Science—Grade 3
Physical Sciences

SC.3.1 Forces and Interactions: Motion and Stability		Access Points		
Standard/Indicator	**Extension**	**A**	**B**	**C**
SC.3.1.1.A Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object. 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.	Participate in or observe investigations to gather and use data about the relative strength or direction of a force acting on an object as evidence to describe the motion of the object (limit to one changing variable at a time).	Given results of an investigation or data about the relative strength (e.g., small, medium, large) or direction of a force acting on an object (e.g., push/pull, throw/kick, downward pull of gravity), describe the relative motion of the object (e.g., does/does not move, moves fast/slow, moves up/down/sideways, starts/stops moving).	Given the relative strength or direction of a force acting on an object, identify the motion of the object, or given the motion of an object, identify the relative strength or direction of the force acting on the object.	Given the motion of an object, identify the direction of the force acting on the object (e.g., left, right, up, down).

Standard Clarification

Students will investigate and observe that the relative strength of direction of a force on an object affects the motion of the object. Only one variable may change at a time.

Target Activities for Access Point A

A. Students investigate how a small, medium, or large force affects the motion of an object.
- identify how far a ball moves when it is given a light, medium, or strong kick
- record the distance a toy car rolls when given pushes of different strengths (e.g., small, medium, large)
- use a data table to describe that a thrown ball goes farther forward when the relative strength of the throw increases
- describe how a cotton ball moves slightly when someone blows on it lightly through a straw, moves more when blown with a medium strength, and moves even farther with a heavy or strong blow through the straw

A. Students investigate how the direction of force affects the motion of an object.
- describe the motion of a wagon using scenarios or investigations. For example: (a) when the wagon is pulled by a person who is walking, it moves forward at the same pace as the person walking, (b) when the person pulling the wagon stops pulling it, it stops moving, (c) when someone gives the wagon a big push from behind, it moves in the direction it is being pushed, and (d) when someone runs while pushing the wagon from behind, it moves in the same direction and at the same pace as the person pushing it
- describe the relative motion of a marble across a flat surface when rolled down a ramp with a small incline, a ramp with a medium incline, and a ramp with a steep incline (the relative strength used to push the marble off the ramp is constant)
- describe the motion of a classmate going forward and then backward when the classmate is being pushed on a swing
- describe that a pencil held and released from head height drops downward quickly to the ground and may roll a little bit from where it lands

Scaffolding Activities for Access Points B and C

B. Students recognize the relationship between the relative strength or direction of force on an object and the motion of the object.
- answer that a book will slide in the same direction it was pushed and go farther than a book given a light push

when asked, "What will happen to a book on a table if I give it a medium push?"
- indicate that a ball will move in the direction of a kick and possibly up and travel a long way when observing a person giving a soccer ball a strong kick
- identify that a lighter push is needed to push a block from a stack of blocks compared to a push needed to push a textbook from a pile of textbooks, and point to or indicate where the pushed objects will go
- point to where a ball would go if given a medium push from the left

C. Students recognize the direction of a force when observing the motion of an object.
- identify that the force is going left when observing a toy car moving to the left
- state that the force is going up when observing a ball being tossed in the air
- indicate the force is going down when pushing modeling clay on a table

Prerequisite Skill: Students understand directional positions.
- hold a block up, down, in front, or behind upon request

Prerequisite Skill: Students understand objects can move.
- identify an object that is moving when shown a moving object and a non-moving object

Key Terms	data, direction, distance, down, fast, force, gravity, investigation, large, medium, motion, movement, object, pull, push, slow, small, soft, strength, strong, up
Additional Resources or Links	This is a book about a young boy who discovers the laws of force and motion in his everyday activities. https://www.getepic.com/book/26985081/newton-and-me This is a website about motion and stability with lesson plans and activities. https://ngss.nsta.org/DisplayStandard.aspx?view=dci&id=10 This is a collection of videos about the relationship between movement, force, and direction. https://tpt.pbslearningmedia.org/resource/changing-motion-media-gallery/hero-elementary/
Cross-Content Standards	Language Arts: Identify Similar Idea (3.RI.5), Answer Questions (3.RI.6), Identify Similar Events (3.RI.7), and Identify Word Relationship (3.V.2.c) Mathematics: Measure Length (3.3.3.e)

Throw	Direction	How far?
soft	forward	1 foot
medium	forward	2 feet
hard	forward	3 feet

Science—Grade 3
Physical Sciences

SC.3.1 Forces and Interactions: Motion and Stability		Access Points		
Standard/Indicator	**Extension**	**A**	**B**	**C**
SC.3.1.1.B Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion. Assessment does not include technical terms such as period and frequency.	Use observations and/or measurements of an object's motion during two or more trials as evidence to explain a pattern and predict the future motion of the object.	Given results of observations and/or measurements of an object's motion (e.g., speed, direction, distance, time) during two or more trials, describe a pattern and use the pattern to predict the future motion of the object.	Given results of observations and/or measurements of an object's motion during two or more trials, identify a pattern in the object's motion.	Given the resulting pattern in an object's motion after two or more trials, predict the future motion of the object.

Standard Clarification

Students will use observations from investigations or data about the motion of an object to identify a pattern in the object's motion or to predict how the object will move in the future. Students must observe two or more trials in order to identify a pattern in the object's motion.

Target Activities for Access Point A

A. Students use observations or data to first identify a pattern of motion and then predict the movement of an object in another trial.
- observe a toy car being pushed down a ramp three times to describe the motion (e.g., relative speed, distance, how long it traveled), and predict for that same motion variable (e.g., relative speed, distance, how long it traveled) on the fourth trial
- use data about the distance a sled goes down a hill to identify the pattern of motion, and predict where the sled will stop on the next trial run
- observe a ball being kicked softly over multiple trials to identify the pattern of movement, and predict the direction and distance the ball will travel if kicked in the same way

Scaffolding Activities for Access Points B and C

B. Students identify a pattern of an object in motion after two or more trials.
- identify a basketball going up and forward while watching a video of someone shooting a free throw
- indicate a marble rolling straight and fast when observing it going down a ramp multiple times
- identify a wadded ball of paper will go up and then down when tossed in the air

C. Students predict the motion of an object when provided information about two or more trials.
- predict that a leaf will fall to the ground when given information about three trials (Trial 1: leaf falls to ground from tree, Trial 2: leaf falls to ground from tree, Trial 3: leaf gets stuck on another branch when falling from tree)
- observe pictures of the leaf falling in Trial 1 and Trial 2, and select the picture that predicts the motion of the leaf in Trial 3 (a picture of a leaf with an arrow pointing up, a picture of a leaf and an arrow pointing down, a picture of a leaf with an arrow pointing left, and a picture of a leaf with an arrow pointing right)
- observe three trials of a car being pushed across the floor, and predict which direction the car will go on the fourth trial
- predict that a wagon will go forward when pushed from behind when given information about three trials (Trial 1: wagon rolls forward when pushed, Trial 2: wagon hits a rock and stops when pushed, Trial 3: wagon rolls forward when pushed)

Prerequisite Skill: Students recognize that objects move. ● identify a moving object when shown moving and non-moving objects	
Key Terms	direction, motion, movement, pattern, predict, speed, trial
Additional Resources or Links	This is a website about patterns of motion and friction between objects. https://www.generationgenius.com/motion-and-friction-lesson-for-kids This is a 13-lesson unit on using patterns to predict motion. https://ssec.si.edu/motion-phenomenon
Cross-Content Standards	Language Arts: Identify Event (LAE.3.RI.2) and Identify Similar Events (LAE.3.RI.7) Mathematics: Identify AB Pattern (MAE 3.2.1.a) and Measure Length (MAE 3.3.3.e)

Marcy sleds down a hill three times. Each time she stops next to the snowperson. Where will Marcy stop if she sleds down the hill one more time?

