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# Common Core Georgia Performance Standards



## Literacy in History, Social Studies, Science and Technical Subjects for High 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.

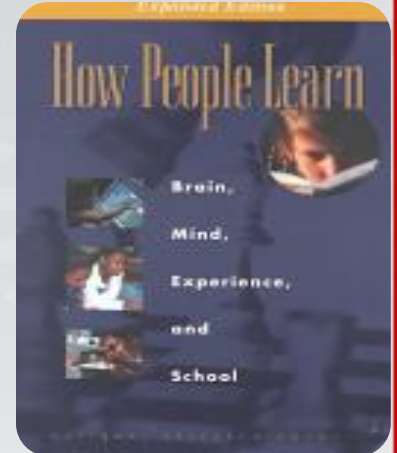
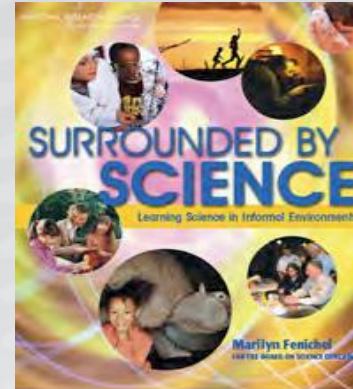
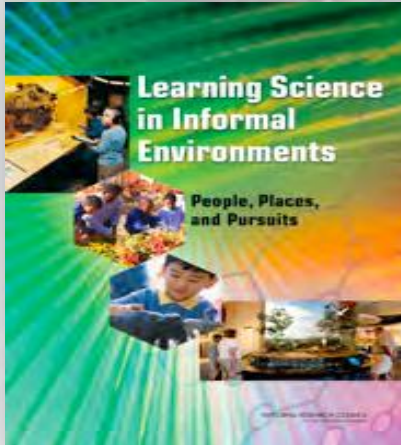
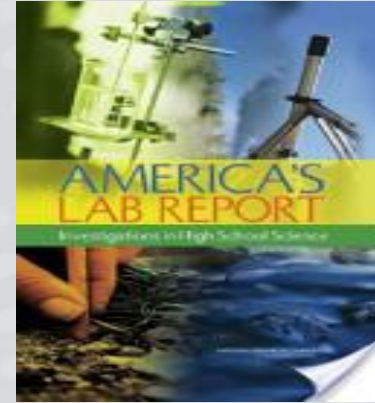
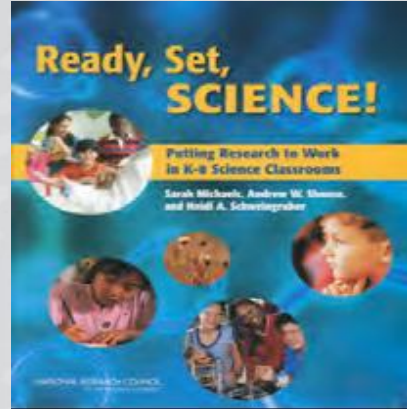
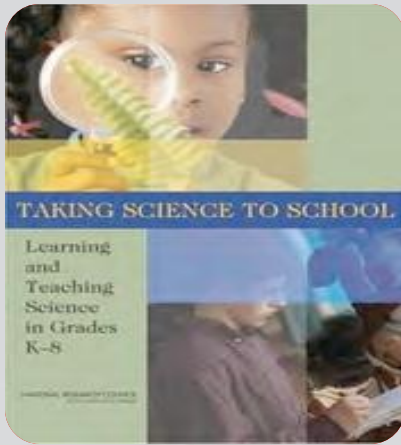
Mary Lynn Huie, Ph.D.

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 Diversity of Cells

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.



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# 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.



# Template 4 (Argumentation/Comparison)



- Template 4: [Essential Question] After reading [literature or informational texts], write an [essay or substitute] that compares [content] and argues [content]. Be sure to support your position with evidence from the text(s).



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# A High School Science Task



- Which type of evidence is more trustworthy, DNA evidence or eyewitness testimony? After reading **informational texts**, write a **lawyer's closing arguments to a jury** that compares **DNA evidence and eyewitness testimony** and argues **which the jury should privilege**. Be sure to support your position with evidence from the text(s).



