

Maryland Common Core State Curriculum Framework  
 Reading Standards for Literacy in Science and Technical Subjects  
 Grades 9 – 12

**Cluster: Key Ideas and Details**

**CCR Anchor Standard #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

Grades 9-10
<p><b>RST 9-10.1</b> Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p>
<p>Essential Skills and Knowledge</p> <ul style="list-style-type: none"> <li>• Demonstrate the behaviors of a strategic reader when reading a science or technical text.</li> <li>• Analyze text clues that affect meaning.</li> <li>• Identify evidence that supports the author's purpose.</li> <li>• Evaluate textual evidence for completeness and relevance.</li> <li>• Participate actively and appropriately in discussions about informational text.</li> <li>• Interpret, explain, and apply appropriate academic and/or domain-specific vocabulary when responding and discussing informational text. (See CCSS L. 9-10.4 &amp; L.9-10.6)</li> <li>• Use knowledge of language and its conventions when speaking and writing. (See CCSS L.9-10.1)</li> <li>• See also MD SLM 2.0 &amp; 3.0, as needed</li> </ul>

Grades 11-12
<p><b>RST 11-12</b> 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.</p>
<p>Essential Skills and Knowledge</p> <ul style="list-style-type: none"> <li>• Demonstrate the behaviors of a strategic reader when reading science and technical texts.</li> <li>• Identify the evidence in the text that supports the author's purpose.</li> <li>• Evaluate available evidence for thoroughness, completeness, accuracy and relevance.</li> <li>• Analyze evidence and explain any inconsistencies or ambiguities between or among evidence presented in text.</li> <li>• Participate actively and appropriately in discussions about informational text.</li> <li>• Interpret, explain, and apply appropriate academic and/or domain-specific vocabulary when responding and discussing informational text. (See CCSS L.11-12.4 &amp; L.11-12.6)</li> <li>• Use knowledge of language and its conventions when speaking and writing. (See CCSS L.11-12.1)</li> <li>• See also MD SLM 2.0 &amp; 3.0, as needed.</li> </ul>

CCR Anchor Standard #2 Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

Grades 9-10
<b>RST.9-10.2</b> 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.
Essential Skills and Knowledge <ul style="list-style-type: none"> <li>• Analyze the key ideas that contribute to the development of a complex process, phenomenon, or concept presented in the text.</li> <li>• Synthesize evidence from the text to determine the central idea or conclusion.</li> <li>• Objectively summarize the scientific or technical text, including the appropriate key ideas, processes, and/or phenomenon.</li> </ul>

Grades 11-12
<b>RST.11-12.2</b> 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.
Essential Skills and Knowledge <ul style="list-style-type: none"> <li>• Analyze ideas, processes, and/or information that support the development of the central idea(s) or conclusion of a science or technical text.</li> <li>• Synthesize evidence from the text to determine the central idea or conclusion.</li> <li>• Summarize the information presented in the text by accurately paraphrasing the key ideas and details that support the concepts, processes or information.</li> </ul>

CCR Anchor Standard #3 Analyze how and why individuals, events, or ideas develop and interact over the course of a text.

Grades 9-10
<b>RST.9-10.3</b> 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.
Essential Skills and Knowledge <ul style="list-style-type: none"> <li>• Analyze and explain the text structure and features of a complex multi-step scientific or technical procedure and how it contributes to the purpose of the text.</li> <li>• Evaluate how the use of domain specific vocabulary, materials, specific scientific tools, or equipment in the text that contributes to the procedure.</li> <li>• Identify special directions or exceptions in the text important/critical to the procedure.</li> <li>• Implement the procedure.</li> </ul>

Grades 11-12
<b>RST.11-12.3</b> 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.
Essential Skills and Knowledge <ul style="list-style-type: none"> <li>• Analyze the text structure of a scientific or technical procedure and how it contributes to meaning and or/purpose.</li> <li>• Analyze the procedure, including the descriptive details (quantities, units of measurement) and use of specific materials (e.g., materials/chemicals, scientific tools and equipment), and sequence of events important to effective implementation.</li> <li>• Implement procedure or technical task.</li> <li>• Compare experimental results to the predicted outcomes.</li> <li>• Analyze results to support predicted outcomes or to identify possible sources of error.</li> </ul>

## Cluster: Craft and Structure

CCR Anchor Standard #4 Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

Grades 9-10
<b>RST. 9-10.4</b> 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.
<p>Essential Skills and Knowledge</p> <ul style="list-style-type: none"> <li>Analyze the meaning, use, and effect of scientific and technical vocabulary, symbols, and other domain specific-words or phrases as it contributes to comprehension of text.</li> <li>Use common grade appropriate Greek and Latin affixes and roots as clues to the meaning of a word. (See CCSS L.8.4.b)</li> <li>Interpret, explain, and apply appropriate academic and/or domain-specific vocabulary when responding and discussing informational text. (See 9-10 CCSS L.4.&amp; L.6).</li> </ul>

