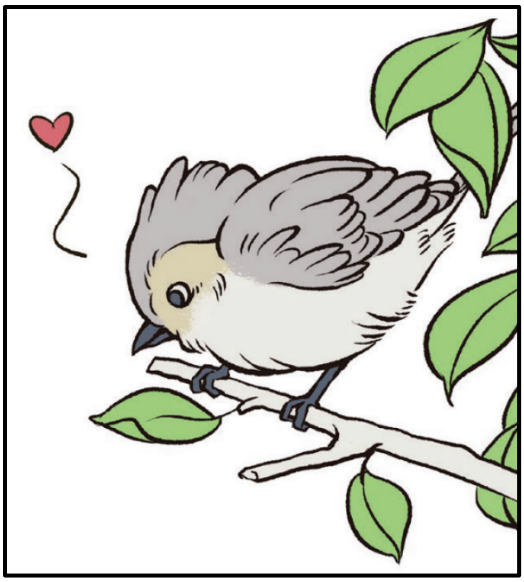
Washington Wildlife

1st grade unit on Washington's baby wildlife



WILD WASHINGTON

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Licensing

Appreciations

This lesson bundle has been designed to facilitate alignment with the Next Generation Science Standards (NGSS). It is structured to allow students to engage in sense making around a real-world fish and wildlife conservation issue as a central phenomenon. Each lesson incorporates a disciplinary core idea (DCI), a cross cutting concept (CCC), and a science and engineering practice (SEP) to allow for three-dimensional learning. This lesson bundle is designed to engage students through interdisciplinary learning by including English language arts (ELA standards).

This lesson could not have been written without the collaboration and review from partners. Special thanks to **staff at the Office of the Superintendent of Public Instruction** and the **Science Specialists at Spokane Public School District** who reviewed the lesson and provided thoughtful feedback and connections.

Finally, many thanks to **Kendra Harding** and the students at Jefferson Elementary School for allowing the WDFW education team to trial lessons in their classroom and ensure they were suitable for all students of all learning levels.

The fish and wildlife conservation education team hopes you and your students enjoy, engage, and become engineers in this lesson bundle.

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Introduction

Every spring, hundreds of people from all over Washington call customer service at the Washington Department of Fish and Wildlife (WDFW) because they find baby wildlife and want to know what to do with it. Many of these calls are for baby wildlife who are not hurt and are behaving normally, so why do people think they need help?

This is an integrated unit, teaching key English Language Arts standards through a science lens. In this unit, students will be presented with an anchoring phenomenon of a scenario where a community member found baby wildlife and wants to know what to do. As a class, students and their teacher engage in a research project to determine:

- What kind of baby wildlife the animal is,
- Where they live,
- Who their parents are and how the parents care for their young, and
- If the baby wildlife needs help

Finally, students will work in small groups to engage in a research project about an additional Washington wildlife species, and they will create a wildlife research poster that can be shared with WDFW! Our goal is to help inform communities about how and when people should engage with baby wildlife, and when wildlife babies are better left alone.

Standards

Next Generation Science Standards (NGSS)

- 1-LS3-1 Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.
- 1-LS1-2 Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.

Common Core English Language Arts Standards (ELA)

Reading Standards for Literature

- RL.1.5 Explain major differences between books that tell stories and books that give information, drawing on a wide reading of a range of text types.
- Reading Standards for Informational Text
- RI.1.1 Ask and answer questions about key details in a text.
- RI.1.7 Use the illustrations and details in a text to describe its key ideas.
- RI.1.10 With prompting and support, read informational texts appropriately complex for grade 1.

Writing Standards

- W.1.2 Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.
- W.1.7 Participate in shared research and writing projects (e.g., explore several "how-to" books on a given topic and use them to write a sequence of instructions).

Speaking and Listening Standards

- SL.1.1 Participate in collaborative conversations with diverse partners about *grade 1 topics and texts* with peers and adults in small and larger groups.
    - SL.1.1.A Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).
    - SL.1.1.B Build on others' talk in conversations by responding to the comments of others through multiple exchanges.
    - SL.1.1.C Ask questions to clear up any confusion about the topics and texts under discussion.
- SL.1.2 Ask and answer questions about key details in a text read aloud or information presented orally or through other media.
- SL.1.5 Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.

