

Effective Instructional Practices for Literacy & Numeracy Across Content Areas

GEORGIA'S REIMAGINING EDUCATION CONFERENCE
June 21-22, 2021

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Session Logistics

- **Handouts:** Session handouts are available for download in the handouts section
 - ❖ Handouts are also available on our Events and Conferences webpage
- **Questions:** Enter questions/comments in the questions box
- **Feedback:** Please complete the pop-up survey at the close of the session
- **Certificate of Attendance:** A link to a certificate of attendance will be emailed in 24-hours
 - ❖ Must attend the entire live session
- **On Demand:** Session recordings will be available for on-demand access following the close of the conference on the Events and Conference webpage at <http://www.gadoe.org/sdeevents>
 - ❖ On-demand views are not eligible to receive a certificate of attendance

About Your Presenters

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Session Goals

- To ground numeracy and literacy instruction in authentic learning experiences.
- To understand what it means to effectively integrate numeracy and literacy across disciplines.
- To explore strategies, resources, and ideas for effectively integrating numeracy and literacy across disciplines.

A Focus on Our Students

- Student engagement is critical to both
 - academic growth and
 - mental health
- Relationship building needs to be a high priority



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Figuring Out vs. Learning About

- Students' engagement in their own learning is a strong predictor of their achievement, and teachers often report that it is a challenge to engage students in learning when they are not face-to-face in a classroom.
- However, by centering students' experience on figuring out what they're genuinely curious about, science learning can become the most engaging part of a students' day, even in remote learning environments. And science can connect to ELA, math and social studies!

Science Supports Engagement

Building a culture of **figuring out** requires developing a learning community in which students are **involved** in science and engineering practices in a meaningful way. This requires a classroom in which students help manage the trajectory of their knowledge building. Classrooms should be places where students can say:

- We **figure out** the science ideas.
- We **figure out** where we are going at each step.
- We **figure out** how to put the ideas together over time.

What is it that scientists and engineers do when they are engaged in their work?



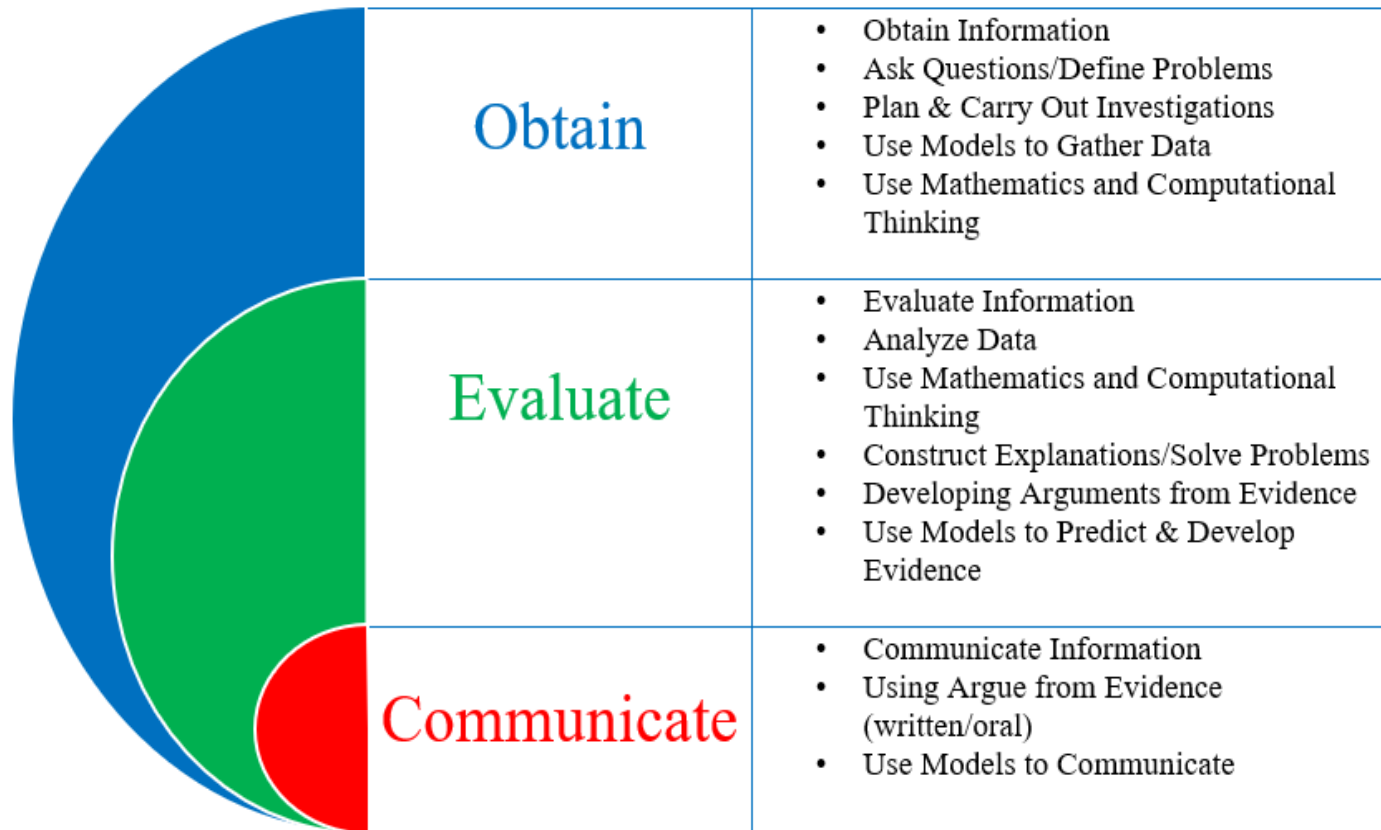
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Science & Engineering Practices are What Scientists and *STUDENTS* Do



What Scientists/Students Do

Each standard in K-12 science begins with the science practice of obtain, evaluate, and communicate information. Each standard element contains a science practice.

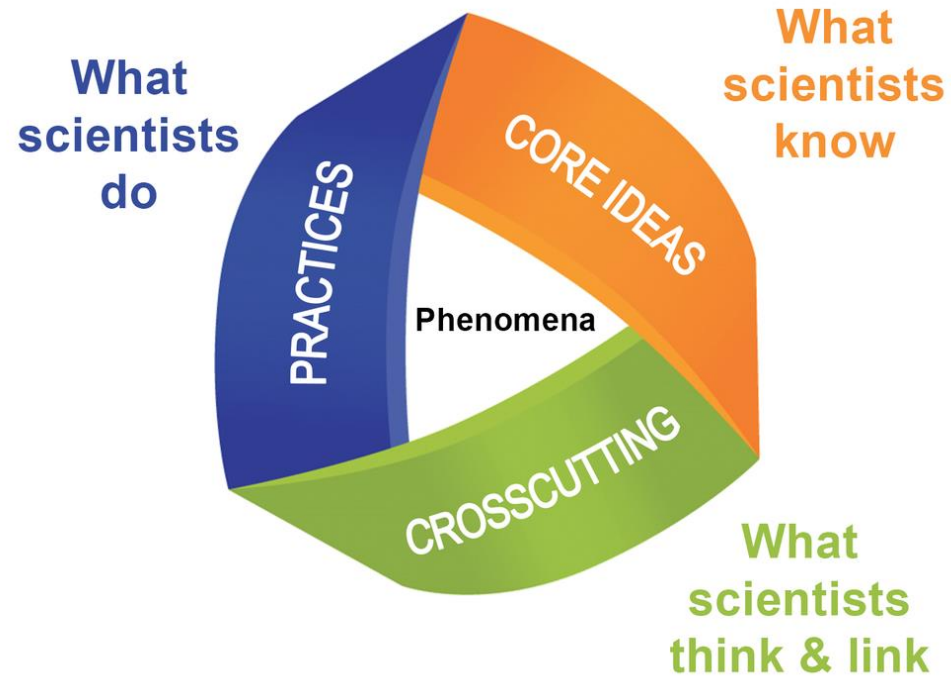


Obtain	<ul style="list-style-type: none">• Obtain Information• Ask Questions/Define Problems• Plan & Carry Out Investigations• Use Models to Gather Data• Use Mathematics and Computational Thinking
Evaluate	<ul style="list-style-type: none">• Evaluate Information• Analyze Data• Use Mathematics and Computational Thinking• Construct Explanations/Solve Problems• Developing Arguments from Evidence• Use Models to Predict & Develop Evidence
Communicate	<ul style="list-style-type: none">• Communicate Information• Using Argue from Evidence (written/oral)• Use Models to Communicate

The 3 Dimensions of Science

- Based on [A Framework for K-12 Science Education](#)

THREE DIMENSIONS OF THE FRAMEWORK



The Vision of 3D Science

**Students Actively
Engage in SEPs**

**And apply
CCCs**

**To deepen
understanding in DCIs**

Science and Engineering Practices

- Asking questions and defining problems
- Developing and using models
- Planning and carrying out investigations
- Analyzing and interpreting data
- Using mathematics, information and computer technology, and computational thinking
- Constructing explanations and designing solutions
- Engaging in argument from evidence
- Obtaining, evaluating, and communicating information

Crosscutting Concepts

- Patterns
- Cause and effect
- Scale, proportion, and quantity
- Systems and system models
- Energy and matter
- Structure and function
- Stability and change

Core Disciplinary Ideas

- Matter and its interactions
- Motion and stability: Forces and interactions
- Energy
- Waves and their applications in technologies for information transfer
- Structure and processes in living organisms
- Ecosystems: Interactions, energy, and dynamics
- Heredity: Inheritance and variation of traits
- Biological evolution: Unity and diversity
- Earth's place in the universe
- Earth's systems
- Earth and humanity
- Engineering design

Let's Look Inside a Classroom...

