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 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 1
for Literacy in Literacy in Science

College and Career Readiness (CCR) Anchor Reading Standard Key Ideas and Details (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 conclusions drawn from the text.	
CCSS – Grade Specific Reading Standard 1 (Literary)	
Grades 9-10: Cite specific textual evidence to support analysis of science and technical text, attending to the precise details of explanations of descriptions.	**Grades 11-12: Cite specific textual evidence to support analysis of science and technical text, attending to the precise details to important distinctions the author makes and to any gaps or inconsistencies in the account.**

KNOW (Factual)	UNDERSTAND (Conceptual)	DO (Procedural, Application and Extended Thinking)
• Informational text (science expository/technical texts) • How to cite specific textual evidence (e.g., data tables, scientific charts, case studies, quantitative(number based) research and other non-fiction resources) • How to analyze (e.g., bias, credibility, point of view, perspective) • Audience • Purpose • How to draw scientific conclusions • Background knowledge • Critical/analytical judgments • Explicitly stated information from the text(including strengths and limitations) • Peer reviewed text	• Scientists and engineers include key details in informational texts which can help a reader develop and answer scientific questions. • Scientists and engineers scan multiple resources in search of relevant information before they focus on precise details of scientific writing. • Scientists and engineers analyze the reliability of the scientific information within a document/text. • Scientists and engineers use textual evidence, connections to their own understanding of science and their background knowledge to develop scientific conclusions based on evidence from the text.	• Use the combination of explicitly stated information, background knowledge, and connections to the text to answer questions they have as they read • Differentiate between quantitative and qualitative data • Describe the connection between the scientist's purpose and the text • Identify/cite and explain information from specific textual evidence including peer reviewed articles (e.g., data tables, scientific charts, case studies, quantitative(number based) • Identify/cite appropriate text support for inferences, hypothesis and conclusions • Differentiate between strong and weak textual support • Develop scientific conclusions about theories in a text

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		• Analyze sources for bias, credibility, point of view, perspective, and purpose for the scientific community • Examine text for relevant information leading to precise details that support and/or refute your research • Cite specific textual evidence to support analysis of science and technical text, attending to the precise details to important distinctions the author makes and to any gaps or inconsistencies in the account.
CCSS- Grade Specific Reading Standard 10 (Grade 11-12) By the end of grade 12, read and comprehend science/technical text in the grades 11-CCR text complexity band independently and proficiently.		

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