



School Program Description & Benchmarks

Animal Defenses (PK – 2nd grade) (*Small Group program– 33 max*)

Observe adaptations of live animals and discover what they need to survive. Students will learn about various animal defenses and discover how each animal's defenses are similar or different from each other. (Hands on interaction with the animals will depend upon their health and availability)

Kindergarten:

SC.K.L.14.2: Recognize that some books and other media portray animals and plants with characteristics and behaviors they do not have in real life.

SC.K.L.14.3: Observe plants and animals, describe how they are alike and how they are different in the way they look and in the things they do.

1st grade:

SC.1.L.14.1: Make observations of living things and their environment using the five senses.

SC.1.N.1.1: Raise questions about the natural world, investigate them in teams through free exploration, and generate appropriate explanations based on those explorations.

SC.1.N.1.4: Ask "how do you know?" in appropriate situations.

2nd grade:

SC.2.L.17.1: Compare and contrast the basic needs that all living things, including humans, have for survival.

SC.2.L.17.2: Recognize and explain that living things are found all over Earth, but each is only able to live in habitats that meet its basic needs.

SC.2.N.1.1: Raise questions about the natural world, investigate them in teams through free exploration and systematic observations, and generate appropriate explanations based on those explorations.



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SC.2.N.1.3: Ask "how do you know?" in appropriate situations and attempt reasonable answers when asked the same question by others.

SC.2.N.1.5: Distinguish between empirical observation (what you see, hear, feel, smell, or taste) and ideas or inferences (what you think).



School Program Description & Benchmarks

Electricity Unplugged (2nd – 12th grade) (*Assembly program – 60 max*)

Play a part in a “hair-raising” experience learning about static electricity, alternating current, electromagnets, insulators, and conductors. Guaranteed to give you thrill!

2nd grade:

SC.2.P.10.1: Discuss that people use electricity or other forms of energy to cook their food, cool or warm their homes, and power their cars.

3rd grade:

SC.3.N.1.6: Infer based on observation.

SC.3.N.3.2: Recognize that scientists use models to help understand and explain how things work.

SC.3.N.3.3: Recognize that all models are approximations of natural phenomena; as such, they do not perfectly account for all observations.

SC.3.P.10.1: Identify some basic forms of energy such as light, heat, sound, electrical, and mechanical.

SC.3.P.10.2: Recognize that energy has the ability to cause motion or create change.

4th grade:

SC.4.P.8.4: Investigate and describe that magnets can attract magnetic materials and attract and repel other magnets.

SC.4.P.10.1: Observe and describe some basic forms of energy, including light, heat, sound, electrical, and the energy of motion.

5th grade:

SC.5.P.8.4: Explore the scientific theory of atoms (also called atomic theory) by recognizing that all matter is composed of parts that are too small to be seen without magnification.



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SC.5.P.10.1: Investigate and describe some basic forms of energy, including light, heat, sound, electrical, chemical, and mechanical.

SC.5.P.10.3: Investigate and explain that an electrically-charged object can attract an uncharged object and can either attract or repel another charged object without any contact between the objects.

SC.5.P.10.4: Investigate and explain that electrical energy can be transformed into heat, light, and sound energy, as well as the energy of motion.

SC.5.P.11.1: Investigate and illustrate the fact that the flow of electricity requires a closed circuit (a complete loop).

SC.5.P.11.2: Identify and classify materials that conduct electricity and materials that do not.

8th grade:

SC.8.P.8.7: Explore the scientific theory of atoms (also known as atomic theory) by recognizing that atoms are the smallest unit of an element and are composed of sub-atomic particles (electrons surrounding a nucleus containing protons and neutrons).

9th – 12th grades:

SC.912.P.8.4: Explore the scientific theory of atoms (also known as atomic theory) by describing the structure of atoms in terms of protons, neutrons and electrons, and differentiate among these particles in terms of their mass, electrical charges and locations within the atom.

SC.912.P.10.13: Relate the configuration of static charges to the electric field, electric force, electric potential, and electric potential energy.

SC.912.P.10.14: Differentiate among conductors, semiconductors, and insulators.



School Program Description & Benchmarks

Fact of the Matter (2nd – 12th grade) (*Assembly program – 60 max*)

Students will learn about the properties of the four states of matter and discover what factors cause those states to change.

2nd grade:

SC.2.N.1.3: Ask "how do you know?" in appropriate situations and attempt reasonable answers when asked the same question by others.

SC.2.N.1.1: Raise questions about the natural world, investigate them in teams through free exploration and systematic observations, and generate appropriate explanations based on those explorations.

SC.2.P.8.2: Identify objects and materials as solid, liquid, or gas.

SC.2.P.8.3: Recognize that solids have a definite shape and that liquids and gases take the shape of their container.

SC.2.P.8.4: Observe and describe water in its solid, liquid, and gaseous states.

