St. Michael-Albertville Schools MAKE A COPY BEFORE BEGINNING YOUR MAP

First Grade Science Map 2022-2023

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Content	Skills	Learning Targets	Standards Alignment	Assessment	Resources & Technology
CEQ ● **WHAT ARE THE FUNCTIONS OF COMMON PLANTS STRUCTURES?** ● **HOW DO PLANTS GROW AND SURVIVE?** ● **HOW DO ANIMAL BODY PARTS HELP THEM SURVIVE?** ● **HOW DOES SOUND HELP ANIMALS COMMUNICATE?** ● **WHAT HAPPENS WHEN LIGHT HITS AN OBJECT?**	Insert bold content heading List skills (action verbs) underneath in an alpha/numbered fashion. No bold.	Insert bold content heading LT=Learning Target; list LT1, LT2,	Insert bold content heading Explicitly identify the standard that the course content has been aligned to in this column. Add benchmark code for unit	Insert bold content heading CSA=COMMON SUMMATIVE ASSESSMENT-Label CSA, all caps, & bold. CFA=COMMON FORMATIVE ASSESSMENT-Label CFA, all caps, & bold. Subjective assessments (i.e. projects, performances) should have a rubric or proficiency scale Label questions on CFAs and CSAs w/ LT1, LT2, etc	Insert bold content heading Add: Textbook Pages (include title, publisher, edition, & copyright) Web Sites DVD Clips/Multimedia Resources Titles of textbooks & pages/sections used Textbook resources Smart Notebook Files List Key Vocabulary

• **WHAT PATTERNS CAN WE OBSERVE IN THE SKY?** UEQ Unit 1 *The goal is to complete Unit 1 in the 1st Trimester. • *What patterns can you find between different plants?* • *What do plant structures do?* • *How are plants similar and different from their offspring?* • *How do plants use their parts to meet their needs?*	**All About Plants** 1. Students will observe that plants are made of many separate parts. 2. Students will compare an onion and a daisy to find which structures they have in common. 3. Students will observe how a plant moves in response to the sun. 4. Students will observe how water moves through celery to verify the	**All About Plants** **LT1** I can make observations of plants and how their structures help them survive. **LT2** I can make observations of plants and how their structures and functions help them survive. **LT3** I can explain patterns when exploring plants and their offspring. **LT4** I can analyze data on plant structures.	**All About Plants** **Life Science** 1L.1.1.1.1 Ask questions based on observations about the similarities and differences between young plants and animals and their parents. 1L.3.1.1.1 Develop a simple model based on evidence to represent how plants or animals use their external parts to help them survive, grow, and meet their needs. 1L.3.2.2.2 Plan and design a solution to a human problem by	**All About Plants** **Module 1: Plant Structures and Functions** **Lesson 1** **CFA = Science Probe page 7** **CSA=Lesson Review journal page 22-23**	**All About Plants** Student Edition workbook: McGrawHill: Inspire Science Grade 1 Unit 1: All About Plants, 2020; pages 2-89 Module: Plant Structures and Functions • Module presentation online • Workbook pages 2-6 Lesson 1 • Lesson presentation online • Workbook pages 7 (CFA), 8, 9, 10, 11 • **Pull plants for first Inquiry Activity.** • Read *Plants Parts Around the World**;*** journal page 12 is optional • Optional Workbook page 13

	function of a stem. 5. Students will compare a young oak and an adult oak. 6. Students will investigate how several species of plants change as they grow. 7. Students will observe how a radish changes as it grows and develops. 8. Students will investigate whether all plants need the same amount of sunlight. 9. Students will research mechanisms plants have that		mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs. **Physical Science** 1P.4.2.2.1 Communicate solutions that use materials to provide shelter, food, or warmth needs for communities including Minnesota American Indian tribes and communities.	**Lesson 2 CFA=Science Probe page 25 CSA=Lesson Review Journal pages 40-41** **Module 2: Plant Parents and Their Offspring**	● Workbook page 14 ● Optional Workbook pages 15, 16, 17, 18, 19, 20, 21 ● CSA pages 22-23 ● Key Vocabulary: structure Lesson 2 ● Lesson presentation online ● Workbook pages 25 (CFA), 26-30 ● **Plant radish seeds two weeks before inquiry activity.** ● Read *Which Way to Sprout**;*** journal page 31 is optional ● Workbook pages 32-33 ● STEM Connection page 36 ● Optional pages 34-35 and 37-39 ● Workbook pages 40-41 (CSA) ● Key vocabulary: flower, fruit, function, leaf, root, seed, stem Module STEM Project and Wrap-Up: workbook pages 43-45

