



School Program Description & Benchmarks

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

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.

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



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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.



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Ooey Goey Gloop (K – 3rd grade) (*Small Group program– 30 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.



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Planetary Shuffle (K – 3rd, 5th grade) (*Small Group program– 30 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.



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Power Up (4th – 12th grade) (*Small Group program– 30 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.



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Rockin' Geologist (4th, 6th, 7th grades) (*Small Group program– 30 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.



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Six Plant Parts (K – 3rd grade) (*Small Group program– 30 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.



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Sky Time (4th, 8th grade) (*Small Group program– 30 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.



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Soil Searching (2nd, 4th grade) (*Small Group program– 30 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).



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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.



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

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:



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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.



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

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.



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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:



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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.