Publisher: Twig Education

Program Title: Twig Science

Components: Twig Science Teacher Editions (TE) , Twig Science Student Twig Books (TB), Leveled Readers (LR) (On-Level, Above, Below and English Learners), www.twigscience.com

Standards Map for Kindergarten Through Grade Eight
Grade 1 – Next Generation Science Standards

1-LS1 From Molecules to Organisms: Structures and Processes

Science and Engineering Practices Disciplinary Core Ideas Crosscutting Concepts		Publisher Citations	Performance Expectation	Publisher Citations
SEP	**Constructing Explanations and Designing Solutions** Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions. ▪ Use materials to design a device that solves a specific problem or a solution to a specific problem. (1-LS1-1)	**KEY:** **M = Module** **DQ = Driving Question** **L = Lesson** **TE = Teacher Edition** **TB = Student Edition known as the Twig Book** **LR = Leveled Reader** **EXAMPLE ONE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ6 L3 (TE pp.196-201, TB p.64) L4 (TE pp.202-207, TB pp.65-66) L6 (TE pp.214-218, TB p.69) Key Resources L3 **Biomimicry: Lotus Leaf** video **EXAMPLE TWO** **Grade 1 Module 1** **Museum of Leafology** M1_DQ3 L4 (TE pp.98-105, TB p.32) L5 (TE pp.106-111, TB p.33) L6 (TE pp.112-117, TB p.34) Key Resources L4 **How Seeds Move** video L6 **Seed Dispersal** video	**1-LS1-1.** **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.*** [Clarification Statement: 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.]	**KEY:** **M = Module** **DQ = Driving Question** **L = Lesson** **TE = Teacher Edition** **TB = Student Edition known as the Twig Book** **LR = Leveled Reader** **EXAMPLE ONE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ6 L2 (TE pp.190-195, TB pp.60-63) L3 (TE pp.196-201, TB pp.64) L4 (TE pp.202-207, TB pp.65-66) L5 (TE pp.208-213, TB pp.67-68) L6 (TE pp.214-218, TB p.69) Key Resources L2 **Biomimicry: Hook and Loop** video L3 **Biomimicry: Lotus Leaf** video
DCI	**LS1.A: Structure and Function**	**EXAMPLE ONE** **Grade 1 Module 2** **Animal Reporters**		

	▪ All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. (1-LS1-1)	M2_DQ1 L1 (TE pp.8-15, TB pp.7-9) L2 (TE pp.16-21, TB pp.10-11) L3 (TE pp.22-27, TB p.12) L4 (TE pp.28-35, TB pp.13-16) L5 (TE pp.36-41, TB p.17) L6 (TE pp.42-47, TB p.18) L7 (TE pp.48-53, TB p.19) L8 (TE pp.54-57, TB pp.20-21) L9 (TE pp.58-63, TB pp.22-23) L10 (TE pp.64-69, TB pp.24-26) L11 (TE pp.70-74, TB pp.27-28) Key Resources L1 **Big AI** video L2 **Animals: How Do They Survive?** Prior-Knowledge Read-Aloud text; **Animal Groups** video L3 **Animal Skin** visual; **Elephant Report: Skin** video; **Fur, Feathers, and Scales** video L4 **Elephant Report: Moving** video; **Just Keep Moving!** Read-Aloud text L5 **Animal Moves Song** video; **Animals** visual; **How Do Animals Move?** video L7 **Elephant Report: Defending Themselves** video; **Pebble Toad** video; **Octopus** video; **Oogpister Beetle** video; **Box Turtle** video L8 **Elephant Report: Trunks** video L9 **Sugar Glider** video; **Hawaiian Pom-Pom Crab** video; **Puffer Fish** video; **Capuchin Monkeys** video; **Unusual Animals** visual L10 **Elephant Report: Eating** video; **Making an Animal Instructions** visual **EXAMPLE TWO** **Grade 1 Module 1** **Museum of Leafology** M1_DQ2 L1 (TE pp.40-48, TB pp.13-14) L2 (TE pp.48-52, TB pp.15-19) L3 (TE pp.56-63, TB p.20) Key Resources L1 **What Do Plants Need?** video		

		L2 **Plant Parts Song** visual; **Plant Parts Song** video; **Parts of a Plant** visual L3 **Plant Factory** interactive L4 **Museum of Leafology Trailer** video **EXAMPLE THREE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ5 L1 (TE pp.160-166, TB pp.49-52) L2 (TE pp.168-173, TB p.53) L3 (TE pp.174-178, TB pp.54-55) Key Resources L1 **Extremely Clever Plants** video L2 **Cactus—Pixelate** video; **Extremely Dangerous Plants** video L3 **Museum of Leafology Design Process** visual; **Family Outreach** handout **EXAMPLE FOUR** **Grade 1 Module 2** **Animal Reporters** M2_DQ4 L4 (TE pp.158-163, TB p.70) L5 (TE pp.164-169, TB pp.71-73) L6 (TE pp.170-175, TB pp.74-76) L7 (TE pp.176-181, TB pp.77-78) L8 (TE pp.182-187, TB pp.79-80) L9 (TE pp.188-192, TB p.81-82) Key Resources L4 **Animal Vibrations** video L6 **Peacock Spider** video L8 **Humpback Whales** video L9 **Just Keep Moving!** Read-Aloud text **EXAMPLE FIVE** **Grade 1 Module 1** **Leveled Reader: Our Leafy Friends** Chapter 1 (LR pp.4-15) Associated lessons (TE pp.242-245, TB pp.79-80) Chapter 3 (LR pp.24-34) Associated lessons (TE pp.252-257, TB pp.83-85)		

DCI	**LS1.D: Information Processing** ▪ Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive. Plants also respond to some external inputs. (1-LS1-1)	**EXAMPLE ONE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ5 L1 (TE pp.160-166, TB pp.49-52) L2 (TE pp.168-173, TB p.53)		
CCC	**Structure and Function** ▪ The shape and stability of structures of natural and designed objects are related to their function(s). (1-LS1-1)	**EXAMPLE ONE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ5 L1 (TE pp.160-166, TB pp.49-52) L2 (TE pp.168-173, TB p.53) L3 (TE pp.174-178, TB pp.54-55) **EXAMPLE TWO** **Grade 1, Module 2** **Animal Reporters** M2_DQ1 L3 (TE pp.22-27, TB p.12)		
CCC	***Connections to Engineering, Technology, and Applications of Science*** **Influence of Science, Engineering and Technology on Society and the Natural World** ▪ Every human-made product is designed by applying some knowledge of the natural world and is built using materials derived from the natural world. (1-LS1-1)	**EXAMPLE ONE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ6 L1 (TE pp.184-189, TB p.59) L3 (TE pp.196-201, TB pp.64) L4 (TE pp.202-207, TB pp.65-66) L5 (TE pp.208-213, TB pp.67-68) L6 (TE pp.214-218, TB p.69) Key Resources L1 **Inspiring Nature** visual L2 **Biomimicry: Hook and Loop Fasteners** video; **Look at a Plant Poem** visual L3 **Biomimicry: Lotus Leaf** video **EXAMPLE TWO** **Grade 1 Module 1**		