3rd grade:

SC.3.N.1.6: Infer based on observation.

SC.3.N.3.2: Recognize that scientists use models to help understand and explain how things work.

SC.3.N.3.3: Recognize that all models are approximations of natural phenomena; as such, they do not perfectly account for all observations.

SC.3.P.8.1: Measure and compare temperatures of various samples of solids and liquids.

SC.3.P.9.1: Describe the changes water undergoes when it changes state through heating and cooling by using familiar scientific terms such as melting, freezing, boiling, evaporation, and condensation.

4th grade:

SC.4.P.8.2: Identify properties and common uses of water in each of its states.

5th grade:



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SC.5.P.8.1: Compare and contrast the basic properties of solids, liquids, and gases, such as mass, volume, color, texture, and temperature.

SC.5.P.9.1: Investigate and describe that many physical and chemical changes are affected by temperature.

7th grade:

SC.7.P.11.1: Recognize that adding heat to or removing heat from a system may result in a temperature change and possibly a change of state.

8th grade:

SC.8.P.8.4: Classify and compare substances on the basis of characteristic physical properties that can be demonstrated or measured; for example, density, thermal or electrical conductivity, solubility, magnetic properties, melting and boiling points, and know that these properties are independent of the amount of the sample.

9th– 12th grade:

SC.912.P.8.1: Differentiate among the four states of matter.

SC.912.P.8.2: Differentiate between physical and chemical properties and physical and chemical changes of matter.

SC.912.P.10.4: Describe heat as the energy transferred by convection, conduction, and radiation, and explain the connection of heat to change in temperature or states of matter.



School Program Description & Benchmarks

Illumination Fascination (3rd – 7th grade) (*Assembly program – 60 max*)

Act out the electromagnetic spectrum and enjoy dazzling displays of light and color as you learn about reflection, refraction, frequency, and waves in an interactive demonstration!

3rd grade:

SC.3.N.1.6: Infer based on observation.

SC.3.N.3.2: Recognize that scientists use models to help understand and explain how things work.

SC.3.P.10.1: Identify some basic forms of energy such as light, heat, sound, electrical, and mechanical.

SC.3.P.10.3: Demonstrate that light travels in a straight line until it strikes an object or travels from one medium to another.

SC.3.P.10.4: Demonstrate that light can be reflected, refracted, and absorbed.

SC.3.P.11.1: Investigate, observe, and explain that things that give off light often also give off heat.

SC.3.P.11.2: Investigate, observe, and explain that heat is produced when one object rubs against another, such as rubbing one's hands together.

4th grade:

SC.4.P.10.1: Observe and describe some basic forms of energy, including light, heat, sound, electrical, and the energy of motion.

SC.4.P.12.2: Investigate and describe that the speed of an object is determined by the distance it travels in a unit of time and that objects can move at different speeds.

5th grade:

SC.5.P.10.1: Investigate and describe some basic forms of energy, including light, heat, sound, electrical, chemical, and mechanical.

7th grade:



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SC.7.P.10.1: Illustrate that the sun's energy arrives as radiation with a wide range of wavelengths, including infrared, visible, and ultraviolet, and that white light is made up of a spectrum of many different colors.

SC.7.P.10.2: Observe and explain that light can be reflected, refracted, and/or absorbed.

SC.7.P.10.3: Recognize that light waves, sound waves, and other waves move at different speeds in different materials.

SC.7.P.11.3: Cite evidence to explain that energy cannot be created nor destroyed, only changed from one form to another.



School Program Description & Benchmarks

Ooey Goey Gloop (K – 3rd grade) (*Small Group program– 33 max*)

Students use math and science skills to create a chemical reaction and make a polymer to take home. Students will explore states of matter and fractions as well.

Kindergarten:

SC.K.E.5.1: Explore the Law of Gravity by investigating how objects are pulled toward the ground unless something holds them up.

SC.K.N.1.2: Make observations of the natural world and know that they are descriptors collected using the five senses.

SC.K.N.1.5: Recognize that learning can come from careful observation.

SC.K.P.9.1: Recognize that the shape of materials such as paper and clay can be changed by cutting, tearing, crumpling, smashing, or rolling.

SC.K.P.12.1: Investigate that things move in different ways, such as fast, slow, etc.

1st grade:

SC.1.E.5.2: Explore the Law of Gravity by demonstrating that Earth's gravity pulls any object on or near Earth toward it even though nothing is touching the object.

SC.1.N.1.2: Using the five senses as tools, make careful observations, describe objects in terms of number, shape, texture, size, weight, color, and motion, and compare their observations with others.

SC.1.N.1.4: Ask "how do you know?" in appropriate situations.

SC.1.P.12.1: Demonstrate and describe the various ways that objects can move, such as in a straight line, zigzag, back-and-forth, round-and-round, fast, and slow.