Science—Grade 3
Physical Sciences

SC.3.1 Forces and Interactions: Motion and Stability		Access Points		
Standard/Indicator	**Extension**	**A**	**B**	**C**
SC.3.1.1.C Ask questions to determine cause and effect relationships of electrical or magnetic interactions between two objects not in contact with each other. Assessment is limited to forces produced by objects that can be manipulated by students, and electrical interactions are limited to static electricity.	Observe and gather information about magnetic or static-electric forces that push or pull on objects with positive or negative charges, without physical contact, to explain the cause and effect relationship of these interactions. Note: Avoid using magnets around students with Vagus Nerve Stimulators (VNS).	Given information about magnetic or static-electric forces that push or pull on objects with positive or negative charges, without physical contact, describe the cause and effect relationship or the outcome of interactions.	Given two objects with known charges, identify the force acting on the objects, and/or the motion of the objects when they are placed near each other.	Given two objects with opposite charges, identify that they will be pulled together, or given two objects with the same charge, identify that they will be pushed apart.

Standard Clarification

Students will describe what happens when an object is pulled or pushed by a magnet or because of static electricity. Students will use observations and information to describe what happens.

Target Activities for Access Point A

A. Students describe what is happening when static-electric forces cause objects to move apart (be repelled) or move closer (be attracted).
- identify that a balloon that has been rubbed with wool can attract small pieces of paper, even when the balloon isn't touching the paper
- explain what is happening in a static-electric forces scenario and picture (e.g., A student rubs a balloon against her hair. This gives the balloon a negative charge. The hair still has a positive charge. The student doesn't touch the balloon to her hair. What happens?)

A. Students describe what is happening when magnetic forces cause objects to move apart (be repelled) or move closer (be attracted).
- explain what happens and why it happens when two magnets with south poles facing each other are brought closer together
- describe what happens and why it happens when the south pole of a magnet comes close to the north pole of another magnet

Scaffolding Activities for Access Points B and C

B. Students identify that an object can be repelled or attracted, and which direction it will move, either by static-electric forces or by magnetic forces.
- identify that a balloon that has a positive charge and a balloon that has a negative charge will touch each other and not move away from each other when dangled on strings from above because they are attracted to each other by static-electric forces
- identify that the negative pole on a magnet will repel the negative pole on another magnet and that the second magnet will move in the direction it is being pushed
- identify that two positively charged rods, when placed near each other, will repel or roll away from each other because of their like charges

C. Students recognize that two objects with the same electric charge or the same magnetic poles will move apart and

that two objects with opposite electric charges or opposite magnetic poles will move together.
- move hands close together when asked what a positively charged table tennis ball will do when placed next to a negatively charged table tennis ball
- indicate that the south pole on a magnet will push another magnet away if pointed to the south pole of the second magnet

Prerequisite Skill: Students understand what opposites are.
- recognize hot/cold, fast/slow, tall/short, etc. as opposites
- match pictures that show an opposite relationship

Key Terms	attract, charge, electric, force, magnet, magnetic, motion, negative, positive, repel
Additional Resources or Links	This is a lesson with an experiment students can do to show magnetic attraction/repulsion. https://serc.carleton.edu/sp/mnstep/activities/26850.html This is a video about magnets and magnetism. https://tpt.pbslearningmedia.org/resource/magnets-invisible-force-media-gallery/science-trek/
Cross-Content Standards	Language Arts: Identify Event (3.RI.2), Identify Similar Idea (3.RI.5), Answer Questions (3.RI.6), Identify Similar Events (3.RI.7), and Identify Topic Details (3.W.5.b) Mathematics: Measure Length (3.3.3.e)

Science—Grade 3
Physical Sciences

SC.3.1 Forces and Interactions: Motion and Stability		Access Points		
Standard/Indicator	**Extension**	**A**	**B**	**C**
SC.3.1.1.D Define a simple design problem that can be solved by applying scientific ideas about magnets.	Participate in investigations to observe and identify simple problems that can be solved using magnets. Note: Avoid using magnets around students with Vagus Nerve Stimulators (VNS).	Use observations or given information from an investigation to identify simple problems that can be solved using magnets (e.g., separate magnetic objects from a mixture, lift magnetic objects).	Given a simple problem, identify how a magnet can be used to solve it.	Recognize a magnet.

Standard Clarification

Students will participate in investigations or use observations to identify how magnets can be used to solve problems. Note: Avoid using magnets around students with Vagus Nerve Stimulators (VNS).

Target Activities for Access Point A

A. Students identify problems that can be solved using magnets.
- identify the problem in this investigation: Ask the students to move a metal ball through a simple maze, but tell them they can't touch the ball with anything or blow on the ball. Ask the students to identify the problem in the investigation and how a magnet can be used to solve the problem.
- identify the problem of not having a magnet available in this scenario: Students have a bowl of sand, rice, dirt, and iron filings mixed together. The students want to take out the iron filings. The tools the students have are a pair of tweezers, a microscope, and a spoon. What problem do the students have?

Scaffolding Activities for Access Points B and C

B. Students identify how a magnet can be used to solve a problem.
- identify how a magnet can be used to pick up a bunch of paper clips that spilled out of a box
- identify how two magnets can be used to close a chip bag
- identify how two magnets can be used to keep a cabinet door closed
- identify how a teacher can use a magnet to hang up school work on a metal door
- identify the problem in this scenario: Sue mixes her colored metal beads with Jody's colored plastic beads. They like making jewelry with both types of beads. When it is time to go, Sue and Jody need to separate their beads. There are a lot of beads. How will a magnet solve the problem?

C. Students recognize that magnets attract metal objects.
- identify a magnet in a group of items (e.g., magnet, ruler, cooking utensil)
- sort items (e.g., crayons, paper clips, paper, nails) into two groups (i.e., magnetic and nonmagnetic) using a magnet
- recognize that magnetic alphabet letters stick on a cookie sheet or refrigerator and not on paper
- use a magnet to find magnetic objects in a classroom

Prerequisite Skill: Students identify ways that two or more items can be attached.
- use tools such as string, glue, tape, and magnets to attach two or more items together

Prerequisite Skill: Students identify same or similar items.

	• sort same or similar familiar items into groups
Key Terms	attract, magnet, magnetic objects, mixture, nonmagnetic, problem, repel, solution
Additional Resources or Links	This is a video showing items that are attracted to magnets. https://www.youtube.com/watch?v=s236Q1nuWXg

This is a website with lesson plans and activities for teaching about magnets. https://www.sciencebuddies.org/blog/magnetism-lessons |
| Cross-Content Standards | Language Arts: Identify Similar Idea (3.RI.5), Answer Questions (3.RI.6), and Identify Similar Events (3.RI.7)

Mathematics: Compare Whole Numbers (3.1.1.c) |

Science—Grade 3
Life Sciences

SC.3.7 Interdependent Relationships in Ecosystems		Access Points		
Standard/Indicator	**Extension**	**A**	**B**	**C**
SC.3.7.2.A Construct an argument that some animals form groups that help members survive.	Use evidence from observations, videos, or other media to explain that forming a group helps some animals survive.	Given evidence from observations, videos, or other media, describe that forming a group helps some animals survive (e.g., division of labor, shared resources, protection from predators).	Given information about animals that live in a group, identify one or more benefits that help members of the group survive.	Recognize animals living in groups.

Standard Clarification

Students will use evidence to recognize and explain that some animals benefit and survive from living in groups.

