



Sedalia School District #200

Level: Elementary

Subject Area: Science

Unit/Grade: G4 Unit 4-5th grade

Essential Question:

1. How does the structure and function of plants and animals work together for pollination?

Pacing

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

Big Idea

I CAN statements

First Quarter

UNIT 1: Plant Structure and Functions (G4 U4)

August 22 -
September 6

5.LS1.C.1- Support an argument that plants get the materials (carbon dioxide, water, sunlight) they need for growth chiefly from air and water.

5.ETS1.A.1- Define a simple design problem reflecting a need or want that includes specified criteria for success and constraints on materials, time, or cost.

5.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.

5.ETS1.C.1- 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.

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

Explore the functions of internal and external plant structures and how they aid in: growth, survival, behavior, and reproduction.

Learn how different plant structures work together as a system.

- I can identify the different parts of plants.
- I can identify the functions of the parts of plants.
- I can explain how plants grow.
- I can explain how plants reproduce.



Sedalia School District #200

Level: Elementary

Subject Area: Science

Unit/Grade: G4 Unit 5-5th grade

Essential Question:

1. How do the internal and external structures of a plant or animal support growth, behavior and reproduction?

Pacing	Priority Standards (Missouri Learning Standards and Show-Me Standards)	Big Idea	I CAN statements
First Quarter UNIT 2: Animal Structures and Functions (G4 U5) September 9 - September 27	5.LS1.A.1- Compare and contrast the major organs/organ systems (support, reproductive, digestive, transport/circulatory, excretory, response) that perform similar functions for animals belonging to different vertebrate classes. 5.LS2.B.1- Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. Emphasis is on the idea that matter that is not food (air, water, decomposed materials in soil) is changed by plants into matter that is food. Examples of systems could include organisms, ecosystems, and the earth. 5.ETS1.A.1- Define a simple design problem reflecting a need or want that includes specified criteria for success and constraints on materials, time, or cost. 5.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. 5.ETS1.C.1- 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. Missouri Learning Standards Show Me Standards	Explain the internal and external structures of animals. Learn about how different senses work.	• I can identify how external animal structures serve function in growth, behavior, and reproduction. • I can provide evidence that animals have internal parts and with many functions. • I can construct an argument that animals have internal structures to support survival and behavior.



Sedalia School District #200

Level: Elementary

Subject Area: Science

Unit/Grade: G5 Unit 5-5th grade

Essential Question:

1. How do we use engineering to make our world a more efficient place?

Pacing

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

Big Idea

I CAN statements

First Quarter

UNIT 3: Engineering Technology (G5 U1)

September 30 -
October 18

5.PS3.D.1-Use models to describe that energy stored in food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.
5.ESS3.C.1-Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.
5.ETS1.A.1- Define a simple design problem reflecting a need or want that includes specified criteria for success and constraints on materials, time, or cost.
5.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.
5.ETS1.C.1- 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.

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

Ways math and science are used in engineering.

Investigating a design process.

Explore how technology decisions affect society.

- I can describe how science and math are used in engineering.
- I can find a good solution to a problem using the engineering design process.
- I can understand how and why technology changes over time.



Sedalia School District #200

Level: Elementary

Subject Area: Science

Unit/Grade: G5 Unit 2-5th grade

Essential Question:

1. How can you prove that matter is conserved during a change?

Pacing

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

Big Idea

I CAN statements

Second
Quarter

UNIT 4: Matter (G5 U2)

October 21 -
November 8

5.PS1.A.1-Develop a model to describe that matter is made of particles too small to be seen.
5.PS1.A.2-Measure and Graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling or mixing substances, the total weight of matter is conserved.
5.PS1.B.1-Plan and conduct investigations to separate the components of a mixture/solution by their physical properties. (sorting, filtration, magnets, screening)
5.PS1.B.2-Conduct an investigation to determine whether the combining of two or more substances results in new substances.
5.ETS1.A.1- Define a simple design problem reflecting a need or want that includes specified criteria for success and constraints on materials, time, or cost.
5.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.
5.ETS1.C.1- 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.

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

Discover different states of matter and how to measure matter.

Explore the different properties of matter along with dissolving rates of certain matter.

Compare and contrast physical and chemical changes of matter.

- I can identify matter.
- I can measure matter.
- I can describe properties of matter.
- I can recognize how the properties of matter are affected by different factors.
- I can identify changes that can happen to matter.



