

Assessment Form: Learning Objective 5

Observing, Experimenting, and Modeling: The Scientific and Quantitative View.

The study of the natural world through careful observation, construction and testing of hypotheses, and the design and implementation of reproducible experiments is a key aspect of human experience. Scientific literacy and the ability to assess the validity of scientific claims are critical components of an educated and informed life. Scientific and quantitative courses develop students' ability to use close observation and interpret empirical data to better understand processes in the natural world. As they create models to explain observable phenomena, students develop their abilities to reason both deductively and inductively.

G5E: Learning Objective 1: The student demonstrates the ability to use scientific methodologies to study and draw reasonable conclusions about the natural world through detailed observations, carefully recorded data, and data analysis techniques appropriate for their field of study.

Method of Assessment:

	1	2	3	4	5
Level of Understanding	Unacceptable	Substandard	Satisfactory	More than satisfactory	Superior
Number of Students					

G5 and/or G5E: Learning Objective 2: The student can evaluate scientific information and/or scientific texts, and distinguish data or facts from interpretation and opinion.

Method of Assessment:

	1	2	3	4	5
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Level of Understanding	Unacceptable	Substandard	Satisfactory	More than satisfactory	Superior
Number of Students					

G5Q and/or G5E: Learning Objective 3: Students demonstrate the ability to calculate and analyze empirical data sets and/or demonstrate the ability model mathematical theory.

Method of Assessment:

	1	2	3	4	5
Level of Understanding	Unacceptable	Substandard	Satisfactory	More than satisfactory	Superior
Number of Students					

Three courses are required: one with attribute G5E; another with attribute G5Q; and a third with attribute G5, G5E, or G5Q

Progress and Adaptation:

Identify the improvement goals for the last time the course was taught, and compare outcomes. Was there improvement? Were there contributing factors important for the comparison of outcomes?

What are the improvement goals for next time the course will be taught? To which outcome(s) will they apply, and what is the basis for these choices?