Target Activities for Access Point A

A. Students use given information to describe ways in which forming a group helps some animals survive.
- watch a video on meerkat behavior, and explain that meerkats have different roles in a group (e.g., a sentry keeps watch for predators, all members of the group take care of the babies)
- listen to a passage about a gaggle (group) of geese, and describe the ways in which living in groups helps geese survive (e.g., healthy geese protect and feed unhealthy or injured geese, help watch for predators, and give others a chance to rest)
- listen to a story or watch a video about animals that live in groups, and explain ways in which animals that live in groups can help their group survive

Scaffolding Activities for Access Points B and C

B. Students identify the benefits some animals have when living in a group.
- listen to a passage about emperor penguins, and identify that emperor penguins huddle together to stay warm
- listen to a passage about hippos, and identify that hippos sleep in a group to protect their young
- listen to a passage about ants, and indicate at least two benefits that ants have because they live in a large group

C. Students identify animals that live in groups.
- choose a picture of an ant when shown a picture of an ant and another animal that does not live in a big group (e.g., bear, turtle) and asked, "Which animal lives in a big group?"
- choose a picture of a group of bees when shown a picture of a group of bees and another animal that does not live in a big group (e.g., polar bear, skunk) and asked, "Which animal lives in a big group?"
- choose an animal that lives in a group after reading a story about animals and how they live

Prerequisite Skill: Students recognize the difference between one and more than one or a few and many.
- choose the group of two balls when asked, "Which group has more than one ball?"
- choose the group of one pencil when shown two groups of pencils and asked, "Which group has one pencil?"

Prerequisite Skill: Students recognize that animals have different behaviors.
- choose a picture of a bird when given two choices and asked, "Which animal flies?"
- recognize at least one behavior of a given animal (e.g., how it moves, how it eats)

Key Terms	alone, benefits, enemy, group, labor, member, predator, protect, survive, young
Additional Resources or Links	This is an activity that includes a nonfiction book explaining how some insects work together to increase their chances of survival. https://ngss.nsta.org/Resource.aspx?ResourceID=271 This is a video that shows animals that live in groups, with narration about why they live in groups. https://www.youtube.com/watch?v=r2_npLl4Cyc This is a video from the *New York Times* that shows bats hunting together and how working together helps them find food. https://www.youtube.com/watch?v=42pnfTdzGhw
Cross-Content Standards	Language Arts: Identify Event (3.RI.2), Identify Similar Idea (3.RI.5), Answer Questions (3.RI.6), and Identify Similar Events (3.RI.7) Mathematics: Compare Whole Numbers (3.1.1.c)

Science—Grade 3
Life Sciences

SC.3.7 Interdependent Relationships in Ecosystems		Access Points		
Standard/Indicator	**Extension**	**A**	**B**	**C**
SC.3.7.2.B Analyze and interpret data from fossils to provide evidence of the organisms and environments in which they lived long ago. Assessment does not include identification of specific fossils or present plants and animals. Assessment is limited to major fossil types and relative ages.	Use information about fossils or observations to explain plants and animals that lived long ago and the environments in which they lived.	Given information about fossils, describe the plants and animals that lived long ago and the environments in which they lived (e.g., fish fossil indicates water environment, legs indicate land, tree fossil indicates forest).	Given a fossil, identify it as evidence of a plant or evidence of an animal that lived long ago and/or identify the type of environment lived in long ago.	Recognize a fossil.

Standard Clarification

Students will use fossil evidence to relay information about a plant or an animal and the environments in which they lived.

Target Activities for Access Point A

A. Students use information about a fossil as evidence to describe the plants or animals that lived long ago and the possible environment from which the plants or animals were from.
- complete task cards or sentence strips about fossils based on information that was taught through a book or a video: The fossil looks like _____. It has _____. It probably lived in _____.
- create a model of a plant fossil using a plant impression in modeling clay
- use various clay impressions of fossils to describe information about the plant and the animal that once lived and its environment
- study a diagram of a fossil with certain parts labeled, and then describe which parts provide evidence for the environment in which the organism represented by the fossil once lived

Scaffolding Activities for Access Points B and C

B. Students identify whether a fossil is a plant or animal or identify the environment where it may have lived.
- identify a fossil as a plant or an animal when given two choices
- classify a fossil as a plant or an animal when given two choices (i.e., a picture of a plant and a picture of an animal)
- indicate which environment in which a plant fossil or an animal fossil lived when given two choices (e.g., jungle or desert, water or land)

C. Students recognize and differentiate between fossils and nonfossils and recognize that fossils are from organisms that lived long ago.
- sort images of fossils and living animals
- sort images of fossils and living animals into past or present groups (i.e., fossils are put in the past group and living animals are put in the present group)

Prerequisite Skill: Students understand the concepts of past/present or before/now.
- understand that events occur in a certain order
- recognize that activities that happened in the past may be different from activities that are currently happening

Prerequisite Skill: Students recognize various environments. ● recognize differences between two pictures ● recognize common areas or environments in the world (e.g., river, ocean, desert)	
Key Terms	animal, desert, environment, forest, fossil, jungle, land, ocean, organism, past, plant, time period, tree, water
Additional Resources or Links	This is an activity about dinosaur fossils. https://ngss.nsta.org/Resource.aspx?ResourceID=327 This is a virtual lab that showcases fossils and artifacts found in Africa. https://africanfossils.org/ This is a video describing fossils. https://www.wcccwellesley.org/ecp/fossils/
Cross-Content Standards	Language Arts: Identify Event (3.RI.2), Identify Similar Idea (3.RI.5), Answer Questions (3.RI.6), Identify Topic Details (3.W.5.b), and Organize Information (3.W.6.C) Mathematics: Elapsed Time (3.3.3.c)

Science—Grade 3
Life Sciences

SC.3.7 Interdependent Relationships in Ecosystems		Access Points		
Standard/Indicator	**Extension**	**A**	**B**	**C**
SC.3.7.2.C 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.	Use evidence from observations, scenarios, or data to explain that plants and animals have characteristics that help them survive better in certain habitats than in other habitats.	Given evidence about the different characteristics of plants and animals (e.g., thick/thin body covering, blubber, color/patterns, leaf size, vines/trunks, deep/shallow roots, spines), describe that the characteristics help them survive better in certain habitats (e.g., polar, tropical, desert, forest, grassland, river, ocean) than in other habitats.	Given information about a habitat, identify the plant or animal with characteristics that will help it survive in that habitat, or given information about the characteristics of a plant or animal, identify the habitat in which it will most likely survive.	Given characteristics of a plant or animal, identify the plant or animal with those characteristics.

Standard Clarification

Students will use observations to explain that plants and animals have certain physical characteristics that help them survive. Students will use evidence to describe that different plant or animal characteristics help them survive better in certain habitats than in other habitats.

Target Activities for Access Point A

A. Students describe the part of a plant that helps it survive in a given environment.
- explain that some plants grow very tall in a rainforest because they compete with tall trees for sunlight
- explain that a cactus has spines to protect it from desert animals that want to get the water the plant has stored
- explain that plants in the desert have many shallow roots to quickly collect water when it rains
- explain that deep roots help plants live in the grasslands (e.g., get water, prevent plant from being blown away, can survive winters and fires)

A. Students describe the part of an animal that helps it survive in a given environment.
- explain that webbed feet help ducks and geese survive in water habitats
- explain that polar bears and Arctic foxes survive in polar areas because their fur color helps them blend into their environment
- explain that a giraffe's long neck helps it survive in the African grasslands because the giraffe can reach and eat leaves on high tree branches that other animals cannot reach
- explain that thick blubber helps a whale and a seal stay warm in the polar regions
- describe how a fennec fox's ears help it hear predators and prey, and also help it keep cool in the desert

Scaffolding Activities for Access Points B and C

B. Students identify the plant or animal that will survive in a particular habitat.
- choose the hummingbird from three choices (e.g., hummingbird, polar bear, shark) when provided information about a habitat with many flowers, plants, and warm weather
- choose a cactus from three choices (e.g., cactus, pine tree, banana tree) when provided information about a desert habitat that is hot, dry, and sandy
- choose a chameleon from three choices (e.g., chameleon, penguin, octopus) when provided information about a rainforest habitat that is warm, has many trees, and is wet

B. Students identify the habitat in which a given animal can survive.
- choose a rainforest habitat when provided characteristics about a monkey (e.g., long tail, eats fruit, has a thin layer of hair on its body)
- choose a pond habitat when asked where a duck with webbed feet, a large bill, feathers that repel water, and a large body might live

