LEGO® Education Alignment to PA STEELS 2022 - Science

Grade	Discipline	Strand	Code	Performance Expectation (Standard) *Students who demonstrate understanding can...*	Clarifying Statement	Solution	Lessons
K	Life Science	From Molecules to Organisms: Structures and Processes	3.1.K.A	use observations to describe patterns of what plants and animals (including humans) need to survive.	Examples of patterns could include that animals need to take in food but plants do not; the different kinds of food needed by different types of animals; the requirement of plants to have light; and, that all living things need water.	STEAMPark	Needs of Plants and Animals (PK-K): Plant and Animal Needs
						CodingExpress	Needs of Plants and Animals (PK-K): Trollie: My Basic Needs Needs of Plants and Animals (PK-K): Journey to Different Habitats
K	Physical Science	Motion and Stability: Forces and Interactions	3.2.K.A	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.	Examples of problems requiring a solution could include having a marble or other object move a certain distance, follow a particular path, and knock down other objects. Examples of solutions could include tools such as a ramp to increase the speed of the object and a structure that would cause an object such as a marble or ball to turn.	BricQMotionEssential	Train to Win (K-2): Dog Obstacle Course Train to Win (K-2): Get Up and Dance Train to Win (K-2): Hockey Practice Train to Win (K-2): Push Car Derby Train to Win (K-2): Relay Race Train to Win (K-2): Sail Car Train to Win (K-2): Tightrope Walkers
						STEAMPark	STEAM Park (PK-K): Chain Reaction STEAM Park (PK-K): Gears SP Maker (PK-K): Make a Fun Cannon Game
K	Physical Science	Motion and Stability: Forces and Interactions	3.2.K.B	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.	Examples of pushes or pulls could include a string attached to an object being pulled, a person pushing an object, a person stopping a rolling ball, and two objects colliding and pushing on each other.	BricQMotionEssential	Train to Win (K-2): Dog Obstacle Course Train to Win (K-2): Get Up and Dance Train to Win (K-2): Hockey Practice Train to Win (K-2): Push Car Derby Train to Win (K-2): Relay Race Train to Win (K-2): Sail Car Train to Win (K-2): Tightrope Walkers
						STEAMPark	STEAM Park (PK-K): Moving on Water STEAM Park (PK-K): Chain Reaction STEAM Park (PK-K): Gears STEAM Park (PK-K): Ramps
K	Physical Science	Energy	3.2.K.C	make observations to determine the effect of sunlight on Earth's surface.	Examples of Earth's surface could include sand, soil, rocks, and water	STEAMPark	Weather (PK-K): Playground
K	Physical Science	Energy	3.2.K.D	use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.	Examples of structures could include umbrellas, canopies, and tents that minimize the warming effect of the sun	STEAMPark	Weather (PK-K): Playground Weather (PK-K): Animal Shelter
K	Earth and Space Sciences	Earth's Systems	3.3.K.A	use and share observations of local weather conditions to describe patterns over time.	Examples of qualitative observations could include descriptions of the weather (such as sunny, cloudy, rainy, and warm); examples of quantitative observations could include numbers of sunny, windy, and rainy days in a month. Examples of patterns could include that it is usually cooler in the morning than in the afternoon and the number of sunny days versus cloudy days in different months.	STEAMPark	Weather (PK-K): Mr. Bear's Forecast Weather (PK-K): Four Seasons
K	Earth and Space Sciences	Earth's Systems	3.3.K.B	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.	STEAMPark	Needs of Plants and Animals (PK-K): Plants and Animals Change the Environment Needs of Plants and Animals (PK-K): People Helping the Environment

K	Earth and Space Sciences	Earth and Human Activity	3.3.K.C	use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.	Examples of relationships could include that deer eat buds and leaves, therefore, they usually live in forested areas; and, grasses need sunlight so they often grow in meadows. Plants, animals, and their surroundings make up a system.	CodingExpress	Needs of Plants and Animals (PK-K): Journey
K	Earth and Space Sciences	Earth and Human Activity	3.3.K.D	ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.	Emphasis is on local forms of severe weather.	STEAMPark	Weather (PK-K): Mr. Bear's Forecast
K	Earth and Space Sciences	Earth and Human Activity	3.3.K.E	communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.	Examples of human impact on the land could include cutting trees to produce paper and using resources to produce bottles. Examples of solutions could include reusing paper and recycling cans and bottles.	STEAMPark	Needs of Plants and Animals (PK-K): People Helping the Environment
1	Life Science	From Molecules to Organisms: Structures and Processes	3.1.1.A	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.	Examples of human problems that can be solved by mimicking plant or animal solutions could include designing clothing or equipment to protect bicyclists by mimicking turtle shells, acorn shells, and animal scales; stabilizing structures by mimicking animal tails and roots on plants; keeping out intruders by mimicking thorns on branches and animal quills; and, detecting intruders by mimicking eyes and ears.	SPIKEEssential	Science - See It! Hear It! Build It! (G1): Using Ideas from Nature
1	Life Science	From Molecules to Organisms: Structures and Processes	3.1.1.B	read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.	Examples of patterns of behaviors could include the signals that offspring make (such as crying, cheeping, and other vocalizations) and the responses of the parents (such as feeding, comforting, and protecting the offspring).	StoryTales	Plants and Animals (PK-K): Baby Animal Stories
1	Life Science	Heredity: Inheritance and Variation of Traits	3.1.1.C	make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.	Examples of patterns could include features plants or animals share. Examples of observations could include leaves from the same kind of plant are the same shape but can differ in size; and, a particular breed of dog looks like its parents but is not exactly the same.	StoryTales	Plants and Animals (PK-K): Animal Parents and Their Young Plants and Animals (PK-K): Plants Young and Old
