



Maryland College and Career Ready Standards Framework

Disciplinary Literacy

Introduction

The Code of Maryland Regulations (COMAR) 13A.04.14.01 *Reading and English Language Arts Instructional Programs for Grades Prekindergarten – 12* states that, “each local education agency shall provide in public schools an instructional program in English language arts/literacy each year for all students in grades prekindergarten – 5; provide in public schools an instructional program in English language arts/literacy each year for all students in grades 6–8; offer an English language arts/literacy program in grades 9 – 12 which enables students to meet graduation requirements and to select English language arts/literacy electives including English Language Arts/Literacy Transition Courses.”

State Frameworks are developed by the Maryland State Department of Education (MSDE) to support local education agencies in providing high-quality instructional programs in English Language Arts/Literacy. State Frameworks are defined as supporting documents and provide guidance for implementing Maryland College and Career Readiness Standards in English Language Arts/Literacy which are reviewed and adopted by the Maryland State Board of Education. State Frameworks also provide consistency in learning expectations for students in English Language Arts/Literacy programs across the twenty-four local education agencies as local curriculum is developed and adopted using these documents as a foundation. The State Standards and Frameworks for Literacy Standards for History and Social Studies, as well as for Science and Other Technical Subjects are part of the Maryland College and Career Ready Standards for English Language Arts/Literacy.

MSDE shall update the State Frameworks in English Language Arts/Literacy in the manner and time the State Superintendent of Schools determines is necessary to ensure alignment with best-in-class, research-based practices. Tenure and stability of State Frameworks affords local education agencies the necessary time to procure supporting instructional materials, provide professional development, and to measure student growth within the program. Educators, practitioners, and experts who participate in writing workgroups for State Frameworks represent the diversity of stakeholders across Maryland. State Frameworks in English Language Arts/Literacy, Prekindergarten – Grade 12 were developed, reviewed, and revised by teams of Maryland educators and practitioners, including local education agency content curriculum specialists, classroom teachers, accessibility staff, and academic researchers and experts in close collaboration with MSDE.

The Maryland College and Career Ready English Language Arts/Literacy Frameworks were released in June of 2012.

Maryland College and Career Ready Standards Framework Disciplinary Literacy - Reading Standards for Literacy in Science and Technical Subjects Grades 6-8

The Maryland College and Career Ready (MCCR) Standards for Disciplinary Literacy in History/Social Studies, Science, and Technical Subjects define skills that students must develop to be fully prepared for the challenges and expectations of college and careers. With the adoption of the MCCR Standards, teachers in all subject areas will build discipline-specific literacy into daily instruction when and where appropriate. The disciplinary literacy standards are not meant to replace existing content standards in the history, social studies, science, or technical subject classrooms, but rather to support them. Literacy development is essential for students to access and learn disciplinary content and must be a shared responsibility across all fields of study.

The Division of Instruction (MSDE) has developed curricular documents to support the implementation and understanding of the MCCR Standards for Disciplinary Literacy in History/Social Studies, Science, and Technical Subjects for grades 6-12. The framework identifies essential skills for accessing, analyzing, and evaluating content-rich informational texts and presenting evidence-based conclusions in argumentative and explanatory writing, emphasizing research. The MCCR Anchor Standards frame the document and define the ultimate literacy expectations required for graduation. Grade-banded standards (6-8, 9-10, and 11-12) provide a progression of rigor designed to help students achieve these expectations. A set of essential skills and knowledge, identified for each standard, recognizes the supporting skills needed for mastery.

It is important to note that MCCR Standards are not hierarchal or sequential; they are a collection of skills and strategies that work together flexibly throughout the learning process. To unlock and communicate content knowledge, students will employ strategic reading and writing strategies when interacting with various texts. The teacher will facilitate knowledge-building while students regularly and actively participate in content-specific discussions, use domain-specific vocabulary, and adhere to the conventions of language when speaking and writing.

Note: Informational Text is not limited to information presented as printed written exposition. It includes items such as maps, tables, charts, oral histories, multimedia presentations, technical data, art, photographs, websites, sound clips, etc.

Disciplinary Literacy Abbreviations:

- RH = Reading Standards for Literacy in History/Social Studies
- RST = Reading Standards for Literacy in Science and Technical Subjects
- WHST = Writing Standards for Literacy in History/Social Studies, Science and Technical Subjects
- MD SLM = Maryland School Library Media Curriculum
- DL = Digital Learning

Reading Standards for Literacy in Science and Technical Subjects

Cluster: Key Ideas and Details

MCCR 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.

RST.6-8.1 Cite specific textual evidenced to support analysis of science and technical text.

Essential Skills and Knowledge

- Demonstrate the behaviors of a strategic reader when reading a science or technical text.
- Select and apply appropriate before reading strategies to a text
 - previewing the text.
 - setting a purpose for reading.
 - making predictions about the text.
 - drawing connections between prior knowledge or experience and the text.
- Select and apply during reading strategies to monitor comprehension.
 - rereading.
 - paraphrasing.
 - summarizing.
 - connecting related ideas within the text.
 - verifying or modifying predictions.
 - visualizing.
 - connecting text ideas with prior knowledge or experience.

- Demonstrate comprehension of a text with after reading strategies.
 - explaining the main ideas.
 - identifying what is directly stated in the text.
 - drawing inferences.
 - drawing conclusions.
 - verifying or adjusting predictions.
 - making new predictions.
 - paraphrasing and summarizing.
 - making connections between the text and oneself.
- Determine, select, and state the strongest piece(s) among multiple pieces of evidence that confirms the meaning of a science or technical text.
- Participate actively and appropriately in discussions about informational texts. (See CCSS SL.8.8 and SL.8.3.)
- Demonstrate command of the conventions of Standard English grammar and usage when writing or speaking. (See CCSS L.8.1.)
- Use appropriate academic or domain-specific words when drawing inferences about science or technical text. (See CCSS L.8.6.)
- (See MD SLM V.A and VI.B.)