Materials needed for unit

- Additional materials downloaded from WDFW website:
    - PowerPoint: Washington wildlife 1st grade unit
    - WDFW Book "The Robin's Nest"
    - Animal Research Poster template
- Way of showing videos with sound to class (laptop, projector, TV, etc.)
- Art materials (see lesson 4 for more information)
- Nest engineering materials (see lesson 8 for more information)
- Books used in lessons
    - "The Salamander Room" by Anne Mazer
    - "Are You My Mother?" By P.D. Eastman OR "Is Your Mama a Llama?" By Deborah Gauri
    - "How Animals Care for Their Babies" by Roger B. Hirshland (book or video of read aloud) OR "How Animal Babies Stay Safe" by Mary Ann Fraser (book or video of read aloud)
    - "The Nest that Wren Built" by Randi Sonenshine
    - "Mama Built a Little Nest" by Jennifer Ward

Big ideas

- Animal types (or species) have specific features that allow us to tell them apart.
- Animals of the same kind have similar, but not identical features.
- Animal offspring are like but not the same as their parents.
- Animal parents and their offspring engage in observable behaviors that help offspring survive.

Learning Objectives

1. Students will engage with anchoring phenomena to create a driving questions board for how to help a baby animal.
2. Students will differentiate between wild and domestic animals. Students will engage with photos of Washington wildlife and sort wildlife into appropriate habitats.
3. Students will identify features of wildlife and compare and contrast features of different types of animals.
4. Students will engage in an art project to compare features of individuals of the same kind of wildlife.
5. Students will observe and record similarities and differences between baby wildlife and their parents.
6. Students will determine and describe the patterns of what animal parents and offspring do to help offspring survive.
7. Students will use observations and resources to determine if baby bird needs help.
8. Students will engage in an engineering project to design and create a nest analog appropriate for use by the baby bird.
9. Students will work as a class to create informational poster about robins by synthesizing information learned through the unit. Students will use text and media to research a Washington Wildlife species and create an informational poster.

Essential questions

- What is the difference between a wild and domestic animal?
- What kinds of wildlife live in Washington?
- Where do Washington wildlife live?
- How can we tell different types of wildlife apart?
- Do all animals of the same type have the same features?
- Do wildlife babies look like their parents?
- How do wildlife parents care for their babies?

- How do baby wildlife communicate their needs?
- How can we help a lost baby wildlife?

Common student generated driving questions and possible lesson connections

- What does a baby bird eat?
- What do its parents look like?
- What does a baby bird need to survive?
- What does it need to learn how to fly?
- Should we keep them warm?
- Do we need to feed them?
- Is it old enough to be on their own?
- Where is their mother and family?
- Do they need help?
- How should we help them?

Lesson 2:

- Is it a wild bird or someone's pet?
- Where do they live?
- Where were they found?
- Where should they live?

Lesson 3:

- What kind of animal are they?
- Is the animal a bird?

Lesson 4:

- What kind of bird was found?
- What do its parents look like?

Lesson 5:

- What kind of bird was found?
- What do their parents look like?

Lesson 6:

- Are they old enough to be on their own?
- Where is their mother and family?
- What does a baby bird need to survive?
- What do they need to learn how to fly?

Lesson 7:

- Do they need help?
- Is it old enough to be on its own?

Lesson 8:

- Should we keep them warm?
- Do we need to feed them?
- How should we help them?