S2L1. Obtain, evaluate and communicate information about the life cycles of different living organisms.

d **Develop models** to illustrate **the unique and diverse life cycles of organisms other than humans.**

The **HOW** (science and engineering practice)

The **WHAT** (disciplinary core idea)

Crosscutting concepts: Patterns

The **WHY** (why students want to engage) – life cycles of animals – a tiny egg becomes a butterfly, an egg becomes a soft baby chick

Designing Phenomenon-Based Instruction

1. Think About the Performance Expectation

Disciplinary Core Ideas – life cycles

2. What phenomenon requires the core idea to explain?

Phenomenon – the transformation of eggs to butterflies and chickens

3. How will students interact with the phenomenon?

Science & Engineering Practices – ask questions and develop models

4. What “lens” will the students use to study the phenomenon?

Crosscutting Concepts – patterns

Obtain, Evaluate & Communicate!!

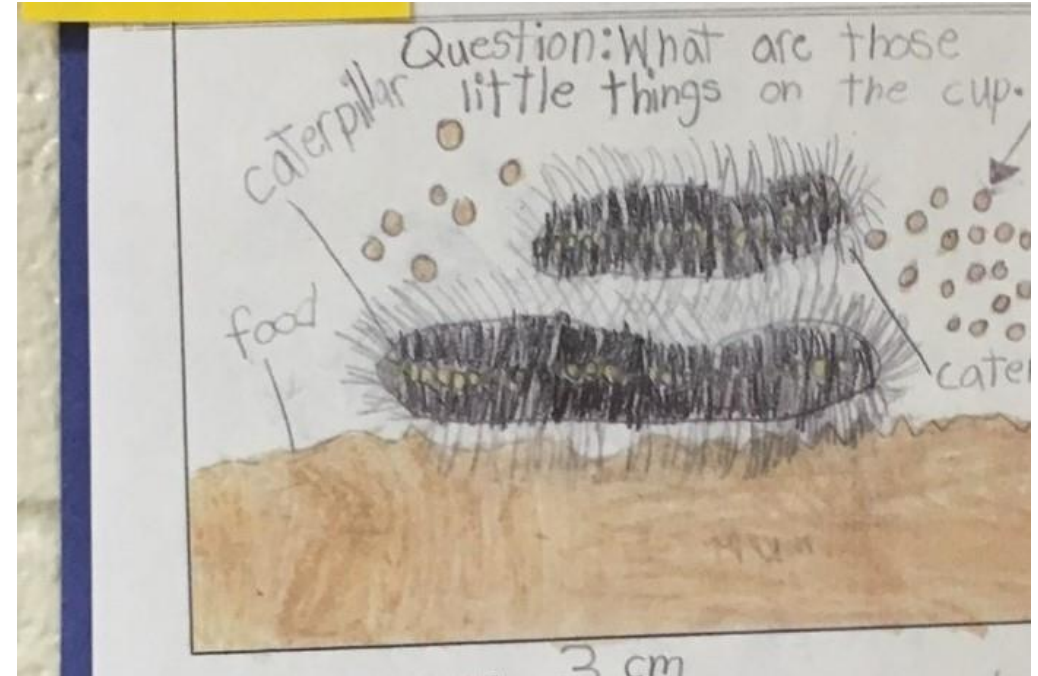
Painted Lady Observation (2nd Grade Life Science)

After making a drawing of their observation, the student had a question, “What are those little things on the cup?” (Ask Questions)

Rather than give the answer (eggs), the teacher suggested they continue to observe.

The student is asked to measure their caterpillar: 3 cm
What has changed about your caterpillar since your last observation? My painted lady grew one more centimeter because yesterday it was 2 cm and today it is 3 cm.

Teacher Commentary: Great job tracking the growth of your caterpillar! I loved how you used mathematics to explain your reasoning.



The students are asked to compare and contrast the life cycles of chicks and butterflies. They have observed both in their experiences. Then they are asked to illustrate their observations (life cycle –model). Notice the informative writing rubric. They have a graphic organizer, first draft, and final draft.

Do you see evidence of obtaining, evaluating and communicating? Assessment? Math? ELA?

their fluffy down, when they go through the life cycle. Butterflies go through a metamorphosis that means they change a lot. When adult butterflies and chickens lay eggs their life cycle starts over again. Both chickens and butterflies have a life cycle.

Illustrate your ideas below.

Chick stages

Butterfly stages

Standard	Learning Objective
Writing Text Types Informative 2.1	<ul style="list-style-type: none"> introduce the topic use facts and details provide a concluding
Writing Production 2.4	With guidance From as writing in which develop organization are appropriate and purpose.
Writing Production 2.5	With guidance From a Focus on a topic, new
Language 2.1	Produce complete simple compound sentences.
Language 2.1	Create readable document
Language 2.2	Demonstrate command English capitals and punctuation
Language 2.2	Demonstrate command English use learned spelling

Writing goals to
Write letters neatly and correctly on the lines with spaces between words.

Was it a science, a mathematics, or an ELA lesson?

- **S2L1.** Obtain, evaluate, and communicate information about the life cycles of different living organisms.
- **MGSE2.MD.1** Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
- **ELAGSE2RI3** Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.
- **ELAGSE2RI7** Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.
- **ELAGSE2W7** Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).
- **ELAGSE2W8** Recall information from experiences or gather information from provided sources to answer a question.

When Students Need Support

- What are some specific stumbling blocks for students as they read and write?



The batsmen were merciless against the bowlers. The bowlers placed their men in slips and covers. But to no avail. The batsmen hit one four after another with an occasional six. Not once did a ball look like it would hit their stumps or be caught.

- Tierney and Person (1981)

Knowing Enough to Read

- Often our students lack the background knowledge assumed by the text.
- Giving students science experiences before reading can help.
- Lab before blab.

Proof of Concept

- Comprehension depends in part on your knowledge ([Recht and Leslie, 1988](#))
 - Sampled good readers and poor readers with high knowledge of baseball and those who knew little
 - Poor readers with a high knowledge of baseball had higher comprehension scores than good readers who knew little about the sport
- Science provides a compelling context for teaching reading and writing.
- Science provides a real-life situation in which to use mathematics.

Reading, Writing & Science: The Perfect Combination

The science fuels the learner's curiosity to want to read and provides a real reason to write.

Obtain, Evaluate & Communicate!



Video Series

Science Videos:

Reading, Writing, and Science: The Perfect Combination

What does literacy have to do with science? Everything! As students obtain, evaluate, and communicate information throughout courses and grades, literacy is an integral piece. Celebrate literacy with the GaDOE science team and author Jodi Wheeler-Toppen in the following video series. Find tips and strategies to support your science classroom being a space where students read, write, speak, and think.

Reading, Writing, and Science: The Perfect Combination

Elementary:

- Integrating Writing and Science: An introduction for elementary school teachers and administrators
- Integrating Reading and Science: An introduction for elementary teachers and administrators
- Writing about Claims, Evidence, and Reasoning: for elementary educators
- Sentence Frames for Reading, Writing, and Forming Science Knowledge: for elementary school and ESOL teachers

Middle/High:

- Integrating Writing and Science: An introduction for middle and high school teachers and administrators
- Integrating Reading and Science: An introduction for middle and high school teachers and administrators
- Signal Words for Reading, Writing, and Forming Science Knowledge: for middle and high school teachers
- Writing about Claims, Evidence, and Reasoning: for middle and high school educators

K-12:

- Reading Strategies Part 1: Make it Make Sense: For teachers in grades K-12
- Reading Strategies Part 2: Problem-Solving tools
- Knowing Enough to Read: How Background Influences Science Comprehension
- Before and After Writing: Prewriting and evaluation
- Integrating Reading, Writing, and Science in the K-8 Classroom: A call to action for administrators



