Helping Students Meet the Reading Common Core State Standards in History/Social Studies and the Sciences

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Why ELA history and science standards?

- As students move into college more emphasis is placed on disciplinary texts.
- Reading in science and history is important to citizenship; yet...
- Students aren’t usually taught how to read in science and history.
- Reading science and history texts is different than reading literary text.
Increasing Specialization of Literacy

- Basic Literacy
- Intermediate Literacy
- Disciplinary Literacy
Each discipline possesses its own language, purposes, and ways of using text.

There are special skills and strategies needed for students to make complete sense of texts from the disciplines.

As students begin to confront these kinds of texts (especially in middle school and high school), instruction must facilitate their understanding of what it means to read disciplinary texts.
Difference in approaches

- The focus is on the specialized problems of a subject area.
- Disciplines represent cultural differences in how information is used, the nature of language, demands for precision, etc.
- Reading is approached differently depending upon the way information is created, disseminated, and evaluated.
History Reading

- History is interpretative, and authors and sourcing are central in interpretation (consideration of bias and perspective)

- Often seems narrative without purpose and argument without explicit claims (need to see history as argument based on partial evidence; narratives are more than facts)

- Single texts are problematic (no corroboration)
Science Reading

- Text provides knowledge that allows prediction of how the world works
- Full understanding needed of experiments or processes
- Close connections among prose, graphs, charts, formulas (alternative representations of constructs an essential aspect of chemistry text)
- Major reading strategies include corroboration and transformation
Differences in language

- Language differs across disciplines, so it is critical that readers confront the language of their discipline

- The Friendly Textbook Dilemma
History Reading (Fang & Schleppegrell)

- Text constructs time and causation
- Attributes agency (readers need to focus on the reasons for actions and the outcomes of those actions—cause/effect)
- Presents judgment and interpretation (argument)
- Often narratives with lack of clear connections to thesis
Grammatical circumstances: construct meaning about time, place, manner

In history, many clauses begin with grammatical circumstances realized in prepositional phrases and adverbs

Over the next decade events led to war.

They gathered in Philadelphia.

They made enemies by their harsh stands.
History also constructs participants/actors and the processes that they engaged in towards their goals.
### History Reading (Fang & Schleppegrell)

<table>
<thead>
<tr>
<th>Clause</th>
<th>Circumstance</th>
<th>Actor</th>
<th>Process</th>
<th>Goal</th>
<th>Circum.</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Over the next decade,</td>
<td>further events</td>
<td>steadily led</td>
<td></td>
<td>to war</td>
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<td>2</td>
<td>Some colonial leaders, such as Samuel Adams</td>
<td>favored</td>
<td>independence from Britain.</td>
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<td>3</td>
<td>They</td>
<td>Encouraged</td>
<td></td>
<td>conflict with British authorities.</td>
<td></td>
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<tr>
<td>4</td>
<td>At the same time,</td>
<td>George II and his ministers</td>
<td>made</td>
<td>enemies of many moderate Colonists</td>
<td>by their harsh stands</td>
</tr>
</tbody>
</table>
Science Reading (Fang & Schleppegrell)

- Technical, abstract, dense, tightly knit language (that contrasts with interactive, interpersonal style of other texts or ordinary language)

- Nominalization (turning processes into nouns)

- Suppresses agency (readers need to focus on causation not intention)
Differences in graphics

- Need for translation skills in sciences
- Pictures differ in their role (describing/defining nouns, verbs (processes), relationships)
- Difference between technical drawing and other photos or drawings?
- Is the information: Descriptive?
  Sequential?
  Relational/hierarchical?
  Causal?
History graphics

- Photographs, artwork that are meant to be superfluous information to text and may not be referred to in the text at all
- Graphs, charts, and other graphics often new information that need integration
Science graphics

- Graphics often represent alternate forms of the same information.
- Scientists read recursively: from diagram to text, and back again.
- Being able to transform information from one form to another is evidence of full understanding of a concept.
Common Core Standards

- Begin to address concerns that disciplinary approaches to reading are not taught
- Focus on similar aspects of reading, but differentiated based upon the discipline
What do teachers need to know?

- The new standards are more rigorous and demanding than standards of 37 states.
- Standards are held in common by so many states that it should mean less tailoring of textbooks and assessments.
- Standards are internationally benchmarked.
- **Multiple texts** (and text types), **critical reading**, the use of **technology** are stressed.
- Text difficulty is given importance.
- Backmapping is used to show how attainment can be accomplished.
# ELA History Reading Standards

The standards below begin at grade 6 standards for K-5 reading in historical studies, science, and technical subjects are integrated into the K-5 reading standards. The CCSS anchor standards and high standards in literacy work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

## Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects

### Reading Standards for Literacy in History/Social Studies 6-12

The standards below begin at grade 6 standards for K-5 reading in historical studies, science, and technical subjects are integrated into the K-5 reading standards. The CCSS anchor standards and high standards in literacy work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

### Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects

<table>
<thead>
<tr>
<th>Grade 6-8 Students</th>
<th>Grades 9-10 Students</th>
<th>Grades 11-12 Students</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Key Ideas and Details</strong></td>
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<tr>
<td>Determine the central ideas or information of a primary or secondary source and provide an accurate summary.</td>
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<tr>
<td>Identify the main reason why historical events happened as they did.</td>
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<td>Identify how stories or events described in a text are related to broader events, trends, or conflicts.</td>
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<td><strong>Craft and Structure</strong></td>
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<td>Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to the discipline.</td>
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<td>Explain how a text constructs an argument, including the problem or issue addressed, the claim(s), and the reasons and evidence in the text.</td>
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<td><strong>Integration of Knowledge and Ideas</strong></td>
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<td>Analyze how a complex primary source is structured and how it is interrelated to secondary sources.</td>
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<td><strong>Range of Reading and Level of Text Complexity</strong></td>
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<td>1. By the end of grade 6, read and comprehend historical/subject specific texts in a variety of genres in a text complexity band independently and proficiently.</td>
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History: Textual evidence/sources

- Grades 6–8
  - Cite specific textual evidence to support analysis of primary and secondary sources.
  - Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.

- Grades 9–10
  - Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.
  - 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.

- Grades 11–12
  - Cite specific textual evidence to support analysis of primary and secondary sources, connecting insights gained from specific details to an understanding of the text as a whole.
  - Determine the central ideas or information of a primary or secondary source; provide an accurate summary that makes clear the relationships among the key details and ideas.
History: Relationships among events

- **Grades 9–10**
  - Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.

- **Grades 11–12**
  - Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.
History: Importance of author

- **Grades 6–8**
  - Identify aspects of a text that reveal an author’s point of view or purpose (e.g., loaded language, inclusion or avoidance of particular facts).

- **Grades 9–10**
  - 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.

- **Grades 11–12**
  - Evaluate authors’ differing points of view on the same historical event or issue by assessing the authors’ claims, reasoning, and evidence.
History: thinking across sources

- **Grades 6–8**
  - Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.
  - Analyze the relationship between a primary and secondary source on the same topic.

- **Grades 9–10**
  - Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.
  - Compare and contrast treatments of the same topic in several primary and secondary sources.

- **Grades 11–12**
  - Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.
  - Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.
## Reading Standards for Literacy in Science and Technical Subjects 6-12

**Grades 6-8 students:**

1. Cite specific textual evidence to support analysis of science and technical texts.
2. Determine the central ideas or conclusions of a text: identify the text’s explanation or evaluation of a complex process or concept, provide an accurate summary of the text.
3. Follow precisely a main sequence when carrying out experiments, taking measurements, or performing technical tasks.
4. Analyze the authors' purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.
5. Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally). In order to address a question or solve a problem, identify important issues that remain unresolved.

**Craft and Structure**

6. Analyze the structure of the relationship among key concepts, ideas, and details in a text: analyze how the major sections contribute to the whole and to an understanding of the topic.
7. Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to address a question or solve a problem.

**Integration of Knowledge and Ideas**

8. Compare and contrast information gained from experiments, simulations, videos, multimedia sources, with that gained from reading a text on the same topic.
9. Compare and contrast findings presented in a text to those from other sources (including their own experiments, simulations) or with that gained from reading a test on the same topic.

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

10. At the end of grade 8, read and comprehend science/technical texts in the grades 6-8 text complexity band independently and proficiently.
11. At the end of grade 12, read and comprehend science/technical texts in the grades 9-12 text complexity band independently and proficiently.
Science: Understanding complex processes

- **Grades 6–8**
  - Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

- **Grades 9–10**
  - 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.

- **Grades 11–12**
  - Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
Science: Translation

- **Grades 6–8**
  - 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).

- **Grades 9–12**
  - 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.

- **Grades 11–12**
  - Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
Science: Critical Thinking

- Grades 6–8
  - Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.

- Grades 9–10
  - 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.

- Grades 11–12
  - Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.
Science: Critical thinking

- **Grades 6–8**
  - Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.

- **Grades 9–10**
  - 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.

- **Grades 11–12**
  - Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept resolving conflicting information when possible.
Who should teach to these standards?

- Reading teachers don’t know enough about history or science.

- English language arts teachers don’t know enough about history or science and were not professionally prepared to teach reading.

- History and science teachers know about their discipline, but may not be aware of the reading and writing demands of their discipline.

- History and science teachers should be teaching students the reading and writing demands of the discipline. But if they haven’t been prepared to do so...
What needs to be done to prepare teachers for teaching the standards?

- A workshop isn’t enough
- Prolonged collaborations among history/science teachers and reading experts
- Improved teacher preparation programs
- Prolonged professional development focused on reading WITHIN a discipline rather than just cross-disciplinary work
What can teachers do?

- Teach discipline specific approaches to text
- Teach discipline specific strategies
- Use multiple texts
- Focus on critical thinking: analysis, synthesis, evaluation
## Chemistry Note-taking

<table>
<thead>
<tr>
<th>Substances</th>
<th>Properties</th>
<th>Processes</th>
<th>Interactions</th>
<th>Atomic Expression</th>
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# History Events Chart

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</tbody>
</table>

Relation:

Relation:

Relation

Main point:
Multiple Text Discussion Web

Yes/No Question

YES

Text 1 Evidence

Text 2 Evidence

Text 3 Evidence

NO

Text 1 Evidence

Text 2 Evidence

Text 3 Evidence

Our View
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