		Museum of Leafology M1_DQ3 L5 (TE pp.106-111, TB p.33) L6 (TE pp.112-117, TB p.34)		

Science and Engineering Practices Disciplinary Core Ideas Crosscutting Concepts		**Publisher Citations**	**Performance Expectation**	**Publisher Citations**
SEP	**Obtaining, Evaluating, and Communicating Information** Obtaining, evaluating, and communicating information in K–2 builds on prior experiences and uses observations and texts to communicate new information. ▪ Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world. (1-LS1-2)	**EXAMPLE ONE** **Grade 1 Module 2** **Animal Reporters** M2_DQ3 L1 (TE pp.104-109, TB pp.45-50) L2 (TE pp.110-115, TB pp.51-52) L3 (TE pp.116-121, TB p.53) L4 (TE pp.122-127, TB pp.54-56) L5 (TE pp.128-132, TB p.57-58) Key Resources L1 **Elephant Report: Caring for Their Young** video L2 **Spectacled Caiman Family** video; **Fiordland Crested Penguin Family** video; **Shrew Family** video; **Otter Family** video L3 **Elephant Report: Young Communicating with Parent** video L5 **Just Keep Moving!** Read-Aloud text **EXAMPLE TWO** **Grade 1 Module 2** **Leveled Reader: Animal Talk** Chapter 1 (LR pp.2-15) Associated lessons (TE pp.228-231, TB pp.101-102)	**1-LS1-2.** **Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.** [Clarification Statement: 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).]	**EXAMPLE ONE** **Grade 1 Module 2** **Animal Reporters** M2_DQ3 L1 (TE pp.104-109, TB pp.45-50) L2 (TE pp.110-115, TB pp.51-52) L3 (TE pp.116-121, TB p.53) L4 (TE pp.122-127, TB pp.54-56) L5 (TE pp.128-132, TB p.57-58) Key Resources L1 **Elephant Report: Caring for Their Young** video L2 **Spectacled Caiman Family** video; **Fiordland Crested Penguin Family** video; **Shrew Family** video; **Otter Family** video L3 **Elephant Report: Young Communicating with Parent** video L5 **Just Keep Moving!** Read-Aloud text **EXAMPLE TWO** **Grade 1 Module 2** **Leveled Reader: Animal Talk** Chapter 3 (LR pp.24-32) Associated lessons (TE pp.238-243, TB pp.106-107
SEP	***Connections to Nature of Science*** **Scientific Knowledge is Based on Empirical Evidence**	**EXAMPLE ONE** **Grade 1 Module 2** **Animal Reporters**		

	▪ Scientists look for patterns and order when making observations about the world. (1-LS1-2)	M2_DQ1 L1 (TE pp.8-15, TB pp.7-9) Key Resources L1 **Animal Reporters Trailer** video; **Big AI** video **EXAMPLE TWO** **Grade 1 Module 2** **Animal Reporters** M2_DQ3 L1 (TE pp.104-109, TB pp.45-50) L2 (TE pp.110-115, TB pp.51-52) L3 (TE pp.116-121, TB p.53) L4 (TE pp.122-127, TB pp.54-56) L5 (TE pp.128-132, TB p.57-58) Key Resources L1 **Elephant Report: Caring for Their Young** video L2 **Spectacled Caiman Family** video; **Fiordland Crested Penguin Family** video; **Shrew Family** video; **Giant Otter Family** video L3 **Elephant Report: Young Communicating with Parent** video L5 **Just Keep Moving!** Read-Aloud text		
DCI	**LS1.B: Growth and Development of Organisms** ▪ Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive. (1-LS1-2)	**EXAMPLE ONE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ1 L4 (TE pp.26-33, TB pp.8-10) M1_DQ2 L1 (TE pp.40-47, TB pp.13-14) Key Resources **What Do Plants Need?** video; **Plant a Seed Poem** visual M1_DQ3 L2 (TE pp.84-91, TB pp.28-30) Key Resources **Scattering Seeds Poem** visual; **How Seeds Move** video M1_DQ3 L7 (TE pp.118-123, TB pp.35-36)		

		M1_DQ4 L1 (TE pp.130-135, TB pp.39-40) L2 (TE pp.136-141, TB pp.41-42) L4 (TE pp.148-154, TB pp.44-46) Key Resources L4 **Seedlings and Their Parent Plants** video; **Answer Key for Young, Adult, and Parent Plants** visual **EXAMPLE TWO** **Grade 1 Module 2** **Animal Reporters** M2_DQ3 L1 (TE pp.104-109, TB pp.45-50) L2 (TE pp.110-115, TB pp.51-52) L3 (TE pp.116-121, TB p.53) L4 (TE pp.122-127, TB pp.54-56) L5 (TE pp.128-132, TB p.57-58) Key Resources L1 **Elephant Report: Caring for Their Young** video L2 **Spectacled Caiman Family** video; **Fiordland Crested Penguin Family** video; **Shrew Family** video; **Giant Otter Family** video L3 **Elephant Report: Young Communicating with Parent** video L5 **Just Keep Moving!** Read-Aloud text		
CCC	**Patterns** ▪ Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence. (1-LS1-2)	**EXAMPLE ONE** **Grade 1 Module 2** **Animal Reporters** M2_DQ2 L1 (TE pp.80-84, TB pp.31-32) L2 (TE pp.102-107, TB pp.33-39) M2_DQ3 L5 (TE pp.128-132, TB p.57-58) Key Resources L5 **Just Keep Moving!** Read-Aloud text **EXAMPLE TWO** **Grade 1 Module 1**		

		Leveled Reader: Our Leafy Friends Chapter 2 (LR pp.16-23) Associated lessons (TE pp.246-251, TB pp.81-82) Chapter 3 (LR pp.24-34) Associated lessons (TE pp.252-257, TB pp.83-85)		

1-LS3 Heredity: Inheritance and Variation of Traits

Science and Engineering Practices Disciplinary Core Ideas Crosscutting Concepts		**Publisher Citations**	**Performance Expectation**	**Publisher Citations**
SEP	**Constructing Explanations and Designing Solutions** Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions. ▪ Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena. (1-LS3-1)	**EXAMPLE ONE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ4 L4 (TE pp.148-154, TB pp.44-46) Key Resources L3 **Bean Plants** visual; **Trees** visual; **Bean Plants and Trees** visual; **Time-Lapse of a Plant** video L4 **Seedlings and Their Parent Plants** video **EXAMPLE TWO** **Grade 1 Module 1** **Museum of Leafology** M1_DQ7 L2 (TE pp.230-233, TB p.74) **EXAMPLE THREE** **Grade 1 Module 2** **Animal Reporters** M2_DQ2 L1 (TE pp.80-84, TB pp.31-32) L2 (TE pp.86-91, TB pp.33-39) L3 (TE pp.92-98, TB pp.40-42) Key Resources L1 **Young Animals** video	**1-LS3-1.** **Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.** [Clarification Statement: 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.] [Assessment Boundary: *Assessment does not include inheritance or animals that undergo metamorphosis or hybrids.]*	**EXAMPLE ONE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ4 L3 (TE pp.142-147, TB p.43) L4 (TE pp.148-154, TB pp.44-46) Key Resources L3 **Bean Plants** visual; **Trees** visual; **Bean Plants and Trees** visual; **Time-Lapse of a Plant** video L4 **Seedlings and Their Parent Plants** video **EXAMPLE TWO** **Grade 1 Module 1** **Museum of Leafology** M1_DQ5 L2 (TE pp.168-173, TB p.53) L3 (TE pp.174-178, TB pp.54-55) Key Resources L2 **Cactus—Pixelate** video; **Extremely Dangerous Plants** video **EXAMPLE THREE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ7 L2 (TE pp.230-233, TB p.74) **EXAMPLE FOUR**

