Brunswick School Department
Science
Grade 8: Organism Growth and Adaptation

Adopted:

Unit Overview

Environmental and genetic factors have a direct influence on whether or not organisms can thrive, grow, and evolve with a changing environment over time. In order to survive, organisms must have specific physical and behavioral adaptations that allow them to adapt to a changing environment. The cells that make up the organisms have specific functions and become more specialized as the organism becomes more complex. These changes do not happen immediately but over the span of many generations.

Essential Understandings

- Cells have specific functions.
- There are simple cells and more complex cells (i.e. prokaryote and eukaryote).
- Some cells are able to get energy in a variety of ways.
- Parts of cells contribute to the function of a cell.
- Physical and environmental adaptations allow organisms to survive.
- Growth of organisms is dependent on adaptation to the environment and genetic compatibility.
- Changes to organisms happen over a long period of time.

Priority Standards and Performance Indicators

(as based on Next Generation Science Standards)

P.S.S.-4 Understand cause and effect.

a. Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.

b. Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.

Brunswick School Department
Science
Grade 8: Organism Growth and Adaptation

Adopted:

Next Generation Science Standards Addressed in this Unit

- MS-LS1-1. Conduct an investigation to provide evidence that living things are made of cells, either one cell or many different numbers and types of cells.
- MS-LS1-8. Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories.

- MS-LS4-3. Analyze displays of pictorial data to compare patterns of similarities in the embryological development across multiple species to identify relationships not evident in the fully formed anatomy.

Examples of Formative / Summative Assessments

- Labs
- Activities
- Quizze,
- Teacher observations
- Is It Fitter? Probe
- Biological Evolution Probe
- Peppered Moth Lab and other natural selection labs

Sample Texts and Materials/Resources

Astrobiology text (required)