

Implementing District Standards

2.1 Analyze the interdependence of living organisms within their environment

2.1.1 Analyze the flow of energy and cycling of matter such as water, carbon, nitrogen and oxygen) through ecosystems relating the significance of each to maintaining the health and sustainability of an ecosystem.

What students should know, understand and be able to do:

Deconstruct the carbon cycle as it relates to photosynthesis, cellular respiration, and decomposition and climate change.

Identify factors that influence climate such as: greenhouse effect (relate to carbon cycle and human impact on atmospheric CO₂)

2.2 Understand the impact of human activities on the environment (one generation affects the next).

What students should know, understand and be able to do:

2.2.1 Infer how human activities (including population growth, technology, consumption of resources and production of waste.

Interpret data regarding the historical and predicted impact on ecosystems and global climate

Advanced Placement Biology Big Ideas

2. Cellular Processes: Energy and Communication

Essential Knowledge 2.A.3 Organisms must exchange matter with the environment to grow, reproduce and maintain organization

Essential Knowledge 2.D.1: All biological systems from cells and organisms to populations, communities and ecosystems are affected by complex biotic and abiotic interactions involving exchange of matter and free energy.

Essential Knowledge 2.D.3: Biological systems are affected by disruptions to their dynamic homeostasis

* Disruptions to ecosystems impact the dynamic homeostasis or balance of the ecosystem

Human Impact, Climate change

4. Interactions

Essential knowledge 4.B.4; Distribution of local and global ecosystems changes over time

a. Human impact accelerates change at local and global levels.