Learning Outcome 7: Students will develop hypotheses or models, evaluate them using scientific reasoning, and draw conclusions about results or observations related to the physical or natural world.

Capability	Emerging	2. Developing	3. Proficient	4. Advanced
A. Students will develop hypotheses or models.	Hypothesis or model does not logically address the stated question or problem.	A relevant hypothesis or model is stated, but it is not logically related to existing knowledge.	States a clear and relevant hypothesis or model that is logically related to existing knowledge but does not describe alternative hypotheses and does not make experimental predictions.	States a clear and relevant hypothesis or model logically related to existing knowledge, clearly describes alternative hypotheses, and identifies experimental predictions.
B. Students will demonstrate scientific reasoning skills by applying discipline specific scientific methods.	Does not apply any scientific methods correctly.	Successfully identifies some required scientific methods to investigate routine problems. May not apply them correctly or are not related to the problems posed.	Successfully identifies and applies most required scientific methods to investigate both routine and novel problems. Most applications are complete, correct and related to the problems posed.	Successfully identifies and applies all required scientific methods to investigate both routine and novel problems. All applications are efficient, complete, correct and related to the problems posed.
C. Students will draw appropriate conclusions from results or observations.	Does not successfully interpret representations of scientific information or draws inappropriate conclusions.	Successfully interprets some required representations of scientific information, but is unable to draw logical inferences.	Successfully interprets most required representations of scientific information and draws some logical inferences.	Successfully interprets all required representations of scientific information and draws appropriate logical inferences.