	help them survive. 10. Students will use their knowledge of structure and function to design and build a seed that can travel.			**Lesson 1** **CFA=Science Probe page 51** **CSA=Lesson Review journal pages 66-67** **Lesson 2** **CFA=Science Probe page 69** **CSA=Lesson Review journal pages 84-85**	Module: Plant Parents and Their Offspring ● Module presentation online ● Workbook pages 46-50 Lesson 1 ● Lesson presentation online ● Workbook page 51(CFA);52-56 ● Read *Perfect Acorn, Mighty Oak; journal page 57 is optional* ● Watch the video *Plant Parents and Their Offspring;* Workbook *page 58* ● Read *Every Plant is Different*; workbook page 59 ● Optional workbook pages 60-65 ● Workbook page 66-67 (CSA) ● Key vocabulary: inherit, offspring, parent, seedling Lesson 2

UEQ Unit 2 *The goal is to complete Unit 2 in the 2nd Trimester.	**Animals and How They Communicate** 1. Students will compare the	**Animals and How They Communicate** **LT1**	**Animals and How They Communicate** **Life Science**	**Animals and How They Communicate**	• Lesson presentation online • Workbook page 69 (CFA); 70-73 • Read *Little Seed's Journey; workbook page 74* • Optional workbook pages *75* • Workbook page 76 • Read *Making New Plants*; workbook page 77 • Optional workbook pages 78-80 • Key vocabulary: need, pollen, survive • Workbook page 81 (STEM Connection), 82-83 (Open Inquiry), page 84,85 (CSA) Module STEM Project and Wrap-Up: workbook pages 87-89 **Animals and How They Communicate**

• *What structures do animals have?* • *What are the functions of different animal body parts?* • *How are animals similar to and different from their offspring?* • *How does an animal's behavior help it survive?* • *How do animals communicate?* • *How are sounds made?*	structures of a butterfly. 2. Students will sort animals into groups based on their traits. 3. Students will conduct research and build a model to show how an animal moves. 4. Students will investigate how animal structures help animals survive. 5. Students will be able to explain the similarities and differences between young birds and their parents. 6. Students will investigate how a dog changes as it grows to observe how its	I can explain the structure and function of animal body parts. **LT2** I can explain how animals and their young survive. **LT3** I can compare and contrast animals and their offspring. **LT4** I can explain patterns in animal behavior. **LT 5** I can identify animal patterns of communication that help them survive. **LT 6** I can identify the cause-and-effect relationship between materials, vibration, and sound.	1L.1.1.1.1 Ask questions based on observations about the similarities and differences between young plants and animals and their parents. 1L.3.1.1.1 Develop a simple model based on evidence to represent how plants or animals use their external parts to help them survive, grow, and meet their needs. 1L.3.2.2.2 Plan and 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.	**Module 1: Animal Parents and Their Offspring** **Lesson 1** **CFA = Science Probe page 7** **CSA=Lesson Review journal pages 18-20** **Lesson 2** **CFA=Science Probe page 21**	Student Edition workbook: McGrawHill: Inspire Science Grade 1 Unit 2: Animals and How They Communicate, 2020; pages 2-115 ****Use coupons to order butterfly larvae and fish from p. 10. You need to order 5-7 days in advance.** Module: Animal Parents and Their Offspring • Module presentation online • Workbook pages 2-6 Lesson 1 • Lesson presentation online • Workbook pages 7 (CFA) and pages 8-11 • Optional Workbook page 13 • Workbook pages 14-15 • Optional pages 16-17

	characteristics change. 7. Students will investigate animal behaviors to understand how animals help their offspring. 8. Students will research ways that animals help to keep their young alive.		1L.4.2.1.2 Obtain information using various features of texts and other media to determine patterns in the behavior of parents and offspring that help offspring survive. **Physical Science** 1P.1.2.1.1 Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.	**CSA=Lesson Review journal pages 32-34** **Lesson 3** **CFA=Science Probe page 35** **CSA=Lesson Review journal pages 48-49** **Lesson 4** **CFA=Science Probe page 51** **CSA=Lesson Review journal pages 66-67**	● Workbook pages 18-20 (CSA) ● Key Vocabulary: amphibian, bird, fish, insect, mammal, reptile, and structures Lesson 2 ● Lesson presentation online ● Workbook pages 21 (CFA), 22-23 ● Optional pages 24-26 ● Workbook page 27, 28-29 (STEM Connection), 30-31 (class demonstration), 32-34 (CSA) ● Key Vocabulary: protection Lesson 3 ● Lesson presentation online ● Workbook pages 35 (CFA), 36-40 ● Read *Daisy's Ducks;* journal page 41 is optional ● Optional page 42 ● Workbook page 43