Grades 11-12
<b>RST.11-12.4</b> 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.
<p>Essential Skills and Knowledge</p> <ul style="list-style-type: none"> <li>Analyze the meaning, use, and effect of science and technical vocabulary, symbols, and other domain specific-words or phrases as it contributes to the meaning of the text.</li> <li>Interpret, explain, and apply appropriate academic and/or domain-specific vocabulary when responding and discussing science or technical text. (See CCSS L 9-10.4 &amp; L.9-10.6)</li> </ul>

CCR Anchor Standard #5 Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.

Grades 9-10
<b>RST.9-10.5</b> Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, frictions, reaction force, energy).
<p>Essential Skills and Knowledge</p> <ul style="list-style-type: none"> <li>Identify and analyze the text structure used to organize science or technical text (e.g., sequentially/chronologically, main ideas and supporting details, cause and effect, compare and contrast, problem and solution).</li> <li>Apply an understanding of text features in science or technical text (e.g., print features, graphic aids, informational aids, online features, etc.) to facilitate an understanding of the text.</li> <li>Determine the author's purpose for the identified text. (See CCSS RI.8.6)</li> <li>Determine the relationship among certain major sections within the text as a whole.</li> <li>Draw conclusions about how the relationship among the major sections adds to the growth of an idea within the whole text.</li> <li>Evaluate the effectiveness of the structure in presenting the information.</li> </ul>

Grades 11-12
<b>RST.11-12.5</b> Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.
<p>Essential Skills and Knowledge</p> <ul style="list-style-type: none"> <li>Analyze the relationship among certain major sections, categories, or hierarchies within the text as a whole.</li> <li>Analyze and explain how an author deliberately chooses and uses words and text structures to develop and refine ideas or information.</li> <li>Explain how the relationship among the major sections, categories, or hierarchies contributes to the development of the idea or concept presented within the text.</li> </ul>

CCR Anchor Standard #6 Assess how point of view or purpose shapes the content and style of a text.





Grades 9-10
<b>RST.9-10.6</b> 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.
Essential Skills and Knowledge <ul style="list-style-type: none"><li>• Identify and explain the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.</li><li>• Analyze and explain the structure of an explanation, procedure, or experiment and how it contributes to meaning and/or purpose of the text.</li><li>• Determine and examine the relationships between and among ideas throughout the text and how they contribute to meaning.</li><li>• Evaluate the effectiveness of the text to address the author's purpose..</li></ul>

Grades 11-12
<b>RST.11-12.6</b> 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.
Essential Skills and Knowledge <ul style="list-style-type: none"><li>• Determine and examine the relationships between and among ideas throughout the text and how they contribute to meaning.</li><li>• Evaluate the text for completeness and relevance.</li><li>• Analyze and explain any inconsistencies, ambiguities, or gaps among information presented in text.</li></ul>

DRAFT

## Cluster: Integration of Knowledge and Ideas

CCR Anchor Standard #7 Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words

Grades 9-10
<b>RST.9-10.7</b> Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or a chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
Essential Skills and Knowledge
<b>Translate quantitative or technical information in text to a visual</b>
<ul style="list-style-type: none"><li>Identify the author's purpose.</li><li>Identify the key numerical, scientific, or technical terms within the text that describes the quantitative or technical information (e.g., units of measurement).</li><li>Identify and analyze cue words and phrases that describe the informational relationships expressed (less than, greater than, increases, decreases, equal to).</li><li>Choose, construct, and complete a graphic organizer (chart, table, graph, and flow chart) that most appropriately visually represents the relationship or processes described in the text and the author's purpose.</li></ul>
<b>Translate information visually or mathematically into words.</b>
<ul style="list-style-type: none"><li>Identify the author's purpose.</li><li>Identify the mathematical relationships represented by operational symbols (e.g., +, -, X), mathematic symbols (e.g., (), =, &lt;, &gt;), and/or technology/flowchart symbols (e.g., , , , )</li><li>Analyze the author's use of numbers and symbols to represent key ideas, concepts, or processes.</li><li>Summarize the information expressed visually by the author into text.</li></ul>

Grades 11-12
<b>RST.11-12.7</b> 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.
Essential Skills and Knowledge
<ul style="list-style-type: none"><li>Analyze print, non-print and digital text for explicit details that are relevant to addressing a question or solving a problem. (See also MD Standard SLM 4.0)</li><li>Compare, draw conclusions, and connect significant details and ideas between and among different media formats.</li><li>Evaluate information from multiple sources of print, non-print, and digital texts, for accuracy, relevance, reliability and validity.</li><li>Integrate information from multiple sources of print, non-print, and digital texts to address a question or solve a problem. (See CCSS W.11-12.6, W.11-12.7, W.11-12.8, W.11-12.9b, SL.11-12.2)</li></ul>

CCR Anchor Standard #8 Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.

