Teacher's Edition

Grade 1 · Unit 1

Inspire Science

All About Plants

Mc Graw Hill Education

Performance Expectations at a Glance

In this unit, students will discover and practice the Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts needed to perform the following Performance Expectations.

Performance Expectations	MODULE: Plant Structures and Functions	MODULE: Plant Parents and Their Offspring
K-2-ETS1-2	●	
K-2-ETS1-3		●
1-ESS1-1	●	
1-LS1-1	●	●
1-LS3-1		●
1-PS4-3	●	

Correlations by Module to the ~~NGSS~~

MODULE: Plant Structures and Functions

K-2-ETS	Engineering Design	
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.**	42, *43–44*
SEP Science and Engineering Practices		
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 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)		*38–39*, 42, *43–44*
DCI Disciplinary Core Ideas		
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)		42, *43–44*

Inquiry activities are in italics.

Continued from previous page.

CCC Crosscutting Concepts	
Structure and Function • The shape and stability of structures of natural and designed objects are related to their function(s). (K-2-ETS1-2)	2–3, *10–12*, 20–21, 25, 32–33, 34–35, 38–39, 42, *43–44*

1-LS1	From Molecules to Organisms: Structures and Processes	
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.]*	42, *43–44*
SEP Science and Engineering Practices		
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)		*38–39*, 41, 42, *43–44* Teacher's Edition *Only*: 29
DCI Disciplinary Core Ideas		
LS1.A: Structure and Function • 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)		2–3, 7, *10–12*, 13, 14–15, 16–17, *18–19*, 20–21, 23, 25, 32–33, 34–35, *38–39*, 41, 45 Teacher's Edition *Only*: 8, 26, 40
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)		26–27, *28–31*, 41

Inquiry activities are in italics.

Continued from previous page.

CCC Crosscutting Concepts	
Structure and Function • The shape and stability of structures of natural and designed objects are related to their function(s). (1-LS1-1)	2–3, 7, *10–12*, 13, 14–15, 16–17, *18–19*, 20–21, 23, 25, 32–33, 34–35, *38–39*, 41, 42
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 build using materials derived from the natural world. (1-LS1-1)	36–37, *43–44* Teacher's Edition *Only*: 35
CCSS Math Connections	
1.MD.A.2	*19*
ELD Connections	
ELD.PII.1.6	19, 21, 22, 33, 39, 40
CCSS ELA/Literacy Connections	
W.1.8	42
ALSO INTEGRATES:	
1-ESS1-1	26–27, *28–31*
1-PS4-3	*10–12* Teacher's Edition *Only*: 11
SEP Analyzing and Interpreting Data	*18–19*, *28–31, 38–39* Teacher's Edition *Only*: 11
SEP Planning and Carrying Out Investigations	*38–39*
DCI ESS1.A	26–27, *28–31*
DCI PS4.B	*10–12*
CCC Patterns	Teacher's Edition *Only*: 8, 15, 23, 29
ELA RL.1.5	15
ELA RL1.7	*12*

Inquiry activities are in italics.

MODULE: Plant Parents and Their Offspring

K-2-ETS	Engineering Design	
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.**	*87–88*
SEP Science and Engineering Practices		
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)		*54–57, 62–63, 87–88*
DCI Disciplinary Core Ideas		
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-ETS-1-3)		*87–88*

1-LS1	From Molecules to Organisms: Structures and Processes	
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.]*	80, *82–83, 87–88* Teacher's Edition *Only*: 76
SEP Science and Engineering Practices		
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)		80, *82–83*, 85, *87–88* Teacher's Edition *Only*: 73

Inquiry activities are in italics.

