Sedalia School District #200

Level: Elementary **Subject Area:** PLTW (Science) **Unit/Grade:** Module 2 - 2nd Grade

Essential Questions:

1. How does the function of an object influence its form?
2. How does nature influence design?

Pacing	Priority Standards (Missouri Learning Standards and Show-Me Standards)	Big Idea	I CAN statements
First Quarter **Module 2: Form and Function** Aug. 27- Oct. 18	**2.PS1.A.1** Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties. **2.PS1.A.2** Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose. Missouri Learning Standards Show Me Standards	Engineers and designers select materials which have properties that are best suited for an intended purpose. Students explore properties of matter, including flexibility, hardness, strength, and absorbency. Students also learn about pollination, seed dispersal by animals, and seed germination.	• I can evaluate a problem in a novel situation. • I can apply a step by step design process to solve a problem • I can identify function by observing the form of an object.

Sedalia School District #200

Level: Elementary **Subject Area:** Science **Unit/Grade:** G2 Unit 3 - 2nd Grade

Essential Questions:

1. How do plants depend on animals?
2. Why is it important to have plants in both water and land habitats?

Pacing	Priority Standards (Missouri Learning Standards and Show-Me Standards)	Big Idea	I CAN statements
Second Quarter **G2 UNIT 3: Environments for Living Things** Oct. 21- Dec. 20	**2.LS2.A.1** Plan and conduct investigations on the growth of plants when growing conditions are altered (e.g., dark vs light, water vs. no water). Missouri Learning Standards Show Me Standards	Students explore the things a plant needs (water, sunlight, air, nutrients, and space) and why plants need these elements. They also focus on how plants depend on animals for pollination and seed dispersal from one location to another. Living things are found in habitats within a pond, river delta, and tide pool. Students explore why specific plants and animals live in each habitat, as well as land habitats within a rainforest, a forest, and a savanna.	• I can construct an argument with evidence that plants are living things that need certain things to grow and to stay healthy. • I can develop a simple model to show how plants depend on animals within their environment. • I can make observations of plants and animals to compare the diversity of life in water habitats. • I can make observations of plants and animals to compare the diversity of life in land habitats.

Sedalia School District #200

Level: Elementary **Subject Area:** PLTW (Science) **Unit/Grade:** Module 1 - 2nd Grade

Essential Questions:

1. Is it more important when designing a consumer product (toy, tool, tennis shoe) to select a material that looks good, a materials that will last a long time, or a material that doesn't cost too much? Why?
2. Why can some changes caused by heating or cooling not be reversed?

Pacing	Priority Standards (Missouri Learning Standards and Show-Me Standards)	Big Idea	I CAN statements
Second Quarter **Module 1: Properties of Matter** Oct. 21-Dec. 20	**PS1.A.1** Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties. **PS1.A.2** Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose. Missouri Learning Standards Show Me Standards	Students investigate and classify different kinds of materials by their observable properties, including color, texture, and heat conduction. All materials have a melting point, or a temperature at which a solid becomes a liquid. The melting point for water is 32 degrees Fahrenheit. Every material has unique properties of insulation. The better a material is at insulating, the more it will keep an object at the starting temperature.	• I can evaluate a problem in a novel situation. • I can apply a step by step design process to solve a problem. • I can identify observable properties of real world objects.

Sedalia School District #200

Level: Elementary | **Subject Area:** Science | **Unit/Grade:** G3 Unit 2 - 2nd Grade

Essential Questions:

1. Why is it important to predict patterns of motion?
2. Why is motion important to humans?

Pacing	Priority Standards (Missouri Learning Standards and Show-Me Standards)	Big Idea	I CAN statements
Third Quarter **G3 UNIT 2: Forces and Motion** Jan. 7- Mar. 13	**2.PS.2 A.1** Analyze data to determine how the motion of an object changed by an applied force or the mass of an object. Missouri Learning Standards Show Me Standards	Balanced and unbalanced forces affect the motion of an object. Students will identify specific reasons (causes) why motion changes (effect) as a result of the forces acting on them. Students will also observe types of motions (up and down, back and forth, around and around, and zigzag) and measure objects' motions in various situations. They will investigate different variables that affect the speed and direction of a pendulum to find patterns and use the patterns to make predictions about future movements.	• I can determine whether an object is in motion. • I can explain how to determine the speed of an object. • I can describe how unbalanced forces affect the motion of an object (speed up, slow down, change direction). • I can understand how regular patterns of motion can predict future motion.

Sedalia School District #200

Level: Elementary **Subject Area:** PLTW (Science) **Unit/Grade:** Module 4 - 2nd Grade

Essential Questions:

1. How can I use digital tools to express my thoughts and ideas?
2. How do humans use computers to solve problems?

Pacing	Priority Standards (Missouri Learning Standards and Show-Me Standards)	Big Idea	I CAN statements
Third Quarter **Module 4: Grids and Games** Jan. 7-Mar. 13	**2.ETS1.A** Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. **2.ETS1.B** Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. **2.ETS1.C** Analyze data from tests of two objects designed to solve the same problem. Missouri Learning Standards Show Me Standards	Students build knowledge and skills that enable them to program a game on a tablet. Students explore how mathematics is used in animation by using addition and subtraction to move characters on a numbered grid. Students discover that computer science is important to many parts of our lives, and that computer scientists do more than just program computers.	• I can work effectively within a team. • I can break a problem down into smaller problems in order to construct a sequence of steps to solve the problem. • I can persist when solving problems, exercising patience while testing and fixing solutions.

Sedalia School District #200

Level: Elementary **Subject Area:** PLTW (Science) **Unit/Grade:** Module 3 - 2nd Grade

Essential Questions:

1. How can Earth events change the shape of the land?
2. Why should engineers prevent or reduce the impact of erosion?

Pacing	Priority Standards (Missouri Learning Standards and Show-Me Standards)	Big Idea	I CAN statements
Fourth Quarter **Module 3: The Changing Earth** Mar. 23-May 21	**2.ESS2.A** Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land. **2.ESS2.B** Develop a model to represent the shapes and kinds of land and bodies of water in an area. **2.ESS2.C** Obtain information to identify where water is found on Earth and that it can be solid or liquid. Missouri Learning Standards Show Me Standards	Students explore how the surface of the Earth is always changing. Students are introduced to different kinds of maps and explore how these maps convey different kinds of information about the world we live in, including where water is found on Earth. Students investigate the different forces that shape the surface of the Earth and design solutions to limit the impact of erosion on a fictional community.	• I can evaluate a problem in a new and novel situation. • I can apply a step by step design process to solve a problem. • I can observe changes that water, wind, and natural disasters cause to land over time. • I can create a map that communicates information about a given area.