1	Physical Science	Waves and Their Applications in Technologies for Information Transfer	3.2.1.A	plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.	Examples of vibrating materials that make sound could include tuning forks and plucking a stretched string. Examples of how sound can make matter vibrate could include holding a piece of paper near a speaker making sound and holding an object near a vibrating tuning fork.	SPIKEEssential	Science - See It! Hear It! Build It! (G1): Musical Vibration
1	Physical Science	Waves and Their Applications in Technologies for Information Transfer	3.2.1.B	make observations to construct an evidence-based account that objects can be seen only when illuminated.	Examples of observations could include those made in a completely dark room, a pinhole box, and a video of a cave explorer with a flashlight. Illumination could be from an external light source or by an object giving off its own light.	SPIKEEssential	Great Adventures (1-2): Cave Car Science - See It! Hear It! Build It! (G1): Illumination
1	Physical Science	Waves and Their Applications in Technologies for Information Transfer	3.2.1.C	plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light.	Examples of materials could include those that are transparent (such as clear plastic), translucent (such as wax paper), opaque (such as cardboard), and reflective (such as a mirror).	SPIKEEssential	Science - See It! Hear It! Build It! (G1): Illumination Science - See It! Hear It! Build It! (G1): Transparency
1	Physical Science	Waves and Their Applications in Technologies for Information Transfer	3.2.1.D	use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.	Examples of devices could include a light source to send signals, paper cup and string “telephones,” and a pattern of drum beats.	SPIKEEssential	Great Adventures (1-2): Animal Alarm Science - See It! Hear It! Build It! (G1): Musical Vibration Science - See It! Hear It! Build It! (G1): Communicate with Light and Sound
1	Earth and Space Sciences	Earth’s Place in the Universe	3.3.1.A	use observations of the sun, moon, and stars to describe patterns that can be predicted.	Examples of patterns could include that the sun and moon appear to rise in one part of the sky, move across the sky, and set; and stars other than our sun are visible at night but not during the day.		
1	Earth and Space Sciences	Earth’s Place in the Universe	3.3.1.B	Make observations at different times of year to relate the amount of daylight to the time of year.	Emphasis is on relative comparisons of the amount of daylight in the winter to the amount in the spring or fall.		

2	Life Science	Ecosystems: Interactions, Energy, and Dynamics	3.1.2.A	plan and conduct an investigation to determine if plants need sunlight and water to grow.	N/A		
2	Life Science	Ecosystems: Interactions, Energy, and Dynamics	3.1.2.B	develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.	N/A	SPIKEEssential	Science in Nature and Our Daily Life (G2): Pollination
2	Life Science	Biological Evolution: Unity and Diversity	3.1.2.C	make observations of plants and animals to compare the diversity of life in different habitats.	Emphasis is on the diversity of living things in each of a variety of different habitats.	SPIKEEssential	Science in Nature and Our Daily Life (G2): Habitats
2	Physical Science	Matter and Its Interactions	3.2.2.A	plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.	Observations could include color, texture, hardness, and flexibility. Patterns could include the similar properties that different materials share.	SPIKEEssential	Science in Nature and Our Daily Life (G2): Redesigning to Make New Objects Science in Nature and Our Daily Life (G2): Classify and Choose Materials
2	Physical Science	Matter and Its Interactions	3.2.2.B	analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.	Examples of properties could include, strength, flexibility, hardness, texture, and absorbency.	SPIKEEssential	Amazing Amusement Park (1-2): Classic Carousel Amazing Amusement Park (1-2): Snack Stand Amazing Amusement Park (1-2): The Fast Lane Amazing Amusement Park (1-2): The Most Amazing Amusement Park Amazing Amusement Park (1-2): The Perfect Swing Amazing Amusement Park (1-2): The Spinning Ferris Wheel Amazing Amusement Park (1-2): Twirling Teacups Great Adventures (1-2): Animal Alarm Great Adventures (1-2): Arctic Ride Great Adventures (1-2): Cave Car Great Adventures (1-2): The Great Desert Adventure Great Adventures (1-2): Treehouse Camp Great Adventures (1-2): Underwater Quest
2	Physical Science	Matter and Its Interactions	3.2.2.C	make observations 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.	Examples of pieces could include blocks, building bricks, or other assorted small objects.	SPIKEEssential	Science in Nature and Our Daily Life (G2): Redesigning to Make New Objects Great Adventures (1-2): Boat Trip
2	Physical Science	Matter and Its Interactions	3.2.2.D	construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.	Examples of reversible changes could include materials such as water and butter at different temperatures. Examples of irreversible changes could include cooking an egg, freezing a plant leaf, and heating paper.		
2	Earth and Space Sciences	Earth's Place in the Universe	3.3.2.A	use information from several sources to provide evidence that Earth events can occur quickly or slowly.	Examples of events and timescales could include volcanic explosions and earthquakes, which happen quickly and erosion of rocks, which occurs slowly.	SPIKEEssential	Science in Nature and Our Daily Life (G2): Protection from Wind
2	Earth and Space Sciences	Earth's Systems	3.3.2.B	compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.	Examples of solutions could include different designs of dikes and windbreaks to hold back wind and water, and different designs for using shrubs, grass, and trees to hold back the land.	SPIKEEssential	Science in Nature and Our Daily Life (G2): Protection from Wind
2	Earth and Space Sciences	Earth's Systems	3.3.2.C	develop a model to represent the shapes and kinds of land and bodies of water in an area.	N/A		
2	Earth and Space Sciences	Earth's Systems	3.3.2.D	obtain information to identify where water is found on Earth and that it can be solid or liquid.	N/A		
3	Life Science	From Molecules to Organisms:	3.1.3.A	develop models to describe that organisms have unique and diverse life cycles but all have in common	Changes organisms go through during their life form a pattern.	SPIKEEssential	Animals and Their Environments (G3): Life Cycles

		Structures and Processes		birth, growth, reproduction, and death.			
