



Exploring Animal and Plant Superpowers

Draft Date 02-06-2026	Course (Draft) Grade 1 English Language Arts, Grade 1 Science	Duration 15 Day(s)	Grades 1	Subjects English Language Arts	Team Jackie Castleman, Becky France, Katharine (Katie) Koch, Leed Lindsay, Ashleigh Harbeck, Brittany Haines
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Focus

Our first grade students will first explore three main topics about animals: how different animals use their body parts and senses in different ways to survive, how the behavior of different animal parents and offspring help the offspring survive, and the similarities and differences among individual animals of the same kind. They will then also explore the different parts of plants and how those parts are essential for plant survival.

Stage 1: Learning Goals

Established Goals	Transfer
Standards	Long-Term Transfer Goals
Pennsylvania Core Standards English Language Arts: 1 ■ Key Ideas and Details - Main Idea (402156) ■ Demonstrate a grade appropriate command of the conventions of standard English grammar and spelling. Capitalize dates and names of people. Use end punctuation; use commas in dates and words in series. Spell words drawing on common spelling patterns, phonemic awareness and spelling conventions. (CC.1.4.1.R) ■ Participate in individual or shared research and writing projects. (CC.1.4.1.V)	What kinds of long-term, independent accomplishments are desired? Students will be able to independently use their learning to... ■ Approach science as a reliable and testable way of knowing and explaining the natural world and designed world. (Life-Long Learner) (T1) ■ Reading Informational Text / Reading Literature: Read to gain knowledge, build critical thinking skills, and spark curiosity and interest. (T2) ■ Reading Informational Text / Reading Literature: Explore text and other media to seek understanding of multiple perspectives and cultures. (T3) ■ Writing: Communicate information and ideas clearly to address task, purpose, and intended audience. (T4)

Pennsylvania Academic Standards

Science (2023): 1 Standards

- 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.

Clarifying 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.

Assessment Boundary: N/A (3.1.1.A)

- Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.

Clarifying 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).

Meaning	
Understandings	Essential Questions
What specifically do you want students to understand? What inferences should they make? Students will understand that... ■ Heredity refers to specific mechanisms by which characteristics or traits are passed from one generation to the next via genes, and explains why offspring resemble, but are not identical to, their parents. (U1) ■ Effective readers identify key details of informational texts to determine main ideas. (U2) ■ Effective readers can determine and analyze the meaning of words and phrases used by authors in text to enhance comprehension. (U3) ■ Readers use strategies to determine and clarify unknown words in content to develop their ability to independently and effectively handle unfamiliar words. (U4)	What thought-provoking questions will foster inquiry, meaning making, and transfer? Students will keep considering... ■ How and why do organisms interact with their environment and what are the effects of these interactions? (Q1) ■ How are the characteristics of one generation passed to the next? How can individuals of the same species and even siblings have different characteristics? (Q2) ■ How can there be so many similarities among organisms yet so many different kinds of plants, animals, and microorganisms? (Q3) ■ How do organisms live, grow, respond to their environment, and reproduce? (Q4)
Acquisition of Knowledge & Skill	
Knowledge	Skills
What facts and basic concepts should students know and be able to recall? Students will know... ■ Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, and move from place to place, and to seek, find,	What discrete skills and processes should students be able to use? Students can... ■ I can explain how animals use different body parts to survive. (S1) ■ I can describe the connection between two individuals, events, ideas, or pieces of information in a text. (S2)

Assessment Boundary: N/A
(3.1.1.B)

- Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.

