First Grade Science Curriculum Map

Quarter 1				
NGSSS Body of Knowledge	*Nature of Science*	*Nature of Science*	*Nature of Science*	*Nature of Science*
Unit of Study	Practice of Science	Practice of Science	Practice of Science	Practice of Science
Target Standards		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.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.N.1.1 : Raise questions about the natural world, investigate them in teams through free exploration, and generate appropriate explanations based on those explorations.
Pacing	Week 1	Weeks 2-4	Weeks 5-7	Weeks 8-9
Objective/ Learning Goal/SWBT	*Brainstorm the following: "What is science?", "What does science look like?", "How do I already use science?", "What is a scientist?". *Communicate an oral description or visual representation of what a scientist looks like. *Discuss different types of scientists (e.g., paleontologist, volcanologist, doctor, race car driver, veterinarian, student, astronaut, chef, mom, dad).	*Review the five senses used for making observations (body structure and function). *Describe an object's physical properties (e.g., number, shape, texture, size, odor, length, nonstandard weight, color, motion) using the five senses and science tools, including those that measure. *Explore the use of science tools that help scientists gather information about the world around them. *Keep records (written or pictorial) of observations (data) during investigations using the five senses and science tools as appropriate. *Discuss observational similarities and differences made during investigations with others in the class.	*Engage as scientists using the following inquiry skills: observe three similar objects and record the number of parts you see, estimate and measure the length of objects found in the classroom, estimate and measure the weight of an object using nonstandard units of measure, compare the weight (heavy/light) of two objects in the classroom using a balance, predict the number of an object that will fit into containers of different sizes and shapes, sort and classify a group of objects by the way they move and compare results with others, communicate the look and feel of objects with a partner, investigate by comparing the descriptions of two or more different kinds of matte, make a 2-dimensional and/or 3-dimensional model of an object, and sequence an event or a set of picture cards. *Ask and answer questions when a situation is unknown or not understood. *Determine appropriate situations in which to ask questions.	*Generate a list of questions about the world. *Discuss, as a class, ways to find answers to the created list of questions. *Investigate questions in teams through free exploration, such as "What happens if we...?"; "We wonder why..."; "If we..., wonder what will happen?" *Provide appropriate explanations based on those explorations. *Recognize that answers to questions can be found through investigation. *Apply new learning that results from the investigation to the real world.
Inquiry Flipcharts/Labs		*Shoebox Senses/Balancing Act p.2 *How Can We Use Our Senses p.3	*Measure Up p.4 *Holding Water/My Fingerprints p.6	*Measure Up/Animal Models p.4 *How Do We Use Inquiry Skills? p.5
Fusion Textbook		TE p.1-16	TE p.17-28	TE p.29-35