3	Life Science	Ecosystems: Interactions, Energy, and Dynamics	3.1.3.B	construct an argument that some animals form groups that help members survive.	N/A	SPIKEEssential	Animals and Their Environments (G3): Animal Behavior
3	Life Science	Heredity: Inheritance and Variation of Traits	3.1.3.C	analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.	Patterns are the similarities and differences in traits shared between offspring and their parents, or among siblings. Emphasis is on organisms other than humans.		
3	Life Science	Heredity: Inheritance and Variation of Traits	3.1.3.D	use evidence to support the explanation that traits can be influenced by the environment.	Examples of the environment affecting a trait could include normally tall plants grown with insufficient water are stunted; and, a pet dog that is given too much food and little exercise may become overweight.		
3	Life Science	Biological Evolution: Unity and Diversity	3.1.3.E	analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.	Examples of data could include type, size, and distributions of fossil organisms. Examples of fossils and environments could include marine fossils found on dry land, tropical plant fossils found in Arctic areas, and fossils of extinct organisms.		
3	Life Science	Biological Evolution: Unity and Diversity	3.1.3.F	use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.	Examples of cause and effect relationships could be plants that have larger thorns than other plants may be less likely to be eaten by predators; and, animals that have better camouflage coloration than other animals may be more likely to survive and therefore more likely to leave offspring.	SPIKEEssential	Animals and Their Environments (G3): Animals in Their Habitats
3	Life Science	Biological Evolution: Unity and Diversity	3.1.3.G	construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.	Examples of evidence could include needs and characteristics of the organisms and habitats involved. The organisms and their habitat make up a system in which the parts depend on each other.	SPIKEEssential	Animals and Their Environments (G3): Animals in Their Habitats
3	Life Science	Biological Evolution: Unity and Diversity	3.1.3.H	make a claim supported by evidence about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.	Examples of environmental changes could include changes in land characteristics, water distribution, temperature, food, and other organisms.	BricQMotionEssential	Essential Combined (3-5): Safe Crossing
						SPIKEEssential	Animals and Their Environments (G3): Solving Problems When Environments Change
3	Physical Science	Motion and Stability: Forces and Interactions	3.2.3.A	make and communicate observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.	Examples of motion with a predictable pattern could include a child swinging in a swing, a ball rolling back and forth in a bowl, and two children on a see-saw.	BricQMotionEssential	Winning with Science (3-5): Bobsled Winning with Science (3-5): Free Throw Winning with Science (3-5): Race Car Winning with Science (3-5): Track and Field
						SPIKEEssential	Crazy Carnival Games (3-5): A-Maze-Ing Crazy Carnival Games (3-5): Avoid the Edge Crazy Carnival Games (3-5): Bowling Fun Crazy Carnival Games (3-5): Creative Carnival Games Crazy Carnival Games (3-5): High Stick Hockey Crazy Carnival Games (3-5): Junior Pinball Crazy Carnival Games (3-5): Mini Mini-Golf Happy Traveler (3-5): Cable Car Happy Traveler (3-5): Get Around Town
3	Physical Science	Motion and Stability: Forces and Interactions	3.2.3.B	plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.	Examples could include an unbalanced force on one side of a ball can make it start moving; and, balanced forces pushing on a box from both sides will not produce any motion at all.	BricQMotionEssential	Winning with Science (3-5): Cheering Crowd Winning with Science (3-5): Gravity Car Derby Winning with Science (3-5): Track and Field Winning with Science (3-5): Weightlifter

3	Physical Science	Motion and Stability: Forces and Interactions	3.2.3.C	ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.	Examples of an electric force could include the force on hair from an electrically charged balloon and the electrical forces between a charged rod and pieces of paper; examples of a magnetic force could include the force between two permanent magnets, the force between an electromagnet and steel paper clips, and the force exerted by one magnet versus the force exerted by two magnets. Examples of cause and effect relationships could include how the distance between objects affects strength of the force and how the orientation of magnets affects the direction of the magnetic force.		
3	Physical Science	Motion and Stability: Forces and Interactions	3.2.3.D	define a simple design problem that can be solved by applying scientific ideas about magnets.	Examples of problems could include constructing a latch to keep a door shut and creating a device to keep two moving objects from touching each other.		
3	Earth and Space Sciences	Earth's Systems	3.3.3.A	represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.	Examples of data could include average temperature, precipitation, and wind direction.		
