The reason behind beginning the year with life science standards allows the students to connect with a topic that they might be more familiar with and then bring them to the more abstract later in the year. This should also align with what students are learning in mathematics, bringing in ratios and proportions later in the year along with the mathematics that might be associated with the physical sciences.
***Essential Standards**

Quarter 1 Topic: (Life Science) CELLS, HEREDITY & BIODIVERSITY

8.L3U1.9 – Construct an explanation of how genetic variations occur in offspring through the inheritance of traits or through mutations.

8.L4U1.11 – Develop and use a model to explain how natural selection may lead to increases and decreases of specific traits in populations over time.

8.L3U3.10 – Communicate how advancements in technology have furthered the field of genetic research and use evidence to support an argument about the positive and negative effects of genetic research on humans lives.

Quarter 2 Topic: (Life Science) BIODIVERSITY, GEOLOGIC PROCESSES & HISTORY

8.E1U1.6 – Analyze and interpret data about the Earth's geological column to communicate relative ages of rock layers and fossils.

8.E1U3.8 – Construct and support an argument about how human consumption of limited resources impacts the biosphere.

8.L4U1.12 – Gather and communicate evidence on how the process of natural selection provides an explanation of how new species can evolve.

Quarter 3 Topic 3.1: (Earth Science) EARTH & HUMAN ACTIVITY: Natural Hazards

8.E1U3.7 – Obtain, evaluate, and communicate information about data and historical patterns to predict natural hazards and other geological events.

Topic 3.2: (Chemistry) CHEMICAL PROCESSES & EQUATIONS

8.P1U1.1 – Develop and use a model to demonstrate that atoms and molecules can be combined or rearranged in chemical reactions to form new compounds with the total number of each type of atom conserved.

8.P1U1.2 – Obtain and evaluate information regarding how scientists identify substances based on unique physical and chemical properties.

Quarter 4 Topic: (Physical Science) WAVES & THEIR APPLICATIONS

8.P4U1.3 – Construct an explanation on how energy can be transferred from one energy store to another.

8.P4U1.4 – Develop and use mathematical models to explain wave characteristics and interactions.

8.P4U2.5 – Develop a solution to increase efficiency when transferring energy from one source to another.