

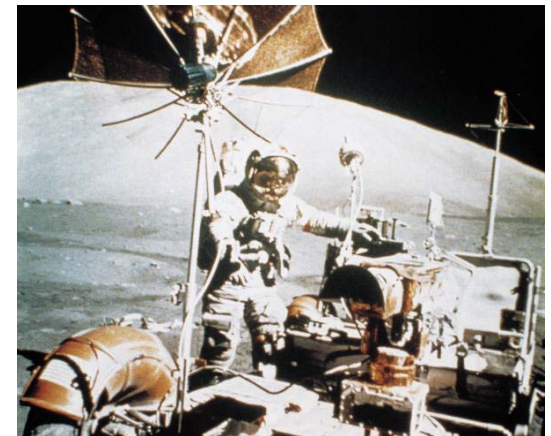
Helping Students Meet the Reading Common Core State Standards in History/Social Studies and the Sciences

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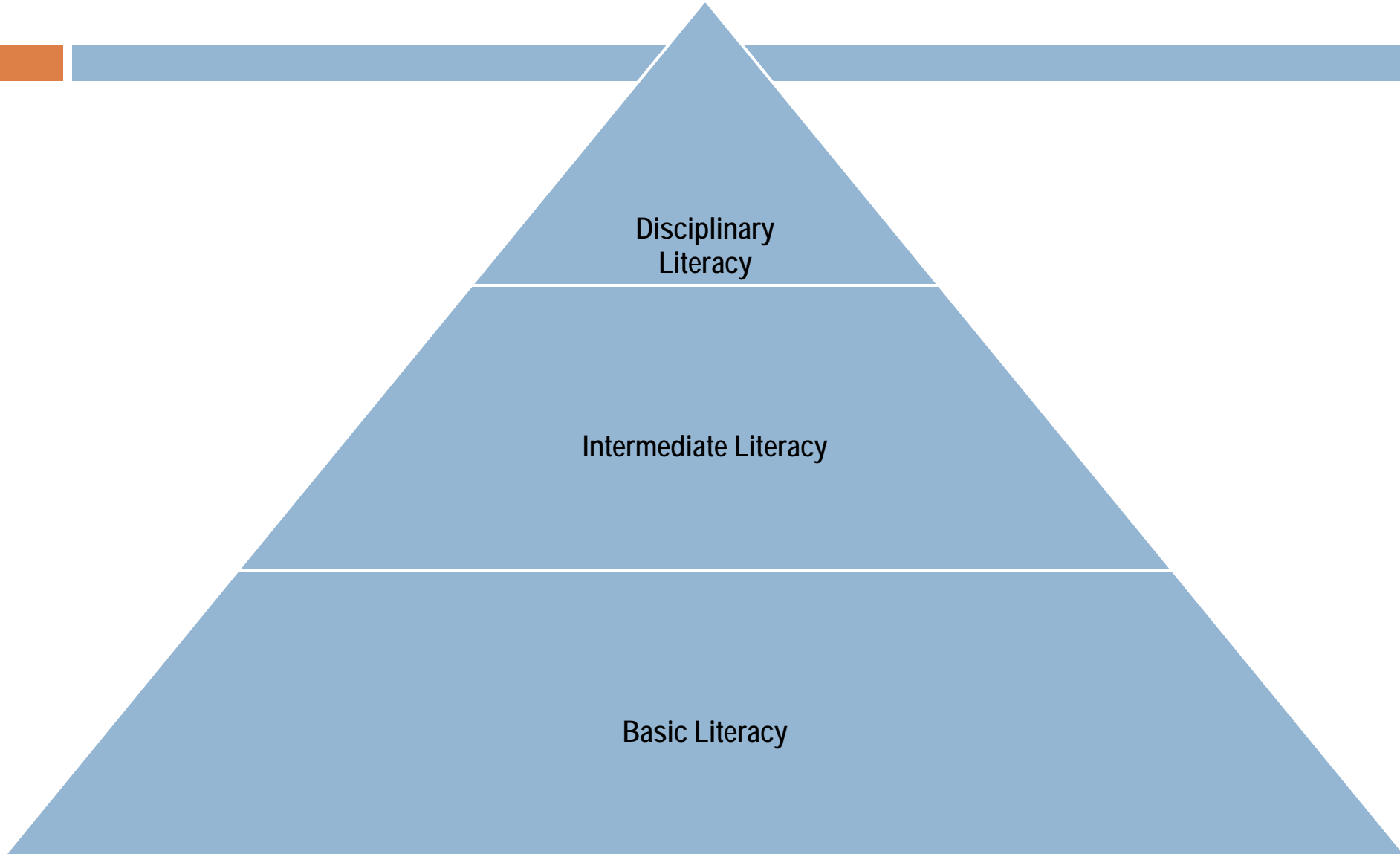
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Why ELA history and science standards?

