**TREYNOR COMMUNITY SCHOOL DISTRICT**
**CURRICULUM FRAMEWORK**

---

**Subject:** **Science**
**Course:** **Grade 3 Science**
**Grade Level(s):** **3**
**Prerequisites:** **None**

---

**Course Description:** In third-grade science, students use their advancing understanding and skills to study the interactions in earth systems, environments, humans, and the designed world. They begin to formulate answers to questions such as: "How do equal and unequal forces on an object affect the object? How can the impact of weather-related hazards be reduced? How do organisms vary in their traits? What happens to organisms when their environment changes? How can magnets be used?" Third grade students use and develop models and organize data when investigating how different entities and systems interact and influence behaviors, reactions, and traits of various organisms.

Examples of Third Graders' Work at School:

- Plan and conduct investigations to provide evidence of the effects of balanced and unbalanced forces on the motion or to predict future motion.
- Develop models of the life cycles of various plants and animals to identify commonalities and differences.
- Explore how plants, animals, and environments of the past are similar to or different from current plants, animals and environments.
- Organize and use data to describe typical weather conditions expected during a particular season and to describe climates in different regions of the world.

**Content Standards:** In order that our students may achieve the maximum benefit from their talents and abilities, the third graders of the Treynor Community School who demonstrate understanding can . . .

**I. Physical Science**

**1. Motion and Stability: Forces and Interactions**

1) Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on he motion of an object.
2) Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.
3) Ask questions to determine cause-and-effect relationships of electric or magnetic interactions between two objects not in contact with each other.
4) Define a simple design problem that can be solved by applying scientific ideas about magnets.

## II. Life Science

### 1. From Molecules to Organisms: Structures and Processes

1) Develop models to describe that organisms have unique and diverse life cycle but all have in common birth, growth, reproduction, and death.

### 2. Ecosystems: Interactions, Energy, and Dynamics

1) Construct an argument that some animals form groups that help members survive.

### 3. Heredity: Inheritance and Variation of Traits

1) Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.
2) Use evidence to support the explanation that traits can be influenced by environment.

### 4. Biological Evolution: Unity and Diversity

1) Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.
2) Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.
3) Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.
4) Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

## III. Earth and Space Science

### 1. Earth's Systems

1) Represent data in tables and graphical displays to describe typical weather conditions during a particular season.
2) Obtain and combine information to describe climates in different regions of the world.

### 2. Earth and Human Activity

1) Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.

## IV. Engineering, Technology, and Application of Science

### 1. Engineering Design

1) Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
2) Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
3) Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.