		L2 **Elephant Report: Young Elephants** video; **Animal Parents and Their Young** visual L3 **Mother Pig and Her Young** visual; **Emus** video **EXAMPLE FOUR** **Grade 1 Module 1** **Leveled Reader: Our Leafy Friends** Chapter 1 (LR pp.4-15) Associated lessons (TE pp.242-245, TB pp.79-80)		**Grade 1 Module 2** **Animal Reporters** M2_DQ2 L1 (TE pp.80-84, TB pp.31-32) L2 (TE pp.102-107, TB pp.33-39) L3 (TE pp.92-98, TB pp.40-42) **EXAMPLE FIVE** **Grade 1 Module 1** **Leveled Reader: Our Leafy Friends** Chapter 1 (LR pp.4-15) Associated lessons (TE pp.242-245, TB pp.79-80) **EXAMPLE SIX** **Grade 1 Module 2** **Leveled Reader: Animal Talk** Chapter 1 (LR pp.2-15) Associated lessons (TE pp.228-231 , TB pp.101-102)
DCI	**LS3.A: Inheritance of Traits** ▪ Young animals are very much, but not exactly like, their parents. Plants also are very much, but not exactly, like their parents. (1-LS3-1)	**EXAMPLE ONE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ4 L3 (TE pp.142-147, TB p.43) L4 (TE pp.148-154, TB pp.44-46) Key Resources L4 **Seedlings and Their Parent Plants** video **EXAMPLE TWO** **Grade 1 Module 1** **Museum of Leafology** M1_DQ7 L1 (TE pp.224-229, TB p.73) L2 (TE pp.230-233, TB p.74) **EXAMPLE THREE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ5 L3 (TE pp.174-178, TB pp.54-55) **EXAMPLE FOUR** **Grade 1 Module 1** **Museum of Leafology** M1_DQ2 L1 (TE pp.40-48, TB pp.13-14) L2 (TE pp.48-52, TB pp.15-19) L3 (TE pp.56-63, TB p.20) Key Resources		

		L1 **What Do Plants Need?** video; **Plant a Seed Poem** visual L2 **Plant Parts Song** visual; **Plant Parts Song** video; **Parts of a Plant** visual L3 **Plant Factory** interactive **EXAMPLE FIVE** **Grade 1 Module 2** **Animal Reporters** M2_DQ2 L2 (TE pp.102-107, TB pp.33-39) Key Resources L2 **Elephant Report: Young Elephants** video		
DCI	**LS3.B: Variation of Traits** ▪ Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways. (1-LS3-1)	**EXAMPLE ONE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ4 L1 (TE pp.130-135, TB pp.39-40) L2 (TE pp.136-141, TB pp.41-42) L3 (TE pp.142-147, TB p.43) L4 (TE pp.148-154, TB pp.44-46) Key Resources L3 **Bean Plants** visual; **Trees** visual; **Bean Plants and Trees** visual; **Time-Lapse of a Plant** video L4 **Seedlings and Their Parent Plants** video **EXAMPLE TWO** **Grade 1 Module 1** **Museum of Leafology** M1_DQ7 L1 (TE pp.224-229, TB p.73) L2 (TE pp.230-233, TB p.74) L3 (TE pp.234-240, TB pp.75-78) Key Resources L3 **Answer Key for Parent and Adult Plants** visual **EXAMPLE THREE** **Grade 1 Module 2** **Animal Reporters** M2_DQ2		

		L2 (TE pp.102-107, TB pp.33-39) L3 (TE pp.92-98, TB pp.40-42) Key Resources L2 **Elephant Report: Young Elephants** video L3 **Mother Pig and Its Young** visual; **Emus** video		
CCC	**Patterns** ▪ Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence. (1-LS3-1)	**EXAMPLE ONE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ1 L2 (TE pp.12-18, TB pp.5-6) Key Resources L2 **Is It Living? Prior-Knowledge Read-Aloud** text **EXAMPLE TWO** **Grade 1 Module 1** **Museum of Leafology** M1_DQ2 L2 (TE pp.48-52, TB pp.15-19) L3 (TE pp.56-63, TB p.20) Key Resources L2 **Plant Parts Song** visual; **Plant Parts Song** video; **Parts of a Plant** visual L3 **Plant Factory** interactive **EXAMPLE THREE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ3 L2 (TE pp.84-91, TB pp.28-30) Key Resources L2 **How Seeds Move** video **EXAMPLE FOUR** **Grade 1 Module 1** **Museum of Leafology** M1_DQ4 L1 (TE pp.130-135, TB pp.39-40) L2 (TE pp.136-141, TB pp.41-42) L3 (TE pp.142-147, TB p.43) L4 (TE pp.148-154, TB pp.44-46)		

		Key Resources L3 **Bean Plants** visual; **Trees** visual; **Bean Plants and Trees** visual; **Time-Lapse of a Plant** video L4 **Seedlings and Their Parent Plants** video **EXAMPLE FIVE** **Grade 1 Module 2** **Animal Reporters** M2_DQ1 L1 (TE pp.8-15, TB pp.7-9) Key Resources L1 **Animal Reporters Trailer** video; **Big Al** video **EXAMPLE SIX** **Grade 1 Module 2** **Animal Reporters** M2_DQ2 L1 (TE pp.80-84, TB pp.31-32) L2 (TE pp.102-107, TB pp.33-39) Key Resources L1 **Young Animals** video L2 **Elephant Report: Young Elephants** video **EXAMPLE SEVEN** **Grade 1 Module 2** **Animal Reporters** M2_DQ3 L5 (TE pp.128-132, TB p.57-58) Key Resources L5 **Just Keep Moving!** Read-Aloud text **EXAMPLE EIGHT** **Grade 1 Module 1** **Leveled Reader: Our Leafy Friends** Chapter 1 (LR pp.4-15) Associated lessons (TE pp.242-245, TB pp.79-80)		

