



Life Cycles: Circle of Life

Draft Date	Course	Duration	Grades	Subjects	Team
07-16-2024	Grade 3 Science	8 Day(s)	3	Science	Sarah Wertz, Jill Koser, Heather Yarnell, Gina Georgallis, Reylek Nicole, Susan Brunk
Focus					
In this unit, students compare and contrast the life cycles of both animals and plants. Students create models to build an understanding that all organisms share certain stages in their life cycles: birth, growth, reproduction, and death. Students also explore how an understanding of life cycles can aid in solving problems that occur when there are too many or too few organisms in a particular environment.					
Stage 1: Learning Goals					
Established Goals			Transfer		
Standards			Long-Term Transfer Goals		
Pennsylvania Academic Standards Science (2023): 3 Standards ■ Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death. Clarifying Statement: Changes organisms go through during their life form a pattern. Assessment Boundary: Assessment of plant life cycles is limited to those of flowering plants. Assessment does not include details of human reproduction. (3.1.3.A)			What kinds of long-term, independent accomplishments are desired? Students will be able to independently use their learning to... ■ Evaluate systems, in order to connect how form determines function and how any change to one component affects the entire system. (Global Citizen, Innovative Problem Solver) (T1)		
			Meaning		
			Understandings	Essential Questions	
			What specifically do you want students to understand? What inferences should they make? Students will understand that... ■ Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles. (U1) ■ When the environment changes in ways that affect a place's physical characteristics, temperature, or	What thought-provoking questions will foster inquiry, meaning making, and transfer? Students will keep considering... ■ How do the structures of organisms enable life's functions? (Q1) ■ What is biodiversity, how do humans affect it, and how does it affect humans? (Q2)	

■ Make a claim supported by evidence about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change. Clarifying Statement: Examples of environmental changes could include changes in land characteristics, water distribution, temperature, food, and other organisms. Assessment Boundary: Assessment is limited to a single environmental change. Assessment does not include the greenhouse effect or climate change. (3.1.3.H)	availability of resources, some organisms survive and reproduce, others move to new locations, yet others move into the transformed environment, and some die. (U2) ■ Populations live in a variety of habitats, and change in those habitats affects the organisms living there. (U3)	
Acquisition of Knowledge & Skill		
	Knowledge	Skills
	What facts and basic concepts should students know and be able to recall? Students will know... ■ The different parts of plants and animals have special jobs that help them stay alive. (K1) ■ Biodiversity means the variety of plants, animals, and other living things in the world. (K2)	What discrete skills and processes should students be able to use? Students can... ■ Identify and explain the jobs of different parts of plants and animals, like roots, leaves, hearts, and lungs, that help them stay alive and healthy. (S1) ■ Describe how humans can change biodiversity by building cities, cutting down forests, and polluting. I understand that biodiversity helps us have clean air, food to eat, and medicine to stay healthy." (S2)
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) ■ Global Citizenship: Students will be able to mindfully and respectfully seek to understand the ideas and perspectives of others to responsibly participate in all facets of local and global society. (PCVL.GC)		



Storm Stories: Adventures in Dark Skies

Draft Date 02-06-2026	Course (Draft) Grade 3 English Language Arts, Grade 3 Science	Duration 14 Day(s)	Grades 3	Subjects English Language Arts	Team Heather Yarnell, Sarah Wertz, Gina Georgallis, Jill Koser, Reylek Nicole, Susan Brunk
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Focus

By celebrating our differences, we can work together like the citizens in "Storm Stories: Adventures in Dark Skies". We will investigate and predict the weather by observing clouds and wind, learning about weather and climate, and using models to understand global climate patterns!

Stage 1: Learning Goals

Established Goals	Transfer
Standards	Long-Term Transfer Goals
Pennsylvania Core Standards English Language Arts (2014): 3 ■ Determine the main idea of a text; recount the key details and explain how they support the main idea. (CC.1.2.3.A) ■ Ask and answer questions about the text and make inferences from text; refer to text to support responses. (CC.1.2.3.B) ■ Explain how a series of events, concepts, or steps in a procedure is connected within a text, using language that pertains to time, sequence, and cause/effect. (CC.1.2.3.C) ■ Acquire and use accurately grade-appropriate conversational, general	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) ■ Evaluate systems, in order to connect how form determines function and how any change to one component affects the entire system. (Global Citizen, Innovative Problem Solver) (T2) ■ Writing: Communicate information and ideas clearly to address task, purpose, and intended audience. (T3)

academic, and domain-specific words and phrases, including those that signal spatial and temporal relationships. (CC.1.2.3.J)