MA.1.A.1.1: Model addition and subtraction situations using the concepts of "part-whole," "adding to," "taking away from," "comparing," and missing addend."

MA.1.A.1.4: Use counting strategies, number patterns, and models as a means for solving basic addition and subtraction fact problems.



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MA.1.A.4.1: Extend repeating and growing patterns, fill in missing terms, and justify reasoning.

MA.1.A.6.2: Solve routine and non-routine problems by acting them out, using manipulatives, and drawing diagrams.

MA.1.G.5.1: Measure by using iterations of a unit, and count the unit measures by grouping units.

MA.1.G.5.2: Compare and order objects according to descriptors of length, weight, and capacity.

2nd grade:

SC.2.N.1.3: Ask "how do you know?" in appropriate situations and attempt reasonable answers when asked the same question by others.

SC.2.N.1.5: Distinguish between empirical observation (what you see, hear, feel, smell, or taste) and ideas or inferences (what you think).

SC.2.P.8.2: Identify objects and materials as solid, liquid, or gas.

SC.2.P.8.3: Recognize that solids have a definite shape and that liquids and gases take the shape of their container.

SC.2.P.9.1: Investigate that materials can be altered to change some of their properties, but not all materials respond the same way to any one alteration.

MA.2.A.2.4: Solve addition and subtraction problems that involve measurement and geometry.

MA.2.A.4.1: Extend number patterns to build a foundation for understanding multiples and factors – for example, skip counting by 2's, 5's, 10's.

MA.2.G.3.4: Estimate, select an appropriate tool, measure, and/or compute lengths to solve problems.

MA.2.G.5.1: Use geometric models to demonstrate the relationships between wholes and their parts as a foundation to fractions.



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MA.2.G.5.4: Measure weight/mass and capacity/volume of objects. Include the use of the appropriate unit of measure and their abbreviations including cups, pints, quarts, gallons, ounces (oz), pounds (lbs), grams (g), kilograms (kg), milliliters (mL) and liters (L).

3rd grade:

SC.3.N.1.6: Infer based on observation.

SC.3.N.3.3: Recognize that all models are approximations of natural phenomena; as such, they do not perfectly account for all observations.

SC.3.P.8.3: Compare materials and objects according to properties such as size, shape, color, texture, and hardness.

MA.3.A.2.2: Describe how the size of the fractional part is related to the number of equal sized pieces in the whole.

MA.3.A.2.3: Compare and order fractions, including fractions greater than one, using models and strategies.



School Program Description & Benchmarks

Planetary Shuffle (K – 3rd, 5th grade) (*Small Group program– 33 max*)

Students will learn about the characteristics, order, and distance of the planets as they walk a scaled model of our solar system complete with inflatable planets. Students will also discover how the spin of the Earth creates a day and the orbit of the Earth around the Sun creates an Earth year.

Kindergarten:

SC.K.E.5.2: Recognize the repeating pattern of day and night.

SC.K.E.5.3: Recognize that the Sun can only be seen in the daytime.

SC.K.E.5.4: Observe that sometimes the Moon can be seen at night and sometimes during the day.

SC.K.E.5.5: Observe that things can be big and things can be small as seen from Earth.

SC.K.E.5.6: Observe that some objects are far away and some are nearby as seen from Earth.

SC.K.N.1.4: Observe and create a visual representation of an object which includes its major features.

SC.K.P.12.1: Investigate that things move in different ways, such as fast, slow, etc.

SC.1.E.5.1: Observe and discuss that there are more stars in the sky than anyone can easily count and that they are not scattered evenly in the sky.

MA.K.G.5.1: Demonstrate an understanding of the concept of time using identifiers such as morning, afternoon, day, week, month, year, before/after, shorter/longer.

1st grade:

SC.1.E.5.1: Observe and discuss that there are more stars in the sky than anyone can easily count and that they are not scattered evenly in the sky.

SC.1.E.5.2: Explore the Law of Gravity by demonstrating that Earth's gravity pulls any object on or near Earth toward it even though nothing is touching the object.



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SC.1.E.5.4: Identify the beneficial and harmful properties of the Sun.

SC.1.N.1.2: Using the five senses as tools, make careful observations, describe objects in terms of number, shape, texture, size, weight, color, and motion, and compare their observations with others.

SC.1.P.12.1: Demonstrate and describe the various ways that objects can move, such as in a straight line, zigzag, back-and-forth, round-and-round, fast, and slow.

2nd grade:

SC.2.P.8.1: Observe and measure objects in terms of their properties, including size, shape, color, temperature, weight, texture, sinking or floating in water, and attraction and repulsion of magnets.

SC.2.P.8.2: Identify objects and materials as solid, liquid, or gas.

