Grade 2 / Science / Trimester 1 Structures and Properties of Matter			
Time Frame	**Content Focus**	**Skill Focus**	**Standards**
September	All objects and substances in the natural world are composed of matter. Matter exists in different states: solids, liquids, and gases. Liquids take the shape of the container they occupy. Solids retain their shape regardless of the container they occupy. The structures of materials determine their properties. Everything is matter-solids, liquids, gases.	**Students plan an investigation** to identify and describe* the phenomenon by describing* and classifying different kinds of materials by their observable properties.	2-PS1-1
October/ November	Water can exist in any of three states.	**Students observe** different kinds of materials by their properties.	2-PS1-3

	The state of matter is primarily determined by its temperature. Changing the temperature of matter may change its state. Some properties of matter change as a result of processes such as heating and cooling. Not all materials respond the same way to these processes.	**<u>Students analyze</u>** how properties of matter change as a result of processes such as heating and cooling.	2-PS1-2 2-PS1-4

Formative Assessment Plan	Summative Assessment Plan
● Presentation through pictures, charts, graphs ● Creation of Science Journals	● Journal entry ● Lab report/graphs ● Written Assessment ● Observations ● Assessment of key vocabulary (solid, liquid, gas, matter, properties, strength, flexibility, hardness, texture, absorbency)
Main Resources	**Supplementary Resources**
● Mystery Science - Material Magic Unit ● **Books:** ● The World of Matter, Newbridge, Ron Cole ● States of Matter, Delta Science Readers	● **Videos:** ● BrainPOPJr. Solids, Liquids, and Gases ● The Magic School Bus: The Magic School Bus Meets Molly Cule by Joanna Cole video

• Water Can Change by Briana Birchall • Matter is Everything by Becky Gold • The Cloud Book by Tommie de Paola • Chag It! Solids, Liquids, Gases and You by Adrienne Mason • Amazing Materials by Sally Hewitt • Mixing and Separating by Chris Oxlade • What is the WOrld Made of? All about Solids, Liquids, and Gases by Kathleen Weidner Zoehfeld	• **Websites:** • http://harcourtschool.com/activity/states_of_matter/ • Http://www.brainpopjr.com/science/matter/solidsliquidsandgases/preview.weml • http://www.strangematterexhibit.com

Grade 2 / Science / Trimester 2 Interdependent Relationships in Ecosystems			
Time Frame	**Content Focus**	**Skill Focus**	**Standards**
December	Organisms have basic needs (animals need air and food; plants need air, water, nutrients, and light) though the amount of these needs may vary. Each plant and animal adapts in their own way to their environment.	**Students plan and conduct an investigation** to determine if plants need water and sunlight to grow.	2-LS2-1
January	Pollination occurs when pollen is transferred.	**Students develop a simple model** that mimics the function of an animal in dispersing seeds or pollinating plants.	2LS2-2
February/ March	Plant and animal characteristics are based on where in the world they are	**Students make observations** of plants and animals to compare the diversity of life in different habitats	2-LS4-1

Formative Assessment Plan	Summative Assessment Plan
● Plant lima beans in bags to observe growth ● Creation of “What-if,,,” writing piece ● Collect data on plants and animals to compare ● Discussions	● Journal entry ● Lab report/graphs ● Written Assessment ● Observations

	• Assessment of key vocabulary (plants, animals, sunlight, water, seeds, pollinate, habitat, living/nonliving)
Main Resources	Supplementary Resources
• Mystery Science - Plant Adventures Unit and Animal Adventures Unit • **Books:** • What it There Were No Bees? by Suzanne Slade • Who Eats What? by Holly Keller • Cactus Hotel by Brenda Guiberson • Life in the Polar Region by Melvin Berger • How Do Fish Live? by Heather Jenkins • A Tree Can Be by Judy Nayer	• **Videos/Websites:** • http://pbs.panda-prod.cdn.s3.amazonaws.com/media/assets/wgbh/ess05/ess05_int_seasonsgame/index.html (seasons) • http://www.sciencecourseware.org/eec/GlobalWarming/Tutorials/Seasons/ (seasons) • http://spaceplace.nasa.gov/science-fair/en/ (science method fair ideas) • http://thehappyscientist.com/next-generation-science-standards-second-grade • http://www.hookedonscience.org/nextgenerationsciencestandards.html • https://www.teachingchannel.org/videos/next-generation-science-standards-achieve • http://www.earthsciweek.org/classroom-activities/ngss

