

General Supplies for the New 2020 K Grade SEEd Science Core

(The bolded word(s) in the standard is the **Science and Engineering Practice**)

(The brown, underlined word is the Crosscutting Concept)

(The bullets are supplies that could be used for that standard)

(The capital letters at the end of the standard is the NGSS standard(s) it is connected to.)

(Any sentences in italics are for engineering.)

Stand K.1 Weather Patterns

Standard K.1.1

Obtain, evaluate, and communicate information about local, observable weather conditions to describe patterns over time. Emphasize the students' collection and sharing of data. Examples of data could include sunny, cloudy, windy, rainy, cold, or warm. (ESS2.D)

- Go to www.KSL.com click on "Weather", select your region, and then click on "Details" and it will tell you all weather information to write down.
- Or you can purchase the weather instruments below to get the information yourself.
 - Thermometers—temperature
 - Anemometer—wind speed
 - Rain gauge—precipitation
 - Wind vane—wind speed

Standard K.1.2

Obtain, evaluate, and communicate information on the effect of forecasted weather patterns on human behavior. Examples could include how humans respond to local forecasts of typical and severe weather such as extreme heat, high winds, flash floods, thunderstorms, or snowstorms. (ESS3.B)

- Pictures that show extreme heat results, high wind results, flash flood results, thunderstorm results, and snowstorm results.
- Students can evaluate and communicate these weather effects on humans. Students can tell as to how humans respond to the forecasts of approaching severe weather.

Standard K.1.3

Carry out an investigation using the five senses, to determine the effect of sunlight on different surfaces and materials. Examples could include measuring temperature, through touch or other methods, on natural and man-made materials in various locations throughout the day. (PS3.B)

- Thermometers and different surfaces outside while the sun is shining.
- Students can put the thermometers on the different surfaces in the sunlight and see the temperature difference on each object.

Standard K.1.4

Design a solution that will reduce the warming effect of sunlight on an area. *Define the problem by asking questions and gathering information, convey designs through sketches, drawings, or physical models, and compare and test designs.* (PS3.B, ETS1.A, ETS1.B, ETS1.C)

- Gather materials together for an engineering project that by using materials for insulating things, it can reduce the warming effect of sunlight on objects.

Strand K.2 Living Things and Their Surroundings

Standard K.2.1

Obtain, evaluate, and communicate information to describe patterns of what living things (plants and animals, including humans) need to survive. Emphasize the similarities and differences between the survival needs of all living things. Examples could include that plants depend on air, water, minerals, and light to survive, or animals depend on plants or other animals to survive. (LS1.C)

- Pictures of different plants for ideas of how they survive each day
- Pictures of different animals for ideas of how they survive each day
- Pictures of humans for ideas of how they survive each day
- Students can evaluate and communicate information as to what animals and plants need to survive and how they are different from one living thing to another.

Standard K.2.2

Obtain, evaluate, and communicate information about patterns in the relationships between the needs of different living things (plants and animals, including humans) and the places they live. Emphasize that living things need water, air, and resources and that they live in places that have the things they need. Examples could include investigating plants grown in various locations and comparing the results or comparing animals with the places they live. (LS2.B, ESS3.A)

- Pictures of plants living in their environments
- Pictures of animals living in their environments
- Pictures of humans living in their environments
- Items to grow plants in different environments
 - Cups, different types of soils (clay, gravelly, topsoil, subsoil, sand, etc.), variety of seeds, lights and lack of light, heat and lack of heat, water and lack of water, fertilizers and lack of fertilizers

Standard K.2.3

Obtain, evaluate, and communicate information about how living things (plants and animals, including humans) affect their surroundings to survive. Examples could include squirrels digging in the ground to hide their food, plant roots breaking concrete, or humans building shelters. (ESS2.E)

- Pictures of animals/insects living in their environments of how they use their surroundings for survival (digging holes, building nests, making hives, making lodges, living in caves, etc.)
- Pictures of plants growing in cracks of rocks and concrete
- Pictures of humans building their shelters
- Students can evaluate and communicate information as to how the survival of living things affects their surroundings.

Standard K.2.4

Design and communicate a solution to address the **effects** that living things (plants and animals, including humans) experience while trying to survive in their surroundings. *Define the problem by asking questions and gathering information, convey designs through sketches, drawings, or physical models, and compare designs.* Emphasize students working from a plant, animal, or human perspective. Examples could include a plant growing to get more sunlight, a beaver building a dam, or humans caring for the Earth by reusing and recycling natural resources. (ESS3.C, ETS1.A, ETS1.B, ETS1.C)

- Students can look at pictures and videos to see what animals do to survive. Student can use sketches, drawings, physical models, or reenactments to communicate what living things experience when trying to survive.

Strand K.3 Forces, Motion, and Interactions

Standard K.3.1

Plan and conduct an investigation to compare the **effects** of different strengths or different directions of forces on the motion of an object. Emphasize forces as a push and pull on an object. The idea of strength should be kept separate from the idea of direction. Non-contact forces, such as magnets and static electricity, will be taught in Grades 3 through 5. (PS2.A, PS2.B, PS2.C, PS3.C)

- Balls, marbles, boxes, toy cars, desk items, etc.
- Students can do experiments of different strengths on objects to determine the force on that object as to how far it goes.
- Students can do experiments of pushing in different forces of direction to determine the direction the object will go.

Standard K.3.2

Analyze data to determine how a **design solution causes** a change in the speed or direction of an object with a push or a pull. *Define the problem by asking questions and gathering information, convey designs through sketches, drawings, or physical models, and compare and test designs.* Examples of problems requiring a solution could include having a marble or other object move a certain distance, follow a particular path, or knock down other objects. (PS2.A, PS2.B, PS2.C, PS3.C, ETS1.A, ETS1.B, ETS1.C)

- Gather the objects together for moving and changing direction for this engineering project. Have the students make drawings, sketches, or physical models to design what is needed to change the speed, direction, or knock down other objects and then to the experiment to come up with their solutions.