3rd grade:

SC.3.E.5.1: Explain that stars can be different; some are smaller, some are larger, and some appear brighter than others; all except the Sun are so far away that they look like points of light.

SC.3.E.5.2: Identify the Sun as a star that emits energy; some of it in the form of light.

SC.3.E.5.3: Recognize that the Sun appears large and bright because it is the closest star to Earth.

5th grade:

SC.5.E.5.2: Recognize the major common characteristics of all planets and compare/contrast the properties of inner and outer planets.

SC.5.E.5.3: Distinguish among the following objects of the Solar System -- Sun, planets, moons, asteroids, comets -- and identify Earth's position in it.



School Program Description & Benchmarks

Power Up (4th – 12th grade) (*Small Group program– 33 max*)

Discover how to hook up and use simple electrical circuits like those that are in your house! Students will build series and parallel circuits to light up light bulbs, switches, and a fans while also learning about conductors, insulators, resistors and capacitors.

4th grade:

SC.4.P.10.1: Observe and describe some basic forms of energy, including light, heat, sound, electrical, and the energy of motion.

5th grade:

SC.5.P.8.4: Explore the scientific theory of atoms (also called atomic theory) by recognizing that all matter is composed of parts that are too small to be seen without magnification.

SC.5.P.10.1: Investigate and describe some basic forms of energy, including light, heat, sound, electrical, chemical, and mechanical.

SC.5.P.10.4: Investigate and explain that electrical energy can be transformed into heat, light, and sound energy, as well as the energy of motion.

SC.5.P.11.1: Investigate and illustrate the fact that the flow of electricity requires a closed circuit (a complete loop).

SC.5.P.11.2: Identify and classify materials that conduct electricity and materials that do not.

7th grade:

SC.7.P.11.2: Investigate and describe the transformation of energy from one form to another.

8th grade:

SC.8.P.8.7: Explore the scientific theory of atoms (also known as atomic theory) by recognizing that atoms are the smallest unit of an element and are composed of sub-atomic particles (electrons surrounding a nucleus containing protons and neutrons).



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9th – 12th grade:

SC.912.P.8.4: Explore the scientific theory of atoms (also known as atomic theory) by describing the structure of atoms in terms of protons, neutrons and electrons, and differentiate among these particles in terms of their mass, electrical charges and locations within the atom.

SC.912.P.10.14: Differentiate among conductors, semiconductors, and insulators.

SC.912.P.10.15: Investigate and explain the relationships among current, voltage, resistance, and power.



School Program Description & Benchmarks

Reptile Encounters (1st – 3rd grade) (*Small Group program– 33 max*)

What makes a reptile unique? Students will compare and contrast features of reptiles with characteristics of other classes of vertebrates. (Hands-on interaction with the animals will depend upon their health and availability.)

1st grade:

SC.1.L.14.1: Make observations of living things and their environment using the five senses.

SC.1.L.14.3: Differentiate between living and nonliving things.

SC.1.L.16.1: Make observations that plants and animals closely resemble their parents, but variations exist among individuals within a population.

SC.1.L.17.1: Through observation, recognize that all plants and animals, including humans, need the basic necessities of air, water, food, and space.

SC.1.N.1.1: Raise questions about the natural world, investigate them in teams through free exploration, and generate appropriate explanations based on those explorations.

SC.1.N.1.4: Ask "how do you know?" in appropriate situations.

SC.1.P.8.1: Sort objects by observable properties, such as size, shape, color, temperature (hot or cold), weight (heavy or light), texture, and whether objects sink or float.

2nd grade:

SC.2.L.16.1: Observe and describe major stages in the life cycles of plants and animals, including beans and butterflies.

SC.2.L.17.2: Recognize and explain that living things are found all over Earth, but each is only able to live in habitats that meet its basic needs.

SC.2.N.1.1: Raise questions about the natural world, investigate them in teams through free exploration and systematic observations, and generate appropriate explanations based on those explorations.



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SC.2.N.1.3: Ask "how do you know?" in appropriate situations and attempt reasonable answers when asked the same question by others.

SC.2.N.1.6: Explain how scientists alone or in groups are always investigating new ways to solve problems.

SC.2.P.8.1: Observe and measure objects in terms of their properties, including size, shape, color, temperature, weight, texture, sinking or floating in water, and attraction and repulsion of magnets.

3rd grade:

SC.3.L.15.1: Classify animals into major groups (mammals, birds, reptiles, amphibians, fish, arthropods, vertebrates and invertebrates, those having live births and those which lay eggs) according to their physical characteristics and behaviors.

SC.3.N.1.1: Raise questions about the natural world, investigate them individually and in teams through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.

SC.3.N.1.3: Keep records as appropriate, such as pictorial, written, or simple charts and graphs, of investigations conducted.

SC.3.N.1.4: Recognize the importance of communication among scientists.

SC.3.N.1.5: Recognize that scientists question, discuss, and check each others' evidence and explanations.

