# Teacher's Edition Grade 1 · Unit 2



## Animals and How They Communicate







## 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	٠	
1-LS1-1	٠	
1-LS1-2	٠	٠
1-LS3-1	٠	
1-PS4-1		•
1-PS4-4		•

## Sorrelations 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 a	SEP Science and Engineering Practices		
<ul> <li>Asking Questions and Defining Problems</li> <li>Asking questions and defining problems in K–2 builds on prior experiences and progresses to simple descriptive questions.</li> <li>Ask questions based on observations to find more information about the natural and/ or designed world(s).</li> <li>Define a simple problem that can be solved through the development of a new or improved object or tool. (K-2-ETS1-1)</li> </ul>		27, 69–70	

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

1-LS1	From Molecules to Organisms: Structures and Processes	
<b>()</b> 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 a	and Engineering Practices	
Constructing exp and progresses to accounts of natur	planations and Designing Solutions lanations and designing solutions in K–2 builds on prior experiences of the use of evidence and ideas in constructing evidence-based al phenomena and designing solutions. design a device that solves a specific problem or a solution to a n. (1-LS1-1)	10–11, 16–17, 19, 24–25, 33, 44–45 Teacher's Edition <i>Only</i> : 15
DCI Disciplina	ary Core Ideas	·
ways to see, hea seek, find, and t	and Function ave external parts. Different animals use their body parts in different ar, grasp objects, protect themselves, move from place to place, and ake in food, water and air. Plants also have different parts (roots, owers, fruits) that help them survive and grow. (1-LS1-1)	2–3, 7, 8–9, <i>10–11</i> , 14–15, <i>16–17</i> , 19, 20, 21, 22–23, <i>24–25</i> , 26–27, <i>30–31</i> , 33, 34, 69–70 Teacher's Edition <i>Only</i> : 4, 12, 18
needed for grov	on <b>Processing</b> ody parts that capture and convey different kinds of information with and survival. Animals respond to these inputs with behaviors that we. Plants also respond to some external inputs. (1-LS1-1)	<i>24–25, 30–31</i> , 33, 60–61

CCC Crosscutting Concepts		
<ul> <li>Structure and Function</li> <li>The shape and stability of structures of natural and designed objects are related to their function(s). (1-LS1-1)</li> </ul>	2–3, <i>10–11</i> , 14–15, 19, 21, 22–23, <i>24–25</i> , 26–27, <i>30–31</i> , 33, 69–70	
<ul> <li>Connections to Engineering, Technology, and Applications of Science Influence of Science, Engineering and Technology on Society and the Natural World.</li> <li>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)</li> </ul>	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, <i>24–25</i> , 51, <i>54–57</i> , 58–59, 60–61, <i>64–65</i> , 68 Teacher's Edition <i>Only</i> : 52	
SEP Science	SEP Science and Engineering Practices		
<ul> <li>Obtaining, Evaluating, and Communicating Information</li> <li>Obtaining, evaluating, and communicating information in K–2 builds on prior experiences and uses observations and texts to communicate new information.</li> <li>Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world. (1-LS1-2)</li> </ul>		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			
<ul> <li>LS1.B: Growth and Development of Organisms</li> <li>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)</li> </ul>		2–3, 51, 52–53, <i>54–57</i> , 58–59, 60–61, <i>64–65</i> , 67, 68	
CCC Crosscutting Concepts			
	natural and human designed world can be observed, used to describe d used as evidence. (1-LS1-2)	<i>54–57</i> , 67 Teacher's Edition <i>Only</i> : 8	