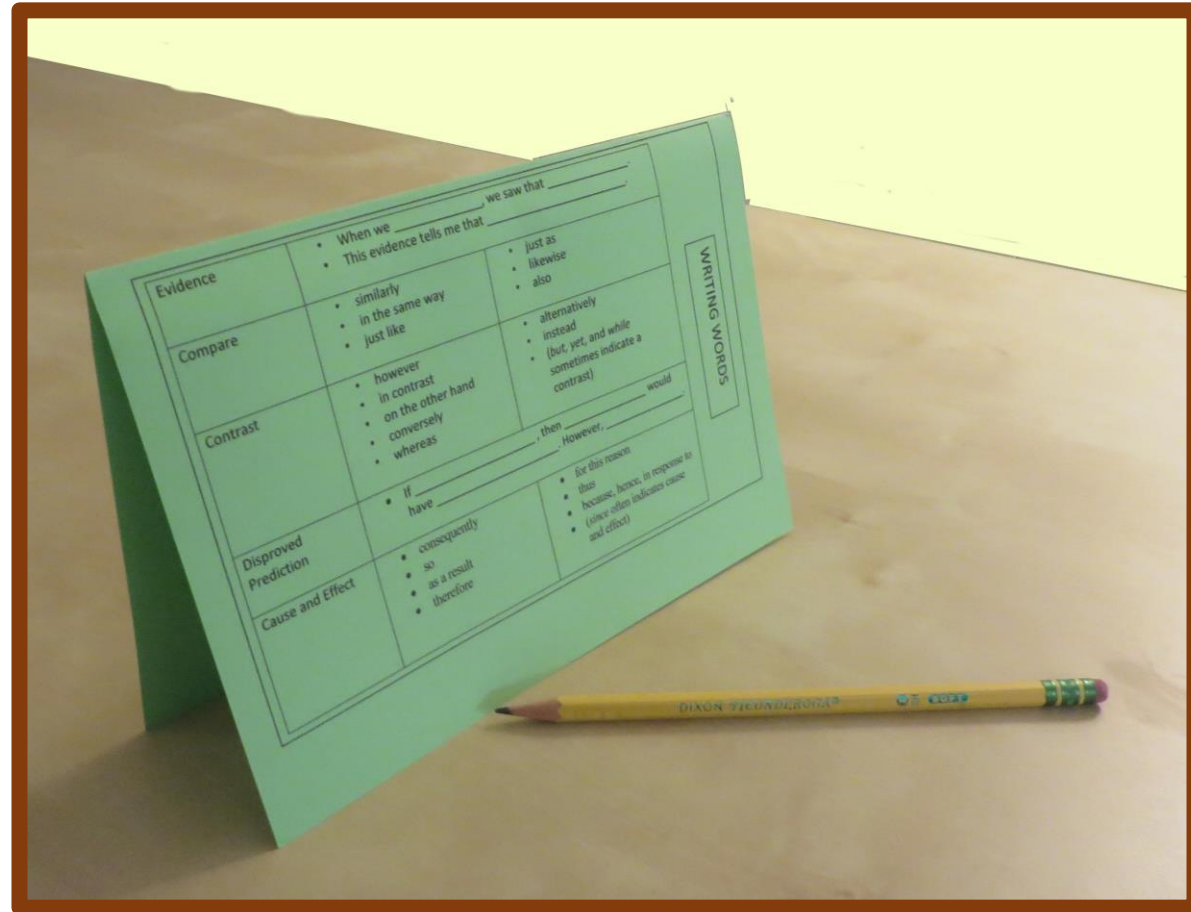
True Confessions...

Raise your virtual hand (use the hand icon by your name) if you have ever...

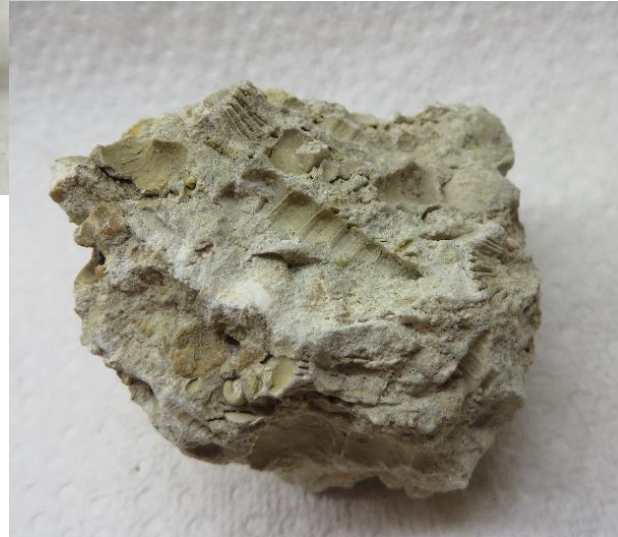
- Put off writing a thank you letter
 - Avoided writing an email
- Procrastinated in writing up a report on something that you needed to get done
- Started to keep a journal but then stopped

Writing is hard work!!

Table Tents



In early grades, observing and sorting are important skills. We use common objects like rocks and soils.



Comparison Sentence Frame

My rock is similar to his rock
because both have brown spots.

Contrast Sentence Frame

My rock is different from his rock

because one _____ is smooth _____, while
the

other _____ has bumps _____.

Enhancing STEM in P-3 Education

Research shows that most students make decisions about their science abilities before high school; for girls, their confidence in science declines around the fifth grade — making early exposure to STEM experiences potentially influential for students.

www.ecs.org

Resources

- Please check out all our resources and PL at our [website](https://www.georgiastandards.org), [georgiastandards.org](https://www.georgiastandards.org) and on the SLDS-TRL- [Essential Toolkit](#) (2 Courses on the PL tab of the SLDS).

- Follow us:

@GaDOEScience



Social Studies

All content areas work together to cultivate the whole child...social studies is the most important because it supplies context for understanding.



Social Studies & Literacy

Social Studies Georgia Standards of Excellence

Clarification for Literacy Standards in High School:

Grades 9-10 social studies courses incorporate the grades 9-10 Reading/Writing Standards for Literacy in History/Social Studies.

Grades 11-12 social studies courses incorporate the grades 11-12 Reading/Writing Standards for Literacy in History/Social Studies.

READING STANDARDS FOR LITERACY IN HISTORY/SOCIAL STUDIES (RHSS) GRADE 9-10
<p>➤ Key Ideas and Details</p> <p>L9-10RHSS1: Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.</p> <p>L9-10RHSS2: Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.</p> <p>L9-10RHSS3: Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.</p>
<p>➤ Craft and Structure</p> <p>L9-10RHSS4: Determine the meaning of words and phrases as they are used in a text, including vocabulary describing political, social, or economic aspects of history/social science.</p> <p>L9-10RHSS5: Analyze how a text uses structure to emphasize key points or advance an explanation or analysis</p> <p>L9-10RHSS6: Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.</p>
<p>➤ Integration of Knowledge and Ideas</p> <p>L9-10RHSS7: Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.</p> <p>L9-10RHSS8: Assess the extent to which the reasoning and evidence in a text support the author's claims.</p> <p>L9-10RHSS9: Compare and contrast treatments of the same topic in several primary and secondary sources.</p>
<p>➤ Range of Reading and Level of Text Complexity</p> <p>L9-10RHSS10: By the end of grade 10, read and comprehend history/social studies texts in the grades 9–10 text complexity band independently and proficiently.</p>

WRITING STANDARDS FOR LITERACY IN HISTORY/SOCIAL STUDIES, SCIENCE, AND TECHNICAL SUBJECTS GRADES 6-8 (WHST)
<p>➤ Text Types and Purposes</p> <p>L6-8WHST1: Write arguments focused on <i>discipline-specific content</i>.</p> <p>a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.</p> <p>b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources.</p> <p>c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.</p> <p>d. Establish and maintain a formal style.</p> <p>e. Provide a concluding statement or section that follows from and supports the argument presented.</p>
<p>L6-8WHST2: Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.</p> <p>b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.</p> <p>c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.</p> <p>d. Use precise language and domain-specific vocabulary to inform about or explain the topic.</p> <p>e. Establish and maintain a formal style and objective tone.</p> <p>f. Provide a concluding statement or section that follows from and supports the information or explanation presented.</p>
<p>L6-8WHST3: (See note; not applicable as a separate requirement)</p>
<p>➤ Production and Distribution of Writing</p> <p>L6-8WHST4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p>L6-8WHST5: With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.</p> <p>L6-8WHST6: Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.</p>
<p>➤ Research to Build and Present Knowledge</p> <p>L6-8WHST7: Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.</p> <p>L6-8WHST8: Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.</p> <p>L6-8WHST9: Draw evidence from informational texts to support analysis, reflection, and research.</p>
<p>➤ Range of Writing</p> <p>L6-8WHST10: Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.</p>

Social Studies Georgia Standards of Excellence

Map and Globe Skills

GOAL: The student will use maps to retrieve social studies information.