Lesson plan summary

Lesson	Duration	NGSS Standards	Overview	Assessment
1	30 mins	1-LS3-1	Students will: • Watch video from WDFW about baby wildlife. • Engage with phenomena of baby bird found alone. • Generate questions to be answered that will help the baby bird.	Student driving questions chart
2	60 mins	NGSS K standard review	Students will: • Decode the term "wildlife" and learn the term "domestic." • Sort photos of domestic and wild animals. • Examine photo cards of Washington wildlife. • Look at photos of different habitats in Washington and determine which wildlife species live in those habitats. • Sort wildlife photos by habitat. • Engage in read aloud of "The Salamander Room" to reinforce habitats and the difference between wild and domestic animals.	Wild and domestic photo sort worksheet Wildlife sort by habitat
3	30 mins	1-LS3-1	Students will: • Engage in Visual Thinking Strategies (VTS) of "Morning in a Pine Forest". • Learn the term "features" and learn that we can use the features of wildlife to help tell them apart. • Compare features of different types of wildlife by taking a walk around the classroom looking at photos of different species.	"Wildlife walk" Features worksheet
4	60-90 minutes	1-LS3-1	Students will: • Identify some features of a baby bird. • Create bird art project. • Engage in gallery walk of their art to identify patterns in features all birds share and features that can be different.	Bird features worksheet Bird art project (model) Bird features comparison worksheet

Lesson	Duration	NGSS Standards	Overview	Assessment
5	45-60 minutes	1-LS3-1	Students will: • Return to anchor of lost baby bird and be introduced to possible parents. • Engage in read aloud of, "Are You My Mother?" or, "Is Your Mama A Llama?". • Compare photos of wildlife adults with their offspring and identify ways they are alike and ways they are different. • Share their observations with classmates through "pair, compare, trade" activity. • Compare features of lost baby bird to possible parents. • Identify lost baby wildlife animals' parents.	Adult and offspring: alike and different worksheet Question, claim, evidence worksheet
6	60 minutes	1-LS1-2	Students will: • Return to anchoring question chart to identify questions about parental care. • Engage in read aloud of "How Animals Care for Their Babies" or "How Animal Babies Stay Safe". • Engage in exploration stations to learn how animals provide care for their babies and how animal babies communicate their needs. • Play a modified charades game acting out behaviors of parent animals and their offspring	Parental care classroom chart Exploration station notes Patterns in behavior exit sheet
7	45-60 minutes	1-LS1-2	Students will: • Watch video from WDFW: "What to do if you find a baby animal alone?" • Engage in discussion of what we have learned about how birds care for their young. • Read aloud "The Nest That Wren Built". • Sequence cards depicting the stages of robin growth • Determine if we think the baby bird needs help. • Look for primary sources to help us decide what to do to help the baby bird.	Sequencing cards for stages of robin growth
8	60 minutes	1-LS3-1 1-LS1-2	Students will: • Listen to folktale about how birds build nests. • Learn about different types of nests and how and why birds build nests for their young. • Engage in engineering challenge to build a nest for the baby bird.	Nest engineering challenge How to build a nest for a lost baby bird worksheet

Lesson	Duration	NGSS Standards	Overview	Assessment
9	3-5 days 20–30 minute sessions per day	1-LS3-1 1-LS1-2	Students will: • Work as a class to fill out animal research poster about the baby bird. • Explore text and media stations about different animals. • Choose an animal to research independently and fill out a choice sheet.	Animal research poster-class research on baby bird Animal research choice sheet Animal research poster-individual animal research

Vocabulary

Wildlife

Domestic

Habitat

Features

Offspring

Parent

Survive

Communicate

Behavior

Research

Lesson 1: Washington wildlife unit anchor

Standards

1-LS3-1. Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.

1-LS1-2. Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Asking Questions and Defining Problems Ask questions based on observations to find more information about the natural and/or designed world(s).	LS3.B: Variation of Traits Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways.	Systems and System Models Systems in the natural and designed world have parts that work together.

ELA Standards

W.1.7 Participate in shared research and writing projects (e.g., explore several "how-to" books on a given topic and use them to write a sequence of instructions).

SL.1.1.A Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).

Materials

- WDFW intro video
- PowerPoint: Washington wildlife 1st grade unit
- Driving questions chart paper

Learning Objective

Students will engage with anchoring phenomena to create a driving questions board for how to help a baby animal.

Essential question:

- How can we help a lost baby wildlife?

Watch video from WDFW introducing phenomenon.

Allow students to share experiences (if any) of finding baby animals.

Show short clip of a wildlife baby. This can be found on Slide 2 of Washington Wildlife PowerPoint.