- 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



Disciplinary Reading

- 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

History Reading (Fang & Schleppegrell)

- 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 Reading (Fang & Schleppegrell)

- History also constructs participants/actors and the processes that they engaged in towards their goals.

History Reading (Fang & Schleppegrell)

Clause	Circumstance	Actor	Process	Goal	Circum.
1	Over the next decade,	further events	steadily led		to war
2		Some colonial leaders, such as Samuel Adams	favored	independence from Britain.	
3		They	Encouraged	conflict with British authorities.	
4	At the same time,	George II and his ministers	made	enemies of many moderate Colonists	by their harsh stands

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

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 history/social studies, science, and technical subjects are integrated into the K-5 Reading standards. The CCR anchor standards and high school standards in literacy work in tandem to define college and career readiness expectations—the former providing broad standards, the latter providing additional specificity.

Grades 6-8 students:	Grades 9-10 students:	Grades 11-12 students:
Key Ideas and Details		
1. Cite specific textual evidence to support analysis of primary and secondary sources.	1. Cite specific textual evidence to support analysis of primary and secondary sources, attending to such features as the date and origin of the information.	1. 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.
2. 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.	2. 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.	2. 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.
3. Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered).	3. Analyze in detail a series of events described in a text; determine whether earlier events caused later ones or simply preceded them.	3. Evaluate various explanations for actions or events and determine which explanation best accords with textual evidence, acknowledging where the text leaves matters uncertain.
Craft and Structure		
4. Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.	4. 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 studies.	4. Determine the meaning of words and phrases as they are used in a text, including analyzing how an author uses and refines the meaning of a key term over the course of a text (e.g., how Madison defines <i>reaction</i> in <i>Federalist</i> No. 10).
5. Describe how a text presents information (e.g., sequentially, comparatively, causally).	5. Analyze how a text uses structure to emphasize key points or advance an explanation or analysis.	5. Analyze in detail how a complex primary source is structured, including how key sentences, paragraphs, and larger portions of the text contribute to the whole.
6. 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).	6. Compare the point of view or two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.	6. Evaluate authors' differing points of view on the same historical event or issue by assessing the authors' claims, reasoning, and evidence.
Integration of Knowledge and Ideas		
7. Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.	7. Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.	7. 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.
8. Distinguish among fact, opinion, and reasoned judgment in a text.	8. Assess the extent to which the reasoning and evidence in a text support the author's claims.	8. Evaluate an author's premises, claims, and evidence by corroborating or challenging them with other information.
9. Analyze the relationship between a primary and secondary source on the same topic.	9. Compare and contrast treatments of the same topic in several primary and secondary sources.	9. Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.
Range of Reading and Level of Text Complexity		
10. By the end of grade 8, read and comprehend history/social studies texts in the grades 6-8 text complexity band independently and proficiently.	10. By the end of grade 10, read and comprehend history/social studies texts in the grades 9-10 text complexity band independently and proficiently.	10. By the end of grade 12, read and comprehend history/social studies texts in the grades 11-CCR text complexity band independently and proficiently.

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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.

ELA Science and Technical Subjects

COMMON CORE STATE STANDARDS FOR ENGLISH LANGUAGE ARTS & LITERACY IN HISTORY/SOCIAL STUDIES, SCIENCE, AND TECHNICAL SUBJECTS

Reading Standards for Literacy in Science and Technical Subjects 6-12 RST

Grades 6-8 students:	Grades 9-10 students:	Grades 11-12 students:
Key Ideas and Details		
1. Cite specific textual evidence to support analysis of science and technical texts.	1. Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.	1. Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
2. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.	2. 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.	2. Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.
3. Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.	3. 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.	3. 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.
Craft and Structure		
4. 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.	4. 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.	4. 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 11-12 texts and topics.
5. 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.	5. Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).	5. Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.	6. 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.	6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.
Integration of Knowledge and Ideas		
7. 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).	7. 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.	7. 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.
8. Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.	8. 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.	8. 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.
9. Compare and contrast the information gained from experiments, simulations, video, or 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), noting when the findings support or contradict previous explanations or accounts.	9. 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.
Range of Reading and Level of Text Complexity		
10. By the end of grade 8, read and comprehend science/technical texts in the grades 6-8 text complexity band independently and proficiently.	10. By the end of grade 10, read and comprehend science/technical texts in the grades 9-10 text complexity band independently and proficiently.	10. By the end of grade 12, read and comprehend science/technical texts in the grades 11-CCR text complexity band independently and proficiently.

