



# Sedalia School District #200

**Level:** Elementary

**Subject Area:** PLTW (Science)

**Unit/Grade:** Module 1 - 3rd Grade

## Essential Questions:

1. How do balanced and unbalanced forces impact airplane flight?
2. How does working on a team help when solving a design problem?

### Pacing

### Priority Standards (Missouri Learning Standards and Show-Me Standards)

### Big Idea

### I CAN statements

First Quarter

#### Module 1: Science of Flight

Aug. 27-  
Oct. 18

**4.PS2.A.2** Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.

[Missouri Learning Standards](#)  
[Show Me Standards](#)

Students use aerodynamic concepts to explain how the motion of air and other forces act on gliders and other aircraft. Students will learn about the forces involved in flight as well as Newton's Laws of motion.

- I can identify the differences between invention and innovation.
- I can describe the motion and stability of an object with balanced forces.
- I can describe the motion and stability of an object with unbalanced forces.
- Identify the forces working on an airplane in flight.



# Sedalia School District #200

**Level:** Elementary

**Subject Area:** Science

**Unit/Grade:** G2 Unit 2 - 3rd Grade

## Essential Questions:

1. How can I construct an argument to support my answer?
2. Why is it important to know which changes are reversible or irreversible to matter?

### Pacing

### Priority Standards (Missouri Learning Standards and Show-Me Standards)

### Big Idea

### I CAN statements

Second  
Quarter

#### G2 UNIT 2: Matter

Oct. 21-  
Dec. 20

**3.PS1.A.1** Predict and investigate that water can change from a liquid to a solid (freeze), and back again (melt) or from a liquid to a gas (evaporation), and back again (condensation) as the result of temperature changes.

**3.PS1.B.1** Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.

[Missouri Learning Standards](#)  
[Show Me Standards](#)

Matter can be described and classified by their properties and those properties have patterns. Some materials are best suited to a purpose based on their properties.  
Objects can be put together from a small set of pieces and the pieces can be taken apart and reused to make another object. Heating and cooling can cause changes to matter and the some changes to matter are reversible and some are not.

- I can use evidence to describe and classify materials based on their observable properties.
- I can use observations as evidence to explain how an object made of a small set of pieces can be taken apart and made into a new object.
- I can use evidence to describe how heating and cooling matter may cause changes that can be observed.
- I can construct an argument with evidence that some changes to matter can be reversed and some cannot.



# Sedalia School District #200

**Level:** Elementary

**Subject Area:** PLTW (Science)

**Unit/Grade:** Module 3 - 3rd Grade

## Essential Questions:

1. What determines our traits and abilities?
2. If children get their genes from their mothers and fathers, how is it possible that some children do not resemble either of their parents?

### Pacing

### Priority Standards (Missouri Learning Standards and Show-Me Standards)

### Big Idea

### I CAN statements

Second  
Quarter

### Module 3: Variations of Traits

Oct. 21-  
Dec. 20

**3.LS3.A.1** Construct scientific arguments to support claims that some characteristics of organisms are inherited from parents and some influenced by the environment.

[Missouri Learning Standards](#)  
[Show Me Standards](#)

Students investigate the differences between genetic traits that are inherited and traits which are learned or influenced by the environment. Students explore that offspring may express different traits than parents as they learn about dominant and recessive genes.

- I can analyze how traits are passed through generations.
- I can recognize that individuals have two copies of each gene, one from their mother and one from their father.
- Describe how a person's genes determine some aspects of their physical characteristics and abilities.
- I can recognize that many human characteristics are influenced by both genes and the environment.



# Sedalia School District #200

**Level:** Elementary

**Subject Area:** Science

**Unit/Grade:** G3 Unit 4 - 3rd Grade

## Essential Questions:

1. Why is it important to learn plant and animal life cycles?
2. Why are some traits for plant and animals inherited and some are not?

### Pacing

### Priority Standards (Missouri Learning Standards and Show-Me Standards)

### Big Idea

### I CAN statements

Third  
Quarter

### G3 Unit 4 Life Cycles and Inherited Traits

Jan. 7-  
Mar. 13

**3.LS1.B.1** Develop a model to compare and contrast observations on the life cycle of different plants and animals.

**3.LS3.A.1** Construct scientific arguments to support claims that some characteristics of organisms are inherited from parents and some are influenced by the environment.