C. Students choose characteristics of a plant or animal and identify the plant or animal with those characteristics.
- identify whether the spines of a cactus belong to a cactus or a dog
- identify whether the roots of a plant belong to a flower or a cat
- identify whether the fins of a fish belong to a fish or an evergreen tree
- identify whether the tail of a monkey belongs to a monkey or a frog

Prerequisite Skill: Students understand that plants and animals need certain things to survive.
- recognize terms such as characteristics, traits, habitat, survival
- recognize the difference between plants and animals

Key Terms	animal, characteristic, environment, habitat, plant, survive, survival, trait
Additional Resources or Links	This is a video that shows how whales, penguins, and polar bears stay warm. https://www.youtube.com/watch?v=TwfKCX_8fbA This is an article that describes how the fennec fox's ears help it in the desert. https://kids.nationalgeographic.com/animals/mammals/facts/fennec-fox This is a lesson plan about describing animals and their characteristics, with specific instructions on using adaptive communication devices to participate in the lesson. https://www.ablenetinc.com/creature-features/ This is a group of worksheets that can be used to define and describe animal characteristics and adaptations that help animals live in a particular environment. https://files.mccdistrict.org//self%20guided%20opportunities/Amazing%20Animal%20Adaptations.pdf
Cross-Content Standards	Language Arts: Use Text Features (3.RI.4), Answer Questions (3.RI.6), Identify Topic Details (3.W.5.b), and Organize Information (3.W.6.C) Mathematics: Compare Whole Numbers (3.1.1.c)

Science—Grade 3
Life Sciences

SC.3.7 Interdependent Relationships in Ecosystems		Access Points		
Standard/Indicator	**Extension**	**A**	**B**	**C**
SC.3.7.2.D Make a claim 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. Assessment is limited to a single environmental change. Assessment does not include the greenhouse effect or climate change.	Gather and use information to explain how a solution to a problem, that was caused by an environmental change, affects the plants and animals that live in the environment.	Use information to describe that a solution (e.g., reseeding, preserving habitat, fish ladders, laws) to a problem, that was caused by an environmental change (e.g., fires, deforestation, urbanization, dams, pollution), affects the plants and animals that live in the environment.	Identify how a given solution would affect plants and animals in the area (e.g., a good solution will improve conditions for plants and animals).	Given an environmental change, identify whether the impact on a plant or animal would be positive or negative.

Standard Clarification

Students will use information about different environmental solutions to explain how plants and animals are affected (e.g., positively, negatively) by the solution. The solution must be for a problem that was caused by an environmental change (e.g., fires, deforestation, urbanization, dams, pollution).

Target Activities for Access Point A

A. Students use information to describe the impacts an environmental solution has on plants and animals.
- read or listen to an article about deforestation, and describe what happens to the plants and animals after deforestation occurs in an area and what happens after trees are replanted in the same area
- plant a small wildflower garden on school property, and observe how the numbers and types of plants and animals change in this area before and after planting the garden
- watch a video on people picking up litter on a beach, and discuss what will happen to the plants and animals after the beach is cleaned up

Scaffolding Activities for Access Points B and C

B. Students identify how a good solution to an environmental change will improve conditions for plants and animals.
- identify how planting more trees after a forest fire will help plants and animals, and identify how building a parking lot would harm plants and animals after a forest fire
- identify the effect on plants and animals associated with each solution to flooding, given a pair of solutions
- match a solution to an environmental problem (e.g., cleaning up the litter from a beach will provide a cleaner space for plants and animals to live in)

C. Students identify the positive or negative impact on plants and animals when there is an environmental change.
- identify before and after pictures of an area that experienced an environmental change (e.g., forest fire, flooding), and describe one or more changes between the pictures (e.g., fewer trees, too much water)
- identify one negative impact on plants or animals after a negative environmental change when given two choices (e.g., cutting down trees provides more spaces for birds to live or fewer spaces for birds to live)

- identify one positive impact on plants or animals after a negative environmental change when given two choices (e.g., new seedlings grow after a forest fire and insects return to the area or grasses die in a forest fire and animals have less food to eat)
- identify one positive or one negative impact on plants or animals after a positive environmental change (e.g., more rain will help plants and trees grow)

Prerequisite Skill: Students identify plants and animals.
- indicate an animal when shown a picture of a plant and an animal
- sort animals and plants

Prerequisite Skill: Students recognize positive and negative events in the environment.
- understand the terms positive (good) or negative (bad)
- recognize a change in the environment

Key Terms	animals, change, dam, environment, fire, flood, forest, impact, negative, plants, positive, problem, solution
Additional Resources or Links	This is a video on the effects of deforestation. https://www.nationalgeographic.com/environment/article/deforestation This is an article on pollution and how it affects Earth. https://kids.nationalgeographic.com/science/article/pollution This is an article on recycling, reducing waste, and reusing everyday items. https://www.reusethisbag.com/articles/kids-guide-to-recycling
Cross-Content Standards	Language Arts: Identify Event (3.RI.2), Identify Similar Idea (3.RI.5), Use Text Features (3.RI.4), Answer Questions (3.RI.6), Identify Similar Events (3.RI.7), and Identify Topic Details (3.W.5.b) Mathematics: Compare Numbers (3.1.1.b)

Science—Grade 3
Life Sciences

SC.3.7 Interdependent Relationships in Ecosystems		Access Points		
Standard/Indicator	**Extension**	**A**	**B**	**C**
SC.3.7.2.E Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.	Observe and gather information about a simple local problem pertaining to relationships in ecosystems, and use criteria and constraints to generate or compare possible solutions.	Given information about a simple local problem pertaining to relationships in ecosystems, use given criteria (what the solution must do), and given constraints (limits on the solution: e.g., budget, resources, time) to compare possible solutions.	Given two or more solutions to a simple local problem pertaining to relationships in ecosystems, identify the solution that meets the criteria and/or constraints.	Recognize a solution to a simple local problem pertaining to relationships in ecosystems that meets the given criteria or constraint.

Standard Clarification

Students will use information (e.g., observations, data) to generate and/or compare solutions for a real-world, local problem. Students will use criteria (what the solution must do) and constraints (limits) to generate or compare the solutions.

Target Activities for Access Point A

A. Students generate or compare solutions for a local problem when provided criteria and constraints.
- make a poster or other visual showing what a school can do if it gets four additional third-grade students and both of the third-grade classrooms are full (i.e., there are no empty desks in either classroom)
- describe solutions that will help students with mobility challenges move safely around a school with three floors
- discuss solutions to reduce air pollution and save gas from idling school buses (i.e., buses that are on, but not moving), when given the constraint of keeping the school buses on the same schedule (e.g., turn off the school buses when parked)
- watch a video on water conservation, and generate possible solutions to solve the problem of using too much water (e.g., the use of rain barrels, limit the amount of water used to water grass and gardens)
- read or listen to a news article about the declining bee population, and compare two possible solutions to the problem (e.g., plant more flowers, build bee hives)

Scaffolding Activities for Access Points B and C

B. Students identify a solution to a simple local problem that meets the criteria and/or constraints.
- read or listen to a news article about crops not getting enough water needed to grow and survive due to lack of rain, and choose the best solution to the problem when given two or more choices (e.g., water the crops more often, plant crops that need less water)
- watch a video about the pollution in local bodies of water, and choose the best solution to the problem (e.g., plan water clean-up days, tell the city to provide more garbage cans, don't let people have picnics next to the water)

C. Students identify a solution to a problem.
- identify the solution when given a scenario: The flowers in the garden are dying. It has been windy and hot. The school doesn't have the money to buy new flowers. The third-grade students take turns each day watering the flowers in the garden. There is a nice bench in the garden to sit on and read a book. Is the solution to water the flowers each day or sit in the garden and read a book?
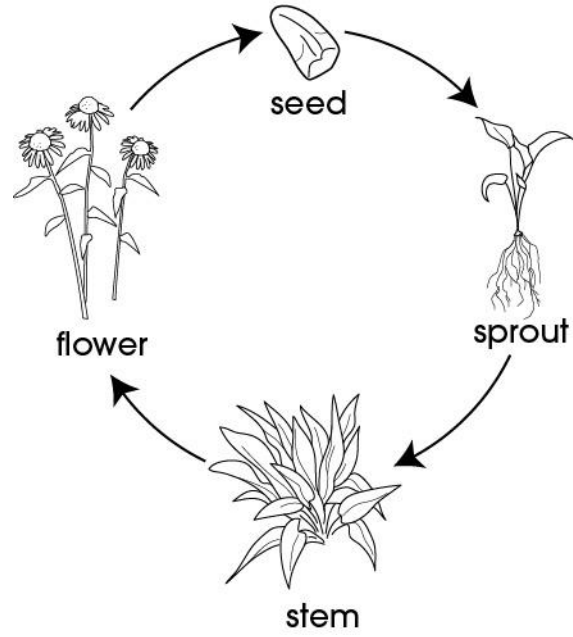
Prerequisite Skill: Students recognize a problem.

