

Kindergarten through Second Grade

Kindergarten

K-Standard 1 Physical Science

K.1.1 Plan and conduct an investigation using all senses to describe and classify different kinds of objects by their composition and physical properties. Explain these choices to others and generate questions about the objects

K.1.2 Identify and explain possible uses for an object based on its properties and compare these uses with other students' ideas.

K.1.3 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.

K.1.4 Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or pull.

K-Standard 2: Earth and Space Science

K.2.1 Make observations to determine the effect of sunlight on Earth's surface, buildings and other objects such as plants and animals.

K.2.2 Use tools and materials provided to design and build a structure that will reduce the warming effect of sunlight on Earth's surface

K.2.3 Describe and compare objects seen in the night and day sky.

K.2.4 Use and share observations of local weather conditions to describe patterns over time.

K-Standard 3: Life Science

K.3.1 Describe and compare the structures, size, color, texture of body covering, growth and movement of common living animals.

K.3.2 Describe and compare the structures, size, color, texture and growth of common living plants.

K.3.3 Use observations to describe patterns of what plants and animals (including humans) need to survive.

1-Standard 1: Physical Science

1.1.1 Use all senses as appropriate to identify the component parts of objects and the materials from which they are made.

1.1.2 Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.

1.1.3 Make observations using all senses as appropriate to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object. Observe what material are used to make each piece.

1.1.4 Analyze and characterize data obtained from testing different materials (such as solid or liquid) to determine which are the best suited for an intended purpose.

1.1.5 Plan and conduct investigations to determine the effect of placing objects made with different materials in the path of a beam of light.

1.1.6 Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance

1-Standard 2: Earth and Space Science

1.2.1 Observe and compare properties of sand, clay, silt and organic matter. Look for evidence of sand, clay, silt and organic matter as components of soil samples. Choose, test and use tools to separate soil samples into component parts.

1.2.2 Observe a variety of soil samples and describe in words and pictures the soil properties in terms of color, particle size and shape, texture, and recognizable living and nonliving items.

1.2.3 Use observations of the sun, moon and stars to describe patterns that can be predicted.

1.2.4 Make observations at different times of year to relate the amount of daylight to the time of year.

1.2.5 Use observations of the sun, moon, and stars to describe patterns that can be predicted.

1-Standard 3: Life Science

1.3.1 Classify living organisms according to variations in specific physical features (e.g., body coverings, appendages) and describe how those features may provide an advantage for survival in different environments.

1.3.2 Make observations of plants and animals to compare the diversity of life in different habitats.

1.3.3 Use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live.

1.3.4 Make observations to collect evidence that young plants and animals are like, but not exactly like their parents

1.3.5 Use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live.

1-Standard 4: Engineering and Technology

1.4.1 Choose and observe two animals that build shelters within their habitats. Compare the shelters in terms of the materials and tools they use and the type and purpose of shelter they provide. Construct a simple shelter for one of the animals with natural and human-made materials.

1.4.2 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.

1.4.3 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.

1.4.4 Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light

1.4.5 Plan and conduct investigations to provide evidence that vibrating materials can make sounds and that sound can make materials vibrate.

2-Standard 1: Physical Science

2.1.1 Plan and conduct an investigation to describe and classify different kind of materials by their observable properties.

2.1.2 Test different materials to determine which materials have the properties that are best suited for an intended purpose.

2.1.3 Construct an argument with evidence that some changes caused by heating and cooling can be reversed and some cannot.

2-Standard 2: Earth and Space Science

2.2.1 Construct and use tools to observe and measure weather phenomena like precipitation, changes in temperature, wind speed and direction. Experience and describe wind as the motion of the air.

2.2.2 Chart or graph weather observations such as cloud cover, cloud type and type of precipitation on a daily basis over a period of weeks.

2.2.3 Obtain information to identify where water is found on Earth and that it can be solid or liquid.

2.2.4 Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.

2.2.5 Investigate how the sun appears to move through the sky during the day by observing and drawing the length and direction of shadows.

2.2.6 Develop a model to represent the shapes and kinds of land and bodies of water in an area.

2.2.7 Obtain information to identify where water is found on Earth and that it can be solid or liquid.

2-Standard 3: Life Science

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

2.3.2 Compare and contrast details of body plans and structures within the life cycles of plants and animals.

2.3.3 Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.

2.3.4 Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.

2-Standard 4: Engineering and Technology

2.4.1 Identify parts of the human body that can be used as tools—like hands for grasping and teeth for cutting and chewing.

2.4.2 Identify technologies developed by humans to meet human needs. Investigate the limitations of technologies and how they have improved quality of life.

2.4.3 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.