3	Earth and Space Sciences	Earth's Systems	3.3.3.B	obtain and combine information to describe climates in different regions of the world.	N/A		
3	Earth and Space Sciences	Earth and Human Activity	3.3.3.C	make a claim supported by evidence about the merit of a design solution that reduces the impacts of a weather-related hazard.	Examples of design solutions to weather-related hazards could include barriers to prevent flooding, wind resistant roofs, and lightning rods.	SPIKEEssential	Animals and Their Environments (G3): Preparing for the Weather
4	Life Science	From Molecules to Organisms: Structures and Processes	3.1.4.A	construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.	Examples of structures could include thorns, stems, roots, colored petals, heart, stomach, lung, brain, and skin.	BricQMotionEssential	Essential Combined (3-5): Create a Critter
4	Life Science	From Molecules to Organisms: Structures and Processes	3.1.4.B	use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.	Emphasis is on systems of information transfer.	SPIKEEssential	Science Connections (G4): How Eyes See
4	Physical Science	Energy	3.2.4.A	use evidence to construct an explanation relating the speed of an object to the energy of that object.	N/A	SPIKEEssential	Crazy Carnival Games (3-5): Mini Mini-Golf
4	Physical Science	Energy	3.2.4.B	make and communicate observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.	N/A	SPIKEEssential	Crazy Carnival Games (3-5): A-Maze-Ing Crazy Carnival Games (3-5): Avoid the Edge Crazy Carnival Games (3-5): Bowling Fun Crazy Carnival Games (3-5): Creative Carnival Games Crazy Carnival Games (3-5): High Stick Hockey Crazy Carnival Games (3-5): Junior Pinball Crazy Carnival Games (3-5): Mini Mini-Golf
4	Physical Science	Energy	3.2.4.C	ask questions and predict outcomes about the changes in energy that occur when objects collide.	Emphasis is on the change in the energy due to the change in speed, not on the forces, as objects interact.	SPIKEEssential	Crazy Carnival Games (3-5): A-Maze-Ing Crazy Carnival Games (3-5): Bowling Fun Crazy Carnival Games (3-5): Creative Carnival Games Crazy Carnival Games (3-5): High Stick Hockey
4	Physical Science	Energy	3.2.4.D	apply scientific ideas to design, test, and refine a device that converts energy from one form to another.	Examples of devices could include electric circuits that convert electrical energy into motion energy of a vehicle, light, or sound; and, a passive solar heater that converts light into heat. Examples of constraints could include the materials, cost, or time to design the device.	SPIKEEssential	Crazy Carnival Games (3-5): Avoid the Edge Crazy Carnival Games (3-5): Junior Pinball

4	Physical Science	Waves and Their Applications in Technologies for Information Transfer	3.2.4.E	develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move.	Examples of models could include diagrams, analogies, and physical models using wire to illustrate wavelength and amplitude of waves.		
4	Physical Science	Waves and Their Applications in Technologies for Information Transfer	3.2.4.F	develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.	N/A	SPIKEEssential	Science Connections (G4): How Eyes See
4	Physical Science	Waves and Their Applications in Technologies for Information Transfer	3.2.4.G	generate and compare multiple solutions that use patterns to transfer information.	Examples of solutions could include drums sending coded information through sound waves, using a grid of 1's and 0's representing black and white to send information about a picture, and using Morse code to send text.	SPIKEEssential	Crazy Carnival Games (3-5): A-Maze-Ing Crazy Carnival Games (3-5): Avoid the Edge Crazy Carnival Games (3-5): Bowling Fun Crazy Carnival Games (3-5): Creative Carnival Games Crazy Carnival Games (3-5): High Stick Hockey Crazy Carnival Games (3-5): Junior Pinball Crazy Carnival Games (3-5): Mini Mini-Golf Science Connections (G4): Information Transfer
4	Earth and Space Sciences	Earth's Place in the Universe	3.3.4.A	identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.	Examples of evidence from patterns could include rock layers with marine shell fossils above rock layers with plant fossils and no shells, indicating a change from land to water over time; and, a canyon with different rock layers in the walls and a river in the bottom, indicating that over time a river cut through the rock.		
4	Earth and Space Sciences	Earth's Systems	3.3.4.B	make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.	Examples of variables to test could include angle of slope in the downhill movement of water, amount of vegetation, speed of wind, relative rate of deposition, cycles of freezing and thawing of water, cycles of heating and cooling, and volume of water flow.		
4	Earth and Space Sciences	Earth's Systems	3.3.4.C	analyze and interpret data from maps to describe patterns of Earth's features.	Maps can include topographic maps of Earth's land and ocean floor, as well as maps of the locations of mountains, continental boundaries, volcanoes, and earthquakes.		
4	Earth and Space Sciences	Earth and Human Activity	3.3.4.D	obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.	Examples of renewable energy resources could include wind energy, water behind dams, and sunlight; non-renewable energy resources are fossil fuels and fissile materials. Examples of environmental effects could include loss of habitat due to dams, loss of habitat due to mining, and air pollution from burning of fossil fuels.	SPIKEEssential	Science Connections (G4): Energy Resources
4	Earth and Space Sciences	Earth and Human Activity	3.3.4.E	generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.	Examples of solutions could include designing an earthquake resistant building and improving monitoring of volcanic activity.	SPIKEEssential	Science Connections (G4): Prepare for Natural Hazards
5	Life Science	From Molecules to Organisms: Structures and Processes	3.1.5.A	support an argument that plants get the materials they need for growth chiefly from air and water.	Emphasis is on the idea that plant matter comes mostly from air and water, not from the soil	SPIKEEssential	Quirky Creations (3-5): Big Little Helper
5	Life Science	Ecosystems: Interactions, Energy, and Dynamics	3.1.5.B	develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.	Emphasis is on the idea that matter that is not food (air, water, decomposed materials in soil) is changed by plants into matter that is food. Examples of systems could include organisms, ecosystems, and the Earth.		
5	Physical Science	Matter and Its Interactions	3.2.5.A	develop a model to describe that matter is made of particles too small to be seen.	Examples of evidence supporting a model could include adding air to expand a basketball, compressing air in a syringe, dissolving sugar in water, and evaporating salt water.	SPIKEEssential	Science We Cannot See (G5): Matter

5	Physical Science	Matter and Its Interactions	3.2.5.B	make and communicate observations and measurements to identify materials based on their properties.	Examples of materials to be identified could include baking soda and other powders, metals, minerals, and liquids. Examples of properties could include color, hardness, reflectivity, electrical conductivity, thermal conductivity, response to magnetic forces, and solubility; density is not intended as an identifiable property.		