I: indicates when a skill is introduced in the standards and elements as part of the content

D: indicates grade levels where the teacher must develop that skill using the appropriate content

M: indicates grade level by which student should achieve mastery, the ability to use the skill in all situations

A: indicates grade levels where students will continue to apply and improve mastered skills

Map and Globe Skills	K	1	2	3	4	5	6	7	8	9-12
1. use a compass rose to identify cardinal directions	I	M	A	A	A	A	A	A	A	A
2. use intermediate directions		I	M	A	A	A	A	A	A	A
3. use a letter/number grid system to determine location			I	M	A	A	A	A	A	A
4. compare and contrast the categories of natural, cultural, and political features found on maps			I	M	A	A	A	A	A	A
5. use graphic scales to determine distances on a map					I	M	A	A	A	A
6. use map key/legend to acquire information from historical, physical, political, resource, product, and economic maps			I	D	M	A	A	A	A	A
7. use a map to explain impact of geography on historical and current events		I	D	D	M	A	A	A	A	A
8. draw conclusions and make generalizations based on information from maps				I	M	A	A	A	A	A
9. use latitude and longitude to determine location				I	D	D	D	M	A	A
10. compare maps of the same place at different points in time and from different perspectives to determine changes, identify trends, and generalize about human activities					I	M	A	A	A	A
11. compare maps with data sets (charts, tables, graphs) and /or readings to draw conclusions and make generalizations					I	M	A	A	A	A
12. use geographic technology and software to determine changes, identify trends, and generalize about human activities										I

Skill Standards

Information Processing Skills

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2. organize items chronologically	I	D	D	M	A	A	A	A	A	A
3. identify issues and/or problems and alternative solutions	I	D	D	D	D	M	A	A	A	A
4. distinguish between fact and opinion		I	D	M	A	A	A	A	A	A
5. identify main idea, detail, sequence of events, and cause and effect in a social studies context		I	D	D	M	A	A	A	A	A
6. identify and use primary and secondary sources		I	D	D	M	A	A	A	A	A
7. interpret timelines, charts, and tables		I	D	D	M	A	A	A	A	A
8. identify social studies reference resources to use for a specific purpose			I	M	A	A	A	A	A	A
9. construct charts and tables				I	M	A	A	A	A	A
10. analyze artifacts				I	D	D	M	A	A	A
11. draw conclusions and make generalizations					I	M	A	A	A	A
12. analyze graphs and diagrams					I	D	M	A	A	A
13. translate dates into centuries, eras, or ages					I	D	M	A	A	A
14. formulate appropriate research questions						I	M	A	A	A
15. determine adequacy and/or relevancy of information						I	M	A	A	A
16. check for consistency of information						I	M	A	A	A
17. interpret political cartoons						I	D	D	D	M

GaDOE Explicit Support

Select from our "playlist" or tailored to your specific needs:

- Read Alouds K-12
- SWIRL-Speaking, Writing, Illustrating, Reading, and Listening
- Visual Literacy
- Healthy Literacy Integration K-5
- Text Types
- Reading Non-Text Sources

Social Studies Virtual Learning Catalog



Bright Ideas for
Non-Text Sources:
Strengthening
Literacy Across
Social Studies 6-12

Thursday, March 25, 2021 at
3:30pm

For more information and
to register visit



Read Alouds from
Soup to Nuts:
Children's Literature
Face to Face and at
a Distance for Social
Studies

Tuesday, March 30, 2021 at
3:30pm

For more information and to
register visit



May the Force Be
With You & Also
with Comics &
Cartoons
Grades K-12

Tuesday, April 20, 2021 at
3:30pm

For more information and to
register visit

GCSS Virtual Conference

Teaching Social Studies in Challenging Times

Saturday, November 6, 2021

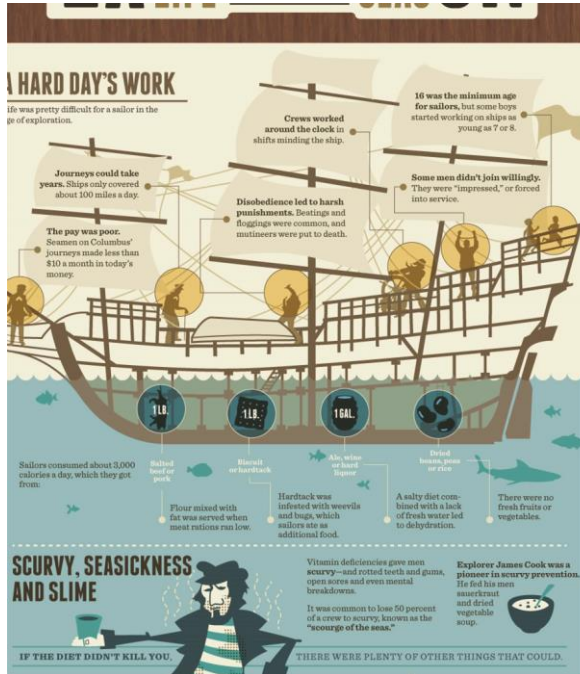
8:30am-4pm

Keynote Pairings

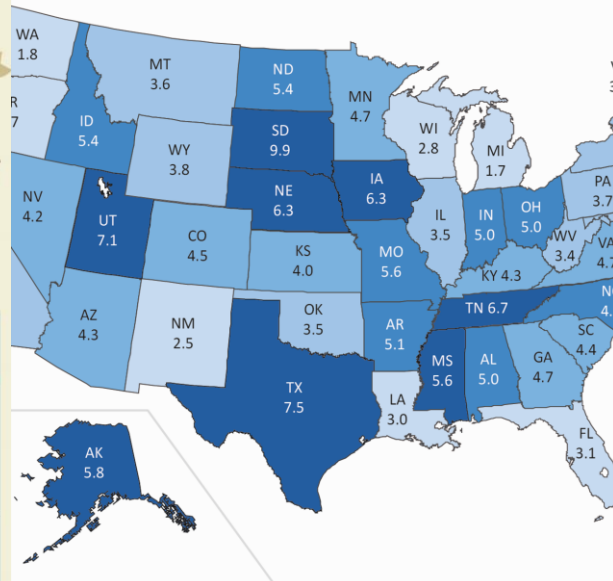
- Charlene Hunter-Gault & Karen Korematsu
- Christy Hale & Duncan Tonatiuh

Sessions and speakers are tied to literacy integration.

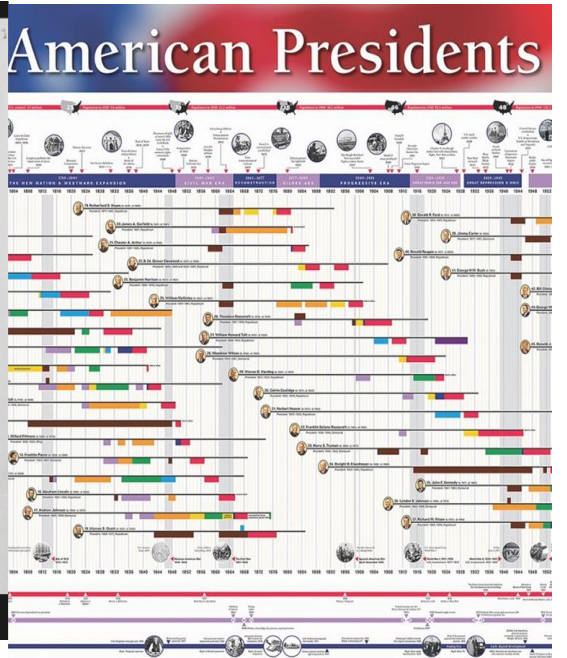
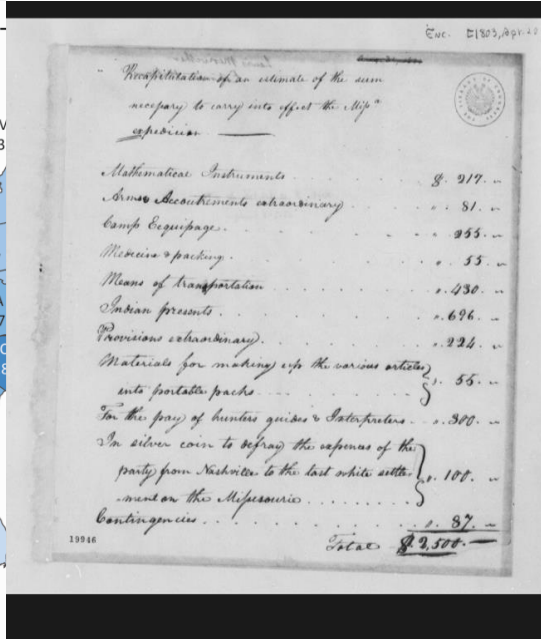




Real GDP: Percent Change at Annual Rate, 2020:Q3-



mic Analysis



Where is Numeracy in Social Studies Content?