Sedalia School District #200

Level: Elementary

Subject Area: PLTW (Science)

Unit/Grade: Module 1-5th grade

Essential Question:

1. How can scientists determine how a germ spreads through a group of people?

Pacing	Priority Standards (Missouri Learning Standards and Show-Me Standards)	Big Idea	I CAN statements
Second Quarter UNIT 5 : Infection Detection (PLTW M1) November 11 - November 20	5.ETS1.A.1- Define a simple design problem reflecting a need or want that includes specified criteria for success and constraints on materials, time, or cost. 5.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	Scientists ask and identify questions to gain knowledge or solve problems. Scientist plan and construct investigations collaboratively to produce data that serves as evidence used to answer questions. Infectious agents, such as bacteria and viruses, can cause illness and can spread from person to person. The body protects and defends itself from infection. Understanding how infectious disease spreads helps health professionals with prevention efforts.	• I can explain how germs spread from person to person. • I can identify how the body defends itself from infectious disease. • I can explain how medical professionals use patient symptoms to diagnose and illness. • I can determine how a germ spreads through a group of people.



Sedalia School District #200

Level: Elementary

Subject Area: Science

Unit/Grade: G5 Unit 3-5th grade

Essential Question:

1. How do different kinds of light affect plant growth?

Pacing

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

Big Idea

I CAN statements

Second
Quarter

UNIT 6: Energy and Matter in Organisms (G5 U3)

November 25-
December 13

5.PS3.D.1-Use models to describe that energy stored in food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

5.LS1.C.1-Support an argument that plants get the materials (carbon dioxide, water, sunlight) they need for growth chiefly from air and water.

5.ETS1.A.1- Define a simple design problem reflecting a need or want that includes specified criteria for success and constraints on materials, time, or cost.

5.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.

5.ETS1.C.1- 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.

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

Investigate how living organisms get energy.

Explore how living organisms use energy and how they interact in their environments.

- I can explain that plants get the materials they need to grow mostly from air and water.
- I can explain how organisms use matter and energy obtained from their environments.
- I can explain how organisms interact.



Sedalia School District #200

Level: Elementary

Subject Area: PLTW (Science)

Unit/Grade: Module 2-5th grade

Essential Question:

1. How does technology help us to make sense of scientific phenomena?

Pacing	Priority Standards (Missouri Learning Standards and Show-Me Standards)	Big Idea	I CAN statements
Second Quarter UNIT 7: Infection Detection Module 2 (PLTW M2) December 16- December 20	5.ETS1.A.1- Define a simple design problem reflecting a need or want that includes specified criteria for success and constraints on materials, time, or cost. 5.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. 5.ETS1.C.1- 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. Missouri Learning Standards Show Me Standards	Modeling and simulation allows scientists to test a digital model of a physical system with different parameters to understand and predict how the system behaves in the real world. Computers are essential tools for modeling and simulation because they can rapidly calculate and display information about a system. People use technology to create useful tools that help us understand the world better. Computer programs do not need to be right the first time. Testing and fixing things is normal when programming.	• I can explain how technology helps us to makes sense of scientific phenomena. • I can explain why it is helpful to be able to approximate a system with a computer model.



Sedalia School District #200

Level: Elementary

Subject Area: Science

Unit/Grade: G5 Unit 4-5th grade

Essential Question:

1. How do organisms interact?

Pacing

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

Big Idea

I CAN statements

Fourth Quarter

UNIT 8: Energy and Matter in Ecosystems (G5 U4)

January 6 -
January 24

5.PS3.D.1- Use models to describe that energy stored in food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

5.LS2.B.1- Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. Emphasis is on the idea that matter that is not food (air, water, decomposed materials in soil) is changed by plants into matter that is food. Examples of systems could include organisms, ecosystems, and the earth.

5.ETS1.A.1- Define a simple design problem reflecting a need or want that includes specified criteria for success and constraints on materials, time, or cost.

5.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.

5.ETS1.C.1- 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.

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

Explore phenomena of predator-prey population interactions and native and invasive species interactions.

Use models to develop explanations of the energy inputs and energy and matter flows within ecosystems.

- I can model how energy and matter move through an ecosystem.
- I can understand how organisms affect the ecosystems.



Sedalia School District #200

Level: Elementary

Subject Area: Science

Unit/Grade: G5 Unit 5-5th grade

Essential Question:

1. Can you see the same stars in the sky all year long?

Pacing

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

Big Idea

I CAN statements

Third Quarter

Unit 9: Systems in Space (G5 U5)

January 27-
February 28

5.PS2.B.1-Support and argument that the gravitational force exerted by Earth on objects is directed toward the planet's center.

5.ESS1.A.1-Support an argument that a relative distance from Earth affects the apparent brightness of the sun compared to other stars.

5.ESS1.B.1-Make observations during different seasons to relate the amount of daylight to the time of year. Emphasis is on relative comparison of the amount of daylight in the winter to the amount in the spring or fall.

5.ESS1.B.2-Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky. Examples of patterns could include the position and motion of Earth with respect to the sun and selected stars that are visible only in particular months.