			1P.2.1.1.1 Identify and describe patterns obtained from testing different materials and determine which materials have the properties that are best suited for producing and/or transmitting sound. 1P.3.2.2.1 Design and build a device that uses light or sound to solve the problem of communicating over a distance. **Earth and Space Science** 1E.2.2.1.1 Use quantitative data to identify and describe patterns in the amount of time it takes for Earth processes to occur and determine whether they occur quickly or slowly.	**Module 2: Communication** **Lesson 1** **CFA=Science Probe page 77** **CSA=Lesson Review journal pages 90-91**	• Optional pages 44-47 • Workbook pages 48-49 (CSA) • Key Vocabulary: offspring, trait Lesson 4 • Lesson presentation online • Workbook pages 51 (CFA), 52-56 • Read *The Burrow;* journal page 57 is optional • Workbook page 58 • Optional pages 59-61 • Workbook pages 62-63 (STEM Connection) • Optional pages 64-65 • Workbook pages 66-67 (CSA) • Key Vocabulary: behavior, learn, signal STEM Module Project and Wrap-Up: workbook pages 69-71 Module: Communication

				Lesson 2 **CFA=Science Probe page 93** **CSA= Lesson Review Journal pages 110-111**	• Module Opener presentation online • Workbook pages 72-76 Lesson 1 • Lesson presentation online • Workbook 78 and 79 pages • Optional workbook pages 80, 81 • Listen to *The Energy Challenge* pages 4-13; workbook page 82 optional • Optional workbook pages 83-84 • Listen to *Light and Sound Are Energy* Pages 18-21; workbook page 85 optional Workbook page 86-89 optional • Workbook page 90-91 (CSA) • Key Vocabulary: communicate, energy, sound, vibrate Lesson 2

UEQ Unit 3 *The goal is to complete Units 3 & 4 in the Third Trimester. ● *Do we need light to see?* ● *How does light interact with materials?*	**Light and Shadows** 1.Students will investigate the relationship between light and sight by observing unknown objects with the lights off and with the lights on.	**Light and Shadows** **LT1** I can make observations and explain what causes objects to be seen when illuminated. **LT2** I can perform investigations to find the effect of placing objects in the path of a beam of light.	**Light and Shadows** **Physical Science** 1.2.1 Standard 1P.1.2.1.1 Benchmark Students will be able to design and conduct investigations in the classroom, laboratory, and/or	**Light and Shadows** **Module 3: Light and Shadows**	● Lesson presentation online ● Workbook pages 93 (CFA), and pages 94-98 ● Read *The Low-Energy Band* pages 4-13 and 14; workbook page 99 optional ● Read *Sounds All Around*; workbook page 100 optional ● Optional pages 101-106 ● Workbook page 107 (STEM Connection) ● Optional workbook pages 108-109 ● Workbook pages 110-111 (CSA) ● Key Vocabulary: pitch, volume, wave **Light and Shadows** Student Edition workbook: McGrawHill: Inspire Science Grade 1 Unit 3:

● *How do we use light to communicate?*	2. Students will observe a beam of light to determine how it travels. 3. Students will observe the interaction of transparent, translucent, and opaque materials with light. 4. Students will investigate how shadows change depending upon the position of the source of light. 5. Students will investigate how light interacts with mirrors. 6. Students will research devices that use light to communicate messages across long distances.	**LT3** I can explain and create solutions for people who communicate over a long distance.	field to test students' ideas and questions, and will organize and collect data to provide evidence to support claims the students make about phenomena. **Physical Science** 1P.3.2.2.1 Design and build a device that uses light or sound to solve the problem of communicating over a distance.	**Lesson 1** **CFA = Science Probe page 7** **CSA=Lesson Review journal page 18-19** **Lesson 2** **CFA= Science Probe page 21** **CSA=Lesson Review journal page 34,35**	Lights and Shadows, 2020; pages 2-59 Module: Lights and Shadows ● Module presentation online ● Workbook pages 2-6 Lesson 1 ● Lesson presentation online ● Workbook pages 7 (CFA), 8, 9, 10, 11 ● Watch video *Light and Objects* Workbook page 12 ● Optional Workbook page 13, 14, 15, 16, 17 ● CSA pages 18-19 ● Key Vocabulary: illuminate, light Lesson 2 ● Lesson presentation online ● Workbook pages 21 (CFA), 22-26 ● Read *A Constant Friend 4-13;* journal page 27

	Sky Patterns 1. Students will make	**Sky Patterns**	**Sky Patterns**	**Lesson 3** **CFA=Science Probe page 37** **CSA=Lesson Review journal page 54,55** **Sky Patterns**	• Workbook page 28 • Read *Lights and Shadows;* journal page 29 is optional • Optional pages 30-33 • Workbook pages 34-35 (CSA) • Key vocabulary: material, opaque, shadow, translucent, transparent Lesson 3 • Lesson presentation online • Workbook pages 37 (CFA), 38-44 • Read *Mirrors and Light 14-23;* journal page 45 is optional • Optional workbook pages 46-49 • STEM Connection page 50,51 • Optional pages 52,53 • Workbook pages 54-55 (CSA) • Key vocabulary: mirror, reflect