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DCI Disciplinary Core Ideas	
LS1.A: Structure and Function • 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)	*54–57*, 75, 78–79, 80, *82–83*, 85 Teacher's Edition *Only*: 46, 70
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)	*72–73*, 80 Teacher's Edition *Only*: 46, 69
CCC Crosscutting Concepts	
Structure and Function • The shape and stability of structures of natural and designed objects are related to their function(s). (1-LS1-1)	76–77, 78–79, 80, *82–83*, 85 Teacher's Edition *Only*: 74
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 build using materials derived from the natural world. (1-LS1-1)	80, *87–88*

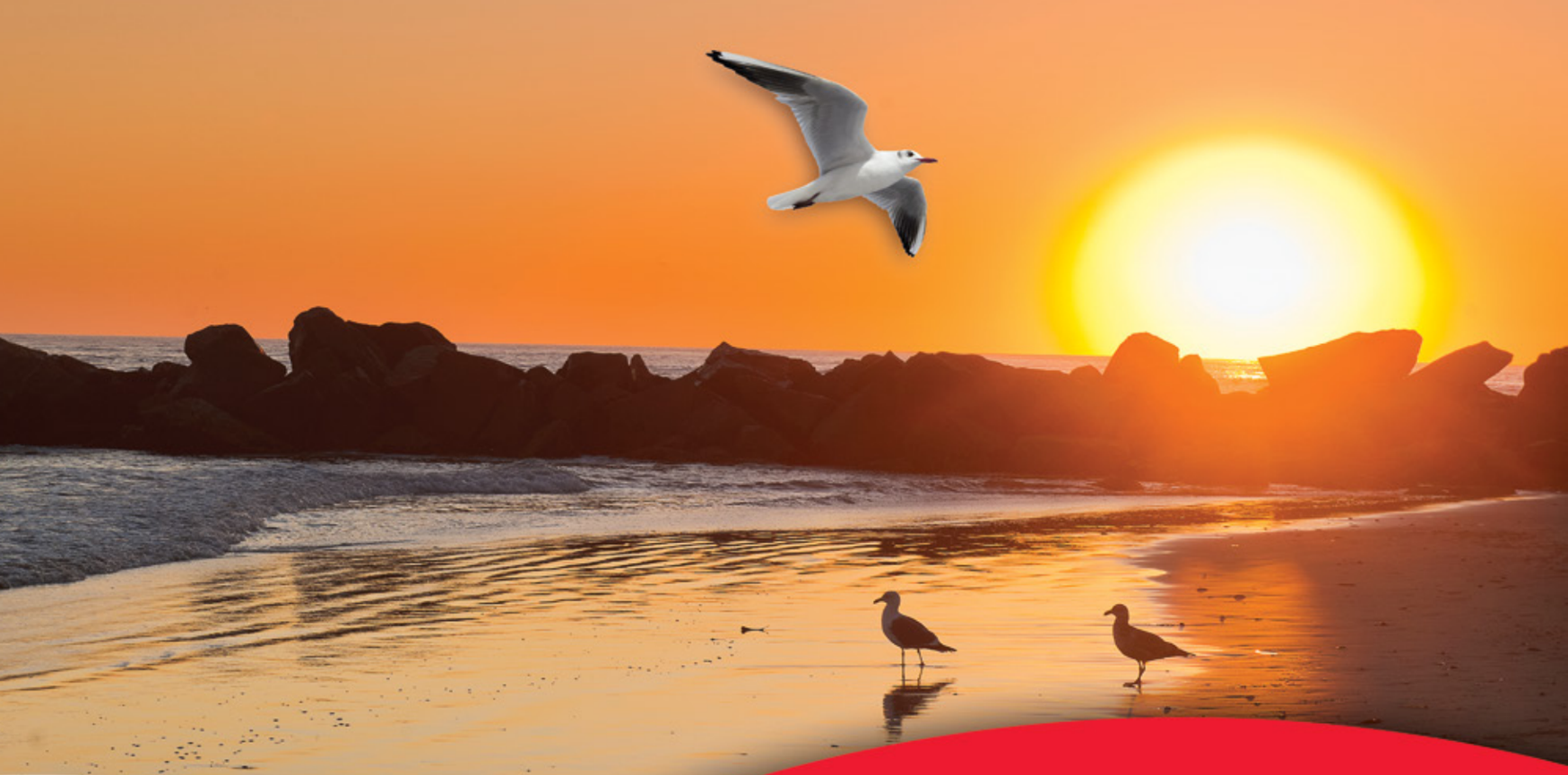
1-LS3	Heredity: Inheritance and Variation of Traits	
1-LS3-1	**Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.** *[Clarification Statement: Examples of patterns could include features plants or animals share. Examples 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.]*	*54–57*, 58–59, 60–61
SEP Science and Engineering Practices		
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)		*54–57, 62–63*, 67, *82–83*

Inquiry activities are in italics.