- **Write informative/ explanatory texts to examine a topic and convey ideas and information clearly.** (CC.1.4.3.A)
- Identify and introduce the topic. (CC.1.4.3.B)
- Develop the topic with facts, definitions, details, and illustrations, as appropriate. (CC.1.4.3.C)
- Create an organizational structure that includes information grouped and connected logically with a concluding statement or section. (CC.1.4.3.D)
- Determine the main ideas and supporting details of a text read aloud or information presented in diverse media formats, including visually, quantitatively, and orally. (CC.1.5.3.B)
- **Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly with adequate volume, appropriate pacing, and clear pronunciation.** (CC.1.5.3.D)

Pennsylvania Academic Standards

Science (2023): 3 Standards

- **Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.**

Meaning	
Understandings	Essential Questions
What specifically do you want students to understand? What inferences should they make? Students will understand that... ■ Scientists record patterns of the weather across different times and areas so that they can make predictions about what kind of weather might happen next. (U1) ■ Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years. (U2) ■ A variety of natural hazards result from natural processes. Humans cannot eliminate natural hazards but can take steps to reduce their impacts. (U3) ■ Effective writers make deliberate and strategic choices when considering purpose and audience to convey information clearly about a topic. (U4) ■ Authors use a variety of features to help readers identify the organized text structure. (U5)	What thought-provoking questions will foster inquiry, meaning making, and transfer? Students will keep considering... ■ What regulates weather and climate? (3.3.3.A and 3.3.3.B) (Q1) ■ How do natural hazards affect individuals and societies? (3.3.3.C) (Q2) ■ How do I choose relevant information to include in my writing? How does that help support my explanation? (Q3) ■ How does the way this information is organized help me understand the text? (Q4)
Acquisition of Knowledge & Skill	
Knowledge	Skills
What facts and basic concepts should students know and be able to recall? Students will know... ■ How clouds are formed. Where the water is before it forms a cloud and	What discrete skills and processes should students be able to use? Students can... ■ I can explain how clouds are formed. Where the water is before it

Clarifying Statement: Examples of data could include average temperature, precipitation, and wind direction.

Assessment Boundary: Assessment of graphical displays is limited to pictographs and bar graphs. Assessment does not include climate change. (3.3.3.A)

- **Obtain and combine information to describe climates in different regions of the world.**

Clarifying Statement: N/A

Assessment Boundary: N/A (3.3.3.B)

- **Make a claim supported by evidence about the merit of a design solution that reduces the impacts of a weather-related hazard.**

Clarifying Statement: Examples of design solutions to weather-related hazards could include barriers to prevent flooding, wind resistant roofs, and lightning rods.

Assessment Boundary: N/A (3.3.3.C)

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

what forms the water takes as it becomes a cloud. (K1)

- How to describe the four different types of clouds by providing "look for" information and their names. (K2)
- How weather patterns can be used to make predictions about future weather and climate. They will explore different regions and their climate. (K3)
- The impact that wind has on weather and the different types of storms that may result from the wind patterns. (K4)
- The characteristics of fiction and nonfiction texts, including their purposes, features, and how to tell them apart. (K5)

forms a cloud and What forms the water takes as it becomes a cloud. (S1)

- I can describe what to look for in the four different types of clouds. (S2)
- I can explain how weather patterns can be used to make predictions about future weather and climate. (S3)
- I can explain how wind impacts weather and the different types of storms. (S4)
- I can identify a text's structure by how it is organized. (S5)

other perspectives, viewpoints, and
cultures. (*PCVL.CM*)



Forceful Stories: Adventures in Motion

Draft Date 02-06-2026	Course (Draft) Grade 3 English Language Arts, Grade 3 Science	Duration 19 Day(s)	Grades 3	Subjects English Language Arts	Team Heather Yarnell, Sarah Wertz, Gina Georgallis, Jill Koser, Reylek Nicole, Susan Brunk
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Focus

Just like in storm stories where powerful forces are at play, we'll explore the forces all around us in the unit "Forceful Stories: Adventures in Motion" by investigating balanced and unbalanced forces, how bridges work with pushes and pulls, and the effects of gravity and friction on moving objects, while also discovering the power of magnets and designing solutions to everyday problems!

