



Dr. John D. Barge, State School Superintendent
"Making Education Work for All Georgians"

Common Core Georgia Performance Standards



Literacy in History, Social Studies, Science and Technical Subjects for Middle School

Dr. Gilda Lyon
STEM Coordinator
Georgia Department of Education



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Welcome



Reading and Writing in the Science Classroom

Presenters:

Gilda Lyon, Ph.D.

Jodi Wheeler-Toppen, Ph.D.

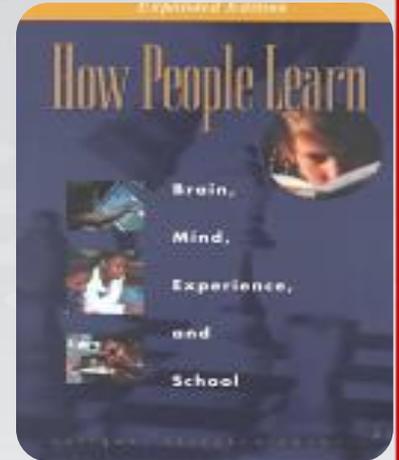
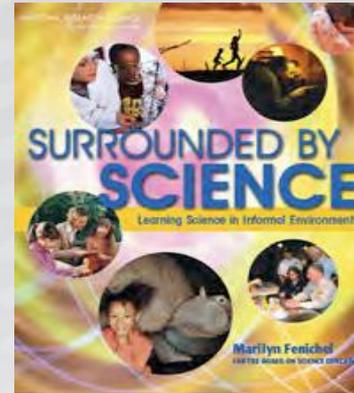
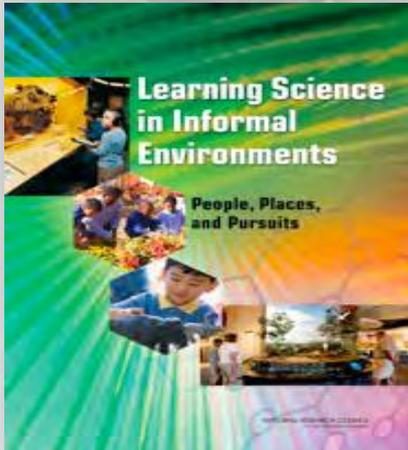
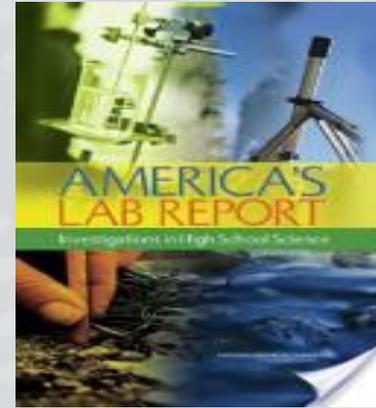
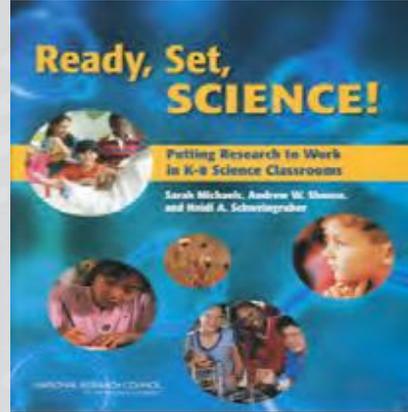
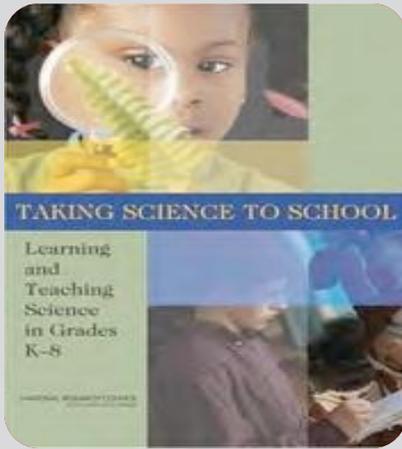
Mary Lynn Huie, Ph.D.

Susan Jacobs



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Body of Research



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Science Proficiency



Students who are proficient in science:

1. Know, use, and interpret scientific explanations of the natural world;
2. Generate and evaluate scientific evidence and explanations;
3. Understand the nature and development of scientific knowledge; and
4. Participate productively in scientific practices and discourse.

Taking Science To School



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Integrating Science and Literacy



1. How can students' work in literacy support their understanding of science?
2. How can their work in science actually improve literacy skills?

Negotiating Science: The Critical Role of Argument in Student Inquiry



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Sample Lesson

Processes that Cause Erosion

by Jodi Wheeler-Toppen, Ph.D.