5	Physical Science	Matter and Its Interactions	3.2.5.C	interpret and analyze data to make decisions about how to utilize materials based on their properties.	N/A		
5	Physical Science	Matter and Its Interactions	3.2.5.D	measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.	Examples of reactions or changes could include phase changes, dissolving, and mixing that form new substances.		
5	Physical Science	Matter and Its Interactions	3.2.5.E	conduct an investigation to determine whether the mixing of two or more substances results in new substances.	N/A		
5	Physical Science	Motion and Stability: Forces and Interactions	3.2.5.F	support an argument that the gravitational force exerted by Earth on objects is directed down.	"Down" is a local description of the direction that points toward the center of the spherical Earth.	SPIKEEssential	Science We Cannot See (G5): Gravity
5	Physical Science	Energy	3.2.5.G	use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.	Examples of models could include diagrams, and flow charts.	SPIKEEssential	Science We Cannot See (G5): Energy Flow
5	Earth and Space Sciences	Earth's Place in the Universe	3.3.5.A	support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth.	N/A		
5	Earth and Space Sciences	Earth's Place in the Universe	3.3.5.B	represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.	Examples of patterns could include the position and motion of Earth with respect to the sun and selected stars that are visible only in particular months.	SPIKEEssential	Science We Cannot See (G5): Daytime and Nighttime
5	Earth and Space Sciences	Earth's Systems	3.3.5.C	develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.	Examples could include the influence of the ocean on ecosystems, landform shape, and climate; the influence of the atmosphere on landforms and ecosystems through weather and climate; and the influence of mountain ranges on winds and clouds in the atmosphere. The geosphere, hydrosphere, atmosphere, and biosphere are each a system.		
5	Earth and Space Sciences	Earth's Systems	3.3.5.D	describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.	N/A		
5	Earth and Space Sciences	Earth and Human Activity	3.3.5.E	obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.	N/A	BricQMotionEssential SPIKEEssential	Essential Combined (3-5): Safe Crossing Science We Cannot See (G5): Protect the Environment
5	Earth and Space Sciences	Earth and Human Activity	3.3.5.F	generate and design possible solutions to a current environmental issue, threat, or concern.	This could include but is not limited to topics such as biodiversity, watersheds, invasive species, natural resources, etc.	SPIKEEssential	Quirky Creations (3-5): Trash Monster Machine
6-8	Life Science	Structure, Function, and Information Processing	3.1.6-8.A	conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells.	Emphasis is on developing evidence that living things are made of cells, distinguishing between living and non-living things, and understanding that living things may be made of one cell or many and varied cells.		

6-8	Life Science	Structure, Function, and Information Processing	3.1.6-8.B	develop and use a model to describe the function of a cell as a whole and the ways the parts of cells contribute to the function.	Emphasis is on the cell functioning as a whole system and the primary role of identified parts of the cell, specifically the nucleus, chloroplasts, mitochondria, cell membrane, and cell wall.		
6-8	Life Science	Structure, Function, and Information Processing	3.1.6-8.C	use arguments supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.	Emphasis is on the conceptual understanding that cells form tissues and tissues form organs specialized for particular body functions. Examples could include the interaction of subsystems within a system and the normal functioning of those systems.		
6-8	Life Science	Growth, Development, and Reproduction of Organisms	3.1.6-8.D	use arguments based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants, respectively.	Examples of behaviors that affect the probability of animal reproduction could include nest building to protect young from cold, herding of animals to protect young from predators, and vocalization of animals and colorful plumage to attract mates for breeding. Examples of animal behaviors that affect the probability of plant reproduction could include transferring pollen or seeds, and creating conditions for seed germination and growth. Examples of plant structures could include bright flowers attracting butterflies that transfer pollen, flower nectar and odors that attract insects that transfer pollen, and hard shells on nuts that squirrels bury.		
6-8	Life Science	Growth, Development, and Reproduction of Organisms	3.1.6-8.E	construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.	Examples of local environmental conditions could include availability of food, light, space, and water. Examples of genetic factors could include large breed cattle and species of grass affecting growth of organisms. Examples of evidence could include drought decreasing plant growth, fertilizer increasing plant growth, different varieties of plant seeds growing at different rates in different conditions, and fish growing larger in large ponds than they do in small ponds.		
6-8	Life Science	Matter and Energy in Organisms and Ecosystems	3.1.6-8.F	construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.	Emphasis is on tracing movement of matter and flow of energy.	SPIKEPrime	
6-8	Life Science	Matter and Energy in Organisms and Ecosystems	3.1.6-8.G	develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.	Emphasis is on describing that molecules are broken apart and put back together and that in this process, energy is released.		
6-8	Life Science	Structure, Function, and Information Processing	3.1.6-8.H	gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories.	N/A		
6-8	Life Science	Matter and Energy in Organisms and Ecosystems	3.1.6-8.I	analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.	Emphasis is on cause and effect relationships between resources and growth of individual organisms and the numbers of organisms in ecosystems during periods of abundant and scarce resources.		
6-8	Life Science	Interdependent Relationships in Ecosystems	3.1.6-8.J	construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.	Emphasis is on predicting consistent patterns of interactions in different ecosystems in terms of the relationships among and between organisms and abiotic components of ecosystems. Examples of types of interactions could include competitive, predatory, and mutually beneficial.		