1-ESS1 Earth's Place in the Universe

Science and Engineering Practices Disciplinary Core Ideas Crosscutting Concepts		Publisher Citations	Performance Expectation	Publisher Citations
SEP	**Analyzing and Interpreting Data** Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations. ▪ Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. (1-ESS1-1)	**EXAMPLE ONE** **Grade 1 Module 4** **Patterns in the Sky** M4_DQ1 L5 (TE pp.32-37, TB pp.15-16) Key Resources L2 **Sky Report: Sun** video L4 **Patterns in the Sky Song** video L5 **Position of the Sun Model** visual **EXAMPLE TWO** **Grade 1 Module 4** **Patterns in the Sky** M4_DQ3 L2 (TE pp.96-101, TB p.42) L3 (TE pp.102-107, TB pp.43-45) L4 (TE pp.108-113, TB pp.46-54) L5 (TE pp.114-119, TB pp.55-58) L6 (TE pp.120-124, TB p.59) L7 (TE pp.126-131, TB pp.60-73) L8 (TE pp.132-137, TB p.74) Key Resources L2 **Sky Report: Moon** video L4 **Phases of the Moon** video L5 **Sky Report: Moon in the Sky** video **EXAMPLE THREE** **Grade 1 Module 4** **Leveled Reader: Day and Night** Chapter 1 (LR pp.2-13) Associated lessons (TE pp.140-143, TB pp.75-76)	**1-ESS1-1.** **Use observations of the sun, moon, and stars to describe patterns that can be predicted.** [Clarification Statement: 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.] [*Assessment Boundary: Assessment of star patterns is limited to stars being seen at night and not during the day.*]	**EXAMPLE ONE** **Grade 1 Module 4** **Patterns in the Sky** M4_DQ1 L2 (TE pp.14-19, TB pp.7-9) L3 (TE pp.20-25, TB p.10) L4 (TE pp.26-31, TB pp.11-14) L5 (TE pp.32-37, TB pp.15-16) L7 (TE pp.44-48, TB pp.19-20) Key Resources L2 **Sky Report: Sun** video L4 **Patterns in the Sky Song** video L5 **Position of the Sun Model** visual **EXAMPLE TWO** **Grade 1 Module 4** **Patterns in the Sky** M4_DQ3 L1 (TE pp.90-95, TB pp.39-41) L2 (TE pp.96-101, TB p.42) L3 (TE pp.102-107, TB pp.43-45) L4 (TE pp.108-113, TB pp.46-54) L5 (TE pp.114-119, TB pp.55-58) L6 (TE pp.120-124, TB p.59) L7 (TE pp.126-131, TB pp.60-73) L8 (TE pp.132-137, TB p.74) Key Resources L2 **Sky Report: Moon** video L4 **Phases of the Moon** video L5 **Sky Report: Moon in the Sky** video **EXAMPLE THREE**

		Chapter 2 (LR pp.14-19) Associated lessons (TE pp.144-149, TB pp.77-80)		**Grade 1 Module 4** **Leveled Reader: Day and Night** Chapter 1 (LR pp.2-13) Associated lessons (TE pp.140-143, TB pp.75-76) Chapter 2 (LR pp.14-19) Associated lessons (TE pp.144-149, TB pp.77-80)
DCI	**ESS1.A: The Universe and its Stars** ▪ Patterns of the motion of the sun, moon, and stars in the sky can be observed, described, and predicted. (1-ESS1-1)	**EXAMPLE ONE** **Grade 1 Module 4** **Patterns in the Sky** M4_DQ1 L1 (TE pp.8-13, TB pp.3-6) L2 (TE pp.14-19, TB pp.7-9) L5 (TE pp.32-37, TB pp.15-16) L7 (TE pp.44-48, TB pp.19-20) Key Resources L1 **Patterns in the Sky Trailer** video **EXAMPLE TWO** **Grade 1 Module 4** **Patterns in the Sky** M4_DQ3 L1 (TE pp.90-95, TB pp.39-41) L2 (TE pp.96-101, TB p.42) L3 (TE pp.102-107, TB pp.43-45) L4 (TE pp.108-113, TB pp.46-54) L5 (TE pp.114-119, TB pp.55-58) L6 (TE pp.120-124, TB p.59) L7 (TE pp.126-131, TB pp.60-73) L8 (TE pp.132-137, TB p.74) Key Resources L2 **Sky Report: Moon** video L4 **Phases of the Moon** video L5 **Sky Report: Moon in the Sky** video		
CCC	**Patterns** ▪ Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (1-ESS1-1)	**EXAMPLE ONE** **Grade 1 Module 4** **Patterns in the Sky** M4_DQ1 L2 (TE pp.14-19, TB pp.7-9) L3 (TE pp.20-25, TB p.10) L4 (TE pp.26-31, TB pp.11-14) L5 (TE pp.32-37, TB pp.15-16) L7 (TE pp.44-48, TB pp.19-20) Key Resources		

		L2 **Sky Report: Sun** video L4 **Patterns in the Sky Song** video L5 **Position of the Sun Model** visual **EXAMPLE TWO** **Grade 1 Module 4** **Patterns in the Sky** M4_DQ2 L2 (TE pp.60-65, TB pp.26-27) L3 (TE pp.66-71, TB pp.28-29) L4 (TE pp.72-77, TB pp.30-33) L5 (TE pp.78-82, TB pp.34-36) **EXAMPLE THREE** **Grade 1 Module 4** **Patterns in the Sky** M4_DQ3 L3 (TE pp.102-107, TB pp.43-45) L4 (TE pp.108-113, TB pp.46-54) L5 (TE pp.114-119, TB pp.55-58) L6 (TE pp.120-124, TB p.59) L7 (TE pp.126-131, TB pp.60-73) L8 (TE pp.132-137, TB p.74) **EXAMPLE FOUR** **Grade 1 Module 4** **Leveled Reader: Day and Night** Chapter 2 (LR pp.14-19) Associated lessons (TE pp.144-149, TB pp.77-80)		
CCC	***Connections to Nature of Science*** **Scientific Knowledge Assumes an Order and Consistency in Natural Systems** ▪ Science assumes natural events happen today as they happened in the past. (1-ESS1-1)	**EXAMPLE ONE** **Grade 1 Module 4** **Patterns in the Sky** M4_DQ1 L2 (TE pp.14-19, TB pp.7-9) L3 (TE pp.20-25, TB p.10) L4 (TE pp.26-31, TB pp.11-14) **EXAMPLE TWO** **Grade 1 Module 4** **Patterns in the Sky**		

	▪ Many events are repeated. (1-ESS1-1)	M4_DQ3 L2 (TE pp.96-101, TB p.42) L3 (TE pp.102-107, TB pp.43-45) L4 (TE pp.108-113, TB pp.46-54) L5 (TE pp.114-119, TB pp.55-58) L6 (TE pp.120-124, TB p.59) L7 (TE pp.126-131, TB pp.60-73) L8 (TE pp.132-137, TB p.74)		

