



## ***Next Generation Science Standards***

### **High School**

#### **Overarching Themes**

##### **From Molecules to Organisms: Structures and Processes**

- a. Discuss how photosynthesis is the foundation of life on Earth – it transforms light energy to chemical energy. (HS-LS1-5)

##### **Ecosystems: Interactions, Energy, and Dynamics**

- a. Discuss the concepts of biodiversity and talk about the factors within an ecosystem that affect biodiversity. (HS-LS2-2)
- b. Discuss the flow of energy and the cycling of nutrients within an ecosystem. (HS-LS2-4)
- c. Discuss how photosynthesis uses CO<sub>2</sub> and cellular respiration releases CO<sub>2</sub> – the regular cycle of carbon through the biosphere, atmosphere, hydrosphere and geosphere. (HS-LS2-5)
- d. Discuss solutions for reducing the impact of humans on the environment and their effects on plant and animal biodiversity. (HS-LS2-7)
- e. Look at the role of group behavior on individual and species' chances to survive and reproduce (e.g. turkeys are typically found in a group – why?). (HS-LS2-8)

##### **Biological Evolution: Unity and Diversity**

- a. Discuss how changes in the environment (flood, fire, plowing) may result in (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species. (HS-LS4-5)

##### **Earth and Human Activity**

- a. Discuss how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity. (HS-ESS3-1)
- b. Look at the relationships among the management of natural resources, the sustainability of human populations, and biodiversity – i.e. using the land vs. preserving the land. Is it the same as “conservation”? (HS-ESS3-3)
- c. Discuss solutions that reduce the impact of human activities on natural systems. (HS-ESS3-4)