6-8	Life Science	Matter and Energy in Organisms and	3.1.6-8.K	develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an	Emphasis is on describing the conservation of matter and flow of energy into and out of various ecosystems, and on defining the		

[illegible]	[illegible]	Ecosystems	[illegible]	ecosystem.	boundaries of the system.		
6-8	Life Science	Matter and Energy in Organisms and Ecosystems	3.1.6-8.L	construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.	Emphasis is on recognizing patterns in data and making warranted inferences about changes in populations, and on evaluating empirical evidence supporting arguments about changes to ecosystems.		
6-8	Life Science	Growth, Development, and Reproduction of Organisms	3.1.6-8.M	develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism.	Emphasis is on conceptual understanding that changes in genetic material may result in making different proteins.		
6-8	Life Science	Growth, Development, and Reproduction of Organisms	3.1.6-8.N	develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation.	Emphasis is on using models such as Punnett squares, diagrams, and simulations to describe the cause and effect relationship of gene transmission from parent(s) to offspring and resulting genetic variation.		
6-8	Life Science	Natural Selection and Adaptations	3.1.6-8.O	analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past.	Emphasis is on finding patterns of changes in the level of complexity of anatomical structures in organisms and the chronological order of fossil appearance in the rock layers.		
6-8	Life Science	Natural Selection and Adaptations	3.1.6-8.P	apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships	Emphasis is on explanations of the evolutionary relationships among organisms in terms of similarity or differences of the gross appearance of anatomical structures.		
6-8	Life Science	Natural Selection and Adaptations	3.1.6-8.Q	analyze displays of pictorial data to compare patterns of similarities in anatomical structures across multiple species to identify relationships not evident in the fully formed anatomy.	Emphasis is on inferring general patterns of relatedness among embryos of different organisms by comparing the macroscopic appearance of diagrams or pictures.		
6-8	Life Science	Growth, Development, and Reproduction of Organisms	3.1.6-8.R	gather and synthesize information about the technologies that have changed the way humans influence the inheritance of desired traits in organisms.	Emphasis is on synthesizing information from reliable sources about the influence of humans on genetic outcomes in artificial selection (such as genetic modification, animal husbandry, gene therapy); and, on the impacts these technologies have on society as well as the technologies leading to these scientific discoveries.		
6-8	Life Science	Natural Selection and Evolution	3.1.6-8.S	construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.	Emphasis is on using simple probability statements and proportional reasoning to construct explanations.		
6-8	Life Science	Natural Selection and Evolution	3.1.6-8.T	use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time.	Emphasis is on using mathematical models, probability statements, and proportional reasoning to support explanations of trends in changes to populations over time.		
6-8	Life Science	Interdependent Relationships in Ecosystems	3.1.6-8.U	evaluate competing design solutions for maintaining biodiversity and ecosystem services.	Examples of ecosystem services could include water purification, nutrient recycling, and prevention of soil erosion. Examples of design solution constraints could include scientific, economic, and social considerations.	BricQMotionPrime	Prime Combined (6-8): Smart House: Go Green
6-8	Physical Science	Structure and Properties of Matter	3.2.6-8.A	develop models to describe the atomic composition of	Emphasis is on developing models of molecules that vary in complexity. Examples of simple molecules could include ammonia and methanol. Examples of extended structures could include sodium chloride or diamonds. Examples of molecular level models		

6-8	Physical Science	Structure and Properties of Matter	3.2.6-8.A	simple molecules and extended structures.	sodium chloride or diamonds. Examples of molecular-level models could include drawings, 3D ball and stick structures, or computer representations showing different molecules with different types of atoms.		
6-8	Physical Science	Structure and Properties of Matter	3.2.6-8.B	develop a model that predicts and describes changes in particle motion, temperature and state of a pure substance when thermal energy is added or removed.	Emphasis is on qualitative molecular-level models of solids, liquids, and gases to show that adding or removing thermal energy increases or decreases kinetic energy of the particles until a change of state occurs. Examples of models could include drawing and diagrams. Examples of particles could include molecules or inert atoms. Examples of pure substances could include water, carbon dioxide, and helium.		
6-8	Physical Science	Structure and Properties of Matter	3.2.6-8.C	gather and make sense of information to describe that synthetic materials come from natural resources and impact society.	Emphasis is on natural resources that undergo a chemical process to form the synthetic material. Examples of new materials could include new medicine, foods, and alternative fuels.		
6-8	Physical Science	Chemical Reactions	3.2.6-8.D	analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.	Examples of reactions could include burning sugar or steel wool, fat reacting with sodium hydroxide, and mixing zinc with hydrogen chloride.		
6-8	Physical Science	Chemical Reactions	3.2.6-8.E	develop and use a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved.	Emphasis is on law of conservation of matter and on physical models or drawings, including digital forms, that represent atoms.		
6-8	Physical Science	Chemical Reactions	3.2.6-8.F	undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes.	Emphasis is on the design, controlling the transfer of energy to the environment, and modification of a device using factors such as type and concentration of a substance. Examples of designs could involve chemical reactions such as dissolving ammonium chloride or calcium chloride.		