Reading Standards for Literacy in Science and Technical Subjects

Cluster: Key Ideas and Details

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

RST.6-8.2. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

Essential Skills and Knowledge

- Examine and determine significant pieces of information developed throughout a science or technical text that contributes to the central idea.
- Synthesize significant information developed through the text to formulate one or more central ideas. (See CCSS SL.8.4.)
- Paraphrase or compose a summary that includes the central idea and explain its development throughout the text.
- Use a variety of transition words to convey relationships between and among ideas. (See CCSS W.8.2c.)

Reading Standards for Literacy in Science and Technical Subjects

Cluster: Key Ideas and Details

MCCR Anchor Standard 3: Analyze how and why individuals, events, and ideas develop and interact over the course of text.

RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements or performing technical tasks.

Essential Skills and Knowledge

- Preview text.
 - Review title for key words from a science or technical procedure to support the purpose.
 - Skim text for unfamiliar words and name of tools, materials or necessary equipment
 - Determine the general organizational pattern (e.g., transition words and phrases indicating chronological, order sequence, description).
 - Identify text features, headings, and graphic/features.
- Read and demonstrate comprehension by:
 - identifying what is directly stated in the text
 - making connections between the text and prior science/technical procedural experiences
 - reread text, and demonstrate comprehension of text by:
 - visualizing the procedure
 - paraphrasing and summarizing
- Implement the procedure (i.e., order of events, tools to use, and safety precautions).
- (See MD SLM VI.B.)

Reading Standards for Literacy in Science and Technical Subjects

Cluster: Craft and Structure

MCCR 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.

RST.6-8.4 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 grade 6-8 texts and topics.

Essential Skills and Knowledge

- Use grade-level appropriate academic or domain-specific words and phrases to show comprehension about a science or technical text. (See CCSS L.8.6.)
- Use evidence from a science or technical text to determine the meaning of a symbol, word, phrase, or other discipline specific vocabulary.
- Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., ecosystem, photosynthesis, asexual). (See CCSS L.8.4b.)
- Examine word choice, relationships between words, and references to other texts as an aid to comprehension.
- Use and consult reference materials to clarify meaning and correct usage of vocabulary and to aid in vocabulary acquisition.
- Use new vocabulary in speaking and writing to gain and extend content knowledge and clarify expressions.

Reading Standards for Literacy in Science and Technical Subjects

Cluster: Craft and Structure

MCCR 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.

RST.6-8.5. 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.

Essential Skills and Knowledge

- 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).
- Apply an understanding of text features in a science or technical text (e.g., print features, graphic aids, informational aids, online features, etc.) to facilitate an understanding of the text.
- Determine the author’s purpose for the identified text.
- Determine the relationship among certain major sections within the text as a whole.
- Draw conclusions about how the relationship among the major sections adds to the growth of an idea within the whole text.
- Evaluate the effectiveness of the structure in presenting the information.

Reading Standards for Literacy in Science and Technical Subjects

Cluster: Craft and Structure

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

RST.6-8.6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.

Essential Skills and Knowledge

- Evaluate how structure (format, text features) and key ideas are used to support the author's purpose.
- Analyze the relationships between and among ideas throughout the text.
- Synthesize relevant evidence to identify the author's purpose:
 - providing an explanation
 - describing a procedure
 - discussing an experiment

Reading Standards for Literacy in Science and Technical Subjects

Cluster: Integration of Knowledge and Ideas

MCCR Anchor Standard 7: Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

RST.6-8.7. 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).

Essential Skills and Knowledge

- Identify the key ideas and details in a science or technical text expressed in words with similar information expressed visually.
- Compare and contrast quantitative information expressed in words with similar information expressed visually.
- Organize the information from the different formats to develop a logical understanding of a topic or an issue.
- Synthesize information to represent a logical understanding of a topic or issue.

Reading Standards for Literacy in Science and Technical Subjects

Cluster: Integration of Knowledge and Ideas

MCCR 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.

RST.6-8.8 Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.

Essential Skills and Knowledge

- Use knowledge of words, phrases, and clauses to clarify the relationship among claims and supporting evidence.
- Use evidence from other informational texts to support analysis.
- Assess the validity and accuracy of evidence. (See CCSS W.8.8.)
- Identify unsupported claims (speculation) versus supported claims (reasoned judgment) in the text.

Reading Standards for Literacy in Science and Technical Subjects

Cluster: Integration of Knowledge and Ideas

MCCR 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.

RST.6-8.9 Compare and contrast science and technical information gained from experiments, simulations, video or multimedia sources with that gained from reading a text on the same topic.

Essential Skills and Knowledge

- Identify the main points and supporting evidence gained from experiments, simulations, videos, or multimedia sources on the same topic.
- Compare and contrast quantitative and technical information expressed in words in a text with similar information expressed visually (experiment, simulations, video, or multimedia).
- Organize and synthesize the information presented in the formats to develop a logical understanding of a topic or an issue.

Reading Standards for Literacy in Science and Technical Subjects

Cluster: Range of Reading and Level of Text Complexity

MCCR Anchor Standard 10: Read and comprehend complex literary and informational texts independently and proficiently.

RST.6-8.10 By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.

Essential Skills and Knowledge

- Adjust strategies as necessary for reading a self-selected and assigned range of grade-appropriate science and technical texts while self-monitoring for comprehension.
- Comprehend science and technical text of steadily increasing complexity with scaffolding, as necessary.
- Set personal goals and conference regularly with adults to improve reading.
- (See MD SLM V.A.)