- recognize a problem when given a real-world scenario (e.g., the bus is late to school, so the students miss morning meeting)
- recognize there is not a problem when given a similar real-world scenario (e.g., the bus is on time to school, so the students get to participate in morning meeting)

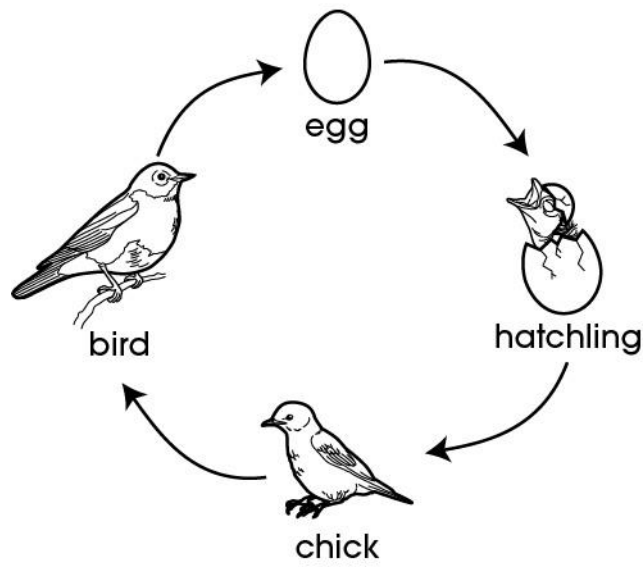| Key Terms	compare, constraint, criteria, ecosystem, generate, goal, limit, local, problem, relationship, simple, solution
Additional Resources or Links	This is a lesson that helps teachers teach students to generate solutions for problems. https://betterlesson.com/strategy/495/problems-to-solutions-using-newsela-with-elementary-students?from=search This is a video showing students coming up with design solutions to problems. https://www.youtube.com/watch?v=sD7CZL9PpF4
Cross-Content Standards	Language Arts: Identify Event (3.RI.2), Use Text Features (3.RI.4), Identify Similar Idea (3.RI.5), Answer Questions (3.RI.6), Identify Events (3.RI.7), Identify Details (3.W.5.b), and Organize Information (3.W.6.c) Mathematics: Solve Real-World Problem (3.2.3.a) and Solve Pictograph and Bar Graph (3.4.2.a)

Science—Grade 3
Life Sciences

SC.3.9 Inheritance and Variation: Life Cycles and Traits		Access Points		
Standard/Indicator	**Extension**	**A**	**B**	**C**
SC.3.9.3.A Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death. Assessment of plant life cycles is limited to those of flowering plants. Assessment does not include details of human reproduction.	Use or develop simple models to explain that while animals and flowering plants have unique life cycles, they all follow the common cycle of birth, growth, reproduction, and death.	Use simple models to describe that animals and flowering plants have unique life cycles, and identify stages along the common cycle of birth, growth, reproduction, and death.	Given an incomplete model showing the life cycle of an animal or flowering plant, identify the missing or next stage of the cycle.	Given a complete model showing the life cycle of an animal or flowering plant, identify the first or last stage in the cycle.

Standard Clarification

Students will use or develop a model to identify and explain the stages of the life cycle of an animal or a plant. This standard and extension pertains to animals and flowering plants only.

Target Activities for Access Point A

A. Students develop a simple model of the life cycle of a plant and identify the stages in the life cycle.
- draw a four-stage plant life cycle model when provided a template
- discuss each stage of a simple model of a plant life cycle
- indicate the order of the stages of a plant life cycle and describe each stage when shown pictures
- complete a sentence frame or sentence starters to describe the stages of a plant life cycle

A. Students use or develop a simple model of the life cycle of an animal to identify the stages in the life cycle.
- compare the similarities between two models showing a cat life cycle and a dog life cycle (i.e., birth, growth, reproduction, and old age/death)
- complete a model of the life cycle of an animal (e.g., squirrel)
- compare the life cycles of two different animals (e.g., bird and rabbit)

Scaffolding Activities for Access Points B and C

B. Students identify the missing stage when shown a life cycle model of an animal or flowering plant.
- indicate the missing stage in a flowering plant life cycle model when given two pictures
- identify the life cycle stage for either an animal or a flowering plant that comes next when a story or a video is paused
- indicate the missing stage in the life cycle of a chicken when shown a model with a missing stage

C. Students identify young and/or adult stages when given the complete life cycle of an animal or flowering plant.
- indicate the seedling, or first stage, when asked for the young stage of a plant life cycle as seen in a video, book, or model
- choose the butterfly when asked for the adult stage when shown the life cycle of a butterfly

Prerequisite Skill: Students understand animals and plants are living things.
- sort pictures of living and nonliving things into groups
- identify an animal and/or a plant as a living thing

Prerequisite Skill: Students recognize a pattern of events.
- follow step-by-step directions

	● identify the correct order of a familiar sequence (e.g., daily schedule)
Key Terms	adult, animal, birth, death, flowering plant, growth, life cycle, model, reproduction, seedling, sprout, stage, youth
Additional Resources or Links	This is a video talking about animal life cycles. https://www.youtube.com/watch?v=KOp9q-weDMA This is a video talking about plant life cycles. https://www.youtube.com/watch?v=1oGN--utDXw This is a lesson plan about the life cycles of plants and animals. https://www.educationworld.com/a_lesson/life-cycles-of-plants-and-animals This is a lesson plan containing activities for comparing life cycles. https://scsp.chem.ucsb.edu/sites/default/files/sitefiles/lessons/Life%20Cylce%20Lesson%20Plan.pdf This is a collection of interactive life cycle diagrams for different animals and plants. https://www.ecosystemforkids.com/life-cycle-diagrams-of-animals.html
Cross-Content Standards	Language Arts: Identify Event (3.RI.2), Identify Similar Ideas (3.RI.5), Answer Questions (3.RI.6), Identify Similar Events (3.RI.7), Identify Relationship of Words (3.V.2.c), Identify Topic Details (3.W.5.b), and Organize Information (3.W.6.c) Mathematics: Identify AB Pattern (3.2.1.a) and Elapsed Time (3.3.3.c)

Life Cycle of a Flower

seed

sprout

stem

flower

Life Cycle of a Bird

egg

hatchling

chick

bird

Science—Grade 3
Life Sciences

SC.3.9 Inheritance and Variation: Life Cycles and Traits		Access Points		
Standard/Indicator	**Extension**	**A**	**B**	**C**
SC.3.9.3.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. Assessment does not include genetic mechanisms of inheritance and prediction of traits. Assessment is limited to non-human examples.	Use evidence from observations, scenarios, and data to explain that individual plants or animals within the same group (species) can have different physical traits, and that the physical traits of parents are inherited by their offspring.	Given a group of individuals of the same species (siblings, other family members, or unrelated), identify evidence of variation in physical traits (e.g., short/tall, color, pattern, size), and given one or both parents and one or more offspring, identify evidence that the physical traits of parents are inherited by their offspring.	Given one or both parents and one or more offspring, identify evidence that the physical traits of parents are inherited by their offspring.	Given a parent animal and different young animals, identify its offspring, or given a young animal, identify its parent.