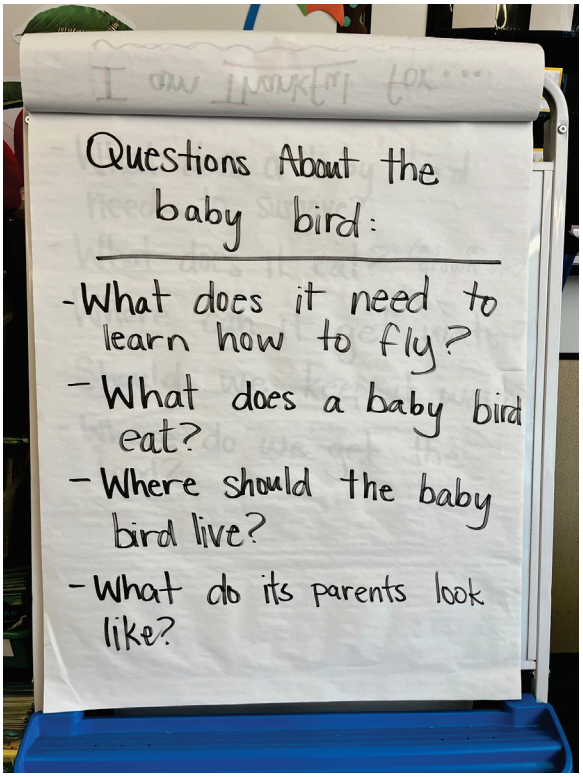
Ask students to think about what questions they have about the baby wildlife and decide what information they would need to gather to figure out what to do about the baby animal.

Example questions:

- What kind of animal are they?
    - How can we figure that out?
- What do they need to learn how to fly?
- What does a baby bird eat?
- What do their parents look like?
- What does a baby bird need to survive?
- Where can they get water?
- Should we keep them warm?
- Do we need to feed them?
- Are they old enough to be on its own?
- Where is their mother and family?
- Do they need help? Why or why not?
- If they need help, what should we do?

Teacher Note
For more information on how to help students generate and improve their questions, check out the Question Formulation Technique (QFT) created by the Right Question Institute.

Create driving questions chart using student questions.



Example of driving questions chart.

Teacher Note
Refer to driving questions chart throughout the rest of the following lessons to link student learning back to their original questions.

Lesson 2: Washington wildlife and their habitats

Standards

K-ESS3-1. Use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live. [Review from Kindergarten]

1-LS1-2. Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Constructing Explanations and Designing Solutions Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena.	K-ESS3.A: Natural Resources Living things need water, air, and resources from the land, and they live in places that have the things they need. Humans use natural resources for everything they do.	Systems and System Models Systems in the natural and designed world have parts that work together.

ELA Standards

W.1.7 Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions).

SL.1.1.A Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).

Learning Objective

Students will differentiate between wild and domestic animals. Students will engage with photos of Washington wildlife and sort wildlife into appropriate habitats.

Essential questions:

- What kinds of wildlife live in Washington?
- Where do Washington wildlife live?

Materials

- PowerPoint: Washington wildlife 1st grade unit
  - Domestic vs Wild Animals (slides 3-5)
  - Animal habitats in Washington (slides 6-12)
- Wildlife sorting cards

- Habitat sort sheet
- "The Salamander Room" by Anne Mazer
    - "The Salamander Room" read aloud video

Part 1: Wild vs domestic animals

Introduce the term "wildlife" and have students help define the word. Remind students that this is a compound word, and that we can figure out its meaning by breaking the word into the two parts: "wild" and "life." When talking about the word "life" discuss the needs of all living things.

Wildlife: Animals who meet their needs in their environment without people.

Introduce the term "domestic" and give students a simple definition: domestic animals live with or alongside humans and depend on people to have their needs met.

1. Pass out animal cards to students. Have students cut out the cards, then sort them into two categories: domestic and wildlife.

> **Teacher Note**
> You can elect to cut the cards out ahead of lesson to save time.

2. Pass out sheets of construction paper and have students fold them in half hamburger style. Label one side of the fold "wildlife" and the other side "domestic."
3. Glue the back side of half the paper into their science notebook.
4. Have students paste the animal photos into the correct category.