Interdisciplinary Concepts Social Studies & Numeracy

Symbols

Chronology/Timelines

Measurement

▶ Time

▶ Distance

▶ Calendar

Data

Traditions

Money

Letter/Number Grid System

Graphic Scales

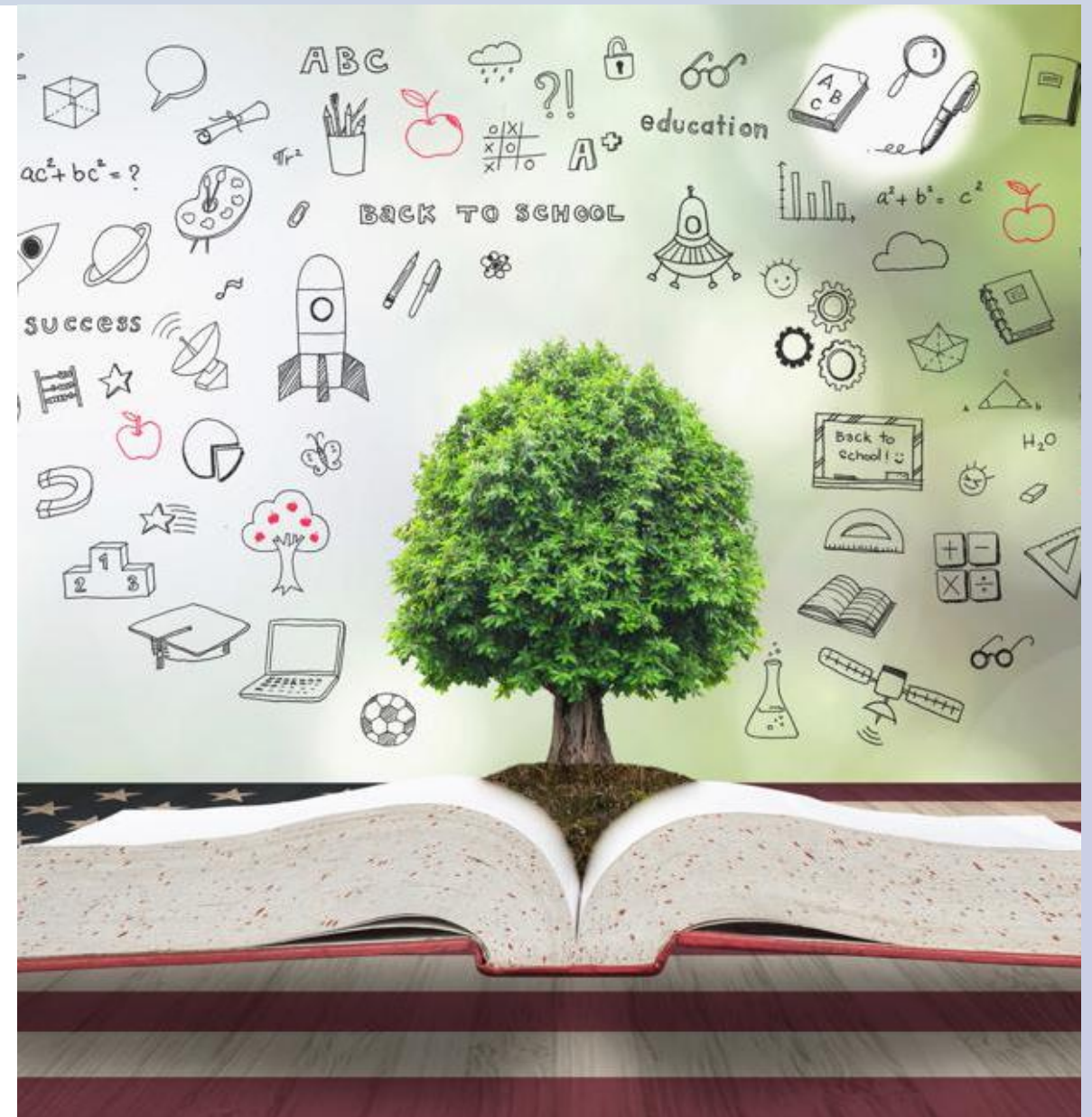
Draw Conclusions/Make Generalizations

Charts, Tables, Graphs

Identify Problems and Alternate Solutions

Formulate Appropriate Research Questions

Determine adequacy and/or relevancy of information



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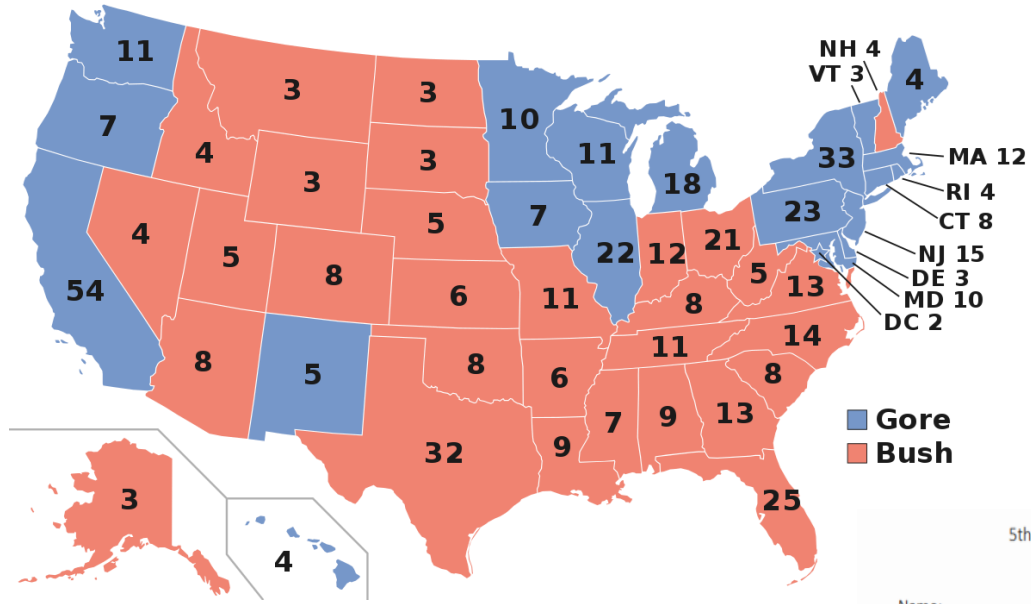
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6. identify and use primary and secondary sources		I	D	D	M	A	A	A	A	A
7. interpret timelines, charts, and tables		I	D	D	M	A	A	A	A	A
8. identify social studies reference resources to use for a specific purpose			I	M	A	A	A	A	A	A
9. construct charts and tables				I	M	A	A	A	A	A
10. analyze artifacts				I	D	D	M	A	A	A
11. draw conclusions and make generalizations					I	M	A	A	A	A
12. analyze graphs and diagrams					I	D	M	A	A	A
13. translate dates into centuries, eras, or ages					I	D	M	A	A	A
14. formulate appropriate research questions						I	M	A	A	A
15. determine adequacy and/or relevancy of information						I	M	A	A	A
16. check for consistency of information						I	M	A	A	A
17. interpret political cartoons						I	D	D	D	M



5th Frameworks for the Georgia Standards of Excellence in Social Studies

Name:

Date:

Savings Sheet

Item	Approximate cost	How many months I'd need to save if I saved \$10 a month	How many months I'd need to save if I saved \$20 a month	How many months I'd need to save if I saved \$50 a month

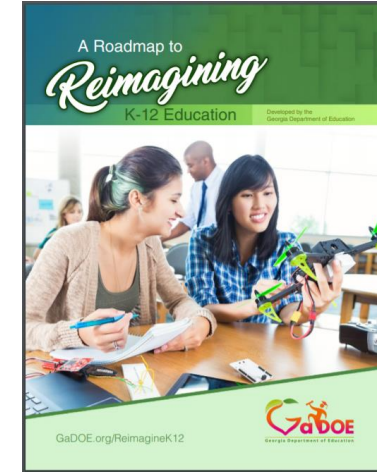
Allowance/Job Cards

Your parents give you \$10 each week and you get \$5 for cleaning your room each week.	You cut the lawn for your neighbor every week. You get \$20 for each time you cut the lawn.
You deliver newspapers each week for \$20.	Your parents give you \$10 each week and you get \$10 for

Check out our sample units for GSE Social Studies

Reimagining K-12 Education

Preparing Students for Life

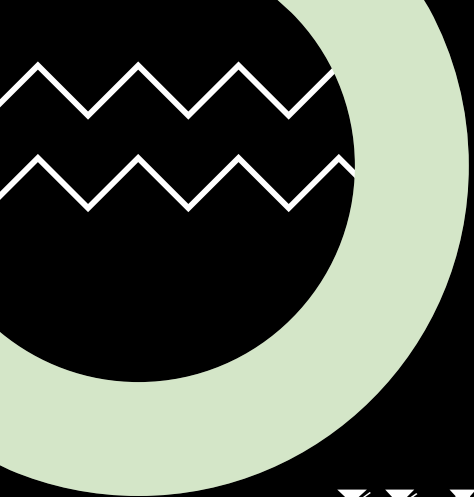


Match the *Passion,*
potential, and post-secondary
pursuits of every student.



We cannot forget who our efforts are for – our teachers and students.
Our resources and support must work for *all* and this work must
remain centered on the students in the classroom.