Science and Engineering Practices Disciplinary Core Ideas Crosscutting Concepts		Publisher Citations	Performance Expectation	Publisher Citations
SEP	**Planning and Carrying Out Investigations** Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions. ▪ Make observations (firsthand or from media) to collect data that can be used to make comparisons. (1-ESS1-2)	**EXAMPLE ONE** **Grade 1 Module 4** **Patterns in the Sky** M4_DQ3 L3 (TE pp.102-107, TB pp.43-45)	**1-ESS1-2.** **Make observations at different times of year to relate the amount of daylight to the time of year.** [Clarification Statement: Emphasis is on relative comparisons of the amount of daylight in the winter to the amount in the spring or fall.] [Assessment Boundary: *Assessment is limited to relative amounts of daylight, not quantifying the hours or time of daylight.]*	**EXAMPLE ONE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ2 L3 (TE pp.56-63, TB p.20) **EXAMPLE TWO** **Grade 1 Module 1** **Museum of Leafology** M1_DQ6 L3 (TE pp.196-201, TB pp.64) **EXAMPLE THREE** **Grade 1 Module 4** **Patterns in the Sky** M4_DQ2 L2 (TE pp.60-65, TB pp.26-27) L3 (TE pp.66-71, TB pp.28-29) L4 (TE pp.72-77, TB pp.30-33) L5 (TE pp.78-82, TB pp.34-36) **EXAMPLE FOUR** **Grade 1 Module 4** **Leveled Reader: Day and Night** Chapter 3 (LR pp.20-32) Associated lessons (TE pp.150-155, TB pp.81-82)
DCI	**ESS1.B: Earth and the Solar System** ▪ Seasonal patterns of sunrise and sunset can be observed, described, and predicted. (1-ESS1-2)	**EXAMPLE ONE** **Grade 1 Module 4** **Patterns in the Sky** M4_DQ2 L2 (TE pp.60-65, TB pp.26-27) L3 (TE pp.66-71, TB pp.28-29) L4 (TE pp.72-77, TB pp.30-33)		

		L5 (TE pp.78-82, TB pp.34-36)		
CCC	**Patterns** ▪ Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (1-ESS1-2)	**EXAMPLE ONE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ2 L3 (TE pp.56-63, TB p.20) **EXAMPLE TWO** **Grade 1 Module 4** **Patterns in the Sky** M4_DQ1 L2 (TE pp.14-19, TB pp.7-9) L3 (TE pp.20-25, TB p.10) L4 (TE pp.26-31, TB pp.11-14) L5 (TE pp.32-37, TB pp.15-16) L6 (TE pp.38-43, TB pp.17-18) L7 (TE pp.44-48, TB pp.19-20) **EXAMPLE THREE** **Grade 1 Module 4** **Patterns in the Sky** M4_DQ2 L2 (TE pp.60-65, TB pp.26-27) L3 (TE pp.66-71, TB pp.28-29) L4 (TE pp.72-77, TB pp.30-33) L5 (TE pp.78-82, TB pp.34-36) **EXAMPLE FOUR** **Grade 1 Module 4** **Patterns in the Sky** M4_DQ3 L3 (TE pp.102-107, TB pp.43-45) L4 (TE pp.108-113, TB pp.46-54) L5 (TE pp.114-119, TB pp.55-58) L6 (TE pp.120-124, TB p.59) L7 (TE pp.126-131, TB pp.60-73) L8 (TE pp.132-137, TB p.74) Key Resources L4 **Phases of the Moon** video L5 **Sky Report: Moon in the Sky** video		

		EXAMPLE SIX **Grade 1 Module 3** **Shadow Town** M3_DQ1 L6 (TE pp.42-47, TB pp.18-19) **EXAMPLE SEVEN** **Grade 1 Module 3** **Shadow Town** M3_DQ2 L2 (TE pp.84-89, TB p.33) **EXAMPLE EIGHT** **Grade 1 Module 3** **Shadow Town** M3_DQ3 L1 (TE pp.122-129, TB pp.51-54) **EXAMPLE NINE** **Grade 1 Module 4** **Leveled Reader: Day and Night** Chapter 1 (LR pp.2-13) Associated lessons (TE pp.140-143, TB pp.75-76) Chapter 2 (LR pp.14-19) Associated lessons (TE pp.144-149, TB pp.77-80)		

1-PS4 Waves and their Applications in Technologies for Information Transfer

Science and Engineering Practices Disciplinary Core Ideas Crosscutting Concepts		Publisher Citations	Performance Expectation	Publisher Citations
SEP	**Planning and Carrying Out Investigations** Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions. ▪ Plan and conduct investigations collaboratively to produce data to serve as the basis for evidence to answer a question. (1-PS4-1)	**EXAMPLE ONE** **Grade 1 Module 2** **Animal Reporters** M2_DQ4 L2 (TE pp.146-151, TB pp.64-66) L3 (TE pp.152-157, TB pp.67-69) L6 (TE pp.170-175, TB pp.74-76) L7 (TE pp.176-181, TB pp.77-78) L8 (TE pp.182-187, TB pp.79-80) **EXAMPLE TWO** **Grade 1 Module 3** **Shadow Town** M3_DQ1 L4 (TE pp.28-35, TB pp.13-14) L5 (TE pp.36-41, TB pp.15-17) L6 (TE pp.42-47, TB pp.18-19) L7 (TE pp.48-53, TB p.20)	**1-PS4-1.** **Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.** [Clarification Statement: 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.]	**EXAMPLE ONE** **Grade 1 Module 2** **Animal Reporters** M2_DQ4 L2 (TE pp.146-151, TB pp.64-66) L3 (TE pp.152-157, TB pp.67-69) L6 (TE pp.170-175, TB pp.74-76) L7 (TE pp.176-181, TB pp.77-78) L8 (TE pp.182-187, TB pp.79-80)
SEP	***Connections to Nature of Science*** **Scientific Investigations Use a Variety of Methods** ▪ Science investigations begin with a question. (1-PS4-1) ▪ Scientists use different ways to study the world. (1-PS4-1)	**EXAMPLE ONE** **Grade 1 Module 2** **Animal Reporters** M2_DQ5 L1 (TE pp.198-203, TB pp.85-86) L2 (TE pp.204-209, TB pp.87-88) L3 (TE pp.210-213, TB pp.89-90) L4 (TE pp.214-217, TB pp.91-92) L5 (TE pp.218-221, TB p.93) L6 (TE pp.222-226, TB pp.94-96) Key Resources L4 **Trial and Error—Lion Lights** video **EXAMPLE TWO** **Grade 1 Module 2** **Animal Reporters** M2_DQ4 L1 (TE pp.140-145, TB pp.61-63)		

		Key Resources **Prairie Dogs** video **EXAMPLE THREE** **Grade 1 Module 2** **Animal Reporters** M2_DQ4 L2 (TE pp.146-151, TB pp.64-66) L3 (TE pp.152-157, TB pp.67-69) L6 (TE pp.170-175, TB pp.74-76) L7 (TE pp.176-181, TB pp.77-78) L8 (TE pp.182-187, TB pp.79-80)		
DCI	**PS4.A: Wave Properties** ▪ Sound can make matter vibrate, and vibrating matter can make sound. (1-PS4-1)	**EXAMPLE ONE** **Grade 1 Module 2** **Animal Reporters** M2_DQ4 L2 (TE pp.146-151, TB pp.64-66) L3 (TE pp.152-157, TB pp.67-69) L8 (TE pp.182-187, TB pp.79-80) **EXAMPLE TWO** **Grade 1 Module 2** **Animal Reporters** M2_DQ5 L2 (TE pp.204-209, TB pp.87-88)		
CCC	**Cause and Effect** ▪ Simple tests can be designed to gather evidence to support or refute student ideas about causes. (1-PS4-1)	**EXAMPLE ONE** **Grade 1 Module 2** **Animal Reporters** M2_DQ4 L2 (TE pp.146-151, TB pp.64-66) L3 (TE pp.152-157, TB pp.67-69) L5 (TE pp.164-169, TB pp.71-73) L6 (TE pp.170-175, TB pp.74-76) L7 (TE pp.176-181, TB pp.77-78) L8 (TE pp.182-187, TB pp.79-80)		