Stage 1: Learning Goals

Established Goals	Transfer	
Standards	Long-Term Transfer Goals	
Pennsylvania Core Standards English Language Arts (2014): 3 ■ Determine the main idea of a text; recount the key details and explain how they support the main idea. (CC.1.2.3.A) ■ Ask and answer questions about the text and make inferences from text; refer to text to support responses. (CC.1.2.3.B) ■ Explain how a series of events, concepts, or steps in a procedure is connected within a text, using language that pertains to time, sequence, and cause/effect. (CC.1.2.3.C) ■ Determine the meaning of words and phrases as they are used in grade level	What kinds of long-term, independent accomplishments are desired? Students will be able to independently use their learning to... ■ Weigh evidence and use scientific approaches to ask questions, investigate, and make informed decisions. (Innovative Problem Solver) (T1)	
	Meaning	
	Understandings	Essential Questions
	What specifically do you want students to understand? What inferences should they make? Students will understand that... ■ Interactions of objects or systems of objects can be predicted and explained using the concept of transfer of energy from one object or system of objects to another. (U1)	What thought-provoking questions will foster inquiry, meaning making, and transfer? Students will keep considering... ■ How can one predict an object's continued motion, changes in motion, or stability? (Q1) ■ What underlying forces explain the variety of interactions observed? (Q2) ■ What is this author trying to tell me based on the evidence used? (Q3)

text, distinguishing literal from non-literal meaning as well as shades of meaning among related words. (CC.1.2.3.F)

- Use information gained from text features to demonstrate understanding of a text. (CC.1.2.3.G)

■ **Describe how an author connects sentences and paragraphs in a text to support particular points.** (CC.1.2.3.H)

- Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and phrases, including those that signal spatial and temporal relationships. (CC.1.2.3.J)

- Determine or clarify the meaning of unknown and multiple-meaning word and phrases based on grade level reading and content; choosing flexibly from a range of strategies and tools. (CC.1.2.3.K)

■ **Write informative/ explanatory texts to examine a topic and convey ideas and information clearly.** (CC.1.4.3.A)

- Identify and introduce the topic. (CC.1.4.3.B)
- Develop the topic with facts, definitions, details, and illustrations, as appropriate. (CC.1.4.3.C)
- Create an organizational structure that includes information grouped and connected logically with a concluding statement or section. (CC.1.4.3.D)
- Demonstrate a grade appropriate command of the conventions of standard English grammar and spelling (CC.1.4.3.F)
- Determine the main ideas and supporting details of a text read aloud or information presented in diverse media formats,

- Strong inferences are based on specific text details that lead to a broader topic, point, or conclusion. (U2)

- Diverse media that features a range of perspectives on a given topic helps individuals to deepen and challenge their thinking. (U3)

- How does this text (ex. Illustration, table, a video clip) help me understand the topic? (Q4)

Acquisition of Knowledge & Skill

Knowledge

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

- How to predict whether an object will continue to move, change its motion, or remain stable by applying know of forces, observing patterns in motion, and conducting simple experiments to test their predictions. (K1)
- Different forces like pushing, pulling, and gravity explain why things interact in different ways, such as sticking together, bouncing, or changing direction. (K2)
- what causes and effects are and how they are related (K3)

Skills

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

- I can predict whether an object will keep moving, change its motion, or stay still by using what I know about forces, watching how it moves, and trying different experiments to see what happens. (S1)
- I can explain how pushing, pulling, and gravity cause objects to interact in various ways. (S2)
- I can identify and explain cause and effect relationships in a text. (S3)

including visually, quantitatively, and orally.
(CC.1.5.3.B)

Pennsylvania Academic Standards

Science (2023): 3 Standards

- Make and communicate observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion.

Clarifying Statement: Examples of motion with a predictable pattern could include a child swinging in a swing, a ball rolling back and forth in a bowl, and two children on a see-saw.

Assessment Boundary: Assessment does not include technical terms such as period and frequency. (3.2.3.A)

- Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.

Clarifying Statement: Examples could include an unbalanced force on one side of a ball can make it start moving; and, balanced forces pushing on a box from both sides will not produce any motion at all.

