

**Disciplinary Core Ideas**

***Physical Sciences***

**PS1—MATTER AND ITS INTERACTIONS**

*How can one explain the structure, properties, and interactions of matter?*

**PS2—Motion and Stability: Forces and Interactions**

*How can one explain and predict interactions between objects and within systems**of objects?*

**PS3—Energy**

*How is energy transferred and conserved?*

**PS4—Waves and Their Applications in Technologies for Information Transfer**

*How are waves used to transfer energy and information?*

***Life Sciences***

**LS1—From Molecules to Organisms: Structures and Processes**

*How do organisms live, grow, respond to their environment, and reproduce?*

**LS2—Ecosystems: Interactions, Energy, and Dynamics**

*How and why do organisms interact with their environment and what are the effects of these interactions?*

**LS3—Heredity: Inheritance and Variation of Traits**

*How are characteristics of one generation passed to the next?**How can individuals of the same species and even siblings have different**characteristics?*

**LS4—Biological Evolution: Unity and Diversity**

*How can there be so many similarities among organisms yet so many different kinds of plants, animals, and microorganisms? How does biodiversity affect humans?*

***Earth and Space Sciences***

**ESS1— Earth’s Place in the Universe**

*What is the universe, and what is Earth’s place in it?*

**ESS2—Earth’s Systems**

*How and why is Earth constantly changing?*

**ESS3—Earth and Human Activity**

*How do Earth’s surface processes and human activities affect each other?*