SC.3.N.1.6: Infer based on observation.



School Program Description & Benchmarks

Rockin' Geologist (4th, 6th, 7th grades) (*Small Group program– 33 max*)

What's the difference between a rock, mineral and fossil? Students will learn the differences between the three, observe examples of each, and learn to identify the three different types of rock and how they are formed. Students will also work in small groups to identify mystery mineral samples through observing physical properties such as luster, cleavage structure, color, streak color, and hardness.

4th grade:

SC.4.E.6.1: Identify the three categories of rocks: igneous, (formed from molten rock); sedimentary (pieces of other rocks and fossilized organisms); and metamorphic (formed from heat and pressure).

SC.4.E.6.2: Identify the physical properties of common earth-forming minerals, including hardness, color, luster, cleavage, and streak color, and recognize the role of minerals in the formation of rocks.

SC.4.E.6.3: Recognize that humans need resources found on Earth and that these are either renewable or nonrenewable.

SC.4.E.6.4: Describe the basic differences between physical weathering (breaking down of rock by wind, water, ice, temperature change, and plants) and erosion (movement of rock by gravity, wind, water, and ice).

SC.4.N.1.1: Raise questions about the natural world, use appropriate reference materials that support understanding to obtain information (identifying the source), conduct both individual and team investigations through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.

6th grade:

SC.6.E.6.1: Describe and give examples of ways in which Earth's surface is built up and torn down by physical and chemical weathering, erosion, and deposition.

7th grade:



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SC.7.E.6.1: Describe the layers of the solid Earth, including the lithosphere, the hot convecting mantle, and the dense metallic liquid and solid cores.

SC.7.E.6.2: Identify the patterns within the rock cycle and relate them to surface events (weathering and erosion) and sub-surface events (plate tectonics and mountain building).

SC.7.E.6.5: Explore the scientific theory of plate tectonics by describing how the movement of Earth's crustal plates causes both slow and rapid changes in Earth's surface, including volcanic eruptions, earthquakes, and mountain building.

SC.7.E.6.7: Recognize that heat flow and movement of material within Earth causes earthquakes and volcanic eruptions, and creates mountains and ocean basins.



School Program Description & Benchmarks

Silly Snakes (K – 1st grade) (*Small Group program– 33 max*)

Identify patterns we see in everyday life including those in nature. We'll take a look at our snake residents as well as pictures of other types of snakes and discover their pattern of colors. Students will also assemble their own snake using a variety of colors and shapes. (Hands-on interaction with the animals will depend upon their health and availability.)

Kindergarten:

SC.K.L.14.3: Observe plants and animals, describe how they are alike and how they are different in the way they look and in the things they do.

SC.K.N.1.2: Make observations of the natural world and know that they are descriptors collected using the five senses.

SC.K.N.1.4: Observe and create a visual representation of an object which includes its major features.

SC.K.N.1.5: Recognize that learning can come from careful observation.

MA.K.A.1.1: Represent quantities with numbers up to 20, verbally, in writing, and with manipulatives.

MA.K.A.4.1: Identify and duplicate simple number and non-numeric repeating and growing patterns.

MA.K.G.2.1: Describe, sort and re-sort objects using a variety of attributes such as shape, size, and position.

MA.K.G.2.2: Identify, name, describe and sort basic two-dimensional shapes such as squares, triangles, circles, rectangles, hexagons, and trapezoids.

MA.K.G.2.4: Interpret the physical world with geometric shapes, and describe it with corresponding vocabulary.

MA.K.G.2.5: Use basic shapes, spatial reasoning, and manipulatives to model objects in the environment and to construct more complex shapes.

1st grade:



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SC.1.L.14.1: Make observations of living things and their environment using the five senses.

SC.1.L.16.1: Make observations that plants and animals closely resemble their parents, but variations exist among individuals within a population.

SC.1.N.1.1: Raise questions about the natural world, investigate them in teams through free exploration, and generate appropriate explanations based on those explorations.

SC.1.N.1.2: Using the five senses as tools, make careful observations, describe objects in terms of number, shape, texture, size, weight, color, and motion, and compare their observations with others.

SC.1.N.1.3: Keep records as appropriate – such as pictorial and written records – of investigations conducted.

SC.1.P.8.1: Sort objects by observable properties, such as size, shape, color, temperature (hot or cold), weight (heavy or light), texture, and whether objects sink or float.

MA.1.A.4.1: Extend repeating and growing patterns, fill in missing terms, and justify reasoning.

MA.1.G.3.1: Use appropriate vocabulary to compare shapes according to attributes and properties such as number and lengths of sides and number of vertices.



School Program Description & Benchmarks

Six Plant Parts (K – 3rd grade) (*Small Group program– 33 max*)

Learn about the six parts of a plant in a fun hands-on way! Students will learn about plant part functions and how they are used as food while constructing a crazy model plant they will not easily forget.