Assessment Boundary: Assessment is limited to one variable at a time: number,

size, or direction of forces. Assessment does not include quantitative force size, only qualitative and relative. Assessment is limited to gravity being addressed as a force that pulls objects down. (3.2.3.B)

- Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.

Clarifying Statement: Examples of an electric force could include the force on hair from an electrically charged balloon and the electrical forces between a charged rod and pieces of paper; examples of a magnetic force could include the force between two permanent magnets, the force between an electromagnet and steel paper clips, and the force exerted by one magnet versus the force exerted by two magnets. Examples of cause and effect relationships could include how the distance between objects affects strength of the force and how the orientation of magnets affects the direction of the magnetic force.

Assessment Boundary: Assessment is limited to forces produced by objects that can be manipulated by students, and electrical interactions are limited to static electricity. (3.2.3.C)

- Define a simple design problem that can be solved by applying scientific ideas about magnets.

Clarifying Statement: Examples of problems could include constructing a latch to keep a door shut and creating a device to keep two moving objects from touching each other.

Assessment Boundary: N/A (3.2.3.D)

Profile of a CV Learner

- Collaboration: Students will be able to independently engage and meaningfully contribute to a team to reach a common goal, through mutual reflection, feedback, and shared responsibility. (PCVL.CO)
- 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)



Fossils & Changing Environment: Animals Through Time

Draft Date 07-15-2024	Course Grade 3 Science	Duration 8 Day(s)	Grades 3	Subjects Science	Team Sarah Wertz, Jill Koser, Heather Yarnell, Gina Georgallis, Reylek Nicole, Susan Brunk
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Focus

In this unit, students develop an understanding of how animals and their environments have changed through time. Fossils provide a window into the animals and habitats of the past. Analyzing the traits of animals that are alive today and comparing them to fossils, provides evidence of how these ancient organisms and environments of the past may have appeared.

Stage 1: Learning Goals

Established Goals	Transfer	
Standards	Long-Term Transfer Goals	
Pennsylvania Academic Standards Science (2023): 3 Standards Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago. Clarifying Statement: Examples of data could include type, size, and distributions of fossil organisms. Examples of fossils and environments could include marine fossils found on dry land, tropical plant fossils found in Arctic areas, and fossils of extinct organisms. Assessment Boundary: Assessment does not include identification of specific fossils	What kinds of long-term, independent accomplishments are desired? Students will be able to independently use their learning to... Weigh evidence and use scientific approaches to ask questions, investigate, and make informed decisions. (Innovative Problem Solver) (T1)	
	Meaning	
	Understandings	Essential Questions
	What specifically do you want students to understand? What inferences should they make? Students will understand that... - Some kinds of plants and animals that once lived on Earth are no longer found anywhere. (U1) - Fossils provide evidence about the types of organisms that lived long ago and also about the nature of their environments. (U2)	What thought-provoking questions will foster inquiry, meaning making, and transfer? Students will keep considering... What evidence shows that different species are related? (Q1)

or present plants and animals. Assessment is limited to major fossil types and relative ages. (3.1.3.E)

Acquisition of Knowledge & Skill		
Profile of a CV Learner	Knowledge	Skills
	What facts and basic concepts should students know and be able to recall? Students will know... ■ Scientists use clues like how animals look, their DNA, and old bones to see how different animals are related to each other. (K1)	What discrete skills and processes should students be able to use? Students can... ■ Explain how scientists use clues such as animal appearances, DNA, and fossils to understand how different animals are related to each other. (S1)



Survival Stories: Exploring the Secrets to Survival

Draft Date 02-06-2026	Course (Draft) Grade 3 English Language Arts, Grade 3 Science	Duration 12 Day(s)	Grades 3	Subjects English Language Arts	Team Heather Yarnell, Sarah Wertz, Gina Georgallis, Jill Koser, Reylek Nicole, Susan Brunk
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Focus

In this exciting science unit, Survival Stories, students will explore how plants and animals survive in the world around them. We'll learn about traits and how some are inherited from parents while others are learned over time. Students will discover how traits can change, how people sometimes help with these changes, and how living things are better able to survive when their traits match their environment. Get ready to dive into amazing survival stories from nature!