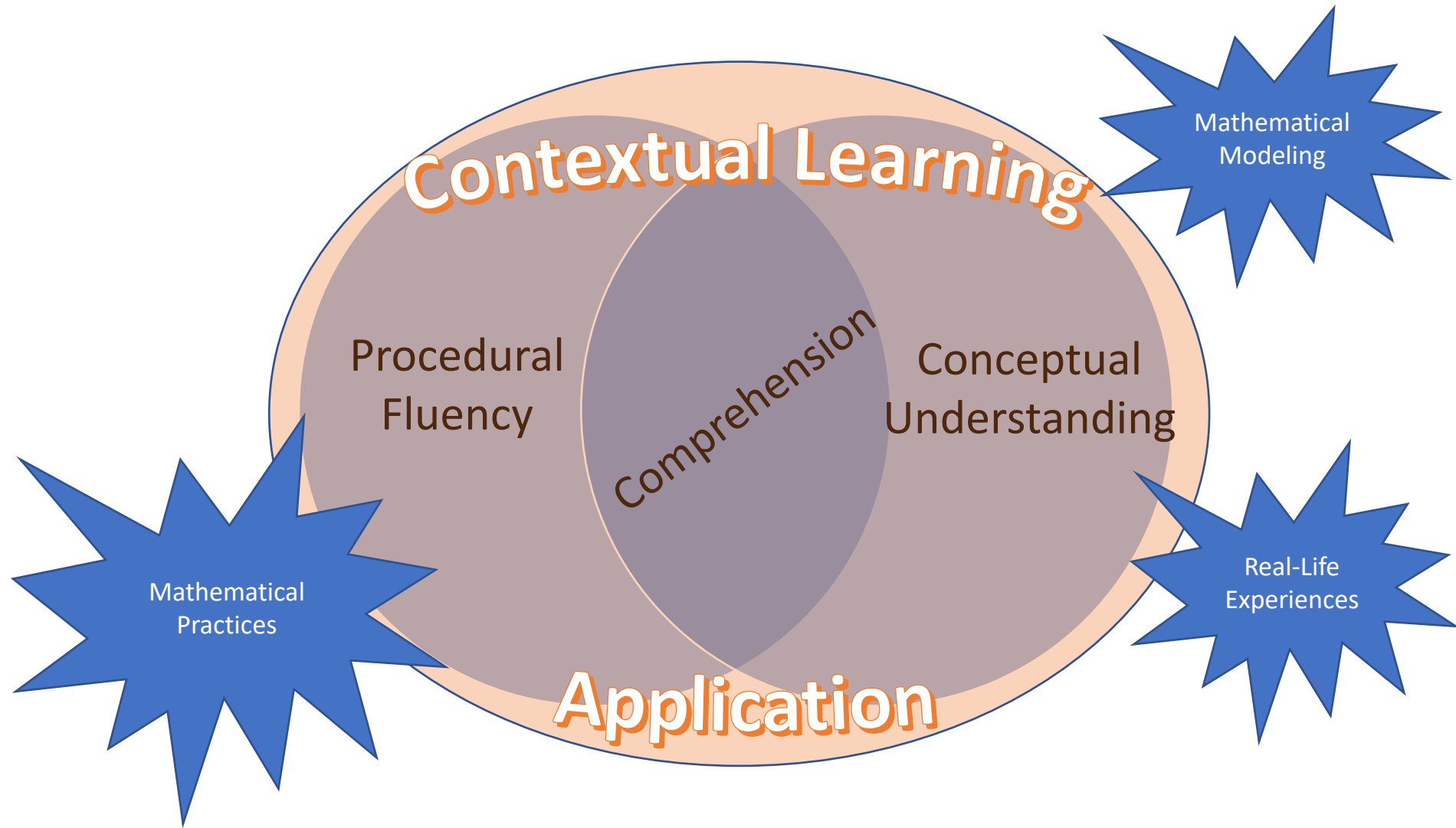


MATHEMATICS IS
THE LANGUAGE...
[OF] THE UNIVERSE.

~ GALILEO GALILEI



Mathematics Makes Sense in Context!



Mathematical Modeling

A Mathematical Modeling Framework

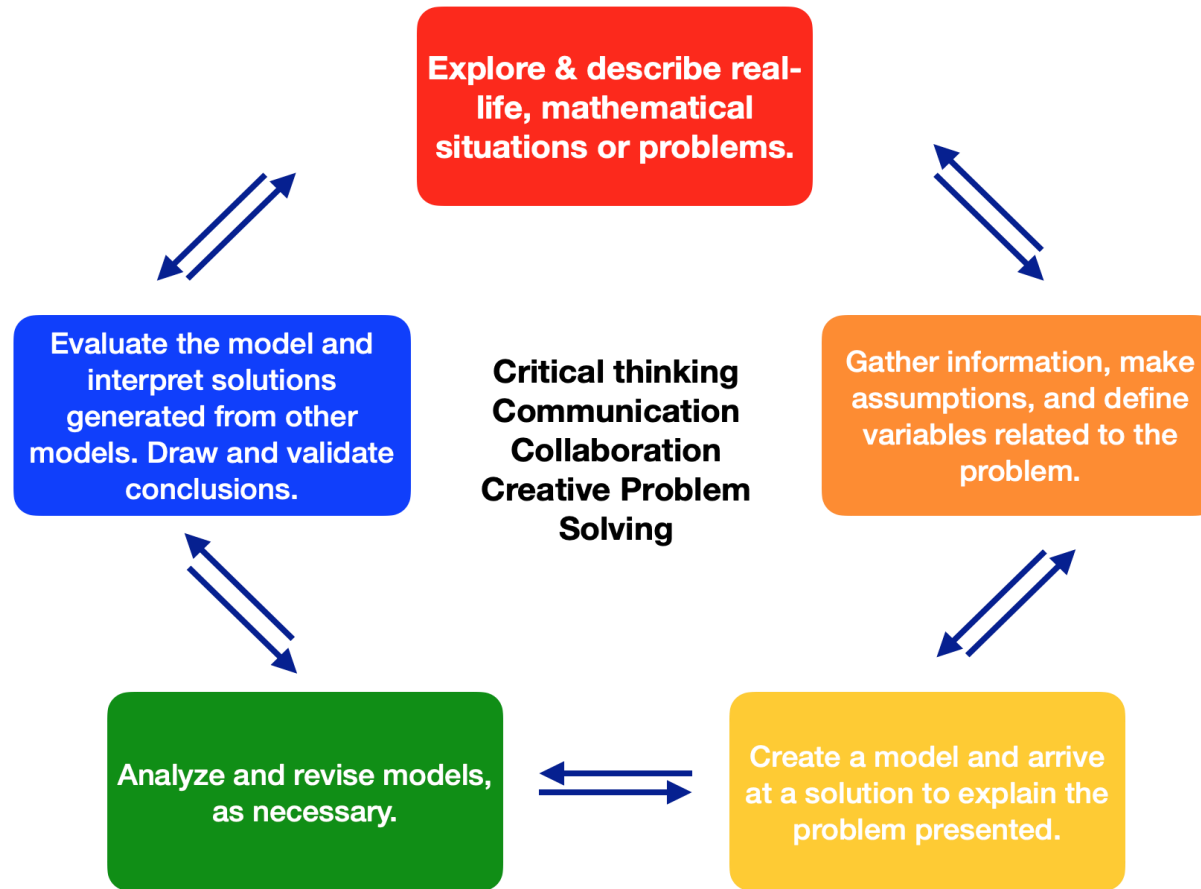


Image adapted from: Suh, Matson, Seshaiyer, 2017

Numeracy in the Content Areas

Mathematics and STEM/STEAM:

The beautiful connections that make it fun to learn mathematics!

Focus on the 8 Overarching Standards for Mathematical Practice

Why SMPs?

“The Standards for Mathematical Practice describe ways in which developing student practitioners of the discipline of mathematics increasingly ought to engage with the subject matter as they grow in mathematical maturity and expertise throughout the elementary, middle and high school years.”

—*Georgia Standards of Excellence for Mathematics*

The 8 Standards for Mathematical Practice are:

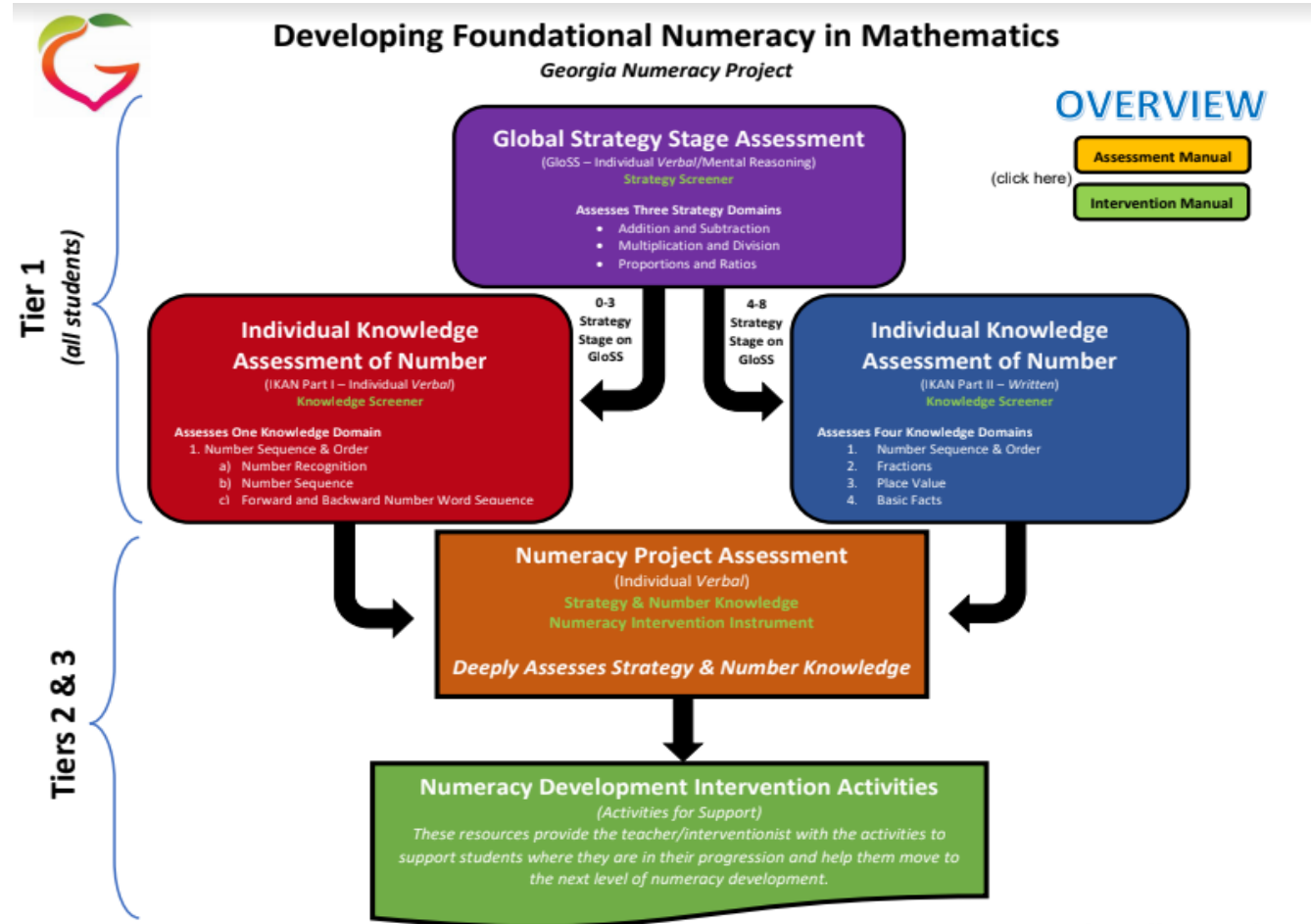
1. Make sense of problems and persevere in solving them
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of structure
8. Look for and express regularity in repeated reasoning

A Mathematics Classroom Experience...