Standard Clarification

Students will identify and explain the differences in the physical traits of plants and animals in the same species, as well as identify the traits that are inherited from the parents.

Target Activities for Access Point A

A. Students use observations as evidence to identify that individuals of the same species have different physical traits.
   ● indicate the physical differences when shown a poster of horses of the same species (e.g., different colors, sizes, coat patterns, hoof sizes)
   ● indicate the physical differences between plants (e.g., hosta plants grown from the same type of seed, garden pansies of the same species)
   ● sort pictures of dogs of the same breed into groups of physical traits (e.g., size, fur color, markings, ear size)

A. Students use observations as evidence to identify physical traits inherited from parents.
   ● identify the similar physical traits between an adult Clydesdale horse and its offspring when shown a picture
   ● identify the similar physical traits of an offspring plant when shown a picture of the parent plant
   ● identify similarities between human offspring and parent when shown a picture of the parent
   ● identify the inherited physical trait from a family (human) picture
   ● identify the parent when shown a picture of a litter of piglets and two parent options
   ● discuss the traits of a young guinea pig when shown an image of the mother

Scaffolding Activities for Access Points B and C

B. Students identify the evidence that shows physical traits of parents are inherited by their offspring.
- indicate one or more traits that a mother elephant and her elephant calf have in common (e.g., color, trunk, large ears, wrinkly skin)
- indicate inherited or common traits when shown a family picture (e.g., eye color, hair color, height)

C. Students identify the offspring or the parents when shown images of an animal.
- select the bunny from two options (e.g., bunny, rooster) when shown a picture of an adult rabbit
- select the adult sheep from two options (e.g., adult sheep, adult elephant) when shown a picture of a lamb
- match parent animals to their offspring (e.g., cat/kitten, turtle/hatchling, snake/snakelet)

Prerequisite Skill: Students know the difference between plants and animals.
- sort plant and animal pictures
- identify a plant or an animal when shown pictures in a storybook

Prerequisite Skill: Students recognize differences and similarities between two things.
- sort objects into groups based on differences or similarities
- recognize one difference or one similarity between two familiar objects

Key Terms	alike, animal, different, inherit, offspring, parent, plant, similar, traits
Additional Resources or Links	This is a video explaining different traits of animals. https://www.youtube.com/watch?v=GqEConjFPvg This is a video about the variation of traits in animals. https://www.generationgenius.com/videolessons/variation-of-traits-video-for-kids/ This is a lesson plan exploring the similarities and differences between animal babies and their parents. https://ngss.nsta.org/Resource.aspx?ResourceID=939
Cross-Content Standards	Language Arts: Identify Event (3.RI.2), Identify Similar Idea (3.RI.5), Answer Questions (3.RI.6), Identify Topic Details (3.W.5.b), and Organize Information (3.W.6.C) Mathematics: Identify AB Pattern (3.2.1.a), Pictographs and Bar Graphs (3.4.1.a), and Solve Bar Graph and Pictograph (3.4.3)

Science—Grade 3
Life Sciences

SC.3.9 Inheritance and Variation: Life Cycles and Traits		Access Points		
Standard/Indicator	**Extension**	**A**	**B**	**C**
SC.3.9.3.C Use evidence to support the explanation that traits can be influenced by the environment.	Use evidence from observations, scenarios, and data to explain that some of the variation in the physical traits of plants and animals is influenced by environmental factors.	Given evidence from observations, scenarios, and data, describe that some of the variation in the physical traits of plants and animals (e.g., size, number of flowers/leaves/ offspring, health, injuries) is influenced by environmental factors (e.g., food/resource/ habitat availability, pollution, hazards, predators, introduced species).	Given an environmental factor, identify how it could change a physical trait of a plant or animal, or given a physical trait that was changed by an environmental factor, identify the factor that caused the change.	Given an environmental factor, a plant or animal, and an opposite resulting physical trait, identify the resulting physical trait (e.g., more water available, result: tall or short).

Standard Clarification

Students will identify and explain how the variation in physical traits of plants and animals may be influenced by environmental events or factors.

Target Activities for Access Point A

A. Students explain how some variation in physical traits of plants and animals can be influenced by environmental factors.
- explain how the environment in which a turtle lives may affect its health and size in a given scenario:
  Turtle A: lives in a pond with clean water and a lot of fish and insects to eat
  Turtle B: lives in a pond with little water because of a lack of rain and few insects to eat
- explain how a physical trait of a water lily plant is affected by the environment in a given scenario:
  Water lily A: found in a small pond that sometimes is dry. The leaves are light green, very small, and dry. The lily doesn't flower very often. When it does, the flowers are small.
  Water lily B: found in a large pond that is full of water, fish, and frogs. It has large, dark green leaves and will often have large, colorful flowers.
- explain how the grass around a school is influenced by the environment based on observations of the grass and rainfall data throughout the school year

Scaffolding Activities for Access Points B and C

B. Students determine which environmental factor contributes to the physical trait of a plant or an animal.
- identify a possible environmental factor (e.g., insects chewing, predators) that cause a cactus plant to have small holes observed in its leaf surface
- indicate that a cat would gain weight if it were fed too many treats and didn't get any exercise
- indicate what happens to a tree once the weather gets cold (e.g., it loses its leaves, fruits may get damaged by frost)

C. Students identify the impact of an environmental factor on a plant or animal.
- identify one change in a physical trait due to an environmental factor (e.g., as the seasons change and it gets colder, most leaves turn color and fall off the trees, or trees grow buds and new green leaves)
- choose which plant receives the correct amount of water when given a picture of a healthy plant and the same unhealthy plant

Prerequisite Skill: Students identify one or more physical traits of an animal or a plant.
- describe what an animal or a plant looks like (e.g., height, color)
- understand the use of adjectives

Prerequisite Skill: Students recognize important things needed to keep an animal or a plant healthy.
- recognize that an animal needs food, water, and shelter to stay healthy and grow
- recognize that a plant needs water, sunlight, and air to stay healthy and grow

Key Terms	animal, change, difference, environmental factor, physical trait, plant
Additional Resources or Links	This is a unit on growing corn and how it changes due to different environmental factors. https://www.nextgenscience.org/resources/grade-2-why-our-corn-changing-v21 This is a lesson that includes an investigation to discover what plants need to grow. https://ngss.nsta.org/Resource.aspx?ResourceID=217
Cross-Content Standards	Language Arts: Identify Event (3.RI.2), Identify Similar Idea (3.RI.5), Answer Questions (3.RI.6), Identify Topic Details (3.W.5.b), and Organize Information (3.W.6.C) Mathematics: Pictographs and Bar Graphs (3.4.1.a) and Solve Bar Graph and Pictograph (3.4.3)

Science—Grade 3
Life Sciences

SC.3.9 Inheritance and Variation: Life Cycles and Traits		Access Points		
Standard/Indicator	**Extension**	**A**	**B**	**C**
SC.3.9.3.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.	Use evidence from observations, scenarios, and data to explain that beneficial variations in the physical traits of plants and animals of the same species can help individuals with the trait survive, mate, and reproduce.	Given evidence from observations, scenarios, and data, describe that beneficial variations in the physical traits of plants and animals of the same species (e.g., more/less colorful, stronger, faster, thicker bark/fur) can help individuals with the trait survive, mate, and reproduce.	Given a variation in a plant or animal species, and evidence about the survival or reproduction of individuals with and without that trait, identify whether the variation has a positive, negative, or no effect on individuals.	Given a variation in a plant or animal species and evidence about the survival or reproduction of individuals with that trait, identify whether the trait is beneficial or not.

Standard Clarification

Students will use evidence to determine how variations in physical traits are beneficial and can help plants or animals survive, mate, and reproduce.

