

Quantitative Literacy

WCC Definition: Quantitative Literacy is the ability to acquire, analyze, use and represent mathematical and scientific data and information symbolically, visually, numerically and verbally to recognize and understand problems and trends, to conduct experiments and observations, to develop appropriate solutions and conclusions and to understand the interrelatedness of quantitative reasoning and other disciplines.

WCC Outcome: Make judgments or draw appropriate conclusions based on the quantitative analysis of data.

(R): Reinforcing (I/R): Introducing and Reinforcing (I): Introducing

<i>Quantitative Literacy</i>	Proficient (R) 4	Progressing (I/R) 3	Beginning (I) [2	Entry (I) 1
Interpretation <i>Ability to explain information presented in mathematical forms (e.g., equations, graphs, diagrams, tables, words)</i>	Provides accurate explanations of information presented in mathematical forms.	Provides somewhat accurate explanations of information presented in mathematical forms, but occasionally makes minor errors related to computations or units.	Attempts to explain information presented in mathematical forms, but draws incorrect conclusions about what the information means.	Explanation of information presented in mathematical forms is not attempted.
Representation <i>Ability to convert relevant information into various mathematical forms (e.g., equations, graphs, diagrams, tables, words)</i>	Competently converts relevant information into an appropriate and desired visual representation.	Completes conversion of information in a partially appropriate or accurate visual representation.	Completes conversion of information but visual representation is inappropriate or inaccurate.	Provides incomplete conversion of information.
Calculation	Calculations attempted are all successful and sufficiently comprehensive to solve the problem.	Calculations attempted are partially successful, or represent only a portion of the calculations required to comprehensively solve the problem.	Calculations are attempted but are both unsuccessful, and are not comprehensive.	Calculations are not attempted.
Application / Analysis <i>Ability to make judgments and draw appropriate conclusions based on the quantitative analysis of data, while recognizing the limits of this analysis</i>	Uses the quantitative analysis of data for competent judgments, draws reasonable and appropriate conclusions, and recognizes the limits of the analysis.	Uses the quantitative analysis of data as the basis for basic judgments and draws reasonable conclusions from this work.	Uses the quantitative analysis of data as the basis for basic judgments, and draws unreasonable conclusions from this work.	The quantitative analysis data is not used to make judgments or draw conclusions.

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Assumptions <i>Ability to make and evaluate important assumptions in estimation, modeling, and data analysis</i>	Explicitly describes assumptions and provides compelling rationale for why assumptions are appropriate.	Explicitly describes assumptions, with some rationale.	Attempts to describe assumptions, but does not include rationale.	Assumptions are not described.
Communication <i>Expressing quantitative evidence in support of the argument or purpose of the work (in terms of what evidence is used and how it is formatted, presented, and contextualized)</i>	Uses quantitative information in connection with the argument or purpose of the work, and presents data in an effective format.	Uses quantitative information to support the argument or purpose of the work, but does not present the data effectively.	Uses quantitative information to minimally support the argument or purpose of the work, and does not present the data effectively.	Support of the argument or purpose of the work is not expressed.