1-LS3	Heredity: Inheritance and Variation of Traits	
<b>()</b> 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, <i>38–41</i> , 42–43, 44–45
SEP Science	and Engineering Practices	
Constructing exp and progresses t accounts of natu • Make observati	planations and Designing Solutions planations and designing solutions in K–2 builds on prior experiences to the use of evidence and ideas in constructing evidence-based ral phenomena and designing solutions. ons (firsthand or from media) to construct an evidence-based account nomena. (1-LS3-1)	<i>39–41</i> , 43, 44–45, 49
DCI Disciplin	ary Core Ideas	
-	<b>ce of Traits</b> are very much, but not exactly like, their parents. Plants also are very xactly, like their parents. (1-LS3-1)	35, <i>38–41</i> , 42–43, 44–45, 49 Teacher's Edition <i>Only</i> : 12, 36, 48
	<b>of Traits</b> le same kind of plant or animal are recognizable as similar but can ny ways. (1-LS3-1)	36–37, <i>38–41</i> , 42–43, 49, 50 Teacher's Edition <i>Only</i> : 13
CCC Crosscu	tting Concepts	I
	natural and human designed world can be observed, used to describe d used as evidence. (1-LS3-1)	<i>38–41</i> , 42–43 Teacher's Edition <i>Only</i> : 13
ELD Connection	าร	
ELD.PII.1.1		27, 28
ELD.PII.1.5		63
ELD.PII.1.6		18, 40, 48, 56

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

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, <i>88–89</i> , 90, 91
SEP Science	and Engineering Practices	
<ul> <li>Obtaining, Evaluating, and Communicating Information</li> <li>Obtaining, evaluating, and communicating information in K–2 builds on prior experiences and uses observations and texts to communicate new information.</li> <li>Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world. (1-LS1-2)</li> </ul>		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
<ul> <li>Scientists look</li> </ul>		
• Scientists look (1-LS1-2)		
<ul> <li>Scientists look (1-LS1-2)</li> <li>DCI Disciplin</li> <li>LS1.B: Growth a <ul> <li>Adult plants an</li> </ul> </li> </ul>	for patterns and order when making observations about the world.	86–87, 88–89, 90, 91 Teacher's Edition <i>Only</i> : 78, 83
<ul> <li>Scientists look (1-LS1-2)</li> <li>DCI Disciplin</li> <li>LS1.B: Growth a Adult plants an offspring thems</li> </ul>	for patterns and order when making observations about the world.  The second se	

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

SEP Science and Engineering Practices		
<ul> <li>Planning and Carrying Out Investigations</li> <li>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.</li> <li>Plan and conduct investigations collaboratively to produce evidence to answer a question. (1-PS4-1)</li> </ul>	88–89 , 92, 96–99, 106, <i>108–109,</i> 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 <i>Only</i> : 106	
DCI Disciplinary Core Ideas		
<ul><li>PS4.A: Wave Properties</li><li>Sound can make matter vibrate, and vibrating matter can make sound. (1-PS4-1)</li></ul>	85, 93, 94–95, <i>96–99</i> , 100, 101, 102–103, 110, 111, <i>113–114</i>	
CCC Crosscutting Concepts		
Cause and Effect <ul> <li>Simple tests can be designed to gather evidence to support or refute student ideas about causes. (1-PS4-1)</li> </ul>	96–99, 102–103, <i>104–105</i>	

1-PS4	Waves and Their Applications in Technologies for Information Transfer		
<b>()</b> 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, <i>113–114</i>	
SEP Science a	SEP Science and Engineering Practices		
Constructing expl and progresses to accounts of natur	<b>Planations and Designing Solutions</b> anations and designing solutions in K–2 builds on prior experiences to the use of evidence and ideas in constructing evidence-based al phenomena and designing solutions. aterials provided to design a device that solves a specific problem.	106, <i>113–114</i>	

DCI Disciplinary Core Ideas	
<ul> <li>PS4.C: Information Technologies and Instrumentation</li> <li>People also use a variety of devices to communicate (send and receive information) over long distances. (1-PS4-4)</li> </ul>	106, <i>113–114</i> Teacher's Edition <i>Only</i> : 96
CCC Crosscutting Concepts	
<ul> <li>Connections to Engineering, Technology, and Applications of Science</li> <li>Influence of Science, Engineering, and Technology Society and the Natural World</li> <li>People depend on various technologies in their lives; human life would be very different without technology. (1-PS4-4)</li> </ul>	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