

Learning Outcome 4: Students will solve quantitative problems and apply quantitative reasoning skills in a variety of contexts.

Application (A)

Capability	1. Emerging	2. Developing	3. Proficient	4. Advanced
A. Students will correctly apply and solve quantitative problems using an appropriate quantitative model.	Does not correctly apply a quantitative model. Work shows major conceptual misunderstandings, incorrect procedures, or failure to make meaningful progress toward a solution.	Attempts to apply an appropriate quantitative model but makes notable procedural, computational, or structural errors that affect the solution. Shows limited understanding of how the model should be used to solve the problem.	Applies a quantitative model appropriately and solves the problem with only minor procedural or computational errors that do not substantially affect the final result. Demonstrates adequate understanding of how the model is used to obtain a solution.	Correctly applies an appropriate quantitative model to the problem and solves it accurately. Procedures and calculations are correct, model components are used appropriately, and results are consistent with the model.
B. Students will correctly translate relevant information from real-world contexts into quantitative models.	Fails to correctly translate the real-world context into a quantitative model. Relevant quantities and relationships are incorrectly identified or largely absent.	Partially translates the real-world context into an appropriate quantitative model. Important quantities, variables, parameters, or assumptions are missing, unclear, or incorrectly represented.	Identifies most relevant quantities, variables, and parameters from the context and represents them appropriately within a quantitative model, with minor omissions or imprecision.	Accurately identifies all relevant quantities, variables, parameters, and assumptions from the real-world context and represents them correctly within a quantitative model.
C. Students will correctly communicate solutions.	Communication of solutions is unclear, incorrect, or largely absent. Explanations lack coherence, appropriate terminology, or necessary detail to convey understanding.	Communicates solutions with limited clarity or accuracy. Explanations may be incomplete, poorly organized, or use incorrect or inconsistent terminology, notation, or units.	Communicates solutions clearly and accurately, with appropriate terminology and notation. Minor issues in organization, clarity, or precision may be present but do not obscure meaning.	Communicates solutions clearly and accurately, with appropriate terminology and notation. Explanations are well-organized, precise, and understandable to a non-expert audience.