HOW TO READ A…Delaware Science Literacy Concept Organizer

The Science Literacy Concept Organizers, were created to assist teachers in aligning their instruction to the Common Core State Standards. These Science Literacy Concept Organizers are not replacements for teachers' individual units. They are deconstructions of the Common Core State Standards. These Literacy Concept Organizers are a resource from which teachers can select appropriate *Knowledge*, *Understandings*, and *Dos* to develop their own unit(s) of instruction.

***Knowledge*:** Refers to information such as vocabulary terms, definitions, and facts that may or may not need explicit instruction, however, are the foundation on which the lesson will be built.

Understandings: Refers to the important ideas, principles, and generalizations that allow students to make connections and see patterns and relationships among content. These are the goals of the instruction, outcomes you expect to achieve.

Dos: Refers to demonstration of skills. These are the skills that require explicit instruction. By the completion of a lesson/unit, students should have mastered the selected skill(s).

GRADE 11-12 Key Ideas and Details
Reading Standard 1
For Literacy in Science and Technical Subjects

The shaded areas highlight both the College and Career Readiness Anchor Reading Standard Key Ideas and Details and the CCSS for the grade level indicated.

College and Career Ready (CCR) Anchor Reading Standard for Literacy in History/Social Studies (1): Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support

CCSS – Grade Level Reading Standard 9 (Literacy in History/Social Studies)

Grade 6-8: Analyze the relationship between a primary and secondary source on the same topic.	**Grade 9-10:** Compare and contrast treatments of the same topic in several primary and secondary sources.	**Grade 11-12:** Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, nothing discrepancies among sources.
KNOW (Factual)	**UNDERSTAND (Conceptual)**	**DO (Procedural & Application)**
• Informational text (science expository/technical texts) • How to trace/delineate an author's argument and specific claims • Fact • Opinion • Arguments • Sound/logical/justified reasoning • Valid vs. invalid claims	• Good readers of science and engineering text(s) evaluate the reasons and evidence that authors use to support their arguments and specific claims in informational text(s).	• Identify fact • Identify opinion • Identify reasoned judgments based on scientific research • Differentiate between claims which are supported by reasons/evidence and those which are not • Differentiate between valid and invalid claims • Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.

Range of Reading and Level of Text Complexity

CCSS-Grade Specific Standard 10 (Grade 6-8)

By the end of grade 8, read and comprehend history/social studies texts in the grades 6-8 text complexity band independently and proficiently.

Informational Text-Literary Nonfiction and Historical, Scientific, and Technical Texts

Includes biographies and autobiographies; books about history, social studies, science, and the arts; technical texts, including directions, forms and information displayed in graphs, charts or maps; and digital sources on a range of topics

This arrow indicates the CCSS of grade level prior to the grade level you are working. This allows you to see the progression of from grade to grade.

This arrow indicates the CCSS of grade level above the grade level you are working. This allows you to see the progression of from grade to grade.

The Know, Understand and Do columns align to the shaded grade level.

These recursive strategies are the basic reading strategies that students must know and use to become successful readers. Some of the strategies are not explicitly stated in the Common Core State Standards for ELA.

Reading **Reading Recursive Strategies:**

- **Assimilating prior knowledge**
- **Rereading to clarify information**
- **Seeking meaning of unknown vocabulary**
- **Making and revising predictions**
- **Using critical and divergent thinking and assimilating prior knowledge to draw conclusions**
- **Making connections and responding to text**

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GRADE 11-12-Key Ideas and Details
Reading Standard 2
for Literacy in Literacy in Science

College and Career Ready (CCR) Anchor Reading Standard for Literacy in History/Social Studies (2):
Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

CCSS – Grade Level Reading Standard 2 (Literacy in History/Social Studies)

Grade 6-8: Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge opinions.	Grade 9-10: 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.	Grade 11-12: 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.

Know (factual)	Understand (conceptual)	Do (procedural & application)
• Informational text (science, expository/technical texts) • How to explain (e.g., what and why) • Types of text structures (e.g. sequence/ chronological order, classification, definition, simple process, description, comparison) • Different purposes for graphic organizers, based on type of scientific data (quantitative/qualitative) • Difference between central/ main ideas and key details in an informational text • How to analyze scientific text • Characteristics of and how to write an effective summary for scientific text • Relationship between central and specific ideas in an informational text.	• Good readers of science and engineering texts develop effective summaries that are objective and capture the central idea(s) of informational text(s). • Good readers of science and engineering texts analyze how the central idea develops, emerges, and is shaped and refined by specific details and data. • Multiple central ideas interact with and build on one another to create a complex informational text that requires sophisticated analysis.	• Describe or graphically represent the relationship between central ideas and specific details • Determine multiple central idea of an informational text • Describe or graphically represent the relationship between central ideas and specific details • Analyze how authors of scientific and engineering texts reveal, shape, and refine a central idea, utilizing specific details and data • Create an objective summary of scientific informational text • Determine two or more central ideas of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text

CCSS-Grade Specific Standard 10 (Grade 11-12)
By the end of grade 12, read and comprehend history/social studies texts in the grades 11-12 text complexity band independently and proficiently.

Reading Recursive Strategies:
- **Assimilating prior knowledge**
- **Rereading to clarify information**
- **Seeking meaning of unknown vocabulary**
- **Making and revising predictions**
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