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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

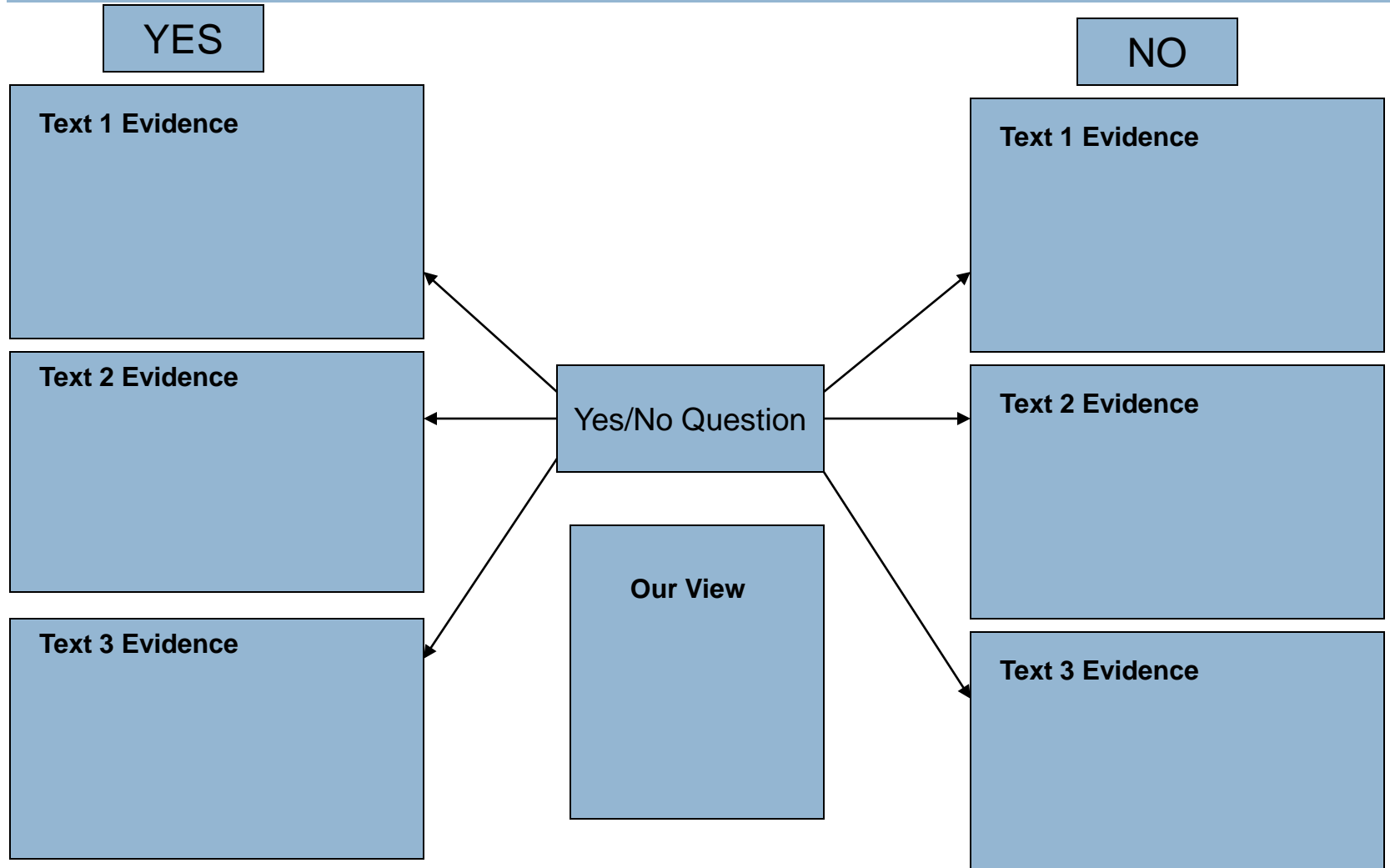
Chemistry Note-taking

Substances	Properties	Processes	Interactions	Atomic Expression

History Events Chart

TEXT	WHO?	WHAT?	WHERE?	WHEN?	WHY?
1					
Relation:					
2					
Relation:					
3					
Relation					
4					
Main point:					

Multiple Text Discussion Web



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