6-8	Physical Science	Forces and Interactions	3.2.6-8.G	apply Newton's Third Law to design a solution to a problem involving the motion of two colliding objects.	Examples of practical problems could include the impact of collisions between two cars, between a car and stationary objects, and between a meteor and a space vehicle.	BricQMotionPrime	Science of Sports (6-8): Free Kick Science of Sports (6-8): Strike the Ball Prime Combined (6-8): Smart House: Go Green
6-8	Physical Science	Forces and Interactions	3.2.6-8.H	plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.	Emphasis is on balanced (Newton's First Law) and unbalanced forces in a system, qualitative comparisons of forces, mass and changes in motion (Newton's Second Law), frame of reference, and specification of units.	BricQMotionPrime	Science of Sports (6-8): Gymnast Science of Sports (6-8): Land Yacht Science of Sports (6-8): Pass the Ball Science of Sports (6-8): Ski Slope
6-8	Physical Science	Forces and Interactions	3.2.6-8.I	ask questions about data to determine the factors that affect the strength of electric and magnetic forces.	Examples of devices that use electric and magnetic forces could include electromagnets, electric motors, or generators. Examples of data could include the effect of the number of turns of wire on the strength of an electromagnet, or the effect of increasing the number or strength of magnets on the speed of an electric motor.		
6-8	Physical Science	Forces and Interactions	3.2.6-8.J	construct and present arguments using evidence to support the claim that gravitational interactions are attractive and depend on the masses of interacting objects.	Examples of evidence for arguments could include data generated from simulations or digital tools; and charts displaying mass, strength of interaction, distance from the Sun, and orbital periods of objects within the solar system.		
6-8	Physical Science	Forces and Interactions	3.2.6-8.K	conduct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other	Examples of this phenomenon could include the interactions of magnets, electrically-charged strips of tape, and electrically-charged pith balls. Examples of investigations could include first-	SPIKEPrime	Supplementary Lessons (6-8): Going the Distance

				even though the objects are not in contact.	hand experiences or simulations.		
6-8	Physical Science	Energy	3.2.6-8.L	construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass and to the speed of an object.	Emphasis is on descriptive relationships between kinetic energy and mass separately from kinetic energy and speed. Examples could include riding a bicycle at different speeds, rolling different sizes of rocks downhill, and getting hit by a wiffle ball versus a tennis ball.	BricQMotionPrime SPIKEPrime	Science of Sports (6-8): Gymnast Science of Sports (6-8): Land Yacht Science of Sports (6-8): Pass the Ball Science of Sports (6-8): Ski Slope Science of Sports (6-8): Propeller Car Training Trackers (6-8): Aim for It Training Trackers (6-8): This Is Uphill Training Trackers (6-8): Time for Squat Jumps Training Trackers (6-8): Watch Your Steps
6-8	Physical Science	Energy	3.2.6-8.M	apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer.	Examples of devices could include an insulated box, a solar cooker, and a Styrofoam cup.		
6-8	Physical Science	Energy	3.2.6-8.N	plan an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample.	Examples of experiments could include comparing final water temperatures after different masses of ice melted in the same volume of water with the same initial temperature, the temperature change of samples of different materials with the same mass as they cool or heat in the environment, or the same material with different masses when a specific amount of energy is added.		
6-8	Physical Science	Energy	3.2.6-8.O	construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.	Examples of empirical evidence used in arguments could include an inventory or other representation of the energy before and after the transfer in the form of temperature changes or motion of object.		
6-8	Physical Science	Energy	3.2.6-8.P	develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system.	Emphasis is on relative amounts of potential energy, not on calculations of potential energy. Examples of objects within systems interacting at varying distances could include: the Earth and either a roller coaster cart at varying positions on a hill or objects at varying heights on shelves, changing the direction/orientation of a magnet, and a balloon with static electrical charge being brought closer to a classmate's hair. Examples of models could include representations, diagrams, pictures, and written descriptions of systems.	SPIKEPrime	Training Trackers (6-8): The Obstacle Course
6-8	Physical Science	Waves and Electromagnetic Radiation	3.2.6-8.Q	use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave.	Emphasis is on describing waves with both qualitative and quantitative thinking.		
6-8	Physical Science	Waves and Electromagnetic Radiation	3.2.6-8.R	develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.	Emphasis is on both light and mechanical waves. Examples of models could include drawings, simulations, and written descriptions.		
6-8	Physical Science	Waves and Electromagnetic Radiation	3.2.6-8.S	integrate qualitative scientific and technical information to support the claim that digitized signals are a more reliable way to encode and transmit information than analog signals.	Emphasis is on a basic understanding that waves can be used for communication purposes. Examples could include using fiber optic cable to transmit light pulses, radio wave pulses in wifi devices, and conversion of stored binary patterns to make sound or text on a computer screen.		
6-8	Earth and Space Sciences	Space Systems	3.2.6-8.A	develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases	Examples of models can be physical, graphical, or conceptual		

[illegible]	[illegible]	[illegible]	[illegible]	eclipses of the sun and moon, and seasons.	[illegible]		
6-8	Earth and Space Sciences	Space Systems	3.3.6-8.B	develop and use a model to describe the role of gravity in the motions within galaxies and the solar system.	Emphasis for the model is on gravity as the force that holds together the solar system and Milky Way galaxy and controls orbital motions within them. Examples of models can be physical (such as the analogy of distance along a football field or computer visualizations of elliptical orbits) or conceptual (such as mathematical proportions relative to the size of familiar objects such as students' school or state).		
6-8	Earth and Space Sciences	Space Systems	3.3.6-8.C	analyze and interpret data to determine scale properties of objects in the solar system.	Emphasis is on the analysis of data from Earth-based instruments, space-based telescopes, and spacecraft to determine similarities and differences among solar system objects. Examples of scale properties include the sizes of an object's layers (such as crust and atmosphere), surface features (such as volcanoes), and orbital radius. Examples of data include statistical information, drawings and photographs, and models.		