[Missouri Learning Standards](#)  
[Show Me Standards](#)

Students will explore life cycles and how a plant depends on its environment to live and reproduce. Students will explore patterns of change in animal life cycles, and use those patterns to make predictions. Students will investigate technology used to track patterns of animal movement in order to understand reproductive behavior. Students learn about offspring and parents of plants and animals. They find similarities and differences in organisms that can be understood in terms of inheritance.

- I can identify and recognize the common patterns in various life cycles of plants.
- I can build models of a plant life cycle.
- I can understand that a given plant's life cycle always happens in the same order.
- I can identify and recognize patterns in the various stages of the life cycles of different animals.
- I can develop and use models to describe the life cycles of different animals.
- I can study images of organisms to collect and interpret data and find patterns in inherited traits.



# Sedalia School District #200

**Level:** Elementary

**Subject Area:** PLTW (Science)

**Unit/Grade:** Module 2 - 3rd Grade

## Essential Questions:

1. How can an engineer use forces and interactions to meet a human need or want?
2. What questions do engineers ask when solving a design problem?

### Pacing

### Priority Standards (Missouri Learning Standards and Show-Me Standards)

### Big Idea

### I CAN statements

Third  
Quarter

### Module 2: Forces and Interactions

Jan. 7-  
Mar. 13

**3.PS2.B.1** Plan and conduct investigations to determine the cause and effect relationship of electric or magnetic interactions between two objects not in contact with each other.

[Missouri Learning Standards](#)  
[Show Me Standards](#)

Forces and interactions are all around us. We experience pushes and pulls, resistance forces, gravity, and friction. Students build simple and compound machines to demonstrate forces and test the forces of magnets.

- I can pose questions that engineers may ask when gathering information about a situation people want to change.
- I can identify forces acting on an object.
- I can describe the motion and stability of an object with balanced forces.
- Describe the motion and stability of an object with unbalanced forces.
- I can explain how Newton's laws describe forces and interactions between objects.



# Sedalia School District #200

**Level:** Elementary

**Subject Area:** Science

**Unit/Grade:** G3 Unit 7 - 3rd Grade

## Essential Questions:

1. Why is it important to predict the weather?
2. What are ways to prepare for hazardous weather?

### Pacing

### Priority Standards (Missouri Learning Standards and Show-Me Standards)

### Big Idea

### I CAN statements

Fourth  
Quarter

### G3 UNIT 7: Weather and Patterns

Mar. 23-  
May 21

**3.ESS2.D.1** Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.

**3.ESS2.D.2** Obtain and combine information to describe climates in different regions of the world.

[Missouri Learning Standards](#)  
[Show Me Standards](#)

Scientists measure and record data about weather. Students will learn to interpret weather maps and graphs of weather data and examine patterns of weather in order to make weather predictions. Students will represent weather data in tables and bar graphs to reveal patterns. Students will obtain and analyze information about weather patterns in several climate zones and investigate how patterns help scientists understand Earth's climate and make predictions.

- I can observe visuals to gather information about expected weather patterns.
- I can analyze and interpret data about patterns of weather conditions across different times and locations.
- I can identify hazardous weather types and recognize characteristics of specific hazardous weather types.
- I can explain the cause-and-effect relationship between hazardous weather and the damage it causes.
- I can identify and evaluate characteristics of climate and weather patterns and how animals survive them.



# Sedalia School District #200

**Level:** Elementary

**Subject Area:** PLTW (Science)

**Unit/Grade:** Module 4 - 3rd Grade

## Essential Questions:

1. How does technology help humans solve problems and make people's lives easier?
2. What are the best ways to apply technology to make tools that humans can use?

### Pacing

### Priority Standards (Missouri Learning Standards and Show-Me Standards)

### Big Idea

### I CAN statements

Fourth  
Quarter

#### Module 4: Programming Patterns

Mar. 23-  
May 21

**3.ETS1.B.1** 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.

[Missouri Learning Standards](#)  
[Show Me Standards](#)

Students are introduced to breaking down big problems into smaller ones. One way to break programming problems down is to use functions. Students will also be introduced to variables. Students will see that technology makes it possible for humans to accomplish things that would be impossible, or at least very time consuming, without the help of computers.

- I can explain why computer scientists break big problems into subproblems.
- I can create computer programs using step-by-step instructions that a computer can understand.
- I can use functions, variables, and loops to make the program more efficient.