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Science and Engineering Practices Disciplinary Core Ideas Crosscutting Concepts		Publisher Citations	Performance Expectation	Publisher Citations
SEP	**Constructing Explanations and Designing Solutions** Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions. ▪ Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena. (1-PS4-2)	**EXAMPLE ONE** **Grade 1 Module 3** **Shadow Town** M3_DQ1 L2 (TE pp.14-21, TB pp.5-8) L3 (TE pp.22-27, TB pp.9-12) L4 (TE pp.28-35, TB pp.13-14) L5 (TE pp.36-41, TB pp.15-17) L6 (TE pp.42-47, TB pp.18-19) Key Resources L2 **What Is a Shadow?** video L4 **Cat and Mouse Shadows** video **EXAMPLE TWO** **Grade 1 Module 3** **Shadow Town** M3_DQ2 L2 (TE pp.84-89, TB p.33) L3 (TE pp.90-95, TB pp.34-37) L4 (TE pp.96-101, TB p.38) Key Resources L4 **Lighting Up Our World** video **EXAMPLE THREE** **Grade 1 Module 3** **Shadow Town** M3_DQ3 L3 (TE pp.138-143, TB pp.57-60)	**1-PS4-2.** **Make observations to construct an evidence-based account that objects in darkness can be seen only when illuminated.** [Clarification Statement: 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.]	**EXAMPLE ONE** **Grade 1 Module 3** **Shadow Town** M3_DQ2 L2 (TE pp.84-89, TB p.33) L3 (TE pp.90-95, TB pp.34-37) L4 (TE pp.96-101, TB p.38) L5 (TE pp.102-107, TB pp.39-46)
DCI	**PS4.B: Electromagnetic Radiation** ▪ Objects can be seen if light is available to illuminate them or if they give off their own light. (1-PS4-2	**EXAMPLE ONE** **Grade 1 Module 3** **Shadow Town** M3_DQ2 L1 (TE pp.78-83, TB pp.29-32) L2 (TE pp.84-89, TB p.33) L3 (TE pp.90-95, TB pp.34-37) L4 (TE pp.96-101, TB p.38)		

		L5 (TE pp.102-107, TB pp.39-46) L6 (TE pp.108-114, TB pp.47-48) **EXAMPLE TWO** **Grade 1 Module 3** **Shadow Town** M3_DQ3 L9 (TE pp.176-182, TB pp.76-78)		
CCC	**Cause and Effect** ▪ Simple tests can be designed to gather evidence to support or refute student ideas about causes. (1-PS4-2),	**EXAMPLE ONE** **Grade 1 Module 3** **Shadow Town** M3_DQ2 L1 (TE pp.78-83, TB pp.29-32) L2 (TE pp.84-89, TB p.33) L3 (TE pp.90-95, TB pp.34-37) L4 (TE pp.96-101, TB p.38) L5 (TE pp.102-107, TB pp.39-46) L6 (TE pp.108-114, TB pp.47-48) **EXAMPLE TWO** **Grade 1 Module 3** **Shadow Town** M3_DQ2 L2 (TE pp.84-89, TB p.33) L3 (TE pp.90-95, TB pp.34-37) L4 (TE pp.96-101, TB p.38) L5 (TE pp.102-107, TB pp.39-46) **EXAMPLE THREE** **Grade 1 Module 3** **Leveled Reader: Skyscrapers** Chapter 3 (LR pp.22-32) Associated lessons (TE pp.194-199, TB pp.83-84)		

Science and Engineering Practices Disciplinary Core Ideas Crosscutting Concepts	Publisher Citations	Performance Expectation	Publisher Citations

<table>
<tr>
<td>SEP</td>
<td>Planning and Carrying Out Investigations
Planning and carrying out investigations to answer questions or test solutions to problems in K–2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions.
▪ Plan and conduct investigations collaboratively to produce data to serve as the basis for evidence to answer a question. (1-PS4-3)</td>
<td>EXAMPLE ONE
Grade 1 Module 3
Shadow Town
M3_DQ1
L2 (TE pp.14-21, TB pp.5-8)
L4 (TE pp.28-35, TB pp.13-14)
L5 (TE pp.36-41, TB pp.15-17)
L6 (TE pp.42-47, TB pp.18-19)
L7 (TE pp.48-53, TB p.20)
L8 (TE pp.54-59, TB pp.21-22)

EXAMPLE TWO
Grade 1 Module 3
Shadow Town
M3_DQ3
L1 (TE pp.122-129, TB pp.51-54)
L2 (TE pp.130-136, TB pp.55-56)
L3 (TE pp.138-143, TB pp.57-60)

EXAMPLE THREE
Grade 1 Module 4
Patterns in the Sky
M4_DQ3
L2 (TE pp.96-101, TB p.42)</td>
<td rowspan="2">1-PS4-3.
Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light. [Clarification Statement: 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).] [Assessment Boundary: Assessment does not include the speed of light.]</td>
<td rowspan="2">EXAMPLE ONE
Grade 1 Module 3
Shadow Town
M3_DQ1
L2 (TE pp.14-21, TB pp.5-8)
L3 (TE pp.22-27, TB pp.9-12)
L4 (TE pp.28-35, TB pp.13-14)
L5 (TE pp.36-41, TB pp.15-17)
L6 (TE pp.42-47, TB pp.18-19)
L7 (TE pp.48-53, TB p.20)
L8 (TE pp.54-59, TB pp.21-22)

EXAMPLE TWO
Grade 1 Module 3
Shadow Town
M3_DQ3
L1 (TE pp.122-129, TB pp.51-54)
L2 (TE pp.130-136, TB pp.55-56)
L3 (TE pp.138-143, TB pp.57-60)

EXAMPLE THREE
Grade 1 Module 4
Patterns in the Sky
M4_DQ3
L2 (TE pp.96-101, TB p.42)</td>
</tr>
<tr>
<td>DCI</td>
<td>PS4.B: Electromagnetic Radiation
▪ Some materials allow light to pass through them, others allow only some light through and others block all the light and create a dark shadow on any surface beyond them, where the light cannot reach. Mirrors can be used to redirect a light beam. (Boundary: The idea that light travels from place to place is developed through experiences with light sources, mirrors, and</td>
<td>EXAMPLE ONE
Grade 1 Module 3
Shadow Town
M3_DQ1
L2 (TE pp.14-21, TB pp.5-8)
L3 (TE pp.22-27, TB pp.9-12)
L4 (TE pp.28-35, TB pp.13-14)
L5 (TE pp.36-41, TB pp.15-17)
L6 (TE pp.42-47, TB pp.18-19)
L7 (TE pp.48-53, TB p.20)
L8 (TE pp.54-59, TB pp.21-22)

