

# Springville Jr. High

## Biology “I can” Statements

### **Standard 1**

*Students will understand that living organisms interact with one another and their environment.*

#### **Objective 1**

- I can arrange the levels of a food chain by energy flow.
- I can create a diagram to show the flow of energy through the ecosystem.
- I can describe energy loss through each trophic level.

#### **Objective 2**

- I can draw the carbon, oxygen, nitrogen and water cycles in a biological community or ecosystem.
- I can explain how a resource can be a limiting factor in various ecosystems.
- I can evaluate the impact of human behavior on an ecosystem.

#### **Objective 3**

- I can identify interactions between living things (predator-prey, competition, and symbiosis).
- I can describe how organisms interact with each other and their environment.

### **Standard 2**

*Students will understand that all organisms are composed of one or more cells that are made of molecules, come from preexisting cells, and perform life functions.*

#### **Objective 1**

- I can identify the major chemical elements found in cells (carbon, hydrogen, nitrogen, oxygen, phosphorus, and sulfur).
- I can explain the function of proteins, carbohydrates, lipids and nucleic acids in living things.

#### **Objective 2**

- I can describe the differences between autotrophic and heterotrophic organisms.
- I can explain and diagram the relationship between photosynthesis and respiration.

#### **Objective 3**

- I can label the phases of mitosis.
- I can explain the differences between sexual and asexual reproduction.
- I can describe the function of cell organelles.

### **Standard 3**

*Students will understand the relationship between structure and function of organs and organ systems.*

#### **Objective 1**

- I can label and identify the function of xylem and phloem in plant stems.
- I can label and identify the function of the structures in a leaf.
- I can label and identify the function of skin layers (glands and hair follicles).

#### **Objective 2**

- I can describe the structure and function of the following: digestive, respiratory, circulatory, and nervous organ systems.
- I can explain the role of each organ in relation to an organ system.

### **Standard 4**

*Students will understand that genetic information coded in DNA is passed from parents to offspring by sexual and asexual reproduction. The basic structure of DNA is the same in all living things. Changes in DNA may alter genetic expression.*

#### **Objective 1**

- I can explain the structure of DNA, how it is copied, and its importance.
- I can explain how DNA is different in sexual and asexual reproduction.

#### **Objective 2**

- I can explain the laws of segregation and independent assortment in genetics.
- I can explain dominant/recessive alleles, incomplete dominance, codominance, and sex-linked traits.

### **Standard 5**

*Students will understand that biological diversity is a result of evolutionary processes.*

#### **Objective 1**

- I can describe the factors that affect natural selection.
- I can explain how reproductive isolation leads to new species.
- I can explain the difference between selective breeding and natural selection.

#### **Objective 2**

- I can explain the role of mutations and recombination in evolution.
- I can give evidence to support the theory of evolution.

#### **Objective 3**

- I can classify organisms using a classification key.
- I can explain the changes in classification systems through DNA.
- I can explain the relationship between classification and evolution.