Ask students if they have ever seen any of the wild animals shown in the photos in their neighborhood or backyard. Explain that while these familiar animals are wild, they are not found in our area.

Part 2: Meet Washington wildlife

Pass out laminated photos of Washington wildlife. Have students work in pairs or in small groups to sort photos.

This is an open-ended sort where students get to choose their own criteria for categorizing the animals. It could be by size, color, fur or no fur, etc. This activity allows students to get familiar with some of the wildlife who live in Washington and allows students to begin categorizing wildlife by features.

Part 3: Where do animals in Washington live?

Refer to the driving questions chart and highlight student questions about where animals live.

Using photos of habitats in the PowerPoint presentation, engage in a discussion of what kinds of habitats are in Washington, and what wildlife live in those habitats.

Possible questions to engage students:

- "What do all living things need to survive?" food, water, air, shelter, space
- "How does this habitat meet those needs?"

Pass out laminated animal cards. Remind students that these are just a few of the many kinds of wildlife who live in Washington.

Pass out the habitat sort page. Have students work in pairs or small groups to sort their animals into habitats they think the animals could live in and would best meet the animal's needs.

As students sort their animal photos into habitats, engage with small groups or pairs to determine their thinking.

Part 4: Read Aloud: The Salamander Room

As you read through the story, be sure to point out how the boy has found a wild animal, and to help meet that wild animal's needs he is slowly changing his room into the salamander's habitat.

Seal

Bear

Deer

Duck

Elk

Racoon

Moose

Turtle

Mountain goat

Owl

Grouse

Opossum

Fox

Robin

Wolf

Cougar

Lesson 3: Animal parts and features

Standards

1-LS3-1. Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Analyzing and Interpreting Data Record information (observations, thoughts, and ideas). Use and share pictures, drawings, and/or writings of observations.	LS1.A: Structure and Function All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. (1-LS1-1) LS3.B: Variation of Traits: Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways.	Systems and System Models Objects and organisms can be described in terms of their parts.

ELA Standards

W.1.7 Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions).

SL.1.1.A Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).

Learning Objective

Students will identify features of wildlife and compare and contrast features of different types of animals.

Essential question:

- How can we tell different types of animals apart?

Materials

- PowerPoint: Washington wildlife 1st grade unit
  - "Morning in a Pine Forest" Visual Thinking Strategies (slide 13-14)
- Animal features scavenger hunt
- Wildlife walk animal photos
- Animal cards

Part 1: VTS "Morning in a Pine Forest"

Using Visual Thinking Strategies (VTS) allows students to engage deeply with the painting and starts a conversation about the relationships observed between the bear cubs, the mother bear, and the forest.

Teacher Note
This is an opportunity to use VTS in connecting a famous work of art to science. For more info on VTS check out Education World.

1. Begin lesson by showing students the painting "Morning in a Pine Forest" by Ivan Shishkin and Konstantin Savitsky. Lead students through VTS questions:
    - What's going on in this picture?
    - What do you see that makes you say that?
    - What more can you find?
    - Bonus question: Do you think this forest is in Washington? What do you see that makes you say yes or no? (This painting was created in 1886 in Russia, but it looks like it could be occurring in any of the Washington forests today.)

Allow students to fully engage with image before beginning to pose the following question, "How do we know what kind of wildlife is shown in the painting?"

While we were looking at the painting, you told me it showed a group of bears. But how did we know they were bears?" Say, "In this lesson we are going to figure out how we are able to tell different types of wildlife apart." Connect this to the driving questions board created in lesson one to show how this lesson will help answer some of the questions created by students.

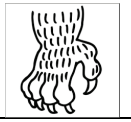
Part 2: Animal Features Wildlife Walk

> **Teacher Note**
> If the weather is nice, this is a great activity to do outside!

Prior to the start of the lesson, place photos of animals around the room. You may also want to include some stuffed animals, or animal figurines if you have them. We encourage you to use Washington specific wildlife.