First Grade Science Curriculum Map

Quarter 2				
NGSSS Body of Knowledge	*Nature of Science/Earth Science*	*Nature of Science/Earth Science*	*Nature of Science/Earth Science*	*Nature of Science/Earth Science*
Unit of Study	Space	Space	Earth	Earth
Target Standards	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.5.3 : Investigate how magnifiers make things appear bigger and help people see things they could not see without them.	SC.1.E.5.4 : Identify the beneficial and harmful properties of the sun. 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.E.6.1 : Recognize that water, rocks, soil, and living organisms are found on Earth's surface. SC.1.E.6.2 : Describe the need for water and how to be safe around water.	SC.1.E.6.3 : Recognize that some things in the world around us happen fast and some happen slowly.
Pacing	Weeks 10-12	Weeks 10-12	Weeks 13-18 (continued to 19)	Weeks 13-18 (continued to 19)
Objective/ Learning Goal/SWBT	*Review objects that are sometimes visible in the day sky (e.g., sun, sometimes moon, clouds) and night sky (e.g., stars, clouds, moon). *Review that the sun is a star that appears larger than the other stars. *Review that the other stars appear tiny because they are farther away. *Observe and discuss that there are more stars in the sky than anyone can easily count and that stars are not scattered evenly in the sky. *Investigate how hand lenses and microscopes (and other tools like binoculars and telescopes) make things appear closer, bigger, and more detailed. *Record observations of the investigations using a hand lens in a science notebook (e.g., details on a penny, cereal, rocks, leaves). *Discuss the importance of using magnifiers to view objects.	*Identify and describe beneficial properties of the sun (e.g., light, warmth, energy for living things, solar energy). *Identify and describe harmful properties of the sun (e.g., sunburn, melting, fading, dehydration). *Compare the beneficial and harmful properties of the sun. *Apply knowledge of harmful properties of the sun to protect human body structures (sun screen, umbrella, hat, sun glasses). *Review that a force is a push or pull on an object. *Demonstrate how the Earth's gravity pulls an object toward the ground (attraction) unless something holds it up. *Explain that gravity acts on all objects on Earth even though it does not touch the objects (a non-contact force).	*Record observations of Earth's surface while walking around the school campus. *Sort and classify things collected from Earth's surface during the walk around the school into categories of their own choosing. *Discuss and compare, with a partner, the collections of things gathered during the walk around the school campus. *Distinguish between what is naturally found on Earth's surface and what is man-made. *Identify natural resources found on Earth's surface. *Identify and label the things collected during the walk that are considered natural resources. *Name places water is found on Earth's surface (e.g., rivers, lakes, ponds, ocean). *Describe the need for water. *Recognize that many organisms live in water. *Describe ways to be safe around water.	*Identify this evidence of change to Earth's surface as fast or slow. *Discuss natural processes that change the Earth's surface quickly (e.g., floods, hurricanes, tornadoes, earthquakes, volcanoes, fires, tsunamis). *Investigate ways that Earth's surface changes quickly. *Record observations from the investigations of changes to the Earth that occur quickly. *Discuss natural processes that change the Earth's surface slowly (e.g., wind, water, drought, tides). *Investigate ways that Earth's surface changes slowly over time. *Record observations from the investigations of changes to the Earth that occur slowly. *Predict the changes that may occur to Earth's surface after certain weather conditions.
Inquiry Flipcharts/Labs	High in the Sky/Star Find, p. 7 How Do Magnifiers Work?, p. 8 Sunny Days/Heating Land & Air, p. 9 Ramp and Roll/Drop It!, p. 10	High in the Sky/Star Find, p. 7 How Do Magnifiers Work?, p. 8 Sunny Days/Heating Land & Air, p. 9 Ramp and Roll/Drop It!, p. 10	Clay in a Tray/Do People Eat Plants?, p. 11 What Can We Observe About Rocks?, p. 12 Water Watch, p. 13 Earth Shake/Erosion Made Easy, p. 14	Clay in a Tray/Do People Eat Plants?, p. 11 What Can We Observe About Rocks?, p. 12 Water Watch, p. 13 Earth Shake/Erosion Made Easy, p. 14
Fusion Textbook	p.45-78	p.45-78	p.83-118	p.83-118

First Grade Science Curriculum Map

Quarter 3				
NGSSS Body of Knowledge	*Nature of Science/Earth Science*	*Nature of Science/Physical Science*	*Nature of Science/Physical Science*	*Nature of Science/Physical Science*
Unit of Study	Earth	Matter	Force and Motion	Force and Motion
Target Standards	SC.1.E.6.3 : Recognize that some things in the world around us happen fast and some happen slowly.	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.	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.
Pacing	Week 19 (continued from weeks 13-18)	Weeks 20-22	Weeks 23-24	Weeks 25-27
Objective/ Learning Goal/SWBT	*Identify this evidence of change to Earth's surface as fast or slow. *Discuss natural processes that change the Earth's surface quickly (e.g., floods, hurricanes, tornadoes, earthquakes, volcanoes, fires, tsunamis). *Investigate ways that Earth's surface changes quickly. *Record observations from the investigations of changes to the Earth that occur quickly. *Discuss natural processes that change the Earth's surface slowly (e.g., wind, water, drought, tides). *Investigate ways that Earth's surface changes slowly over time. *Record observations from the investigations of changes to the Earth that occur slowly. *Predict the changes that may occur to Earth's surface after certain weather conditions.	*Identify observable properties of different matter (e.g., apple, toy car, shell, rock). *Record predictions, observations, and data (written or pictorial) for each sorting activity below using a simple chart or table. *Sort objects using the senses. *Compare the sorting methods of other students to their own. *Make decisions as to how to sort a group of objects based on their observable properties. *Sort objects by observable properties until each individual object is in its own group. *Ask and answer "how do you know?" questions of each other following each sort.	*Observe and describe the various ways that objects move (e.g., fast, slow, fall, slither, tumble, fly, climb, roll, slide, sway). *Demonstrate and describe the following movements of objects: straight line, zigzag, back-and-forth, round-and-round, forward and backward. *Describe the force needed for objects to move in each of the different ways. *Investigate the speed (faster/slower) of different objects rolling down a ramp. *Explore why different objects move at different speeds (type and texture of surface and wheels, mass of car). *Record (written or pictorial) observations, predictions, data, and results that occurred during movement investigations.	*Review that a force can be a push or a pull that may cause movement or cause an object to change its position. *Demonstrate push and pull on an object. *Explore force as a push or pull on an object. *Describe an object's position (e.g., in, out, up, down, left, right, over, under, on, off). *Demonstrate and describe how to change the position of an object (push or pull). *Predict and record how to change the direction of an object already in motion (push or pull).
Inquiry Flipcharts/Labs	Clay in a Tray/Do People Eat Plants?, p. 11 What Can We Observe About Rocks?, p. 12 Water Watch, p. 13 Earth Shake/Erosion Made Easy, p. 14	Sort It out!/What's the Weight?, p. 15 Which Objects Sink or Float? p. 16 How Can We Measure Temperature?, p. 17	Marble Race/Testing Toys, p. 18 How Can We Move a Ball?, p. 19	Changing Motion/Motion Maze, p. 20 How Can We Change Motion?, p. 21
Fusion Textbook	p.83-118	p.123-140	p.143-154	p.155-168

