TIDEWATER COMMUNITY COLLEGE
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Association of American Colleges and Universities

SCIENTIFIC LITERACY RUBRIC

DEFINITION

Scientific Literacy is the ability to apply the scientific method and related concepts and principles to make informed decisions and engage with issues related to the natural, physical, and social world.

Degree graduates will recognize and know how to use the scientific method, and to evaluate empirical information.

FRAMING LANGUAGE

This rubric has been designed for the evaluation of work that addresses scientific literacy in a substantive way. A person who is competent in scientific literacy will demonstrate the ability to: explain phenomenon using scientific principles; demonstrate proper usage of credible and relevant scholarly resources in support of inquiry; identify or apply methods of inquiry that lead to scientific knowledge; organize and interpret quantitative or qualitative evidence; and draw conclusions based on evidence.

GLOSSARY

The definitions that follow were developed to clarify terms and concepts used in this rubric only.

- **Analyze** means breaking down a concept into its parts and using those parts to support inferences. (TCC faculty)
- **Evidence** can include written, oral, experimental, or graphical data. (TCC faculty)
- **Integrate** means incorporating multiple concepts together for broader explanation. (TCC faculty)
- **Methodology** is methods of inquiry which may be unique to each discipline and includes tools, techniques, and strategies. (TCC faculty)
- **Phenomenon** are facts or situations that are observed to exist or happen, especially one whose cause or explanation is in question. (Oxford dictionaries)
- **Scientific Principles** include discipline specific knowledge and are based on empirical (observable) evidence which may be unique to each discipline. (TCC faculty)
- **Scholarly Sources** are recognized as accurate and authoritative within the discipline. (TCC faculty)

SCIENTIFIC LITERACY VALUE RUBRIC

Evaluators are encouraged to assign a zero to any work sample or collection of work that does not meet benchmark (cell one) level performance.

	Capstone 4	Milestones 3	 2	Benchmark 1
Apply scientific principles to explain phenomena	Applies relevant scientific principles and makes connections to broader applications.	Applies relevant scientific principles and makes connections to other science related applications.	Applies relevant scientific principles to a specific application.	Applies irrelevant or incorrect scientific principles.
Demonstrate proper usage of credible and relevant scholarly sources in support of inquiry	Integrates in-depth information from credible and relevant scholarly sources which include various approaches.	Analyzes information from credible and relevant scholarly sources, which may include various approaches.	Presents information from credible and relevant scholarly sources representing limited points of view/approaches.	Presents information from non-credible or irrelevant sources, or misinterprets information from relevant sources.
Identify or apply methods of inquiry that lead to scientific knowledge	Identifies or applies all elements of the methodology appropriately.	Identifies or applies fundamental elements of the methodology; however, some elements are ignored or unaccounted for.	Identifies or applies fundamental elements but methodology are missing, undeveloped or unfocused.	Demonstrates a misunderstanding of the methodology.
Organize and interpret quantitative or qualitative evidence	Organizes and interprets evidence to clearly identify all fundamental relationships (such as differences, similarities, patterns, or trends).	Organizes and interprets evidence to reveal fundamental relationships, however, some relationships are ignored or unaccounted for.	Organizes and interprets evidence, but the organization is not effective in revealing fundamental relationships.	Presents poorly organized or incorrectly interpreted evidence.
Draw conclusions based on evidence	States an evidence-based conclusion that addresses relationships, limitations, and implications.	States a conclusion that arises specifically from and responds to the inquiry findings.	States a conclusion that is so general, it applies beyond the scope of the inquiry findings.	States an ambiguous, illogical, or unsupportable conclusion.

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