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Literacy Design Collaborative

by Mary Lynn Huie, Ph.D.



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What is LDC?

- LDC tools embed Common Core Literacy Standards into content-area lessons so that students meet the Literacy Standards while also meeting content demands at high levels of performance.



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How does LDC work?

- LDC templates help teachers write content-specific Teaching Tasks that require reading and writing to complete.
- LDC tools then help teachers identify the literacy skills students will need to complete the assigned Teaching Tasks.
- The templates then suggest instruction to help students acquire those skills.



A Good Teaching Task Should--



- Challenge students to engage in a substantial issue within the academic discipline,
- Model high levels of thinking, reading, and writing,
- Require work that will challenge students' thinking and literacy practices beyond what they can already do without teaching support.



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Templates for the Teaching Tasks



Teachers fill in the template to create a teaching task—a major student assignment to be completed over two or more weeks.

The content can be science, history, language arts, or another subject.



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How It Works

An Example: Template 1

Task 1 Template (Argumentation/Analysis L1, L2, L3):

After researching _____ (informational texts) on _____ (content), write _____ (essay or substitute) that argues your position on _____ (content). Support your position with evidence from your research. **L2** Be sure to acknowledge competing views. **L3** Give examples from past or current events or issues to illustrate and clarify your position.



Science Teaching Task

(Argumentation/Analysis)



After researching _____ on _____, write an _____ that argues your position on _____ .

Support your position with evidence from your research. **L2** Be sure to acknowledge competing views. **L3** Give examples from past or current events or issues to illustrate and clarify your position.



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Template 25 (Informational/Cause Effect)



- Template 25: [Essential Question] After reading [literature or informational texts] on [content], write a [report or substitute] that examines the causes of [content] and explains the effect(s) of [content]. What conclusions or implications can you draw? Support your discussion with evidence from the text(s)



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A Middle School Science Task



- What is the effect of algal blooms on the marine environments off the coast of the US? After reading **selected scientific texts**, write a **letter to the Ecological Society of America** that examines the causes of **algal blooms** and explains the effect(s) **on marine environments**. What conclusions or implications can you draw? Support your discussion with evidence from the text(s).



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Georgia

Science Standards



- **S7L4. Students will examine the dependence of organisms on one another and their environments.**
- **e.** Describe the characteristics of Earth’s major terrestrial biomes (i.e. tropical rain forest, savannah, temperate, desert, taiga, tundra, and mountain) and aquatic communities (i.e. freshwater, estuaries, and marine).
- **S7CS9. Students will investigate the features of the process of scientific inquiry.**
- **b.** Scientific investigations usually involve collecting evidence, reasoning, devising hypotheses, and formulating explanations to make sense of collected evidence.



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LDC Skills Analysis



The LDC design team offers a sample list of skills that teachers can consider and then:

- ★ Use without changes
- ★ Use with changes
- ★ Replace with another list based on their judgment about their task and their students



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Instructional Ladders



- The LDC templates include mini-tasks that help students acquire the necessary skills. Teachers are free to adopt or adapt the mini-tasks and the order in which they are presented within the Skills Cluster.



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Galileo



- “Oceans of Trouble.” 1000L
Current Health Teens (Oct2010)—Kowalski, Kathiann M.
- “The Last Word.” 1080L
New Scientist (8/23/2003)—Small, Richard; Barter, Guy; Jakson, David
- “The Rise in Toxic Tides.” 1140L
Science News (09/27/97)—Mlot, Christine



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LDC in 2012-2013



Our goal for 2012-13 is to have excellent examples of LDC Instructional Modules available to Georgia teachers of ELA, history/social studies, science, and technical subjects. Teachers will be able to adopt the modules as they are or adapt them for their own instructional needs.

We also expect to have a strong corps of teachers and RESA/GLRS specialists trained for delivering in-services in their schools, their districts, and neighboring districts.



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Three Sets of Standards

-  College and Career Readiness Standards
-  Common Core Georgia Performance Standards (CCGPS)
-  Literacy Standards for History/Social Studies, Science, and Technical Subjects



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How the Standards Compare



CCRR2: Determine **central ideas** or themes of a text and analyze their development; summarize the key supporting details and ideas.



ELACC7RL2: Determine a theme or **central idea** of a text and analyze its development over the course of the text; provide an objective summary of the text.



L6-8RST2: Determine the central ideas or **conclusions** of a text; provide an accurate **summary** of the **text distinct from prior knowledge or opinions**.



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How the Standards Compare



CCW2: Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.



ELACC7W2: Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.