3 ACT TASKS



Developing Foundational Numeracy



State Mathematics Contact Information

Follow us:
 @GaDOEMath

YOUR GADOE MATHEMATICS TEAM IS THERE TO SERVE YOU!

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Important Websites to Obtain Additional Information

www.gadoe.org/mathematics Georgia Mathematics Program Updates
www.edweb.net Professional Learning Communities
www.georgiastandards.org Curriculum Resources

Numeracy & Literacy in English Language Arts

Frenemies

GaDOE ELA Team

Follow us!  @GaDOEELA



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Meet the Coaches



Hart County Charter System

#OneHartBeat

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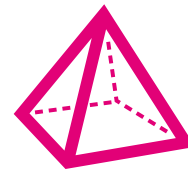
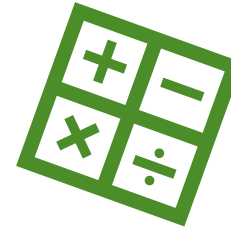
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Secondary English Language Arts
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ELA|Math. . .Let's get together!



Me: Silas, how fair along are you in your book?
S: half an inch.
Me: that's a really weird answer. How much do you have left?
S: about an inch and a half.
Me: ok, what chapter are you on?
S: I don't know.
Me: we don't measure reading the same, you and me.

We went for classic, non-pool summer day: bowling, arcade, fro yo.

That's hilarious!!!! I WISH you had sent that before I turned in my numeracy and literacy presentation

[This Photo](#) by Unknown Author is licensed under [CC BY-SA-NC](#)

Ideas for Numeracy IN ELA

Use classroom graphs to chart **language practices in texts**, both student-created & student-consumed.

- Instances of **overused words** (ELA.L.7)
- Instances of **effective words and phrases** (ELA.L.7)
- Instances of **figurative language** (ELA.L.5)
- Instances of **sentence types** (ELA.L.1)

Tips!

- ★ Language in **context**
- ★ Opportunities to move beyond identification & to **revision**

Ideas for Numeracy IN ELA

Analyze word problems during the ELA block.

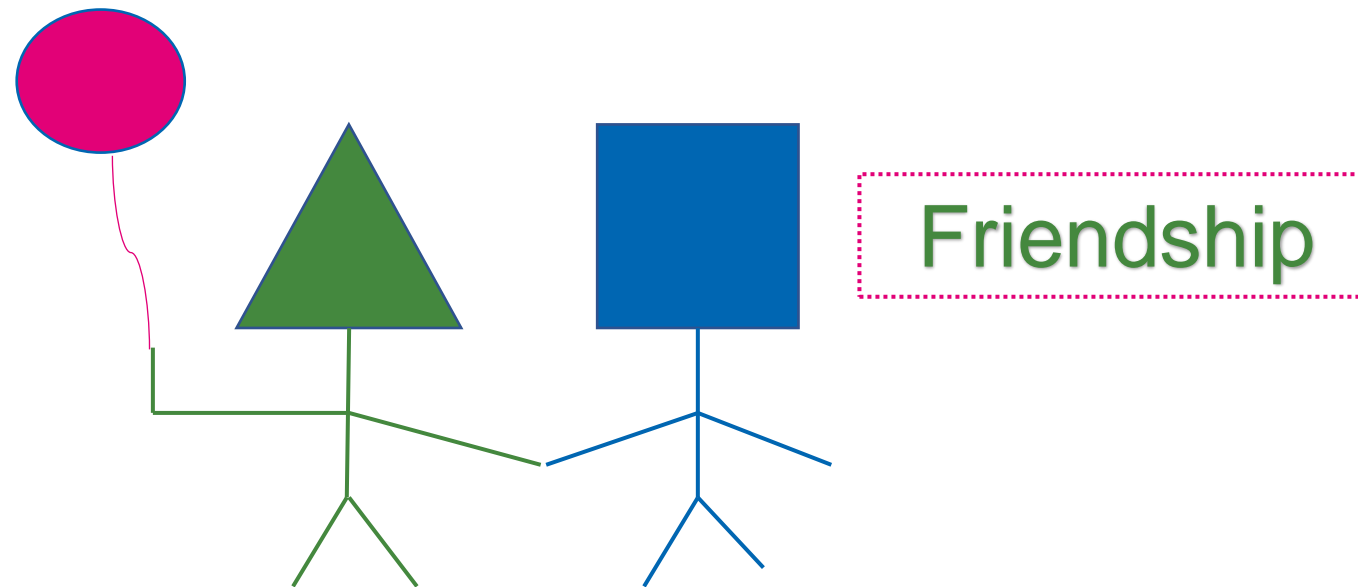
Tip!

★ Craft word problems that are connected to ELA topics under study.

- What is happening in the **word** problem? (ELA.RI.1)
- Describe the **technical features** of the word problem. (ELA.RI.3)
- Determine the meanings of **general academic language** and **disciplinary language** in the word problem. (ELA.RI.4)
- Consider the **purpose** and **perspective** of the word problem. (ELA.RI.6)

Ideas for Numeracy in ELA

Use geometric shapes to **write a story** or **illustrate a theme**; discuss the **interpretations** possible. (ELA.SL.2)



Ideas for Numeracy in ELA

Tip!

★ Keep these learning activities **celebratory** and not punitive.

Use fractions and percentages to track class and student **progress**.

- What fractional part of a book has the class **read**? (ELA.RL/I.10)
- How close is the class to a **shared** goal, such as paragraphs written? (ELA.W.10)
- What percentage of the **sentences** in a paragraph are complex? (ELA.L.1)

Ideas for Numeracy in ELA

Tip!

★ Excellent opportunity for annotating.

Consuming and Analyzing Texts: How are numbers, statistics, and visual elements such as graphs used in **texts** and **presentations** that students **consume**? (ELA.RI.7; ELA.SL.2)

- Picture Books
- Novels
- Essays
- TED Talks
- Songs and Poetry
 - Rhythm and beats
 - Stanza and syllable lengths



Ideas for Numeracy in ELA

Creating and Analyzing Texts: Make and defend **choices** regarding numbers, statistics, and visual elements **integrated into texts and presentations** that students **create**. (ELA.W.1; ELA.W.2; ELA.W.7; ELA.W.8; ELA.SL.5)

- **Opinion Writing** (Elementary)
- **Argument Writing** (Secondary)
- **Informational Writing**
- **Research**
- **Presentations**

Tip!

★ Excellent opportunity for **conferring & small groups**.

Ideas for Numeracy in ELA

BONUS Elementary Ideas!

- **Literacy Board Games** (e.g., word families, prefixes/suffixes, sight word practice): **Use tokens** to help teach/reinforce counting skills (ELA.K.RF.4; ELA.GSE.2.L4)
- Use **“ten frames”** to represent numbers in the stories they read. (ELA.K.L5)
- Emphasize the ease/speed of **using math skills to find page numbers in text** versus turning page-by-page. (ELA.K.RF.1)

Literacy in English Language Arts

A Disciplinary Approach

Disciplinary vs. Content Literacy

Disciplinary Literacy

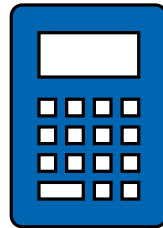
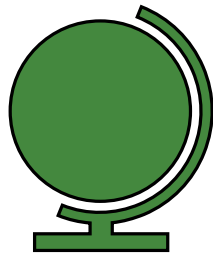
- Literacies and texts are **specialized across disciplines**.
- Each **field** has its own purposes, types of evidence, and reading strategies.
- **Example**: Scientists read and write to compare data while literary scholars consider theme and style.

Content Literacy

- **Champions** a disciplinary approach. . .
- . . .but mostly a focus on **reading comprehension** and **study skills** in the content area.
- **Examples**: KWL, Frayer model, three-level guide (literal, interpretive, and applied understandings)

Both are helpful!

Content area reading aims to build better students, while disciplinary literacy tries to get them to grasp the ways literacy is used to *create*, *disseminate*, and *critique information* in the various disciplines.