Continued from previous page.

DCI Disciplinary Core Ideas	
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)	51, 52–53, *54–57*, 58–59, 60–61, *62–63*, 67
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)	52–53, *54–57*, 60–61, *62–63*, 67 Teacher's Edition *Only*: 58
CCC Crosscutting Concepts	
Patterns • Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence. (1-LS3-1)	*62–63*, 67 Teacher's Edition *Only*: 55
CCSS Math Connections	
1.MD.A.2	65, 87
ELD Connections	
ELD.PII.1.6	61
CCSS ELA/Literacy Connections	
W.1.8	57, 82
ALSO INTEGRATES:	
K-2-ETS1-1	80
SEP Developing and Using Models	79
SEP Planning and Carrying Out Investigations	68
ELD.LS1.A	82
ELD.PI.1.1	57, 77
RI.1.3	77

Inquiry activities are in italics.

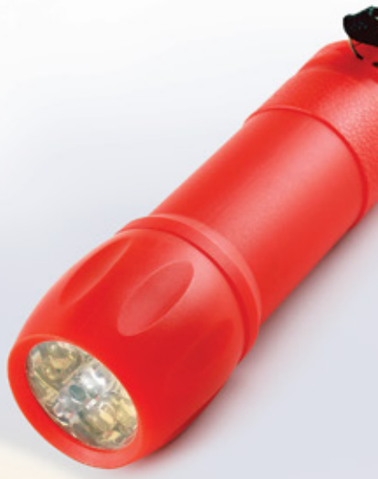


Teacher's Edition

Grade 1 • Unit 3

Inspire Science

Light and Shadows



Mc Graw Hill Education

Performance Expectations at a Glance

In this unit, students will discover and practice the Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts needed to perform the following Performance Expectations.

Performance Expectations	MODULE: See Objects
K-2-ETS1-3	●
1-PS4-2	●
1-PS4-3	●
1-PS4-4	●

Correlations by Module to the ~~NGSS~~

MODULE: See Objects

K-2-ETS1	Engineering Design	
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.**	49, 56, *57–58*
SEP Science and Engineering Practices		
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)		49, 56, *57–58*
DCI Disciplinary Core Ideas		
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-ETS-1-3)		49, 56, *57–58*

Inquiry activities are in italics.

1-PS4	Waves and Their Applications in Technologies for Information Transfer	
 **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.]*	8–9, *10–11,* 13, 15, 18–19, 20
SEP Science and Engineering Practices		
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)		*10–11,* 15, *16–17,* 18, 20
DCI Disciplinary Core Ideas		
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)		7, 8–9, *10–11,* 12, 14–15, *16–17*, 18–19, 20
CCC Crosscutting Concepts		
Cause and Effect • Simple tests can be designed to gather evidence to support or refute student ideas about causes. (1-PS4-2)		*10–11,* 14–15, *16–17,* 20

Inquiry activities are in italics.

1-PS4	Waves and their Applications in Technologies for Information Transfer	
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.]*	*24–27, 57–58*
SEP Science and Engineering Practices		
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)		*24–27, 32–33,* 36, *57–58*
DCI Disciplinary Core Ideas		
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 shadows, but no attempt is made to discuss the speed of light.) (1- PS4-3)		21, 22–23, *24–27,* 29, 30–31, 34–35, *57–58* Teacher's Edition *Only* 2, 12, 28
CCC Crosscutting Concepts		
Cause and Effect • Simple tests can be designed to gather evidence to support or refute student ideas about causes. (1-PS4-3)		*24–27,* 30–31, *32–33*

Inquiry activities are in italics.