UEQ Unit 4 ● *When can we see different objects in the sky*? ● *What are the day and night patterns?* ● *What long term patterns exist during the year* ?	observations of the day and night sky. 2. Students will conduct research about objects in the sky and build a model of their chosen object. 3.Students will build a sundial and make observations about how a shadow changes throughout the day. 4.Students will observe how the Moon changes over several days. 5. Students will interpret data about sunlight throughout the year. 6. Students will interpret data to	**LT1** I can identify the objects in the sky (star, Sun, Moon) and tell what objects are present during the day and night. **LT2** I can make observations to predict patterns of day and night and argue my reasoning.	**Earth and Space Science** 2.2.1 Standard: Students will be able to use mathematics to represent physical variables and their relationships; compare mathematical expressions to the real world; and engage in computational thinking as they use or develop algorithms to describe the natural or designed worlds. 1E.2.2.1.1 Benchmark: Use quantitative data to identify and describe patterns in the amount of time it takes for Earth processes to occur and determine	**Module 4: Sky Patterns** **Lesson 1** **CFA = Science Probe page 7** **CSA=Lesson Review journal page 22-23** **Lesson 2** **CFA= Science Probe page 25**	Module STEM Project and Wrap-Up: workbook pages 57-59 **Sky Patterns** Student Edition workbook: McGrawHill: Inspire Science Grade 1 Unit 4: Sky Patterns, 2020; pages 2-59 Module: Sky Patterns ● Module presentation online ● Workbook pages 2-6 (Stem Connection page 4,5) Lesson 1 ● Lesson presentation online ● Workbook pages 7 (CFA), 8, 9, 10, 11 ● Read *Another Sun pages 4-13;* journal pages 12, 13 ● Read *Lights in the Sky* pages 14-23 *j*ournal pages 14, 15

	learn more about the changes in sunlight throughout the year.		whether they occur quickly or slowly. 4.1.1 Standard: Students will be able to engage in argument from evidence for the explanations the students construct, defend and revise their interpretations when presented with new evidence, critically evaluate the scientific arguments of others, and present counter arguments. Benchmark:1E.4.1.1.1 Construct an argument based on observational evidence for how plants and animals (including humans) can change the non-living aspects of the environment to meet their needs. 4.1.2 Standard:	**CSA=Lesson Review journal page 36-37** **Lesson 3 CFA=Science Probe page 39 CSA=Lesson Review journal page 52-53**	• Optional Workbook page 16-21 • CSA pages 22-23 • Key Vocabulary: Earth, Moon, planet, star, Sun Lesson 2 • Lesson presentation online • Workbook pages 25 (CFA), 26-30 • Watch *Patterns of the Sun, Moon, and Stars online;journal page 31* • Optional pages 32-35 • Workbook pages 36-37 (CSA) • Key vocabulary: horizon, Moon phases, sunset, sunrise Lesson 3 • Lesson presentation online • Workbook pages 39 (CFA), 40-44, 46 • Listen to *The Other Half of the World*

			Students will be able to argue from evidence to justify the best solution to a problem or to compare and evaluate competing designs, ideas, or methods. 4.2.1 Standard: Students will be able to read and interpret multiple sources to obtain information, evaluate the merit and validity of claims and design solutions, and communicate information, ideas, and evidence in a variety of formats. Grade 3: 3E.2.2.1.1 Organize and electronically present collected		*4-13;* journal page 45 is optional ● Listen to *The Four Seasons* 14-23; journal page 47 is optional ● Optional page 48 ● STEM Career Connection page 49 ● Optional pages 50-51 ● Workbook pages 52-53 (CSA) ● Key vocabulary: fall, winter, season, spring, summer Module STEM Project and Wrap-Up: workbook pages 55-58

			data to identify and describe patterns in the amount of daylight in the different times of the year.** (P: 5, CC: 1, CI: ESS1) *Emphasis is on relative comparisons of the amount of daylight in the winter to the amount in the spring or fall.* 3E.4.2.2.1 Gather information and communicate how Minnesota American Indian Tribes and communities and other cultures use patterns in stars to make predictions and plans. (P 8, CC: 1, CI: ESS1) *Examples of cultures may include those within the local context of the*		

			learning community and within the context of Minnesota. Examples may include using star maps to predict seasons, star patterns to inform navigation, and using star stories to identify numeric patterns that guide behavior.		