Grade 2 / Science / Trimester 3 Earth's Systems: Processes that Shape the Earth			
Time Frame	**Content Focus**	**Skill Focus**	**Standards**
April/May	Weathering and erosion shape the earth's surface.	**Students use information to make observations** from media to construct an evidence based account that Earth events can occur quickly or slowly.	2-ESS1-1
April/May	A landform is any natural formation of rock and dirt, found on earth. A landform can be as large as a mountain range, or as small as a hill. Earth's surface changes in different ways through weathering and erosion. Both land and water make up Earth's surface	**Students compare** multiple solutions designed to slow or prevent wind or water from changing the shape of the land. **Students will develop a model** to represent the shapes and kinds of land and bodies of water in an area. **Students will obtain information** to identify where water is found on Earth and that it can be solid or liquid	2-ESS2-1 2-ESS2-2 2-ESS2-3

Formative Assessment Plan	Summative Assessment Plan
• Presentation through pictures, charts, graphs	• Journal entry

• Creation of Science Journals • Discussions	• Lab report/graphs • Written Assessment • Observations • Assessment of key vocabulary (soil, Earth, wind flood, sand, rock, water, land, lake, pond, stream, river, ocean, landform, mountain, eruption, hurricane, volcano, earthquake, erosion)
Main Resources	Supplementary Resources
• Mystery Science- Work of Water unit • **Books:** • Earthquakes and Volcanoes, by Nash Kramer • Wind, by Nash Kramer • Water, by Nash Kramer • Looking at Earth, How Does it Change? by Jackie Gaff	• **Videos/Websites:**Brainpop Jr.-Landforms • www.pebblego.com Earth and Space/Earth Science • http://discoveryeducation.com • http://learner.org/interactives/dynamicearth/ • http://geography.mrdonn.org

Mystery Science Planning Guide

Grade 2

Mystery Science recommends teaching the lessons within each unit in the order they are presented. The units themselves can be taught in any order. The lesson (exploration & activity) is designed to take an hour per week. Extensions can expand upon each lesson.

	Animal Adventures (3-6 weeks)	**Plant Adventures (5-10 weeks)**	**Work of Water (4-8 weeks)**	**Material Magic (5-10 weeks)**
Week 1	Lesson 1: How many different kinds of animals are there? ***(2-LS4-1)***	Lesson 1: How did a tree travel halfway around the world? ***(2-LS2-2)***	Lesson 1: If you floated down a river, where would you end up? ***(2-ESS2-2 and 2-ESS2-3)***	Lesson 1: Why do we wear clothes ***(2-PS1-1, 2-PS1-2, K-2-ETS1-2, and K-2-ETS1-3)***
Week 2	Lesson 2: Why do frogs say "ribbit"? ***(2-LS4-1)***	Lesson 2: Could a plant survive without light? ***(2-LS2-1)***	Lesson 2: Why is there sand at the beach? ***(2-ESS2-2)***	Lesson 2: Can you really fry an egg on a hot sidewalk? ***(2-PS1-1 and 2-PS1-2)***
Week 3	Lesson 3: How could you get more birds to visit a bird feeder? ***(2-LS4-1, K-2-ETS1-1, K-2-ETS1-2, K-2-ETS1-3)***	Lesson 3: Why do trees grow so tall? ***(2-LS2-1)***	Lesson 3: What's strong enough to make a canyon? ***(2-ESS1-1, 2-ESS2-1 and 2-ESS2-2)***	Lesson 3: Why are so many toys made out of plastic? ***(2-PS1-1, 2-PS1-2 and 2-PS1-4)***
Week 4		Lesson 4: Should you water a cactus? ***(2-LS2-1 and 2-LS4-1)***	Lesson 4: How can you stop a landslide? ***(2-ESS2-1, K-2-ETS1-1, K-2-ETS1-2, K-2-ETS1-3)***	Lesson 4: What materials might be invented in the future? ***(2-PS1-1, 2-PS1-2, K-2-ETS1-2, K-2-ETS1-3)***
Week 5		Lesson 5: Where do plants grow best? ***(2-LS2-1 and 2-LS4-1)***		Lesson 5: Could you build a house out of paper? ***(2-PS1-1, 2-PS1-3, K-2-ETS1-2, K-2-ETS1-3)***