**Inquiry Question 1: What are the differences and similarities between scientific theories and laws?**

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| Compare the characteristics of theories and laws, including an example. |
| Explain the law of conservation of mass. |
| Explain the theory of plate tectonics. |

**Inquiry Question 2: What leads to a theory being developed?**

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| Describe the evidence supporting Germ Theory. Include the previous |
| Describe the evidence supporting the development of the Oxygen Theory of Combustion. |

**Inquiry Question 3: What leads to the acceptance of a scientific law?**

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| What evidence is there to support Newton’s Second Law of Motion? Are there scenarios in which this law does not apply? |
| What evidence is there to support Avogadro’s Law? What experiments support this law? |
| What evidence is there to support the Law of Superposition? How confident are we in this evidence and why? |
| What evidence is there to support Mendel’s Law of Dominance? Does this law apply to all inheritance? |

**Inquiry Question 4: How are theories and laws used in science?**

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| Describe an example where the law of conservation of energy can be demonstrated through a chemical reaction. |
| Describe an example where the law of conservation of energy can be demonstrated via physical motion. |
| Describe an example where the law of conservation of energy can be demonstrated within human biology. |
| Describe an example where the law of conservation of energy can be demonstrated through food webs and/or food chains. |
| Describe the historical observations necessary for the development of the modern atomic theory, including the previous iterations of the theory. |
| Describe the historical observations necessary for the development of the modern theory of evolution, including any competing theories. |
| Describe the historical observations necessary for the development of the Big Bang theory, including any competing theories. |
| Describe the historical observations necessary for the development of the plate tectonic theory, including a variety of evidence from biology, natural disasters and climate data. |
| Assess the information gained from nuclear reactions and nuclear decay and how this informed our usage of the law of conservation of mass and law of conservation of energy. |