5.ETS1.A.1- Define a simple design problem reflecting a need or want that includes specified criteria for success and constraints on materials, time, or cost.

5.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.

5.ETS1.C.1- 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.

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

Use evidence to explain that Earth's orbit, the moon's orbit and Earth's rotation cause predictable patterns.

Explain why the sun appears so large and bright from Earth.

Explain that Earth is a sphere and that gravity pulls objects towards Earth's center.

- I can explain how gravity affects all matter on Earth.
- I can describe patterns caused by interactions between Earth, the sun and the stars.
- I can describe monthly patterns of the sun, moon, and stars.
- I can describe seasonal patterns of the sun, moon, and stars.
- I can explain why the sun appears so large and bright.



Sedalia School District #200

Level: Elementary

Subject Area: Science

Unit/Grade: G4 Unit 3-5th grade

Essential Question:

1. How can you bring more sunlight into poorly lit areas?

Pacing

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

Big Idea

I CAN statements

Third
Quarter

Unit 10: Waves and Information Transfer (G4 U3)

March 2-March
13

5.PS4.A.1-Develop a model to describe that objects can be seen only when light is reflected off them or when they produce their own light.

5.ETS1.A.1- Define a simple design problem reflecting a need or want that includes specified criteria for success and constraints on materials, time, or cost.

5.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.

5.ETS1.C.1- 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.

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

Discover the different parts of waves.

Explore how light can be reflected.

Examine and describe how information is transferred from place to place.

- I can explain the difference between wavelength and amplitude.
- I can observe how waves interact.
- I can explain how light interacts with different surfaces.
- I can explain why people see what they do.



Sedalia School District #200

Level: Elementary

Subject Area: Science

Unit/Grade: G5 Unit 6-5th grade

Essential Question:

1. How can you remove salt to make saltwater drinkable?

Pacing

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

Big Idea

I CAN statements

Fourth Quarter

Unit 11: Earth's Systems (G5 U6)

March 16-
April 3

5.ESS2.A.1-Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact. Examples could include the influence of the ocean on ecosystems, landform shape, and climate; the influence of the atmosphere on landforms and ecosystems through weather and climate; and the influence of mountain ranges on winds and clouds in the atmosphere. The geosphere, hydrosphere, atmosphere, and biosphere are each a system.

5.ESS2.C.1-Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.

5.ETS1.A.1- Define a simple design problem reflecting a need or want that includes specified criteria for success and constraints on materials, time, or cost.

5.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.

5.ETS1.C.1- 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.

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

Explore the hydrosphere, geosphere, biosphere, and atmosphere.

Learn how Earth's systems interact.

- I can identify and describe each of Earth's systems and the cycles that occur within them.
- I can describe how Earth's systems interact.
- I can explain how the ocean affects Earth's systems.



Sedalia School District #200

Level: Elementary

Subject Area: Science

Unit/Grade: G5 Unit 7-5th grade

Essential Question:

1. What is the total amount of recyclable material you could use in your lifetime?

Pacing

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

Big Idea

I CAN statements

Fourth Quarter

Unit 12: Earth and Human Activities (G5 U7)

April 6-April 24

5.ESS3.C.1-Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

5.ETS1.A.1- Define a simple design problem reflecting a need or want that includes specified criteria for success and constraints on materials, time, or cost.

5.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.

5.ETS1.C.1- 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.

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

Explore how human activity affects the Earth and its systems.

Learn about ways to keep Earth and its systems healthy.

- I can recognize and explain how people affect Earth's resources.
- I can identify and explain many ways that people can help protect the environment.



Sedalia School District #200

Level: Elementary

Subject Area: Science

Unit/Grade: Module 3 & 4-5th grade

Essential Question:

1. How can the design process be applied to daily life?

Pacing	Priority Standards (Missouri Learning Standards and Show-Me Standards)	Big Idea	I CAN statements
Fourth Quarter Unit 13: Robotics and Automation (PLTW M3&4) April 27-May 22	5.ETS1.A.1- Define a simple design problem reflecting a need or want that includes specified criteria for success and constraints on materials, time, or cost. 5.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. 5.ETS1.C.1- 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. Missouri Learning Standards Show Me Standards	Engineers have a step by step approach for looking at and solving a problem called the design process. Engineers and designers create new products and technology to meet a need or want that meets specific criteria for success, including constraints on materials, time, and cost. Robotic systems are programmed to complete specific tasks with or without human interaction. The science and application of automation and robotics can be applied to protect the Earth's resources and environment.	• I can describe how automation and robotics can be used to protect the Earth's resources and environment. • I can use the engineering design process. • I can explain how the engineering design process can be applied to daily life. • I can explain how autonomous robots can be used to help people.