

## **Biology – Course Curriculum:**

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### Topics Covered

This course will cover biology topics associated with the Nebraska Science Standards.

### **Biology Overview**

1. Introduction to Biology

### **Traits**

1. Cell Division and Complex Organisms – (HS.6.1.D)
2. DNA to Proteins – (HS.6.1.A)
3. Inheritance of Traits – (HS.9.4.A)
4. Variation in Traits – (HS.9.4.B, HS.9.4.C)

### **Life in Ecosystems**

1. Molecules of Life – (HS.8.3.B)
2. Cellular Energy – (HS.8.3.A, HS.8.3.C)
3. Bioenergetics – (HS.8.3.D)
4. Flow of Matter in Energy in Ecosystems – (HS.8.3.E)
5. Carbon Flow in Ecosystems – (HS.8.3.F)
6. Interaction of Organism and Earth's Systems – (HS.14.4.D)
7. Human Dependence on Earth – (HS.15.5.A)

### **Changes in Ecosystems**

1. Carrying Capacity – (HS.7.2.A)
2. Biodiversity and Changes in Ecosystems – (HS.7.2.B, HS.7.2.C)
3. Minimizing Human Impact on Earth – (HS.7.2.E, HS.7.2.F, HS.15.5.E)

### **Earth's History**

1. Plate Tectonics – (HS.14.4.A)
2. Earth's Early History – (HS.14.4.B)

### **Common Ancestry and Evolution**

1. Evidence of Common Ancestry – (HS.10.5.A)
2. Factors of Evolution – (HS.10.5.B)
3. Results of Natural Selection – (HS.10.5.C, HS.10.5.D)

### **Environment and Survival**

1. Environmental Impact on Species – (HS.10.5.E)
2. Animal Behavior and Survival – (HS.7.2.D)
3. Resources, Sustainability, and Biodiversity – (HS.15.5.E, HS.15.5.B, HS.15.5.C)
4. Environmental Solutions – (HS.15.5.E, HS.15.5.D)