Kindergarten:

SC.K.L.14.2: Recognize that some books and other media portray animals and plants with characteristics and behaviors they do not have in real life.

SC.K.L.14.3: Observe plants and animals, describe how they are alike and how they are different in the way they look and in the things they do.

SC.K.N.1.2: Make observations of the natural world and know that they are descriptors collected using the five senses.

SC.K.N.1.3: Keep records as appropriate -- such as pictorial records -- of investigations conducted.

SC.K.N.1.4: Observe and create a visual representation of an object which includes its major features.

SC.K.N.1.5: Recognize that learning can come from careful observation.

1st grade:

SC.1.L.14.1: Make observations of living things and their environment using the five senses.

SC.1.L.14.2: Identify the major parts of plants, including stem, roots, leaves, and flowers.

SC.1.L.14.3: Differentiate between living and nonliving things.

SC.1.L.16.1: Make observations that plants and animals closely resemble their parents, but variations exist among individuals within a population.

SC.1.L.17.1: Through observation, recognize that all plants and animals, including humans, need the basic necessities of air, water, food, and space.



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SC.1.N.1.3: Keep records as appropriate – such as pictorial and written records – of investigations conducted.

SC.1.N.1.4: Ask "how do you know?" in appropriate situations.

2nd grade:

SC.2.L.16.1: Observe and describe major stages in the life cycles of plants and animals, including beans and butterflies.

SC.2.L.17.1: Compare and contrast the basic needs that all living things, including humans, have for survival.

SC.2.L.17.2: Recognize and explain that living things are found all over Earth, but each is only able to live in habitats that meet its basic needs.

SC.2.N.1.3: Ask "how do you know?" in appropriate situations and attempt reasonable answers when asked the same question by others.

3rd grade:

SC.3.L.14.1: Describe structures in plants and their roles in food production, support, water and nutrient transport, and reproduction.

SC.3.L.14.2: Investigate and describe how plants respond to stimuli (heat, light, gravity), such as the way plant stems grow toward light and their roots grow downward in response to gravity.

SC.3.L.17.2: Recognize that plants use energy from the Sun, air, and water to make their own food.

SC.3.N.1.6: Infer based on observation.

SC.3.N.3.2: Recognize that scientists use models to help understand and explain how things work.

SC.3.N.3.3: Recognize that all models are approximations of natural phenomena; as such, they do not perfectly account for all observations.



School Program Description & Benchmarks



School Program Description & Benchmarks

Sky Time (4th, 8th grade) (*Small Group program– 33 max*)

How does time happen in space? Students will take on the role of the Earth to discover how the movements and tilt of the Earth determines the position of the Sun in our sky and our changing seasons. Students will also discover how days, weeks, months and years occur due to the movement of the Earth as well as why we see different constellations during specific times of the year.

4th grade:

SC.4.E.5.1: Observe that the patterns of stars in the sky stay the same although they appear to shift across the sky nightly, and different stars can be seen in different seasons.

SC.4.E.5.3: Recognize that Earth revolves around the Sun in a year and rotates on its axis in a 24-hour day.

SC.4.E.5.4: Relate that the rotation of Earth (day and night) and apparent movements of the Sun, Moon, and stars are connected.

8th grade:

SC.8.E.5.2: Recognize that the universe contains many billions of galaxies and that each galaxy contains many billions of stars.

SC.8.E.5.8: Compare various historical models of the Solar System, including geocentric and heliocentric.

SC.8.E.5.9: Explain the impact of objects in space on each other including:

1. the Sun on the Earth including seasons and gravitational attraction
2. the Moon on the Earth, including phases, tides, and eclipses, and the relative position of each body.



School Program Description & Benchmarks

Soil Searching (2nd, 4th grade) (*Small Group program– 33 max*)

Discover the “ingredients” for soil and how soil is formed. Students will also analyze soil profiles in terms of structure, color, consistence, texture, presence of carbonates, rocks and organic material to determine soil quality and type.

2nd grade:

SC.2.E.6.1: Recognize that Earth is made up of rocks. Rocks come in many sizes and shapes.

SC.2.E.6.2: Describe how small pieces of rock and dead plant and animal parts can be the basis of soil and explain the process by which soil is formed.

SC.2.E.6.3: Classify soil types based on color, texture (size of particles), the ability to retain water, and the ability to support the growth of plants.

SC.2.L.17.2: Recognize and explain that living things are found all over Earth, but each is only able to live in habitats that meet its basic needs.

SC.2.N.1.1: Raise questions about the natural world, investigate them in teams through free exploration and systematic observations, and generate appropriate explanations based on those explorations.

SC.2.N.1.3: Ask "how do you know?" in appropriate situations and attempt reasonable answers when asked the same question by others.

