**Essential Question: What is the value of Biology?**

**Learning Target 2. Matter and energy in organisms and ecosystems**

**GQ: How do organisms obtain and use the energy they need to function and grow?**

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| **Scale** | **Verbs** |  |
| **4** | **Plan, build, design, invent, create, research and synthesize** | **Design a model to illustrate how Photosynthesis  transforms light energy into stored chemical energy.**  **Design and create a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy.**  **Develop a model to illustrate the role of photosynthesis and cellular respiration in the cycling among the biosphere, atmosphere, hydrosphere and geosphere** |
| **3.5** | **Predict, convince, justify, assess, debate, use evidence to support claim** | **Students are able to demonstrate skills from both level 3 and level 4** |
| **3** | **Compare and contrast, examine, advertise, identify, apply, summarize** | **Use a model to illustrate how photosynthesis transforms light energy into stored chemical energy.**  **Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy.**  **Use a model to illustrate the role of photosynthesis and cellular respiration in the cycling among the biosphere, atmosphere, hydrosphere and geosphere** |
| **2.5** | **Paraphrase, translate, collect, classify** | **Students are able to demonstrate skills from both level 2 and level 3** |
| **2** | **Recall, label, define, list** | **State that photosynthesis transforms light energy into stored chemical energy.**  **State that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy**  **State the role of photosynthesis and cellular respiration in the cycling among the biosphere, atmosphere, hydrosphere and geosphere** |