Information and Research: Through engagement in the research process, students will apply critical thinking skills (e.g., analysis, evaluation, organization, synthesis) to draw conclusions and construct new understandings. Additionally, students will engage in research processes (e.g., inquiry-based, information problem solving). Such experiences will develop student self-confidence in solving problems in an environment where information resources and technologies are increasingly complex.

STRAND 4: Defining an information problem and identifying information needed

Standard 1: Define an information problem.

	K	1-2	3-4	5
a. Analyze the task to identify the information problem.	Recognize and identify the information task.	Identify and interpret the information need.	Determine and analyze the information problem.	Analyze the information problem.
b. Seek clarification from teachers and others.	With guidance, ask questions to understand what is required to complete the task.	Ask questions to understand what is required to complete the task.	Review information task with teacher input.	Understand task requirements and clarify when necessary.
c. Select and narrow (or broaden) topics into a manageable focus.	With guidance, narrow the information topic.	With guidance, explain how topics can be broadened or narrowed.	Demonstrate how topics can be broadened or narrowed.	Evaluate and revise the topic.
d. Conceptualize the form of the final product based on target audience and criteria for evaluation.	With guidance, brainstorm and select possible forms of the final product, target audience, and evaluation of product.	With guidance, brainstorm, explain, and select possible forms of the final product, target audience, and evaluation of product.	Analyze and select a final product that meets criteria for task, target audience, and evaluation.	Analyze, evaluate, and select a final product that meets criteria for task, target audience and evaluation.

Standard 2: Identify the information needed.

	K	1-2	3-4	5
a. Analyze the task and information needed.	With guidance, identify background knowledge and information needed.	With guidance, identify background knowledge and predict information needed.	Identify and record information already known and predict information needed.	Identify, summarize, and evaluate for relevance the information already known and determine information needed.
b. Generate essential questions for new understanding and to guide inquiry.	List possible questions together with teacher guidance.	List possible questions to direct and focus attention and review with the teacher.	Analyze possible questions for relevance to the topic.	Create and evaluate possible essential questions.
c. Select and narrow (or broaden) keyword search terms.	With guidance, list possible keyword search terms.	With guidance, identify possible keyword search terms and distinguish between narrow and broad terms.	Generate and broaden or narrow possible keyword search terms, and critique them for relevance.	Generate and broaden or narrow possible keyword search terms, and critique them for relevance.

STRAND 5: Identifying, evaluating, and selecting sources

Standard 1: Identify information sources (e.g., texts, places, people).

	K	1-2	3-4	5
	With guidance, brainstorm a wide range of possible information sources.	Brainstorm and describe a range of possible information sources.	Brainstorm, identify, and explain a range of possible information sources.	Brainstorm and explain a range of possible information resources. Identify primary and secondary sources.

Standard 2: Evaluate and select sources based on predetermined criteria (e.g., relevancy, currency, credibility).

	K	1-2	3-4	5
	With guidance, investigate and select possible information sources based on criteria.	With guidance, investigate and select possible information sources based on criteria.	Analyze, investigate, and select possible information sources based on criteria.	Investigate, select, and evaluate possible information sources based on criteria.

STRAND 6: Locating sources and accessing information.

Standard 1: Locate identified sources.

	K	1-2	3-4	5
a. Demonstrate how to navigate library catalogs, the Internet, and databases.	Understand the concept of finding information sources through various tools (e.g., signage, catalogs).	Understand and demonstrate the concept of finding information sources through various tools (e.g., signage, catalogs).	Demonstrate use of the library catalog, databases, and web browsers using selected keyword, subject, author, title, and series terms.	Investigate sources using library catalogs, databases, and web browsers. Find possible sources using Boolean indicators and other search strategies.
b. Apply effective location skills, asking for help as needed.		Observe someone modeling locating sources from search results.	Locate selected sources from the search results or download/save/print source. Locate people or places of possible information.	Locate selected sources from the search results or download/save/print source. Locate people or places of possible information.
c. Revise and focus search as necessary to yield more effective results.			Refine search terms to yield adequate and relevant results.	Refine search terms to yield adequate and relevant results.

Standard 2: Access information within sources by applying relevant tools (e.g., table of contents, indexes, keyword searches, sidebars, related subjects).

	K	1-2	3-4	5
	Identify title page, illustrations, and text in print resources.	Identify, define, and demonstrate use of table of contents and indexes in print resources.	Demonstrate use of table of contents, indexes, headings, and guide words in print resources. Identify, define, and demonstrate use of sidebars, menu tabs, keywords searches, and other digital finding tools.	Demonstrate use of table of contents, indexes, headings, and guide words in print resources. Demonstrate use of sidebars, menu tabs, keywords searches, and other digital finding tools.

STRAND 7: Engaging with and extracting information

Standard 1: Engage with information by reading, listening, and viewing sources in a variety of formats.

	K	1-2	3-4	5
a. Use questions to guide reading, listening, and viewing of sources while building connections between prior knowledge and new information.	Investigate teacher-selected sources, guided by questions and prior knowledge.	Investigate teacher-selected or self-selected sources, guided by questions and prior knowledge.	Engage with information using reading, listening, and viewing strategies, guided by questions and prior knowledge.	Engage with information using reading, listening, and viewing strategies, guided by questions and prior knowledge.