

Class: Fundamentals of Science

(2/19/2018)

Unit: 02 Science Processes

Target: 02-02 Use the science and engineering practices to design and conduct controlled experiments.

Score	Description	Student Score
<b>Exceeds Target (Exemplary)</b> <ul style="list-style-type: none"> <li>Deeper more rigorous thinking</li> <li>Application to real world use, teach another person, use information to solve problems in a different context, explain connections between ideas, demonstrate a unique insight and/or creative application of skills.</li> </ul>	Choose a topic to research and design and conduct a science fair project. Choose a current event to engineer a solution.	
<b>Mastery of Target (Application)</b> Can apply target to new information.		
<b>Proficient in Target</b> <ul style="list-style-type: none"> <li>Expected level of performance for all students</li> <li>Consistent and Independent</li> </ul>	Apply the scientific method to a lab situation. Design controlled experiments including experimental and control groups, independent, dependent, and controlled variables (constants). Write a clear statement of the problem. Make a claim based on data and support it with evidence.	
<b>Approaching Proficiency</b> <ul style="list-style-type: none"> <li>Basic learning necessary for foundation of target.</li> <li>Recall questions, fact-based skills, basic applications</li> <li>Independent, not consistent</li> </ul>	Select from a lab scenario the experimental and control groups. Select from a lab scenario the independent and dependent variables. Explain which variables would need to be controlled in order to have a fair test.	
<b>Needs Development</b> <ul style="list-style-type: none"> <li>With help, can demonstrate some understanding of target</li> </ul>		
<b>No Evidence to Measure</b>		

Science and Engineering Practices:

- SEP.1 Asking Questions and Defining Problems
- SEP.2 Developing and Using Models
- SEP.3 Planning and Carrying Out Investigations
- SEP.4 Analyzing and Interpreting Data
- SEP.5 Using Mathematics and Computational Thinking
- SEP.7 Engaging in Argument from Evidence
- SEP.8 Obtaining, Evaluating, and Communicating Information

Nature of Science Practices:

- NOS.1 Science is a Way of Knowing
- NOS.6 Scientific Knowledge is Based on Empirical Evidence