Stage 1: Learning Goals

Established Goals	Transfer	
Standards	Long-Term Transfer Goals	
Pennsylvania Core Standards English Language Arts (2014): 3 ■ Ask and answer questions about the text and make inferences from text; refer to text to support responses. (CC.1.2.3.B) ■ Use text features and search tools to locate and interpret information. (CC.1.2.3.E) ■ Use information gained from text features to demonstrate understanding of a text. (CC.1.2.3.G) ■ Acquire and use accurately grade-appropriate conversational, general academic, and domain-specific words and	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... ■ Heredity refers to specific mechanisms by which characteristics or traits are passed from one generation to the next	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)

phrases, including those that signal spatial and temporal relationships. (CC.1.2.3.J)

- Determine or clarify the meaning of unknown and multiple-meaning word and phrases based on grade level reading and content; choosing flexibly from a range of strategies and tools. (CC.1.2.3.K)
- **Write opinion pieces on familiar topics or texts. (CC.1.4.3.G)**
- Introduce the topic and state an opinion on the topic. (CC.1.4.3.H)
- Support an opinion with reasons. (CC.1.4.3.I)
- Create an organizational structure that includes reasons linked in a logical order with a concluding statement or section. (CC.1.4.3.J)
- Demonstrate a grade appropriate command of the conventions of standard English grammar and spelling (CC.1.4.3.L)
- Draw evidence from literary or informational texts to support analysis, reflection, and research, applying grade level reading standards for literature and informational texts (CC.1.4.3.S)
- Engage effectively in a range of collaborative discussions on grade level topics and texts, building on others' ideas and expressing their own clearly. (CC.1.5.3.A)

via genes, and explains why offspring resemble, but are not identical to, their parents. (U1)

- Effective writers create organizational structures to support their opinions. (U2)
- Engaging in collaborative discussions allows students to learn from each other, deepen their understanding of topics, and gain new perspectives. (U3)
- Strong inferences are based on specific text details that lead to a broader topic, point, or conclusion. (U4)
- Effective readers identify key details of informational texts to determine main ideas. (U5)

- How does this text (ex. Illustration, table, a video clip) help me understand the topic? (Q2)
- How do I choose relevant information to include in my writing? How does that help support my claim? (Q3)
- 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? (Q4)
- How are the characteristics of one generation passed to the next? How can individuals of the same species and even siblings have different characteristics? (Q5)

Acquisition of Knowledge & Skill

Knowledge

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

- How to use text features to locate information. (K1)
- Animal traits are inherited and have changed over time through both artificial and natural selection. (K2)
- Write a claim, support with evidence, and explain thinking with reasoning. (K3)

Skills

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

- I can use text features to locate important information. (S1)
- I can explain how animal traits are inherited and how they have changed over time through natural and artificial selection. (S2)
- I can write a claim, support it with evidence, and explain my thinking with reasoning. (S3)

Pennsylvania Academic Standards

Science (2023): 3 Standards

- Construct an argument that some animals form groups that help members survive.

Clarifying Statement: N/A

Assessment Boundary: N/A (3.1.3.B)

- Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.

Clarifying Statement: Patterns are the similarities and differences in traits shared between offspring and their parents, or among siblings. Emphasis is on organisms other than humans.

Assessment Boundary: Assessment does not include genetic mechanisms of inheritance and prediction of traits. Assessment is limited to non-human examples. (3.1.3.C)

- Use evidence to support the explanation that traits can be influenced by the environment.

Clarifying Statement: Examples of the environment affecting a trait could include normally tall plants grown with insufficient water are stunted; and, a pet dog that is given too much food and little exercise may become overweight.

Assessment Boundary: N/A
(3.1.3.D)

- Use evidence to construct an explanation for how the variations in characteristics

among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.

Clarifying Statement: Examples of cause and effect relationships could be plants that have larger thorns than other plants may be less likely to be eaten by predators; and, animals that have better camouflage coloration than other animals may be more likely to survive and therefore more likely to leave offspring.

Assessment Boundary: N/A (3.1.3.F)

- Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

Clarifying Statement: Examples of evidence could include needs and characteristics of the organisms and habitats involved. The organisms and their habitat make up a system in which the parts depend on each other.

Assessment Boundary: N/A (3.1.3.G)

Profile of a CV Learner

- Collaboration: Students will be able to independently engage and meaningfully contribute to a team to reach a common goal, through mutual reflection, feedback, and shared responsibility. (PCVL.CO)
- 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)