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# Georgia Science Standards



- Biology DNA Forensics
- **SB2. Students will analyze how biological traits are passed on to successive generations.**
  - **f.** Examine the use of DNA technology in forensics, medicine, and agriculture.
- **SCSh6. Students will communicate scientific investigations and information clearly.**
  - **b.** Write clear, coherent accounts of current scientific issues, including possible alternative interpretations of the data.



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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



- “In police lineups, is the method the suspect?” 1300L  
*Christian Science Monitor* (4/24/2006)—Paulson, Amanda  
Llana, Sara Miller
- “DNA's Dirty Little Secret.” 1400L  
*Washington Monthly* (Mar/Apr2010)—Bobelian, Michael
- “Forensic evidence goes on trial.” 1260L  
*New Scientist* (2/28/2009)—Geddes, Linda



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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.



**L9-10RST2:** Determine the central ideas or **conclusions** of a text; trace the text's explanation or depiction of a **complex process**, **phenomenon**, or **concept**; provide an **accurate** summary of the text.



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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.



**L9-10WHST2:** 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](http://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



**MATH**

M1. Make sense of problems & persevere in solving them

M8. Look for & express regularity in repeated reasoning

M6. Attend to precision

S4. Analyze & interpret data

S1. Ask questions & define problems

S2 M4. Develop and use models

S5. Use mathematics & computational thinking

M2. Reason abstractly and quantitatively

S3. Plan & carry out investigations

**SCIENCE**

E2. Build strong content knowledge

M3. Construct viable arguments & critique reasoning of others

S6. Construct explanations & design solutions

E4. Comprehend as well as critique

M7. Look for & make use of structure

S7 E5. Value and Engage in argument from evidence

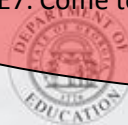
S8. Obtain, evaluate & communicate information

**ELA**

E1. Demonstrate independence and proficiency in comprehending text complexity

E3. Respond to the varying demands of audience, talk, purpose, and discipline

E7. Come to understand other perspectives and cultures



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## LITERACY STANDARDS FOR READING IN SCIENCE AND TECHNICAL SUBJECTS (RST) GRADE 9-10

### ➤ Key Ideas and Details

**L9-10RST1:** Cite specific textual evidence to support analysis of **science and technical** texts, attending to the **precise details** of explanations or descriptions.

**L9-10RST2:** Determine the central ideas or **conclusions** of a text; trace the text's explanation or depiction of a **complex process, phenomenon, or concept**; provide an **accurate** summary of the text.

**L9-10RST3:** Follow precisely a **complex multistep procedure** when carrying out **experiments**, taking **measurements**, or performing **technical tasks attending to special cases or exceptions** defined in the text.

### ➤ Craft and Structure

**L9-10RST4:** 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 9–10 texts and topics*.

**L9-10RST5:** Analyze the structure of **the relationships among concepts** in a text, including relationships **among key terms** (e.g., *force, friction, reaction force, energy*).

**L9-10RST6:** Analyze the author's purpose in providing an explanation, describing a **procedure**, or discussing an **experiment** in a text, defining the question the author seeks to address.



➤ **Integration of Knowledge and Ideas**

**L9-10RST7:** Translate **quantitative or technical** information expressed in words in a text into visual form (e.g., **a table or chart**) and translate information expressed visually or **mathematically** (e.g., in an equation) into words.

**L9-10RST8:** Assess the extent to which the **reasoning** and **evidence** in a text support the author's claim or a recommendation for solving **a scientific or technical problem**.

**L9-10RST9:** Compare and contrast findings presented in a text to those from other sources (including their **own experiments**), noting when the **findings support or contradict previous explanations or accounts**.

➤ **Range of Reading and Level of Text Complexity**

**L9-10RST10:** By the end of grade 10, read and **comprehend science/technical texts** in the grades 9–10 text complexity band independently and proficiently.



# 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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