EXAMPLE TWO
Grade 1 Module 3
Shadow Town
M3_DQ3</td>
</tr>
</table>

	shadows, but no attempt is made to discuss the speed of light.) (1-PS4-3)	L1 (TE pp.122-129, TB pp.51-54) L2 (TE pp.130-136, TB pp.55-56) L3 (TE pp.138-143, TB pp.57-60) Key Resources L2 **Spot the Opaque Objects** video **EXAMPLE THREE** **Grade 1 Module 4** **Patterns in the Sky** M4_DQ3 L2 (TE pp.96-101, TB p.42)		
CCC	**Cause and Effect** ▪ Simple tests can be designed to gather evidence to support or refute student ideas about causes. (1-PS4-3)	**EXAMPLE ONE** **Grade 1 Module 3** **Shadow Town** M3_DQ1 L1 (TE pp.8-13, TB pp.3-4) L2 (TE pp.14-21, TB pp.5-8) L3 (TE pp.22-27, TB pp.9-12) L4 (TE pp.28-35, TB pp.13-14) L5 (TE pp.36-41, TB pp.15-17) L6 (TE pp.42-47, TB pp.18-19) L7 (TE pp.48-53, TB p.20) L8 (TE pp.54-59, TB pp.21-22) L9 (TE pp.60-65, TB p.23) L10 (TE pp.66-72, TB pp.24-26) **EXAMPLE TWO** **Grade 1 Module 3** **Shadow Town** M3_DQ3 L1 (TE pp.122-129, TB pp.51-54) L2 (TE pp.130-136, TB pp.55-56) L3 (TE pp.138-143, TB pp.57-60) L4 (TE pp.144-151, TB pp.61-67) L5 (TE pp.152-158, TB pp.68-70) **EXAMPLE THREE** **Grade 1 Module 4** **Patterns in the Sky** M4_DQ3		

		L2 (TE pp.96-101, TB p.42)		

Science and Engineering Practices Disciplinary Core Ideas Crosscutting Concepts		Publisher Citations	Performance Expectation	Publisher Citations
SEP	**Constructing Explanations and Designing Solutions** Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions. ▪ Use tools and materials provided to design a device that solves a specific problem. (1-PS4-4)	**EXAMPLE ONE** **Grade 1 Module 2** **Animal Reporters** M2_DQ5 L1 (TE pp.198-203, TB pp.85-86) L2 (TE pp.204-209, TB pp.87-88) L3 (TE pp.210-213, TB pp.89-90) L4 (TE pp.214-217, TB pp.91-92) L5 (TE pp.218-221, TB p.93) L6 (TE pp.222-226, TB pp.94-96) Key Resources L4 **Trial and Error—Lion Lights** video **EXAMPLE TWO** **Grade 1 Module 3** **Leveled Reader: Skyscrapers** All chapters (pp.2-32) Associated lessons (TE pp.184-199, TB pp.79-84)	**1-PS4-4.** **Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.*** [Clarification Statement: Examples of devices could include a light source to send signals, paper cup and string "telephones," and a pattern of drum beats.] [*Assessment Boundary: Assessment does not include technological details for how communication devices work.*]	**EXAMPLE ONE** **Grade 1 Module 2** **Animal Reporters** M2_DQ5 L1 (TE pp.198-203, TB pp.85-86) L2 (TE pp.204-209, TB pp.87-88) L3 (TE pp.210-213, TB pp.89-90) L4 (TE pp.214-217, TB pp.91-92) L5 (TE pp.218-221, TB p.93) L6 (TE pp.222-226, TB pp.94-96) Key Resources L4 **Trial and Error—Lion Lights** video
DCI	**PS4.C: Information Technologies and Instrumentation** ▪ People also use a variety of devices to communicate (send and receive information) over long distances. (1-PS4-4)	**EXAMPLE ONE** **Grade 1 Module 2** **Animal Reporters** M2_DQ5 L1 (TE pp.198-203, TB pp.85-86) L2 (TE pp.204-209, TB pp.87-88) L3 (TE pp.210-213, TB pp.89-90) L4 (TE pp.214-217, TB pp.91-92) L5 (TE pp.218-221, TB p.93) L6 (TE pp.222-226, TB pp.94-96) Key Resources L4 **Trial and Error—Lion Lights** video		

		EXAMPLE TWO **Grade 1 Module 2** **Animal Reporters** M2_DQ4 L8 (TE pp.182-187, TB pp.79-80)		
CCC	***Connections to Engineering, Technology, and Applications of Science*** **Influence of Engineering, Technology, and Science on Society and the Natural World** ▪ People depend on various technologies in their lives; human life would be very different without technology. (1-PS4-4)	**EXAMPLE ONE** **Grade 1 Module 2** **Animal Reporters** M2_DQ5 L1 (TE pp.198-203, TB pp.85-86) L2 (TE pp.204-209, TB pp.87-88) L3 (TE pp.210-213, TB pp.89-90) L4 (TE pp.214-217, TB pp.91-92) L5 (TE pp.218-221, TB p.93) L6 (TE pp.222-226, TB pp.94-96) **EXAMPLE TWO** **Grade 1 Module 1** **Museum of Leafology** M1_DQ3 L5 (TE pp.106-111, TB p.33) L6 (TE pp.112-117, TB p.34) **EXAMPLE THREE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ6 L1 (TE pp.184-189, TB p.59) L2 (TE pp.190-195, TB pp.60-63) L3 (TE pp.196-201, TB pp.64) L4 (TE pp.202-207, TB pp.65-66) L5 (TE pp.208-213, TB pp.67-68) L6 (TE 214-218, TB p.69) Key Resources L2 **Biomimicry: Hook and Loop Fasteners** video L3 **Biomimicry: Lotus Leaf** video		

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Science and Engineering Practices Disciplinary Core Ideas Crosscutting Concepts		Publisher Citations	Performance Expectation	Publisher Citations
SEP	**Asking Questions and Defining Problems** Asking questions and defining problems in K–2 builds on prior experiences and progresses to simple descriptive questions. ▪ Ask questions based on observations to find more information about the natural and/or designed world(s). (K–2-ETS1-1)	**EXAMPLE ONE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ6 L2 (TE pp.190-195, TB pp.60-63) L3 (TE pp.196-201, TB pp.64) **EXAMPLE TWO** **Grade 1 Module 1** **Museum of Leafology** M1_DQ7 L2 (TE pp.230-233, TB p.74) **EXAMPLE THREE** **Grade 1 Module 2** **Animal Reporters** M2_DQ5 L1 (TE pp.198-203, TB pp.85-86) L2 (TE pp.204-209, TB pp.87-88) **EXAMPLE FOUR** **Grade 1 Module 3** **Shadow Town** M3_DQ3 L9 (TE pp.176-182, TB pp.76-78) **EXAMPLE FIVE** **Grade 1 Module 1** **Leveled Reader: Our Leafy Friends** Chapter 1 (LR pp.4-15) Associated lessons (TE pp.242-245, TB pp.79-80)	**K–2-ETS1-1.** **Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.**	**EXAMPLE ONE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ6 L2 (TE pp.190-195, TB pp.60-63) L3 (TE pp.196-201, TB pp.64) **EXAMPLE TWO** **Grade 1 Module 2** **Animal Reporters** M2_DQ5 L1 (TE pp.198-203, TB pp.85-86) L2 (TE pp.204-209, TB pp.87-88) **EXAMPLE THREE** **Grade 1 Module 3** **Shadow Town** M3_DQ3 L9 (TE pp.176-182, TB pp.76-78)
DCI	**ETS1.A: Defining and Delimiting Engineering Problems**	**EXAMPLE ONE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ6 L2 (TE pp.190-195, TB pp.60-63)		