Target Activities for Access Point A

A. Students describe how variations in the physical traits of plants and animals of the same species can help individuals with the trait survive, mate, and reproduce.
- describe how a plant or an animal survives based on its traits after watching a video
- use observations about two deer from pictures and a scenario to explain why one deer has a better survival rate than the other deer
  - ○ Deer A: is full-grown and is light brown in color. It has long legs and is a fast runner.
  - ○ Deer B: is still a baby. It is brown and has white spots. It can run fast but not as fast as Deer A.
- create a list of how various physical traits of plants or animals aid in survival
- recognize that male peacocks with large tails that have many eyespots are more likely to mate and reproduce than peacocks with smaller tails and fewer eyespots after watching a video about the life of peacocks
- recognize that some birds (e.g., birds of paradise) have a very specific dance, color, and/or sound that attracts females and allows them to mate and reproduce after watching a video about birds

Scaffolding Activities for Access Points B and C

- Students study evidence to identify whether a physical trait variation has a positive effect, a negative effect, or no effect on a species.
- indicate a positive effect when hearing the following scenario paired with pictures:
  - ○ An Arctic fox has a coat that gets heavier and turns white in the winter. In the warmer months, the Arctic fox doesn't have as much fur and the fur is a brownish color. This change in color and amount of fur has helped the Arctic fox survive all year long. Does the change in color and amount of fur have a positive effect, a negative effect, or no effect on the Arctic fox's survival?
- indicate a negative effect when hearing the following scenario paired with pictures:
  - ○ A male cardinal has dull, red feathers. Female cardinals choose to mate with male cardinals with bright

red feathers. Do dull, red feathers have a positive effect, a negative effect, or no effect on male cardinals?
- indicate no effect when hearing the following scenario paired with pictures:
  - A sunflower plant can grow to be six feet tall. The taller the sunflower plant is, the more sunlight it gets,. Sunlight helps sunflowers grow. If the amount of sunlight the sunflower plant always stays the same, how will affect the sunflower's growth?

- Students identify whether a specific physical trait is beneficial based on evidence about the survival or reproduction of individuals with that trait.
- state that deep roots are helpful for flowers to grow after looking at data about different root lengths of flowers
- observe data or evidence about weather conditions in two vastly different climates (e.g., a desert and the Arctic), state that thick fur is beneficial for survival for animals that live in a cold climate or little to no fur/hair is beneficial for survival for animals that live in a hot climate
- observe data on the amount of insects attracted to two flower species with different colors and identify if the flower color that attracts more insects is beneficial

Prerequisite Skill: Students identify physical traits of an animal or plant.
- describe one or more physical traits that an animal or plant may have
- identify one or more physical trait of an animal or plant when given a picture of the animal or plant

Prerequisite Skill: Students identify that animals and plants grow.
- recognize different stages of an animal's or plant's life (e.g., baby, seedling, adult)
- identify a baby animal and the adult animal it grows into

Key Terms	animal, beneficial, mate, negative, physical trait, plant, positive, predators, reproduce, species, survive, variation
Additional Resources or Links	This is a lesson plan with an assessment of the physical traits of the peppered moth. https://docs.google.com/document/d/1wibHrjChpQ_2-6fwN42FvXjH2HE03x-r_X17xSn0leM/template/preview This is an example of a graphic organizer to use when teaching about how the variation of physical traits affects survival and reproduction in plants and animals. https://static1.squarespace.com/static/59c3bad759cc68f757a465a3/t/5e54af3d71dc976332029350/1582608193575/3-LS4-2+Variation%2C+Survival+and+Reproduction+%28Teacher+Version%29.pdf This is a video that shows a how a peacock uses its tail feathers to attract a mate. https://thewonderofscience.com/phenomenon/2018/5/13/a-peacocks-tail This is an article about the mating and reproduction cycle of the bird of paradise. https://www.nationalgeographic.com/animals/article/new-species-birds-of-paradise-animals-spd
Cross-Content Standards	Language Arts: Identify Event (3.RI.2), Identify Similar Idea (3.RI.5), Answer Questions (3.RI.6), Identify Topic Details (3.W.5.b), and Organize Information (3.W.6.C) Mathematics: Solve Pictograph and Bar Graph (3.4.2)

Science—Grade 3
Earth and Space Sciences

SC.3.12 Weather and Climate		Access Points		
Standard/Indicator	**Extension**	**A**	**B**	**C**
SC.3.12.4.A Represent data in table, pictograph, and bar graph displays to describe typical weather conditions expected during a particular season. Assessment of graphical displays is limited to pictographs and bar graphs. Assessment does not include climate change.	Develop tables, pictographs, and bar graphs to explain the relative climate (typical weather conditions) that occur in Nebraska during each season.	Use tables, pictographs, and bar graphs to describe the relative climate (typical weather conditions) that occur in Nebraska during each season.	Identify the relative climate (typical weather conditions) for each season in Nebraska.	Recognize activities and clothing that are typical for each season in Nebraska.

Standard Clarification

Students will use tables and graphs to identify and describe the relative climate of Nebraska. The relative climate of includes weather that is typical for Nebraska in each season and not weather conditions found outside Nebraska. Activities and clothing should also be typical things found in Nebraska.

Target Activities for Access Point A

A. Students complete a simple table that displays daily weather conditions over one month.

- record the daily weather condition (e.g., hot, windy, sunny, rainy) on a blank calendar page
- describe the local climate during a season from daily weather observations
- describe the local weather changes within a season from daily weather observations
- discuss weather conditions in different areas of Nebraska

A. Students use a graph to describe seasonal weather conditions in Nebraska.

- describe seasonal weather conditions as seen on a pictograph
- describe seasonal weather conditions as seen on a bar graph
- complete a graph daily, over a period of time, to show seasonal weather conditions

Scaffolding Activities for Access Points B and C

B. Students identify the relative climate and/or season when given the weather condition.

- identify the relative climate from pictures of Nebraska (e.g., a snowy day, a rainy day, people outside in shorts, a flag blowing, a flag not moving, pictures of a cloudy or a sunny sky)
- identify the season from pictures of Nebraska (e.g., a snowy day, a rainy day, people outside in shorts, a tree with no leaves, piles of leaves)
- describe what it feels like outside during different months of the year

C. Students identify the weather conditions for a particular season.

- sort pictures of clothing into the appropriate seasons (e.g., shorts and T-shirt are for summer, snow boots and snow hat are for winter)
- identify the weather condition (e.g., hot, cold, rainy, snowy, sunny, windy, calm) when shown a seasonal picture
- select the clothing item needed for a season (i.e., fall, winter, spring, or summer)

Prerequisite Skill: Students recognize different weather conditions.

- recognize the daily weather conditions

Key Terms	calm, cloudy, graph, partly cloudy, rainy, season, sunny, temperature, weather, windy
Additional Resources or Links	This is a video that describes the different weather conditions. https://www.youtube.com/watch?v=7mgK2FQVc54 This is a video that shows different types of weather conditions. https://nebraskapublicmedia.pbslearningmedia.org/resource/buac17-k2-sci-ess-diffweather/different-types-of-weather/ This is a video that has children talking about the seasons and weather. https://nebraskapublicmedia.pbslearningmedia.org/resource/evscps.sci.life.boutseas/about-the-seasons/ This is a weather bar graph template. https://www.teachervision.com/graph-chart-0/weather-graph This is an interactive lesson plan that teachers can use to help students learn about weather. https://lsintspl3.wgbh.org/en-us/lesson/buac17-il-illookweather/1?as_guest=True&next=https://nebraskapublicmedia.pbslearningmedia.org/resource/buac17-k2-sci-ess-illookweather/what-is-weather-interactive-lesson/#.WYRvCTO-Lxu
Cross-Content Standards	Language Arts: Identify Details (3.W.5.b) and Organize Information (3.W.6.c) Mathematics: Pictographs and Bar Graphs (3.4.1.a)

Science—Grade 3
Earth and Space Sciences

SC.3.12 Weather and Climate		Access Points		
Standard/Indicator	**Extension**	**A**	**B**	**C**
SC.3.12.4.B Obtain and combine information to describe climates in different regions of the world.	Gather and use maps, stories, and other media to observe and describe the relative climate of different regions of the world.	Use information from maps, stories, and other media to describe the relative climate (typical weather conditions: e.g., hot/cold, wet/dry, consistent all year/changes with seasons) of different regions of the world.	Given information about a region, identify its climate.	Given a region and its climate, identify one characteristic of the weather to be expected.