Clarifying 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. (3.1.1.C)

Profile of a CV Learner

- Life-Long Learner: Students will be able to independently use their learning to analyze past and ongoing performance, adjust thinking processes to new contexts, and use information to make informed and conscientious decisions. (PCVL.LLL)

and take in food, water, and air.
(K1)

- Adult animals can have young, and the parents engage in behaviors that help the offspring survive. (K2)
- Animals have body parts that capture and convey different kinds of information needed for growth and survival. (K3)
- Different animals respond to different behaviors to help them survive. (K4)
- Individuals of the same kind of animal are recognizable as similar but also vary in many ways. (K5)
- Plants require different amounts of water and sun to grow. (K6)
- Young plants have similar patterns to their parent plants. (K7)

- I can use the illustrations and details in a text to describe its key ideas. (S3)
- I can explain how the behavior of different animal parents and offspring help the offspring survive. (S4)
- I can explain the similarities and differences among individual animals of the same kind. (S5)
- I can understand the different parts of plants and how those parts are essential for plant survival. (S6)



Exploring Light, Sound and Communication



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Focus

In this first grade physical science unit, students will investigate light and sound! They explore how materials vibrate and how vibrating materials can make sounds. They also investigate light and illumination and use those investigations to create simple devices that allow them to communicate across a distance.

Stage 1: Learning Goals

Established Goals	Transfer	
Standards	Long-Term Transfer Goals	
Pennsylvania Core Standards English Language Arts: 1 - Identify the main idea and retell key details of text. (CC.1.2.1.A) Write informative/ explanatory texts to examine a topic and convey ideas and information. (CC.1.4.1.A) Identify and write about one specific topic. (CC.1.4.1.B) Develop the topic with two or more facts. (CC.1.4.1.C)	What kinds of long-term, independent accomplishments are desired? Students will be able to independently use their learning to... - Reading Informational Text / Reading Literature: Read to gain knowledge, build critical thinking skills, and spark curiosity and interest. (T1) - Writing: Communicate information and ideas clearly to address task, purpose, and intended audience. (T2) - Weigh evidence and use scientific approaches to ask questions, investigate, and make informed decisions. (Innovative Problem Solver) (T3)	
	Meaning	
	Understandings	Essential Questions
	What specifically do you want students to understand? What inferences should they make? Students will understand that... Waves are a repeating pattern of motion that transfers energy from	What thought-provoking questions will foster inquiry, meaning making, and transfer? Students will keep considering... What is the problem, and why does this problem exist and need solving? (Q1)

Pennsylvania Academic Standards

Science (2023): 1 Standards

- **Physical Science** (1111319042)
- **Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.**

Clarifying 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.

Assessment Boundary: N/A (3.2.1.A)

- **Make observations to construct an evidence-based account that objects can be seen only when illuminated.**

Clarifying 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.

Assessment Boundary: N/A (3.2.1.B)

- **Plan and conduct an investigation to determine the effect of placing objects**

place to place without overall displacement of matter. (U1)

- Meaningful change in a community requires looking at a problem from multiple angles with curiosity and a willingness to challenge and deepen one's thinking. (U2)
- Effective readers identify key details of informational texts to determine main ideas. (U3)
- Effective writers make deliberate and strategic choices when considering purpose and audience to convey information clearly about a topic. (U4)
- Effective writers choose organizational structures and transitions to logically connect ideas and information. (U5)

- How do I come up with a solution that can potentially help with this problem? (Q2)
- How are waves used to transfer energy and information? (Q3)
- What details help me find the main idea? (Q4)
- What do I need to know to retell/ summarize this text? (Q5)
- How do I choose relevant information to include in my writing? How does that help support my explanation? (Q6)
- What is the best way to organize this information? (Q7)

Acquisition of Knowledge & Skill

Knowledge

What facts and basic concepts should students know and be able to recall?
Students will know...

- Sound waves comes from vibrations (K1)
- Details help me find the main idea in a text. (K2)
- Writing about a science topic involves organization of important facts. (K3)

Skills

What discrete skills and processes should students be able to use? Students can...

- I can describe how sound waves come from vibrations. (S1)
- I can tell about details in a text. (S2)
- I can organize important facts to write a report. (S3)

made with different materials in the path of a beam of light.

Clarifying 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. (3.2.1.C)

- **Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.**

Clarifying 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. (3.2.1.D)

Profile of a CV Learner

- **Innovative Problem Solving:** Students will be able to independently use their learning to approach new problems with curiosity and creativity while consistently seeking growth through self-reflection and a willingness to accept constructive feedback. (PCVL.IPS)



Exploring the Universe: The Sky's the Limit

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Focus

Our first grade explorers will learn about the sun, moon and stars while listening to and reading both fiction and non-fiction stories. They will explore answers to the questions about their location, make- up, importance and patterns within our universe.

