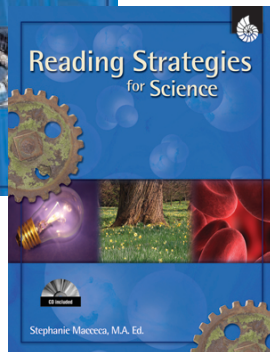
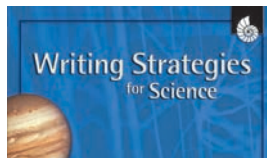
Teacher Created Materials Classroom Resources



Teacher Created Materials Classroom Resources



Shell Education Professional Resources



Writing Across the Curriculum

In Closing...

- Look at the standard first
- Pick a focus
- Scaffold every step
- Higher-order thinking intensifies when you are *inking your thinking!*