First Grade Science Curriculum Map

Quarter 4					
NGSSS Body of Knowledge	*Nature of Science/Physical Science*	*Nature of Science/Life Science*	*Nature of Science/Life Science*	*Nature of Science/Life Science*	*Nature of Science/Life Science*
Unit of Study	Force and Motion	Life	Life	Life	Heredity
Target Standards	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.L.14.3 : Differentiate between living and nonliving things. SC.1.L.14.1 : Make observations of living things and their environment using the five senses.	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.L.14.2 : Identify the major parts of plants, including stem, roots, leaves, and flowers.	SC.1.L.16.1 : Make observations that plants and animals closely resemble their parents, but variations exist among individuals within a population.
Pacing	Week 28	Weeks 29-30	Weeks 31-32	Weeks 33-35	Week 36
Objective/ Learning Goal/SWBT	*Demonstrate how the Earth's gravity pulls an object toward the ground (attraction) unless something holds it up. *Explain that gravity acts upon objects even if nothing is touching them. *Demonstrate how gravity can affect how objects move in different ways. *Relate and demonstrate how gravity and changes in the position of an object are connected. *Predict and record how gravity changes the direction of an object already in motion (push or pull). *Record observations of gravity investigations. *Ask and answer "how do you know" questions using data from gravity investigations.	*Record observations of different things on the school campus. *Develop, as a class, a definition to determine if an organism is living (e.g., can grow, change, have babies, need food, move on their own). *Apply their class definition for living things to sort the school campus list into "living". *Evaluate the other group for things that are dead or once living. *Develop, as a class, a definition to determine if an object from the list is non-living. *Identify the characteristics of living (to include dead things) and nonliving things. *Explain the differences between living and nonliving things. *Apply the characteristics of living things to include those that were once alive or dead. *Describe each living thing as an organism that lives in its own environment. *Record observations of different living organisms (dead or alive) found in their environment using the five senses. *Ask and answer "how do you know?" questions that apply to living and nonliving things. *Apply the class definition of living things to evaluate known living things and things that were once alive. *Ask and answer "how do you know?" questions that apply to living things.	*Identify the basic needs of all living things, including humans (air, water, food, space, and shelter). *Compare the needs of animals to plants in order to see the similarities in all living things. *Investigate what happens when one of the basic needs for plant growth is not present. *Describe how animals respond when a basic need is not present. *Explore the process of growing various types of plants from seeds focusing on basic needs. *Ask and answer "how do you know" questions regarding the results of basic needs investigations.	*Observe plants using a hand lens. *Record observations of plants and their parts. *Identify the major parts of plants (stem, roots, leaves and flowers, seed). *Compare the same parts of two different plants (e.g., grass and marigolds). *Explain that plants of the same kind will have the same kind of stem, roots, leaves, flowers, and seeds.	*Pair plant and animal parents with their offspring by looking at their physical traits. *Recognize that offspring (both plants and animals) are related to their parents. *Explain how they know which offspring belongs to which parent. *Describe differences that exist between parents and offspring within a population of plants and animals.
Inquiry Flipcharts/Labs	Drop It!, p. 10	Modeling You/Neighborhood Search, p. 22; Animal Sort/Picture Walk Safari, p. 24 What Can Your Senses Tell You About Living Things?, p. 25	Meet the Mealworm/Eat Like a Bird, p. 31	Rubbed Leaf Collection/ Fantastic Flowers, p. 23 Are All Seeds Alike?/What Parts Do You See?, p. 26	Growing and Changing/Family Traits, p. 27 How are plants of the same kind different?, p. 28
Fusion Textbook	p.69-78, 162-163	p.175-184, 207-208	p.243-268	p.185-194, 209-218	p.225-238