L6-8WHST2: Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.



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Problems with Content Area Reading

- Literacy is not as generalizable as once thought
- Some practices make no sense in content disciplines
- Generic strategies are less helpful to struggling readers
- Pre-service teachers may resist non-disciplinary courses



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Why Disciplinary Literacy?

- College and career ready students to be proficient in reading complex informational text independently in a variety of content areas
- Required reading in college and workforce training programs is informational in structure and challenging in content
- Postsecondary education programs provide students with both a higher volume of such reading and comparatively little scaffolding

The addition of specific Literacy Standards for content areas beyond the language arts classroom is designed to address and ensure this critical interdisciplinary approach



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The Standards



<http://www.doe.k12.ga.us/Curriculum-Instruction-and-Assessment/Curriculum-and-Instruction/Pages/CCGPS.aspx>

The screenshot shows the Georgia Department of Education website. At the top, there is a search bar and a language selection dropdown. Below the header, a navigation menu includes Home, Students, Parents, Teachers, Business & Industry, and Contact Us. The main content area is titled "Common Core Georgia Performance Standards (CCGPS)". It features a sidebar with various service categories, a main text block describing the standards, and a list of resources. A blue circle highlights the "Literacy Standards - Grades 6-10" link in the resources section.

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Home | Students | Parents | Teachers | Business & Industry | Contact Us

Georgia Department of Education > Curriculum, Instruction and Assessment > Curriculum and Instruction > Common Core Georgia Performance Standards (CCGPS)

Common Core Georgia Performance Standards (CCGPS)

Georgia joined with 46 other states, The District of Columbia (D.C.), and territories to develop a set of core standards for kindergarten through high school in English language arts and mathematics and in grades 6-12 in literacy in science, history/social studies, and technical subjects. The Common Core Georgia Performance Standards (CCGPS) provide a consistent framework to prepare students for success in college and/or the 21st century workplace. These standards represent a common sense next step from the Georgia Performance Standards (GPS).

Professional Learning Webinars

All fall English/Language Arts and Mathematics CCGPS Professional Learning WEBINARS and recordings of archived WEBINARS may be accessed through ElluminateLive! found at GeorgiaStandards.org. See [ELA/Literacy CCGPS](#) or [Mathematics CCGPS](#) sections for webinars.

Professional Learning Georgia Public Broadcasts

Each of the two-hour professional learning sessions will be accessed through Georgia Public Broadcasting (GPB) from January 25, 2012, through May 9, 2012. These GPB professional learning sessions will be available for archived viewing at the original broadcast link: <http://www.gpb.org/education/common-core> within 8 calendar days of the

CCGPS Resources

- English Language Arts**
 - Professional Learning Schedule (Revised 11-15-11)
 - CCSS in ELA
 - GACIS Breakout Session 9-22-10 Presentations
 - History/Social Studies, Science and Technical Subjects**
 - Literacy Standards - Grades 6-8
 - Literacy Standards - Grades 9-10
 - Literacy Standards - Grades 11-12
- Mathematics**



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Science Literacy



ELA

Context sometimes important

Author and author's perspective of primary importance

Nuance and complexity of language; desire for readers to have more than one interpretation