1-PS4	Waves and Their Applications in Technologies for Information Transfer	
 **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.]*	48–49, *57–58*
SEP Science and Engineering Practices		
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)		*40–43,* 45, 48–49, *52–53,* 56
DCI Disciplinary Core Ideas		
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)		37, 38–39, *40–43,* 46–47, 48–49, *52–53*, 54–55 Teacher's Edition *Only*: 44
CCC Crosscutting Concepts		
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)		5, 45, 51

Inquiry activities are in italics.

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CCSS Math Connections	
1.MD.A.2	33
ELD Connections	
ELD.PII.1.5	13
ELD.PI.1.10	18
ELD.P1.1.12	34
ALSO INTEGRATES:	
Engineering Connection K-2-ETS1-3	49, 56
ELA W.1.8	20, 36

Inquiry activities are in italics.

Teacher's Edition

Grade 1 • Unit 2

Inspire Science

Animals and How They Communicate

Mc Graw Hill Education

Performance Expectations at a Glance

In this unit, students will discover and practice the Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts needed to perform the following Performance Expectations.

Performance Expectations	MODULE: Animal Parents and Their Offspring	MODULE: Communication
K-2-ETS1-1	●	
1-LS1-1	●	
1-LS1-2	●	●
1-LS3-1	●	
1-PS4-1		●
1-PS4-4		●

Correlations by Module to the ~~NGSS~~

MODULE: Animal Parents and Their Offspring

K-2-ETS	Engineering Design	
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.**	*27, 69–70*
SEP Science and Engineering Practices		
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). • Define a simple problem that can be solved through the development of a new or improved object or tool. (K-2-ETS1-1)		*27, 69–70*

Inquiry activities are in italics.

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DCI Disciplinary Core Ideas	
ETS1.A: Defining and Delimiting Engineering Problems • A situation that people want to change or create can be approached as a problem to be solved through engineering. • Asking questions, making observations, and gathering information are helpful in thinking about problems. • Before beginning to design a solution, it is important to clearly understand the problem. (K-2-ETS1-1)	*27, 69–70*

1-LS1	From Molecules to Organisms: Structures and Processes	
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.]*	*26–27, 69–70*
SEP Science and Engineering Practices		
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)	*10–11, 16–17, 19, 24–25*, 33, 44–45 Teacher's Edition *Only*: 15
DCI Disciplinary Core Ideas		
LS1.A: Structure and Function • 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)	2–3, 7, 8–9, *10–11*, 14–15, *16–17*, 19, 20, 21, 22–23, *24–25*, 26–27, *30–31*, 33, 34, *69–70* Teacher's Edition *Only*: 4, 12, 18
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)	*24–25*, *30–31*, 33, 60–61

Inquiry activities are in italics.

Continued from previous page.

CCC Crosscutting Concepts	
Structure and Function • The shape and stability of structures of natural and designed objects are related to their function(s). (1-LS1-1)	2–3, *10–11*, 14–15, 19, 21, 22–23, *24–25*, 26–27, *30–31*, 33, *69–70*
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 build using materials derived from the natural world. (1-LS1-1)	29

1-LS1	From Molecules to Organisms: Structures and Processes	
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)]*	2–3, *24–25*, 51, *54–57*, 58–59, 60–61, *64–65*, 68 Teacher's Edition *Only*: 52
SEP Science and Engineering Practices		
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)		*10–11, 24–25, 54–57*, 58–59, *64–65*, 67, 68
Connections to Nature of Science **Scientific Knowledge is Based on Empirical Evidence** • Scientists look for patterns and order when making observations about the world. (1-LS1-2)		*54–57*
DCI Disciplinary Core Ideas		
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)		2–3, 51, 52–53, *54–57*, 58–59, 60–61, *64–65*, 67, 68
CCC Crosscutting Concepts		
Patterns • Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence. (1-LS1-2)		*54–57*, 67 Teacher's Edition *Only*: 8

Inquiry activities are in italics.