	▪ A situation that people want to change or create can be approached as a problem to be solved through engineering. (K–2-ETS1-1) ▪ Asking questions, making observations, and gathering information are helpful in thinking about problems. (K–2-ETS1-1) ▪ Before beginning to design a solution, it is important to clearly understand the problem. (K–2-ETS1-1)	L3 (TE pp.196-201, TB pp.64) L4 (TE pp.202-207, TB pp.65-66) L5 (TE pp.208-213, TB pp.67-68) **EXAMPLE TWO** **Grade 1 Module 1** **Museum of Leafology** M1_DQ3 L4 (TE pp.98-105, TB p.32) L5 (TE pp.106-111, TB p.33) **EXAMPLE THREE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ7 L2 (TE pp.230-233, TB p.74) **EXAMPLE FOUR** **Grade 1 Module 2** **Animal Reporters** M2_DQ5 L1 (TE pp.198-203, TB pp.85-86) L2 (TE pp.204-209, TB pp.87-88) **EXAMPLE FIVE** **Grade 1 Module 3** **Shadow Town** M3_DQ3 L9 (TE pp.176-182, TB pp.76-78)		

Science and Engineering Practices Disciplinary Core Ideas Crosscutting Concepts		Publisher Citations	Performance Expectation	Publisher Citations
SEP	**Developing and Using Models** Modeling in K–2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, diorama, dramatization, or	**EXAMPLE ONE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ6 L4 (TE pp.202-207, TB pp.65-66) L5 (TE pp.208-213, TB pp.67-68) **EXAMPLE TWO**	**K–2-ETS1-2.** **Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.**	**EXAMPLE ONE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ3 L4 (TE pp.98-105, TB p.32) L5 (TE pp.106-111, TB p.33) L6 (TE pp.112-117, TB p.34)

	storyboard) that represent concrete events or design solutions. ▪ Develop a simple model based on evidence to represent a proposed object or tool. (K–2-ETS1-2)	**Grade 1 Module 1** **Museum of Leafology** M1_DQ3 L4 (TE pp.98-105, TB p.32) L5 (TE pp.106-111, TB p.33) **EXAMPLE THREE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ7 L2 (TE pp.230-233, TB p.74) **EXAMPLE FOUR** **Grade 1 Module 2** **Animal Reporters** M2_DQ5 L1 (TE pp.198-203, TB pp.85-86) L2 (TE pp.204-209, TB pp.87-88) **EXAMPLE FIVE** **Grade 1 Module 3** **Shadow Town** M3_DQ3 L9 (TE pp.176-182, TB pp.76-78)		**EXAMPLE TWO** **Grade 1 Module 1** **Museum of Leafology** M1_DQ6 L4 (TE pp.202-207, TB pp.65-66) L5 (TE pp.208-213, TB pp.67-68) L6 (TE 214-218, TB p.69)
DCI	**ETS1.B: Developing Possible Solutions** ▪ Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. (K–2-ETS1-2)	**EXAMPLE ONE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ6 L4 (TE pp.202-207, TB pp.65-66) **EXAMPLE TWO** **Grade 1 Module 1** **Museum of Leafology** M1_DQ3 L4 (TE pp.98-105, TB p.32) L5 (TE pp.106-111, TB p.33) **EXAMPLE THREE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ7		

		L2 (TE pp.230-233, TB p.74) **EXAMPLE FOUR** **Grade 1 Module 2** **Animal Reporters** M2_DQ5 L1 (TE pp.198-203, TB pp.85-86) L2 (TE pp.204-209, TB pp.87-88) **EXAMPLE FIVE** **Grade 1 Module 3** **Shadow Town** M3_DQ3 L9 (TE pp.176-182, TB pp.76-78)		
CCC	**Structure and Function** ▪ The shape and stability of structures of natural and designed objects are related to their function(s). (K–2-ETS1-2)	**EXAMPLE ONE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ2 L1 (TE pp.40-48, TB pp.13-14) L2 (TE pp.48-52, TB pp.15-19) L3 (TE pp.56-63, TB p.20) L4 (TE pp.64-68, TB pp.21-22) Key Resources L1 **What Do Plants Need?** video L2 **Plant Parts Song** video L3 **Plant Factory** interactive **EXAMPLE TWO** **Grade 1 Module 1** **Museum of Leafology** M1_DQ6 L2 (TE pp.190-195, TB pp.60-63) L3 (TE pp.196-201, TB pp.64) L4 (TE pp.202-207, TB pp.65-66) **EXAMPLE THREE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ3 L4 (TE pp.98-105, TB p.32) L5 (TE pp.106-111, TB p.33)		

		EXAMPLE FOUR **Grade 1 Module 1** **Museum of Leafology** M1_DQ7 L2 (TE pp.230-233, TB p.74) **EXAMPLE FIVE** **Grade 1 Module 2** **Animal Reporters** M2_DQ5 L1 (TE pp.198-203, TB pp.85-86) L2 (TE pp.204-209, TB pp.87-88) **EXAMPLE SIX** **Grade 1 Module 3** **Shadow Town** M3_DQ3 L9 (TE pp.176-182, TB pp.76-78)		

Science and Engineering Practices Disciplinary Core Ideas Crosscutting Concepts		**Publisher Citations**	**Performance Expectation**	**Publisher Citations**
SEP	**Analyzing and Interpreting Data** Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations. ▪ Analyze data from tests of an object or tool to determine if it works as intended. (K–2-ETS1-3)	**EXAMPLE ONE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ3 L6 (TE pp.112-117, TB p.34) **EXAMPLE TWO** **Grade 1 Module 4** **Patterns in the Sky** M4_DQ2 L2 (TE pp.60-65, TB pp.26-27) Key Resources **What Is Data?** video	**K–2-ETS1-3.** **Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.**	**EXAMPLE ONE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ3 L6 (TE pp.112-117, TB p.34)

DCI	**ETS1.C: Optimizing the Design Solution** ▪ Because there is always more than one possible solution to a problem, it is useful to compare and test designs. (K–2-ETS1-3)	**EXAMPLE ONE** **Grade 1 Module 1** **Museum of Leafology** M1_DQ6 L5 (TE pp.208-213, TB pp.67-68)		