<https://shanahanonliteracy.com/blog/disciplinary-literacy-the-basics>

They really are!



Disciplinary classes should have a deep dedication to imparting the *content* of the subjects to students, including information about the nature of *inquiry* in those fields.



What does it mean to work as a historian, scientist, geographer, mathematician, or literary critic?

What do they read and why?

How do they report their results?

What constitutes evidence in their field of study?

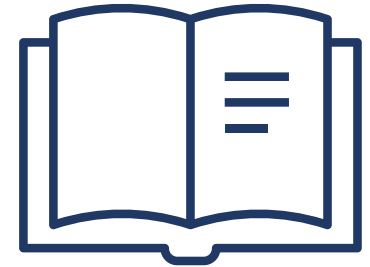
What does criticism look like?



<https://shanahanonliteracy.com/blog/disciplinary-literacy-the-basics>

When students of English read, they

- Find **meaning** through **literary technique**
- Identify **underlying messages** that evolve as **theme**
- Recognize **bias**
- Use **context** to learn new **vocabulary** or **words used in new ways**
- **Summarize**, **synthesize**, **analyze**, and **evaluate**
- Comprehend how **devices** such as **tone**, **foreshadowing**, and **irony affect the text**
- Make **connections**
- Pay attention to the **craft** of writing
- Understand **perspective**



Disciplinary Literacy in Action: How to Create & Sustain a School-wide Culture of Deep Reading, Writing, & Thinking by ReLeah Cossett Lent & Marsha McCracken Voight (2019)

When students of English write, they

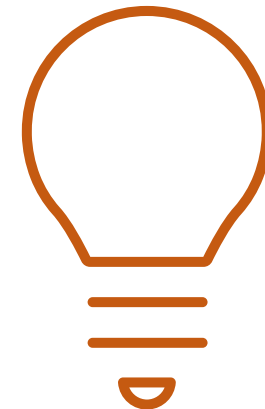
- Utilize a **process**: **drafting**, **revising**, and **editing**
- Understand how to flexibly utilize **organization**, **details**, **elaboration**, and **voice** enhance meaning
- Ask for and appropriately utilize **feedback**
- Use **credible evidence**
- Avoid **bias** when appropriate
- Employ various **perspectives**
- Utilize **mentor texts**
- Adapt communication for **various audiences**
- Employ effective techniques for **argumentation**



Disciplinary Literacy in Action: How to Create & Sustain a School-wide Culture of Deep Reading, Writing, & Thinking by ReLeah Cossett Lent & Marsha McCracken Voight (2019)

When students of English think, they

- Use **reflection** as a tool for understanding
- **Ask questions** of the text
- **Compare** texts or themes
- **Communicate** as a way of **clarifying**
- Make **connections** among texts, themes, or the real world
- Respect **multiple viewpoints**
- **Listen** to others
- **Compare** texts, sources, and perspectives



Disciplinary Literacy in Action: How to Create & Sustain a School-wide Culture of Deep Reading, Writing, & Thinking by ReLeah Cossett Lent & Marsha McCracken Voight (2019)

2021 Summer Literacy Conference

- **June 27-29, 2021**
- Virtual & **Free!**
- Choose **Your Own Adventure**
- **B-5, 6-8, 9-12**
- **Leader** Lightning Talks
- **Variety** of Session Formats
- **Engagement, Disciplinary Literacy, Reading Rope**
- **Gamification and Badging**

FREE VIRTUAL SUMMER LITERACY CONFERENCE

LITERACY & THE WHOLE CHILD

STRANDS: Disciplinary Literacy, Reading, & Engagement

JULY 27: BIRTH-AGE 5
JULY 28: K-5
July 29: 6-12

CUSTOMIZABLE FEATURES

No one knows better than you what kind of professional learning experience is best. Our hope is that this virtual conference will kick off your new school year by invigorating you and providing you with space to explore and learn at your own pace and toward your own goals. Here is what you can look forward to as you design your own conference experience:

- Pre-recorded sessions for exploration before, during, and after the conference
- Live sessions for interacting with presenters in formal presentations and casual conversations
- Leader lightning talks
- Gamification
- Student spotlights
- Badging opportunities
- National practitioner authors
- Support materials
- Georgia authors
- Extension and facilitation guides

Two Embedded Institutes:

- Media Specialists**
-GA media specialists
- ESOL**
-UGA CLASE
-GA State University
-GA Southern University

Are you a school or district leader?

Work with us to incorporate all or part of the conference in your pre-planning activities!

Register Today!

- Use [this flyer](#) to join **GaDOE Community** (<https://bit.ly/GaDOECommunity>).
- Next, join the **2021 Summer Literacy Conference Group**.
- Watch [this video](#) for registration steps.

Logos for GaDOE, Literacy, English Learning Language Programs, and GaDOE Community are at the bottom.

[Register TODAY!](#)

Next Steps

- Choose a focus area.
- Form an interdisciplinary team.
- Evaluate your current level of numeracy and literacy integration.
- Set short- and long-term goals.
- Design a plan with impact checks and course corrections for arriving.
- Reach out to your GaDOE team for ideas and resources.
- Embrace the journey!

Q&A



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Session Feedback

Thank you for attending our session!

- Please take a moment to provide your feedback on the pop-up survey at the close of the session.
- A link to the survey will also be included in your follow-up email, along with a certificate of attendance and the session recording.

Share your conference highlights now!

twitter  **@georgiadeptofed**

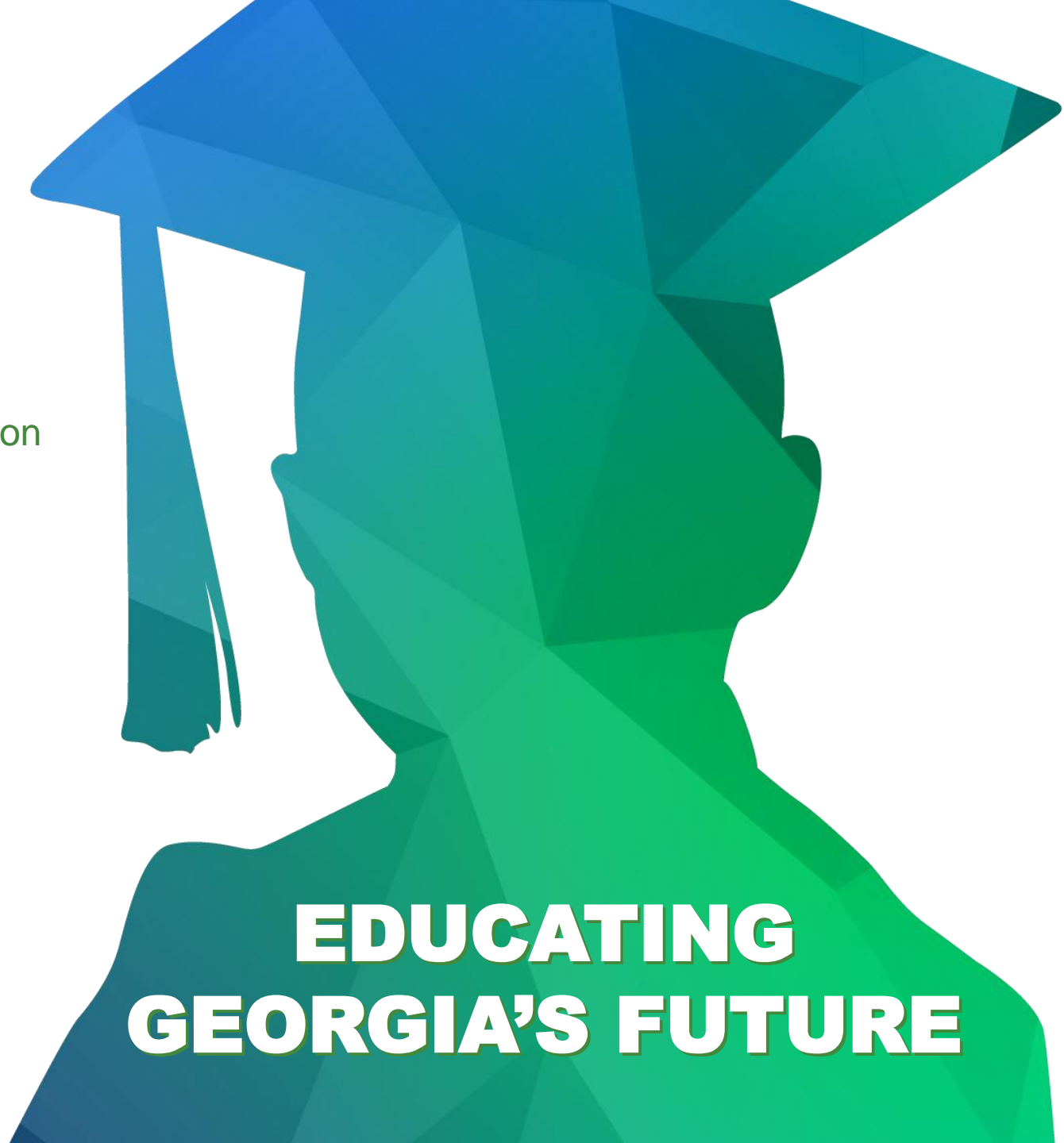
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**EDUCATING
GEORGIA'S FUTURE**



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