1-LS3	Heredity: Inheritance and Variation of Traits	
 **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.]*	2–3, 35, *38–41*, 42–43, 44–45
SEP Science and Engineering Practices		
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)		*39–41*, 43, 44–45, 49
DCI Disciplinary Core Ideas		
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)		35, *38–41*, 42–43, 44–45, 49 Teacher's Edition *Only*: 12, 36, 48
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)		36–37, *38–41*, 42–43, 49, 50 Teacher's Edition *Only*: 13
CCC Crosscutting Concepts		
Patterns • Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence. (1-LS3-1)		*38–41*, 42–43 Teacher's Edition *Only*: 13
ELD Connections		
ELD.PII.1.1		27, 28
ELD.PII.1.5		63
ELD.PII.1.6		18, 40, 48, 56

Inquiry activities are in italics.

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CCSS ELA/Literacy Connections	
RI.1.7	43
W.1.2	20
W.1.3	68
ALSO INTEGRATES:	
K-2-ETS1-2	24
CCC Systems and System Models	25
SEP Developing and Using Models	23, *24–25*, 46–47
ELD.PI.1.1	17
ELD.PI.1.3	32, 47
ELD.PI.1.6	68
ELD.PI.1.12	4
ELA W.1.3	68

Inquiry activities are in italics.

MODULE: Communication

1-LS1	From Molecules to Organisms: Structures and Processes	
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).]*	86–87, *88–89*, 90, 91
SEP Science and Engineering Practices		
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)		*80–81, 88–89*, 92, *96–99, 104–105, 108–109*
Connections to Nature of Science **Scientific Knowledge is Based on Empirical Evidence** • Scientists look for patterns and order when making observations about the world. (1-LS1-2)		Teacher's Edition *Only*: *80–81*
DCI Disciplinary Core Ideas		
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)		86–87, *88–89*, 90, 91 Teacher's Edition *Only*: 78, 83
CCC Crosscutting Concepts		
Patterns • Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence. (1-LS1-2)		*88–89*

1-PS4	Waves and Their Applications in Technologies for Information Transfer	
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.]*	*96–99, 108–109, 113–114*

Inquiry activities are in italics.

Continued from previous page.

SEP Science and Engineering Practices	
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 evidence to answer a question. (1-PS4-1)	*88–89* , 92, *96–99*, 106, *108–109, 113–114*
Connections to Nature of Science **Scientific Investigations Use a Variety of Methods** • Science investigations begin with a question. • Scientists use different ways to study the world. (1-PS4-1)	Teacher's Edition *Only*: 106
DCI Disciplinary Core Ideas	
PS4.A: Wave Properties • Sound can make matter vibrate, and vibrating matter can make sound. (1-PS4-1)	85, 93, 94–95, *96–99*, 100, 101, 102–103, 110, 111, *113–114*
CCC Crosscutting Concepts	
Cause and Effect • Simple tests can be designed to gather evidence to support or refute student ideas about causes. (1-PS4-1)	*96–99*, 102–103, *104–105*

