URBANDALE COMMUNITY SCHOOL DISTRICT

Course Title:	**Kindergarten Science**
Description: Kindergarten students will use their senses to make observations, ask and answer questions, develop models, and plan and conduct investigations. Students in kindergarten will identify patterns and cause and effect relationships as they explore the world around them.	

Physical Sciences

Reporting Topic	Grade Level Standards	Standard Summary
Forces and Interactions	• Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object (for example, test and compare the relative, qualitative effects of pushing or pulling objects with varying strengths or in varying directions, such as a string pulling an object, a person pushing an object, a person stopping a rolling ball, or two objects colliding and pushing on each other). (K-PS2-1) • Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull (for example, make observations to determine whether using a ramp can help a ball travel a certain distance or whether using curved structures can cause a marble to turn and follow a particular path). (K-PS2-2)	Students will: • Plan and conduct an investigation to compare effects of different strengths or directions on an object • Plan and conduct an investigation to compare effects of change of speed on an object
Energy	• Make observations to determine the effect of sunlight on Earth's surface (for example, make relative observations—such as "warmer" and "cooler"—of the effect of sunlight on sand, soil, rocks, and water to make generalizations about the effect that sunlight has on Earth's surface). (K-PS3-1) • Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area (for example, use teacher-provided tools and materials to design and build a structure—such as an umbrella, canopy, or tent—that reduces the warming effect of the sun). (K-PS3-2)	Students will: • Describe how sunlight changes the surface of the Earth • Tell how to reduce the heat from the sun on the Earth's surface

Life Sciences

Reporting Topic	Grade Level Standards	Standard Summary

URBANDALE COMMUNITY SCHOOL DISTRICT

From Molecules to Organisms: Structures and Processes	• Use observations to describe patterns of what plants and animals (including humans) need to survive (for example, make observations of different ways in which plants and animals survive and identify patterns—such as animals needing food versus plants needing light, certain types of animals needing specific kinds of food, or all living things needing water). (K-LS1-1)	Students will: • Tell about the patterns that help plants and animals survive

Earth and Space Science

Reporting Topic	Grade Level Standards	Standard Summary
Weather and Climate	• Use and share observations of local weather conditions to describe patterns over time (for example, make qualitative and quantitative observations of local weather conditions—such as describing the weather as sunny, cloudy, rainy, or warm or tallying the number of sunny, windy, and rainy days in a month—to describe patterns over time; for instance, it is usually cooler in the morning than in the afternoon, the number of sunny days versus cloudy days varies from month to month, and so on). (K-ESS2-1) • Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs. (Examples of plants and animals changing their environment could include a squirrel digs in the ground to hide its food and tree roots can break concrete). (K-ESS2-2)	Students will: • Describe weather patterns that occur over time • Tell how plants and animals change to meet their needs in an environment
Natural Hazards	• Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather (for example, ask questions to figure out why it is important to make predictions about local forms of severe weather). (K-ESS3-2)	Students will: • Explain how to prepare for local severe weather
Human Impact and Earth Systems	• Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment (for example, consider the effect of human acts—such as cutting trees to produce paper and using resources to produce bottles—on the local environment, and describe ways to reduce this impact, such as by reusing paper and recycling cans and bottles). (K-ESS3-3)	Students will: • Tell how people can hurt or help the environment
Natural Resources	• Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live (for example, use a model to show that living things need water, air, and resources from the land and that they live	Students will:

	in places that have the things they need; for instance, deer eat buds and leaves and therefore usually live in forested areas, grasses need sunlight so they often grow in meadows, and so on). (K-ESS3-1)	• Explain why plants and animals have different habitats to meet needs

Engineering

Reporting Topics	Grade Level Standards	Standard Summary
Defining Problems	• 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 (for example, approach a situation that people want to change or create a problem to be solved through engineering, and ask questions, make observations, and gather information to clarify the problem, understanding that a problem must be clearly understood before a solution can be designed). (K-ETS1-1)	Students will: • Ask questions and make accurate observations about a problem
Designing Solutions	• 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 (for example, convey a design solution through a sketch, drawing, or physical model in order to communicate problem-solving ideas to other people). (K-ETS1-2)	Students will: • Explain how the shape of an object helps it solve a problem.
Evaluating and Testing Solutions	• Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs (for example, test two different solutions to the same problem and compare their performances). (K-ETS1-3)	Students will: • Compare the strengths and weaknesses of two objects in solving a problem