Stage 1: Learning Goals

Established Goals	Transfer	
Standards	Long-Term Transfer Goals	
Pennsylvania Core Standards English Language Arts: 1 ■ Explain major differences between books that tell stories and books that give information, drawing on a wide reading or range of text types. (CC.1.3.1.E) ■ Write informative/ explanatory texts to examine a topic and convey ideas and information. (CC.1.4.1.A) ■ Identify and write about one specific topic. (CC.1.4.1.B) ■ Develop the topic with two or more facts. (CC.1.4.1.C)	What kinds of long-term, independent accomplishments are desired? Students will be able to independently use their learning to... ■ Reading Informational Text / Reading Literature: Read to gain knowledge, build critical thinking skills, and spark curiosity and interest. (T1) ■ Writing: Communicate information and ideas clearly to address task, purpose, and intended audience. (T2)	
	Meaning	
	Understandings	Essential Questions
	What specifically do you want students to understand? What inferences should they make? Students will understand that... ■ Effective readers recognize various styles, organization, and features of print as they read or listen/view someone else's read aloud. (U1)	What thought-provoking questions will foster inquiry, meaning making, and transfer? Students will keep considering... ■ How does the way this information is organized help me understand the text? (Q1) ■ How does this text (ex. Illustration, table, a video clip) help me understand the topic? (Q2)

Pennsylvania Academic Standards

Science (2023): 1 Standards

- **Earth and Space Science** (1111319050)
- Use observations of the sun, moon, and stars to describe patterns that can be predicted.

Clarifying 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. (3.3.1.A)

- Make observations at different times of year to relate the amount of daylight to the time of year.

Clarifying 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. (3.3.1.B)

- Effective readers identify key details of informational texts to determine main ideas. (U2)
- Authors use a variety of features to help readers identify the organized text structure. (U3)
- Readers notice how elements of a story impact and influence other elements to enhance their understanding of the text. (U4)
- Authors use visuals and text features to enhance their message. (U5)
- Effective writers choose organizational structures and transitions to logically connect ideas and information. (U6)
- Effective writers choose organizational structures to logically sequence ideas and events. (U7)

- How do the illustrations and structure of the text help me better understand the story? (Q3)
- How do I choose relevant information to include in my writing? How does that help support my explanation? (Q4)
- What is the best way to organize this information? (Q5)
- How do I learn from others in group discussions? How do I build on others' ideas? How do I share my thoughts clearly? How do I show others I am listening? (Q6)

Acquisition of Knowledge & Skill

Knowledge	Skills
What facts and basic concepts should students know and be able to recall? Students will know... ■ Important facts about the sun, moon and stars : ◦ Where they are located? ◦ What they are? ◦ Why they are important? ◦ Patterns (K1) ■ Transfer the knowledge of the sun, moon and stars into their writing (K2) ■ Non- Fiction books will help them learn facts and information about a	What discrete skills and processes should students be able to use? Students can... ■ I can determine the difference between fiction and non fiction books. (S1) ■ I can use information/facts learned about the sun, moon and stars to write about them stating 2 or more facts (S2) ■ I can identify a book as fiction or non-fiction. (S3) ■ I can focus on one topic when recalling information they have learned. (S4)

Science (2023): 1 Crosscutting Concepts ■ Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (CCC.K-2.C1.A)	topic and are supported by pictures, tables etc. (K3) ■ Fiction books are stories made up by the author using their imagination . (K4)	
Science (2023): 1 Disciplinary Core Ideas ■ Patterns of the motion of the sun, moon, and stars in the sky can be observed, described, and predicted. (DCI.1.ESS1.A.1)		
Profile of a CV Learner		
■ Communication: Students will be able to independently and confidently adapt their writing and speaking in relation to audience, task, and purpose, as well as practice active listening to understand other perspectives, viewpoints, and cultures. (PCVL.CM)		