6-8	Earth and Space Sciences	History of Earth	3.3.6-8.D	construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's 4.6-billion-year-old history.	Emphasis is on how analyses of rock formations and the fossils they contain are used to establish relative ages of major events in Earth's history. Examples of Earth's major events could range from being very recent (such as the last Ice Age or the earliest fossils of homo sapiens) to very old (such as the formation of Earth or the earliest evidence of life). Examples can include the formation of mountain chains and ocean basins, the evolution or extinction of particular living organisms, or significant volcanic eruptions.		
6-8	Earth and Space Sciences	History of Earth	3.3.6-8.E	construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.	Emphasis is on how processes change Earth's surface at time and spatial scales that can be large (such as slow plate motions or the uplift of large mountain ranges) or small (such as rapid landslides or microscopic geochemical reactions), and how many geoscience processes (such as earthquakes, volcanoes, and meteor impacts) usually behave gradually but are punctuated by catastrophic events. Examples of geoscience processes include surface weathering and deposition by the movements of water, ice, and wind. Emphasis is on geoscience processes that shape local geographic features, where appropriate.		
6-8	Earth and Space Sciences	History of Earth	3.3.6-8.F	develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.	Emphasis is on the processes of melting, crystallization, weathering, deformation, and sedimentation, which act together to form minerals and rocks through the cycling of Earth's materials.		
6-8	Earth and Space Sciences	History of Earth	3.3.6-8.G	analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.	Examples of data include similarities of rock and fossil types on different continents, the shapes of the continents (including continental shelves), and the locations of ocean structures (such as ridges, fracture zones, and trenches).		
6-8	Earth and Space Sciences	Earth's Systems	3.3.6-8.H	develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.	Emphasis is on the ways water changes its state as it moves through the multiple pathways of the hydrologic cycle. Examples of models can be conceptual or physical.		

6-8	Earth and Space Sciences	Weather and Climate	3.3.6-8.I	develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates.	Emphasis is on how patterns vary by latitude, altitude, and geographic land distribution. Emphasis of atmospheric circulation is on the sunlight-driven latitudinal banding, the Coriolis effect, and resulting prevailing winds; emphasis of ocean circulation is on the transfer of heat by the global ocean convection cycle, which is constrained by the Coriolis effect and the outlines of continents. Examples of models can be diagrams, maps and globes, or digital representations.		
6-8	Earth and Space Sciences	Weather and Climate	3.3.6-8.J	collect data to provide evidence for how the motion and complex interactions of air masses result in changes in weather conditions.	Emphasis is on how air masses flow from regions of high pressure to low pressure, causing weather (defined by temperature, pressure, humidity, precipitation, and wind) at a fixed location to change over time, and how sudden changes in weather can result when different air masses collide. Emphasis is on how weather can be predicted within probabilistic ranges. Examples of data can be provided to students (such as weather maps, diagrams, and visualizations) or obtained through laboratory experiments (such as with condensation).		
6-8	Earth and Space Sciences	Earth's Systems	3.3.6-8.K	construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.	Emphasis is on how these resources are limited and typically non-renewable, and how their distributions are significantly changing as a result of removal by humans. Examples of uneven distributions of resources as a result of past processes include but are not limited to petroleum (locations of the burial of organic marine sediments and subsequent geologic traps), metal ores (locations of past volcanic and hydrothermal activity associated with subduction zones), and soil (locations of active weathering and/or deposition of rock).		
6-8	Earth and Space Sciences	Human Impacts	3.3.6-8.L	analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.	Emphasis is on how some natural hazards, such as volcanic eruptions and severe weather, are preceded by phenomena that allow for reliable predictions, but others, such as earthquakes, occur suddenly and with no notice, and thus are not yet predictable. Examples of natural hazards can be taken from interior processes (such as earthquakes and volcanic eruptions), surface processes (such as mass wasting and tsunamis), or severe weather events (such as hurricanes, tornadoes, and floods). Examples of data can include the locations, magnitudes, and frequencies of the natural hazards. Examples of technologies can be global (such as satellite systems to monitor hurricanes or forest fires) or local (such as building basements in tornado-prone regions or reservoirs to mitigate droughts).		
6-8	Earth and Space Sciences	Human Impacts	3.3.6-8.M	apply scientific principles to design a method for monitoring and minimizing human impact on the environment.	Examples of the design process include examining human environmental impacts, assessing the kinds of solutions that are feasible, and designing and evaluating solutions that could reduce that impact. Examples of human impacts can include water usage (such as the withdrawal of water from streams and aquifers or the construction of dams and levees), land usage (such as urban development, agriculture, or the removal of wetlands), and pollution (such as of the air, water, or land).	BricQMotionPrime	Prime Combined (6-8): Smart House: Go Green
					Examples of evidence include grade-appropriate databases on human populations and the rates of consumption of food and natural resources (such as freshwater, mineral, and energy).		

6-8	Earth and Space Sciences	Human Impacts	3.3.6-8.N	construct an argument supported by evidence for how increases in human population and per capita consumption of natural resources impact Earth's systems.	Examples of impacts can include changes to the appearance, composition, and structure of Earth's systems as well as the rates at which they change. The consequences of increases in human populations and consumption of natural resources are described by science, but science does not make the decisions for the actions society takes.		
6-8	Earth and Space Sciences	Weather and Climate	3.3.6-8.O	ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.	Examples of factors include human activities (such as fossil fuel combustion, cement production, and agricultural activity) and natural processes (such as changes in incoming solar radiation or volcanic activity). Examples of evidence can include tables, graphs, and maps of global and regional temperatures, atmospheric levels of gases such as carbon dioxide and methane, and the rates of human activities. Emphasis is on the major role that human activities play in causing the rise in global temperatures.		