Science

Context usually not important

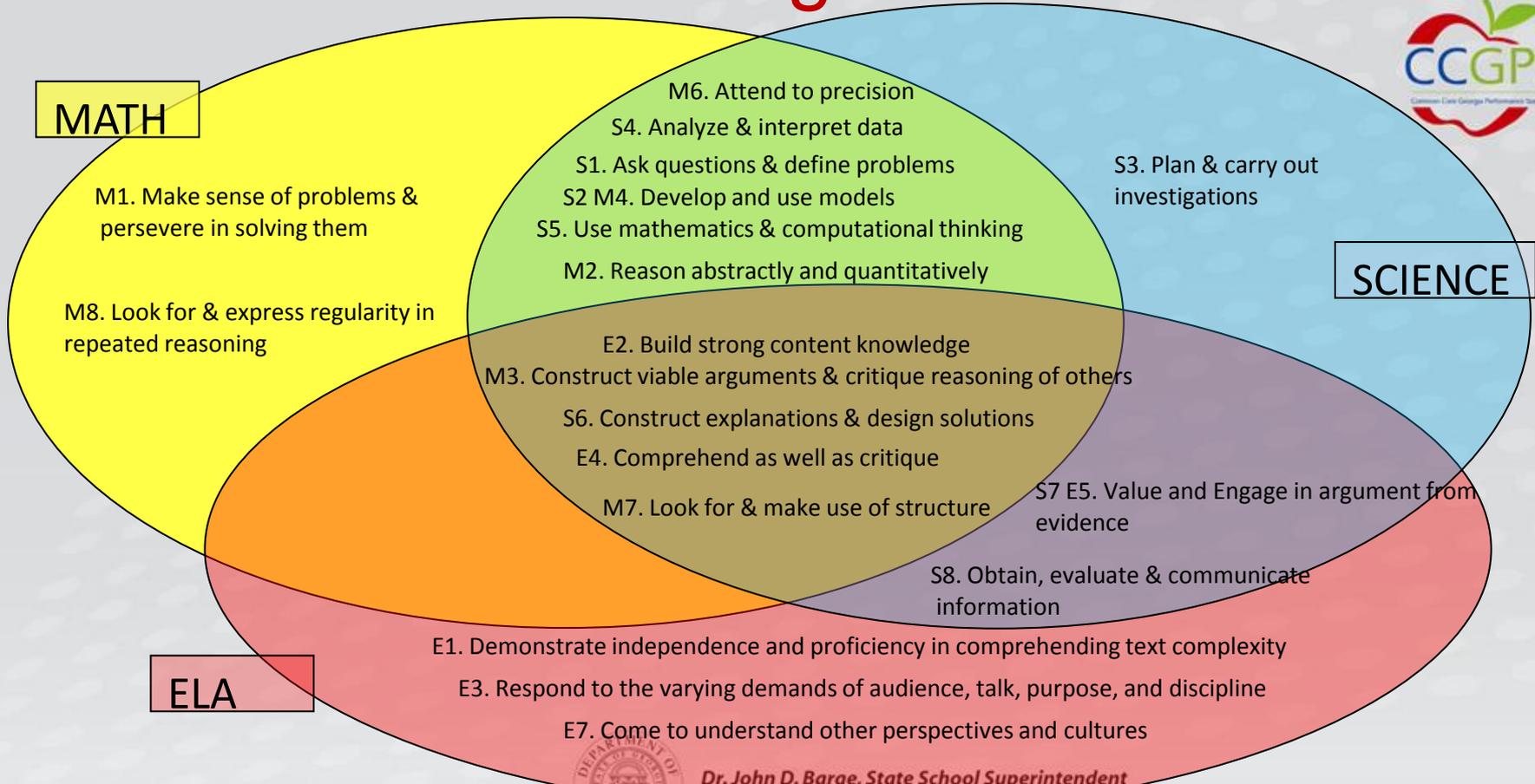
Facts of primary importance

Clarity and precision of language with a single clear point



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Connecting Practices



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READING STANDARDS FOR LITERACY IN SCIENCE (RST) GRADES 6-8

➤ Key Ideas and Details

ELACC6-8RST1: Cite specific textual **evidence** to support analysis of **science and technical** texts.

ELACC6-8RST2: Determine the central ideas or **conclusions** of a text; provide an **accurate** summary of the text **distinct from prior knowledge or opinions**.

ELACC6-8RST3: Follow precisely a **multistep procedure** when carrying out **experiments**, taking **measurements**, or performing technical tasks.

➤ Craft and Structure

ELACC6-8RST4: Determine the meaning of **symbols**, key terms, and other **domain-specific words** and phrases as they are used in a specific **scientific or technical context** relevant to *grades 6–8 texts and topics*.

ELACC6-8RST5: Analyze the **structure** an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.

ELACC6-8RST6: Analyze the author's purpose in providing an explanation, describing a **procedure**, or discussing an **experiment** in a text.





READING STANDARDS FOR LITERACY IN SCIENCE (RST) GRADES 6-8

➤ Integration of Knowledge and Ideas

ELACC6-8RST7: Integrate **quantitative or technical information** expressed in words in a text with a version of that information expressed visually (e.g., in a **flowchart, diagram, model, graph, or table**).

ELACC6-8RST8: Distinguish among facts, reasoned judgment based on **research findings**, and speculation in a text.

ELACC6-8RST9: Compare and contrast the information gained from **experiments, simulations,** video or multimedia sources with that gained from reading a text on the same topic.

➤ Range of Reading and Level of Text Complexity

ELACC6-8RST10: By the end of grade 8, read and **comprehend science/technical texts** in the grades 6–8 text complexity band independently and proficiently.



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Survey



Thank you for participating in this CCGPS Professional Learning Session. We value your feedback! Please go to the following website, take the anonymous feedback survey, and complete the participation log to receive a certificate of participation:

<http://survey.sedl.org/efm/wsb.dll/s/1g10a>



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We look forward to hearing from you!



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THANK YOU



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