1. Pass out animal features scavenger hunt worksheet and demonstrate how students will fill out their worksheet.
2. Allow students to quietly walk around the room or around the outdoor space you have designated and look at all the photos of wildlife.
3. Have students choose five wildlife whose features they want to examine.
4. After students have completed the features worksheet, bring them back together for a share out.
5. Brainstorm other parts and features of wildlife that weren't on the worksheet. Examples include color, size, shape of ears, shape of tail, etc.
6. Lead students in a discussion of how animals use their body parts. For example, how do birds use their wings? How do bears use their snout?

Animal Features Scavenger Hunt

Write the Animal Name	# of Legs 	Tail 	Hair/Fur 	Wings 	Feathers 	Scales 	Talons 	Paws 	Claws 	Fins 
Example: Human Animal	2		✓							

Lesson 4: Features of the same kind of animal

Standards

1-LS3-1. Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.		
Science and Engineering Practices	**Disciplinary Core Ideas**	**Crosscutting Concepts**
Developing and Using Models Compare models to identify common features and differences.	LS3.B: Variation of Traits: Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways.	Patterns Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence.

ELA Standards

SL.1.1 Participate in collaborative conversations with diverse partners about *grade 1 topics and texts* with peers and adults in small and larger groups.

Learning Objective

Students will engage in an art project to compare features of individuals of the same kind of wildlife.

Essential question:

- Do animals of the same kind have the same features?

Materials

- Bird features craft template
  - Materials for coloring the bird: Crayons, markers, and colored pencils
  - Watercolor paint
  - Textured paint (tempura paint mixed with baking soda)
  - Pieces of colored construction paper
  - Large pieces of black or blue construction paper for background
  - Glue
- Compare and contrast graphic organizer
- Features all birds share worksheet

Part 1: Bird Art Project

The objective of this art project is to reinforce the concept of variation of traits or features among members of the same species. Be sure to offer different ways of creating the feathers on the bird so students can see variations in color and texture. Some ideas include collage, DIY textured paints, tissue paper, watercolor paints, crayons, markers, and colored pencils.

Example bird made with construction paper.

1. Pass out the templates for the bird art project. These should be printed on cardstock or heavyweight paper.
2. Present the different materials students can use to color their bird. Explain that we want students to choose different materials from their classmates.

> **Teacher Note:**
> You may want to create stations for each coloring media. For example, put four to five students at a table/group of desks with the materials for watercolor, and another group at a table for collage, etc.

3. Have students color, paint, or use paper scraps, tissue paper, or another medium to decorate the bird. Set aside to allow the bird to dry.
4. Once dry, have students cut out the pieces of the bird, then glue the legs, beak, wings, and tail to the body of the bird. Finish with either googly eyes, or glue or draw eyes onto the face. The bird is done!
5. Next, students glue the finished bird onto another larger sheet of construction paper. Students then decorate their background as a bird habitat. Remember habitat is food, water, shelter, and space so they will need to incorporate these elements.

Part 2: Bird Features - Pair, Share, Compare

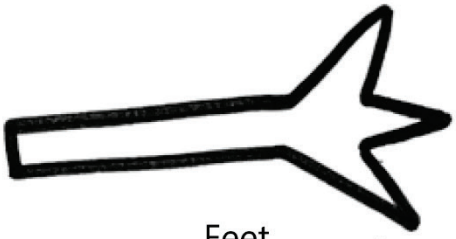
1. Lay out pairs of completed bird art projects. Have students find their bird and take turns sharing their bird with their partner.
2. Ask, "How are the birds we made the same? How are the birds we made different?"
3. Have students fill out the "bird features compare and contrast worksheet" for their birds.

Part 3: Bird Art Gallery Walk

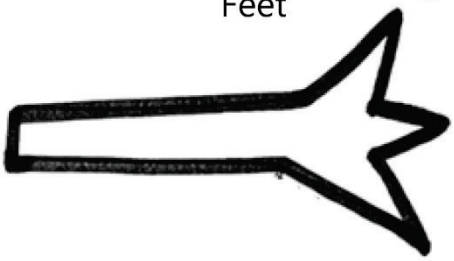
> **Teacher Note:**
> You may have students create a gallery tag and display the tag next to their artwork. This could include the student's name, the title of their piece, and the materials they used to create it.