Standard Clarification

Students will use models and media to collect information about the climate and typical weather in different parts of the world. Students will use these sources to identify and describe weather over a long period of time (climate). The focus of this standard is the relative climate of different regions of the world, and should not be confined to specific cities or places.

Target Activities for Access Point A

A. Students observe and describe relative climate as observed in various media (e.g., videos, books, maps).

- observe the weather conditions in a video of climates around the world, and then describe the relative climate of a region (e.g., hot, cold, freezing, warm, rainy, dry)

- locate places on a map that are mentioned in a video or a book, and describe the climates of those regions

- describe the climate of a region (e.g., hot, cold, freezing, warm, rainy, dry) as observed in a book

- discuss regions of the world that are hot all year long, have four seasons, or are cold all year long after reading or listening to stories about different regions of the world

- compare the climate of different regions using books about the world

Scaffolding Activities for Access Points B and C

B. Students identify the climate of a region when given information about the region.

- identify the climate of a region (e.g., hot, cold, wet, dry, consistent weather, different seasons)

- select appropriate clothing from pictures after learning about a region

C. Students identify a weather condition when provided with information about a region and its climate.

- respond to questions such as "What would the weather be like today in <u>the Arctic</u>, where it is <u>cold and freezing</u>?"

- look at pictures or videos of a region (e.g., Nebraska, Florida, a desert), and indicate what the weather would be like in that region on a specific day

- match a weather picture with a picture of a region of the world (e.g., a picture of the sun and a picture of a desert, a picture of snow and a picture of Antarctica)

Prerequisite Skill: Students understand that there are different areas of the world.

- recognize states, countries, and/or continents on maps and globes

Prerequisite Skill: Students identify different weather conditions.

- identify specific types of weather or weather-related features shown in pictures (e.g., sun, cloud, rain, wind)

- identify the type of weather when shown two different weather pictures

	• sort weather-related pictures into groups (e.g., wet weather: umbrella, rain, storm cloud, lightning; hot weather: sun, people in shorts, swimming, plants growing)
Key Terms	Arctic, Antarctica, climate, cloud, cloudy, cold, desert, dry, freezing, hot, maps, rain, rainy, region(s), season, sun, sunny, weather, wet, wind, windy
Additional Resources or Links	This is a video about different types of weather and how to predict the weather. https://www.generationgenius.com/videolessons/introduction-to-weather-video-for-kids/

This is an article from the National Center for Atmospheric Research and the National Science Foundation that is designed to give background information to teachers. https://ngss.nsta.org/Resource.aspx?ResourceID=180

This is a weather walk lesson intended to teach students about current weather conditions in the area. https://ngss.nsta.org/Resource.aspx?ResourceID=180

This is a video that shows different climates in various regions around the world. https://www.youtube.com/watch?v=41Bt4eOg6HU

This is a video that shows different climates in various regions around the world. https://www.youtube.com/watch?v=Kp7ZhvJXrMc |
| Cross-Content Standards | Language Arts: Identify Central Idea (3.RI.1), Identify Event (3.RI.2), Use Text Features (3.RI.4), Answer Questions (3.RI.6), and Organize Information (3.W.6.c)

Mathematics: Identify Pictograph and Bar Graph Characteristic (3.4.1.a) and Solve Pictograph and Bar Graph (3.4.2.a) |

Science—Grade 3
Earth and Space Sciences

SC.3.12 Weather and Climate

Standard/Indicator	Extension	Access Points		
		A	**B**	**C**
SC.3.12.4.C Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.	Gather and use information about solutions designed to reduce the impacts of weather-related hazards to explain the effectiveness of the solutions.	Use information about solutions (e.g., levees, building restrictions, salting, snowplows) designed to reduce the impacts of weather-related hazards (e.g., flooding, wind, icy roads, deep snow) to describe the effectiveness of the solutions.	Given a weather-related hazard and vastly different solutions, identify the appropriate solution.	Given a type of weather, identify one associated hazard (e.g., rain/flooding, thunderstorm/lightning).

Standard Clarification

Students will use information from various sources to show understanding of weather hazards and effective solutions to reduce the impact of such weather-related hazards. The hazards mentioned in the activities should stem directly from weather conditions.

Target Activities for Access Point A

A. Students gather information about solutions designed to reduce impacts of weather-related hazards.

- compare different solutions to weather hazards

- select the best solution for a given weather hazard from three or more solutions when shown pictures of the solutions

A. Students describe the effectiveness of solutions to weather-related hazards.

- discuss effectiveness of possible solutions when shown pictures of weather-related hazards (e.g., snow-covered road: snowplow can remove deep snow and open the road; icy sidewalk or steps: salting the sidewalk/steps can melt the ice so people don't slip; flooded farmland: building a dam can stop water from accumulating)

Scaffolding Activities for Access Points B and C

B. Students identify the best solution for a weather-related hazard.

- select the best solution when shown pictures or hearing a description of a weather-related hazard and two possible solutions (e.g., deep snow on street: snowplow versus shovel; flooded field: drainage ditch versus bucket; wind blowing trashcan down a street: trashcan in garage versus trashcan filled with bricks; icy roads: sand trucks spreading sand versus fire melting ice on roads)

- select the best solution from two possible solutions when hearing a scenario of a weather-related hazard:
  Example 1: On a sunny day, the snow melted. The sidewalk in front of a house was wet. The temperature was below freezing overnight, so the wet sidewalk turned to ice. It was slippery. What should the owner of the house do? A) Put sand on the ice.   B) Cover the sidewalk with a blanket.
  Example 2: It is raining very hard. The water is about 4 inches deep in the garden. What can the gardener do to get rid of the water? A) Use a bucket to scoop out the water.   B) Dig a ditch to help water flow out of the garden.

C. Students identify a weather-related hazard when given a type of weather.

- match pictures of a weather-related hazard with a type of weather (e.g., flood with rain; dented cars with hail; broken tree limbs with wind; car stuck in snow with snowfall; slipping on ice with freezing rain)

- identify or describe a weather hazard when prompted: "Heavy rain might cause a _____. (flood); A foot of

snow might cause _____. (roads to close); Freezing rain might cause _____.
(slippery roads)"

Prerequisite Skill: Students understand different types of weather.

- identify different types of severe weather when given two choices (e.g., heavy rain, strong winds, a snowstorm, sleet, tornado)

- describe the current weather (e.g., sunny, cloudy, rainy, hot, cold) during a morning meeting or other appropriate time during the day

Key Terms	ditch, hazard, impact, levee, rainstorm, reduce, snowplow, solution, tornado, weather, windstorm
Additional Resources or Links	This is an activity that asks students to design and construct a roof that will prevent a house from getting wet in a rainstorm. https://ngss.nsta.org/Resource.aspx?ResourceID=466 This is a video describing the different types of severe weather and its effects for people and animals. https://www.youtube.com/watch?v=QVZExLO0MWA This is a video on blizzards. https://www.youtube.com/watch?v=BpBtRmTmbqQ This is a slideshow on snowstorms. https://contrib.pbslearningmedia.org/WGBH/buac17/buac17-int-snowclues/index.html This is a video on flooding. https://www.youtube.com/watch?v=Qe350nm_odA This is a video on why we salt our sidewalks. https://www.youtube.com/watch?v=1vg6ef-Udes
Cross-Content Standards	Language Arts: Identify Central Idea (3.RI.1), Identify Event (3.RI.2), Use Text Features (3.RI.4), Answer Questions (3.RI.6), and Organize Information (3.W.6.c) Mathematics: Real-World Problem Using Addition or Subtraction (3.2.3.a)