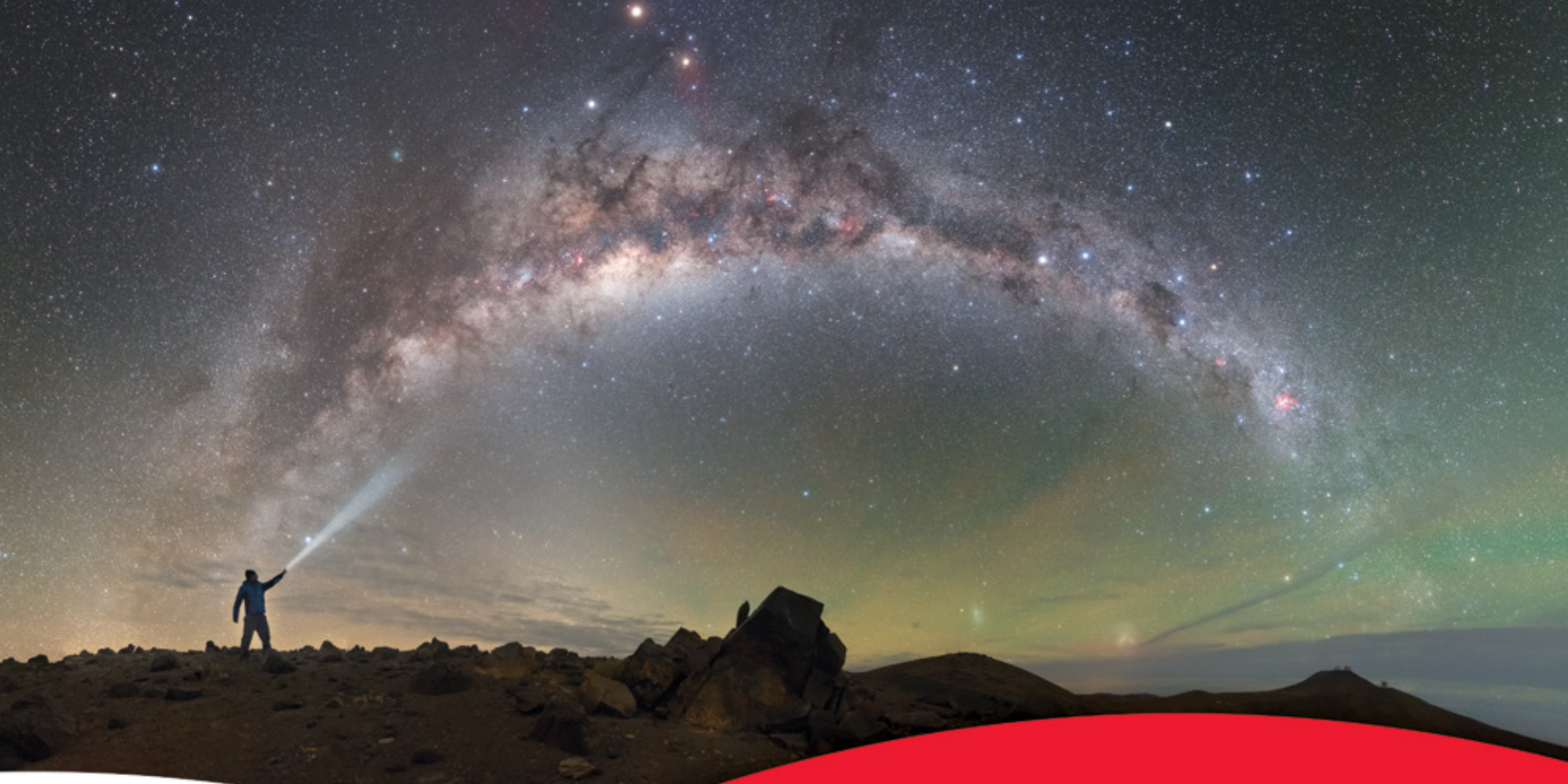
1-PS4	Waves and Their Applications in Technologies for Information Transfer	
1-PS4-4	**Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.*** *[Clarification Statement: Examples of devices could include a light source to 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.]*	106, *113–114*
SEP Science and Engineering Practices		
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)		106, *113–114*

Inquiry activities are in italics.

Continued from previous page.

DCI Disciplinary Core Ideas	
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)	106, *113–114* Teacher's Edition *Only*: 96
CCC Crosscutting Concepts	
Connections to Engineering, Technology, and Applications of Science **Influence of Science, Engineering, and Technology Society and the Natural World** • People depend on various technologies in their lives; human life would be very different without technology. (1-PS4-4)	107
ELD Connections	
ELD.PII.1.1	85, 99
ELD.PII.1.5	90
ELD.PII.1.6	110
CCSS ELA/Literacy Connections	
RI.1.9	86
W.1.2	92
ALSO INTEGRATES:	
1-LS1-1	106
ELD.PI.1.12b	80
ELA RL.1.5	85

Inquiry activities are in italics.