SC.2.P.8.1: Observe and measure objects in terms of their properties, including size, shape, color, temperature, weight, texture, sinking or floating in water, and attraction and repulsion of magnets.

4th grade:

SC.4.E.6.3: Recognize that humans need resources found on Earth and that these are either renewable or nonrenewable.

SC.4.E.6.4: Describe the basic differences between physical weathering (breaking down of rock by wind, water, ice, temperature change, and plants) and erosion (movement of rock by gravity, wind, water, and ice).



School Program Description & Benchmarks

SC.4.N.1.1: Raise questions about the natural world, use appropriate reference materials that support understanding to obtain information (identifying the source), conduct both individual and team investigations through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.

SC.4.N.1.5: Compare the methods and results of investigations done by other classmates.

SC.4.N.1.6: Keep records that describe observations made, carefully distinguishing actual observations from ideas and inferences about the observations.

SC.4.P.8.1: Measure and compare objects and materials based on their physical properties including: mass, shape, volume, color, hardness, texture, odor, taste, attraction to magnets.

SC.4.P.9.1: Identify some familiar changes in materials that result in other materials with different characteristics, such as decaying animal or plant matter, burning, rusting, and cooking.

SC.4.P.10.4: Describe how moving water and air are sources of energy and can be used to move things.



School Program Description & Benchmarks

Vibration Station (3rd – 7th grade) (*Assembly program – 60 max*)

Learn about the energy that produces sound and how we hear it. Students will also learn about frequency, pitch and amplitude as it relates to sound through creating sound effects for an old-time radio show.

3rd grade:

SC.3.N.3.2: Recognize that scientists use models to help understand and explain how things work.

SC.3.P.10.1: Identify some basic forms of energy such as light, heat, sound, electrical, and mechanical.

SC.3.P.10.2: Recognize that energy has the ability to cause motion or create change.

SC.3.N.1.6: Infer based on observation.

4th grade:

SC.4.P.10.1: Observe and describe some basic forms of energy, including light, heat, sound, electrical, and the energy of motion.

SC.4.P.10.2: Investigate and describe that energy has the ability to cause motion or create change.

SC.4.P.10.3: Investigate and explain that sound is produced by vibrating objects and that pitch depends on how fast or slow the object vibrates.

SC.4.P.12.2: Investigate and describe that the speed of an object is determined by the distance it travels in a unit of time and that objects can move at different speeds.

5th grade:

SC.5.P.10.1: Investigate and describe some basic forms of energy, including light, heat, sound, electrical, chemical, and mechanical.

SC.5.P.10.2: Investigate and explain that energy has the ability to cause motion or create change.

7th grade:



School Program Description & Benchmarks

SC.7.P.10.3: Recognize that light waves, sound waves, and other waves move at different speeds in different materials.

SC.7.P.11.2: Investigate and describe the transformation of energy from one form to another.

SC.7.P.11.3: Cite evidence to explain that energy cannot be created nor destroyed, only changed from one form to another.



School Program Description & Benchmarks

Water Cycle Boogie (1st – 3rd grade) (*Assembly program – 60 max*)

Dance the “Water Cycle Boogie” to learn about the three main parts of the water cycle! Students will act out the process of evaporation, condensation, and precipitation to determine how and why each section happens and will even see rain created indoors!

1st grade:

SC.1.E.5.4: Identify the beneficial and harmful properties of the Sun.

SC.1.E.6.1: Recognize that water, rocks, soil, and living organisms are found on Earth's surface.

SC.1.E.6.3: Recognize that some things in the world around us happen fast and some happen slowly.

SC.1.N.1.4: Ask "how do you know?" in appropriate situations.

SC.1.P.12.1: Demonstrate and describe the various ways that objects can move, such as in a straight line, zigzag, back-and-forth, round-and-round, fast, and slow.

2nd grade:

SC.2.E.7.1: Compare and describe changing patterns in nature that repeat themselves, such as weather conditions including temperature and precipitation, day to day and season to season.

SC.2.E.7.2: Investigate by observing and measuring, that the Sun's energy directly and indirectly warms the water, land, and air.

SC.2.E.7.3: Investigate, observe and describe how water left in an open container disappears (evaporates), but water in a closed container does not disappear (evaporate).

SC.2.N.1.3: Ask "how do you know?" in appropriate situations and attempt reasonable answers when asked the same question by others.

SC.2.P.8.2: Identify objects and materials as solid, liquid, or gas.

SC.2.P.8.4: Observe and describe water in its solid, liquid, and gaseous states.



School Program Description & Benchmarks

3rd grade:

SC.3.N.3.2: Recognize that scientists use models to help understand and explain how things work.

SC.3.N.3.3: Recognize that all models are approximations of natural phenomena; as such, they do not perfectly account for all observations.

