**Ecology 101**

1. **The Circle of Life**
   1. **I can…** Develop a food web model to describe the cycling of matter and flow of energy among living and non-living parts of an ecosystem. (MS-LS2-3)
      1. **I can…** Identify organisms by the role they serve in an ecosystem food web (producer, consumer/scavenger, or decomposer).
      2. **I can…** Categorize one or more items as an organism, population, community, or ecosystem
   2. **I can…** Analyze data and apply scientific ideas while investigating the similarities and differences between organisms past and present.(MS-LS4-1, 4-2, 4-3)
2. **Interactions between Organisms**
   1. **I can…** Analyze and interpret data to provide evidence that shows how the amount of resources in an environment (e.g. food/water, space, and mates) affects organisms and populations in an ecosystem. (MS-LS2-1)
      1. **I can…** Use the cause and effect relationship to predict what might happen to a population under certain circumstances. (CCC)
   2. **I can…** Construct an explanation, using examples, that predicts types of symbiotic relationships (mutualism, predation, competition, commensalism, and parasitism) that occur across multiple ecosystem and explain how they impact organism survival. (MS-LS2-2)
   3. **I can…** Construct an argument, supported by evidence, which explains how changes to physical or biological components of an ecosystem affect populations positively or negatively. (MS-LS2-4)
   4. **I can…** Evaluate causes of and impacts to biodiversity using models, data, and articles. (MS-LS2-5)
      1. **I can…** Assess our role as Christians in the problems of extinction and species conservation.

1. **Survival of Organisms**
   1. **I can…** Argue, based on evidence, an explanation for how animal and plant physical and behavioral adaptations affect how well they survive and reproduce. (MS-LS1-4)

* 1. **I can…** Construct an explanation, based on evidence, that describes how genetic variations increase individual organisms likelihood of surviving and reproducing. (MS-LS4-4)
     1. **I can…** Use mathematical representations to support explanations of how this difference in individual survival/reproduction may lead to changes in population traits over time. (MS-LS4-6)