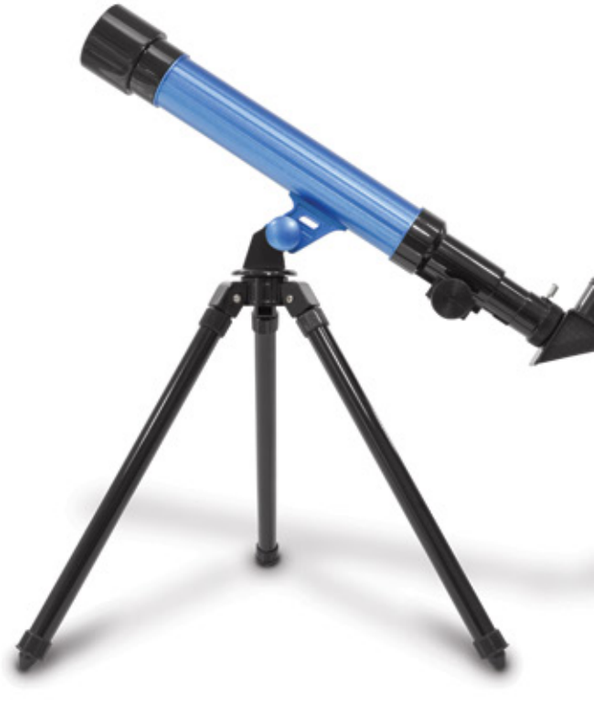


Teacher's Edition

Grade 1 • Unit 4

Inspire Science

Sky Patterns



Mc Graw Hill Education

Performance Expectations at a Glance

In this unit, students will discover and practice the Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts needed to perform the following Performance Expectations.

Performance Expectations	MODULE: Observe the Sky
1-ESS1-1	●
1-ESS1-2	●

Correlations by Module to the ~~CA NGSS~~

MODULE: Observe the Sky

1-ESS1	Earth's Place in the Universe	
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.]*	*10–11, 22–23,* 27, *28–30, 32–33, 34–35* Teacher's Edition *Only*: 8, 14, 31
SEP Science and Engineering Practices		
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)		17, 20, 23, *28–30*, 37, *55–58*
DCI Disciplinary Core Ideas		
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)		7, 17, 21, 23, 25, *28–30*, 32–33, *34–35*, 37 Teacher's Edition *Only*: 2–3, 14, 26

Inquiry activities are in italics.

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CCC Crosscutting Concepts	
Patterns • Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (1-ESS1-1)	*10–11*, 15, 17, 23, *28–30, 34–35*, 37, *55–58*
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. • Many events are repeated. (1-ESS1-1)	Teacher's Edition *Only*: 15, *28–30*

1-ESS1	Earth's Place in the Universe	
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.]*	*42–44*, *50–51*, 53, *55–58*
SEP Science and Engineering Practices		
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)		*18–19, 42–44*, 53, *55–58*
DCI Disciplinary Core Ideas		
ESS1.B: Earth and the Solar System • Seasonal patterns of sunrise and sunset can be observed, described, and predicted. (1-ESS1-2)		39, *42–44*, 48, *50–51*, 52, 53, 55–58 Teacher's Edition *Only*: 40
CCC Crosscutting Concepts		
Patterns • Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (1-ESS1-2)		*42–44*, 47, 53, *55–58*

Inquiry activities are in italics.

Continued from previous page.

CCSS Math Connections	
1.MD.3	*29–30*
1.NBT.B.2	*50*
ELD Connections	
ELD.P1.1.5	4
ELD.PI.1.6	22, *30*, 52
ELD PI.1.7	*44*
CCSS ELA/Literacy Connections	
RL.1.7	45
ALSO INTEGRATES:	
Social Studies CA.1.4	21
SEP Developing and Using Models	58
ELD.P1.1.1	*34*
ELD PI.1.3	36
ELD.PII.1.6	13
ELA W.1.1	38
ELA W.1.8	*19, 51*

Inquiry activities are in italics.