SC.3.P.9.1: Describe the changes water undergoes when it changes state through heating and cooling by using familiar scientific terms such as melting, freezing, boiling, evaporation, and condensation.

SC.3.E.6.1: Demonstrate that radiant energy from the Sun can heat objects and when the Sun is not present, heat may be lost.



School Program Description & Benchmarks

Weather Works (6th, 9th – 12th grade) (*Small Group program– 33 max*)

Do you have what it takes to be a meteorologist? Students will learn about some basic tools of the trade and use them to classify cloud types, estimate cloud coverage, and collect weather data such as humidity, air pressure, rainfall and air/ground temperature.

6th grade:

SC.6.E.7.2: Investigate and apply how the cycling of water between the atmosphere and hydrosphere has an effect on weather patterns and climate.

SC.6.E.7.3: Describe how global patterns such as the jet stream and ocean currents influence local weather in measurable terms such as temperature, air pressure, wind direction and speed, and humidity and precipitation.

SC.6.E.7.5: Explain how energy provided by the sun influences global patterns of atmospheric movement and the temperature differences between air, water, and land.

SC.6.E.7.6: Differentiate between weather and climate.

SC.6.N.1.4: Discuss, compare, and negotiate methods used, results obtained, and explanations among groups of students conducting the same investigation.

9th – 12th grade:

SC.912.E.7.4: Summarize the conditions that contribute to the climate of a geographic area, including the relationships to lakes and oceans.

SC.912.E.7.5: Predict future weather conditions based on present observations and conceptual models and recognize limitations and uncertainties of such predictions.

SC.912.E.7.6: Relate the formation of severe weather to the various physical factors.



School Program Description & Benchmarks

Young Issac Newton (1st – 12th grade) (*Assembly program – 60 max*)

Explore and learn about Newton's three laws of motion. Your students will participate by using everyday objects and toys to comprehend the meaning of each law.

1st grade:

SC.1.N.1.1: Raise questions about the natural world, investigate them in teams through free exploration, and generate appropriate explanations based on those explorations.

SC.1.N.1.2: Using the five senses as tools, make careful observations, describe objects in terms of number, shape, texture, size, weight, color, and motion, and compare their observations with others.

SC.1.N.1.4: Ask "how do you know?" in appropriate situations.

SC.1.P.12.1: Demonstrate and describe the various ways that objects can move, such as in a straight line, zigzag, back-and-forth, round-and-round, fast, and slow.

SC.1.P.13.1: Demonstrate that the way to change the motion of an object is by applying a push or a pull.

2nd grade:

SC.2.N.1.1: Raise questions about the natural world, investigate them in teams through free exploration and systematic observations, and generate appropriate explanations based on those explorations.

SC.2.N.1.3: Ask "how do you know?" in appropriate situations and attempt reasonable answers when asked the same question by others.

SC.2.P.13.1: Investigate the effect of applying various pushes and pulls on different objects.

SC.2.P.13.3: Recognize that objects are pulled toward the ground unless something holds them up.

SC.2.P.13.4: Demonstrate that the greater the force (push or pull) applied to an object, the greater the change in motion of the object.



School Program Description & Benchmarks

3rd grade:

SC.3.E.5.4: Explore the Law of Gravity by demonstrating that gravity is a force that can be overcome.

SC.3.N.1.1: Raise questions about the natural world, investigate them individually and in teams through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.

SC.3.N.1.6: Infer based on observation.

SC.3.P.10.2: Recognize that energy has the ability to cause motion or create change.

4th grade:

SC.4.P.12.1: Recognize that an object in motion always changes its position and may change its direction.

SC.4.P.12.2: Investigate and describe that the speed of an object is determined by the distance it travels in a unit of time and that objects can move at different speeds.

5th grade:

SC.5.P.13.1: Identify familiar forces that cause objects to move, such as pushes or pulls, including gravity acting on falling objects.

SC.5.P.13.2: Investigate and describe that the greater the force applied to it, the greater the change in motion of a given object.

SC.5.P.13.3: Investigate and describe that the more mass an object has, the less effect a given force will have on the object's motion.

SC.5.P.13.4: Investigate and explain that when a force is applied to an object but it does not move, it is because another opposing force is being applied by something in the environment so that the forces are balanced.

6th grade:



School Program Description & Benchmarks

SC.6.P.13.2: Explore the Law of Gravity by recognizing that every object exerts gravitational force on every other object and that the force depends on how much mass the objects have and how far apart they are.

SC.6.P.13.3: Investigate and describe that an unbalanced force acting on an object changes its speed, or direction of motion, or both.

8th grade:

SC.8.P.8.2: Differentiate between weight and mass recognizing that weight is the amount of gravitational pull on an object and is distinct from, though proportional to, mass.

9th – 12th grades:

SC.912.P.12.3: Interpret and apply Newton's three laws of motion.