Grades 9-10
<b>RST.9-10.8</b> Assess the extent to which the reasoning and evidence in a text supports the author's claim or a recommendation for solving a scientific or technical problem.
<p>Essential Skills and Knowledge</p> <ul style="list-style-type: none"> <li>• Identify the author's claim or recommendation and supporting evidence.</li> <li>• Analyze and evaluate connections among evidence, inferences, and claims or recommendations.</li> <li>• Analyze the completeness, relevance, and accuracy of evidence.</li> <li>• Evaluate the extent to which the evidence supports the author's claim or recommendation.</li> <li>• See also MD Standard SLM 4.0.</li> </ul>

Grades 11-12
<b>RST.11-12.8</b> Assess the extent to which the reasoning and evidence in a text supports the author's claim or a recommendation for solving a scientific or technical problem.
<p>Essential Skills and Knowledge</p> <ul style="list-style-type: none"> <li>• Compare and analyze information from sources to identify common areas of support or contradiction with science text.</li> <li>• Seek information from other sources to resolve conflicting information as needed.</li> <li>• Synthesize information to support understanding of text.</li> <li>• See also MD Standard SLM 4.0</li> </ul>

CCR Anchor Standard #9 Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

Grades 9-10
<b>RST.9-10.9</b> Compare and contrast findings presented in a text to those from other sources (including their own experiment(s), noting when the findings support or contradict previous explanations or accounts).
<p>Essential Skills and Knowledge</p> <ul style="list-style-type: none"> <li>• Identify the main points and key details in a science or technical text and those found in other sources (e.g., simulations, videos, multimedia sources, student experiments) on the same topic.</li> <li>• Compare and contrast information from different sources to identify common areas of support or contradictions.</li> <li>• Synthesize information to represent a logical understanding of the topic.</li> </ul>

Grades 11-12
<b>RST.11-12.9</b> Synthesize information from a range of sources (e.g., text, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible
<p>Essential Skills and Knowledge</p> <ul style="list-style-type: none"> <li>• Identify the main points and key details in a science or technical text to those found in other sources (e.g., text, experiments, and simulations) on the same topic.</li> <li>• Compare, contrast, and analyze information from the different sources to identify common areas of support and/or contradiction</li> <li>• Seek information from other sources to resolve conflicting information.</li> <li>• Synthesize information to support understanding of text.</li> </ul>

## Cluster: Range of Reading and Level of Text Complexity

CCR Anchor Standard #10 Read and comprehend complex literary and informational texts independently and proficiently.

Grades 9-10
<b>RST.9-10.9</b> Compare and contrast findings presented in a text to those from other sources (including their own experiment(s), noting when the findings support or contradict previous explanations or accounts).
<b>Essential Skills and Knowledge</b> <ul style="list-style-type: none"><li>• Demonstrate understanding of a wide range of sufficiently complex science and technical nonfiction. (See also MD SLM 6.0)<ul style="list-style-type: none"><li>○ Comprehend texts of steadily increasing complexity, with scaffolding as needed.</li><li>○ As an emerging adult reader, set personal reading goals to self select and explore texts of different disciplines and increasing complexity.</li></ul></li><li>• Participate actively and appropriately in discussions about informational text.</li><li>• Interpret, explain, and apply appropriate academic and/or domain-specific vocabulary when responding and discussing informational text. (See 9-10 CCSS L.4 &amp; L.6)</li><li>• Use knowledge of language and its conventions when speaking and writing.(See 9-10 CCSS L.1)</li></ul>

Grades 11-12
<b>RST.11-12.10</b> By the end of grade 12, read and comprehend Science/technical texts in the grades 11-12 CCR text complexity band independently and proficiently.
<b>Essential Skills and Knowledge</b> <ul style="list-style-type: none"><li>• Demonstrate understanding of a wide range of sufficiently complex science and technical nonfiction. (See also MD SLM 6.0)<ul style="list-style-type: none"><li>• Comprehend texts of steadily increasing complexity.</li><li>• As an emerging adult reader, set personal reading goals to self select and explore texts of different genres and increasing complexity.</li></ul></li><li>• Participate actively and appropriately in discussions about informational text.</li><li>• Interpret, explain, and apply appropriate academic and/or domain-specific vocabulary when responding and discussing informational text. (See 9-10 CCSS L.4 &amp; L.6)</li><li>• Use knowledge of language and its conventions when speaking and writing. (See 9-10 CCSS L.1)</li></ul>