

SCIENCE LONG TERM TRANSFER GOALS

Students will be able to independently use their learning to:

1. Approach science as a reliable and tentative way of knowing and explaining the natural world.
2. Weigh evidence and use scientific approaches to ask questions, investigate, and make informed decisions.
3. Make and use observations to analyze relationships and patterns in order to explain phenomena, develop models, and make predictions.
4. Evaluate systems, in order to connect how form determines function and how any change to one component affects the entire system.
5. Explain how the natural and designed worlds are interrelated and the application of scientific knowledge and technology can have beneficial, detrimental, or unintended consequences.

LIFE SCIENCE BIG IDEAS AND ESSENTIAL QUESTIONS

Big Ideas	Essential Questions
Big Idea 1: All organisms are made of cells and can be characterized by common aspects of their structure and functioning.	<i>How do organisms live, grow, respond to their environment, and reproduce?</i>
Big Idea 2: Organisms grow, reproduce, and perpetuate their species by obtaining necessary resources through interdependent relationships with other organisms and the physical environment.	<i>How and why do organisms interact with their environment and what are the effects of these interactions?</i>
Big Idea 3: Heredity refers to specific mechanisms by which characteristics or traits are passed from one generation to the next via genes, and explains why offspring resemble, but are not identical to, their parents.	<i>How are the characteristics of one generation passed to the next? How can individuals of the same species and even siblings have different characteristics?</i>
Big Idea 4: Biological evolution explains both the unity and diversity of species and provides a unifying principle for the history and diversity of life on Earth.	<i>How can there be so many similarities among organisms yet so many different kinds of plants, animals, and microorganisms?</i>