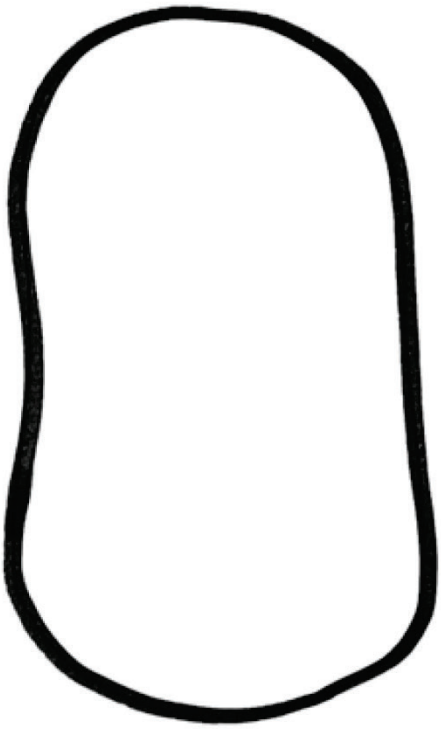
1. Lay student art out on desks around classroom. Allow students to take a few minutes to silently walk around and observe their classmates' art.
2. Bring students back together and lead discussion of the features that all the birds shared, and the features that were different.
3. Have students complete the worksheet, "Features All Birds Share."

Beak (top and bottom)

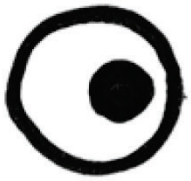


Feet



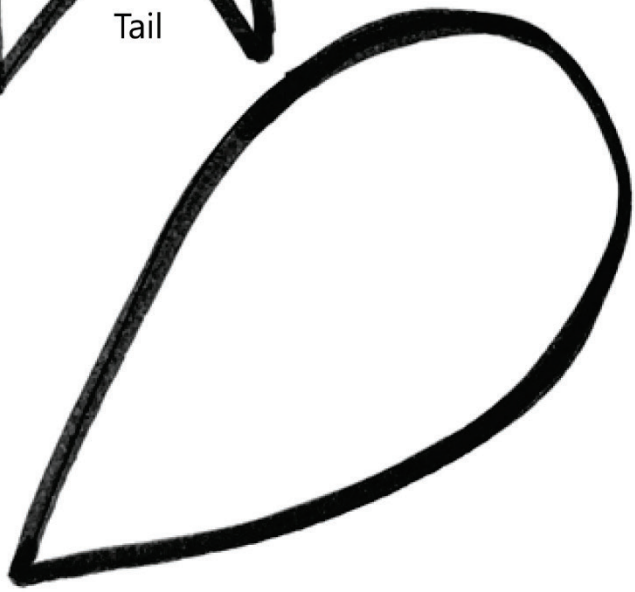


Head and neck

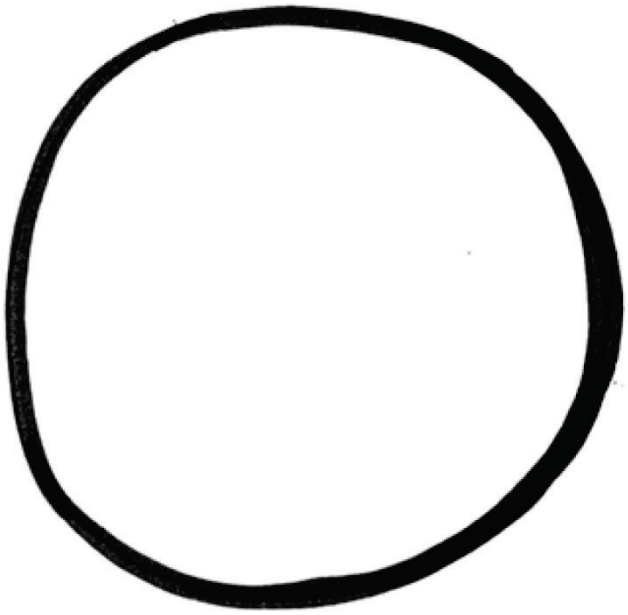


Eye

Tail



Wing



Body

Name:_____ Date:_____

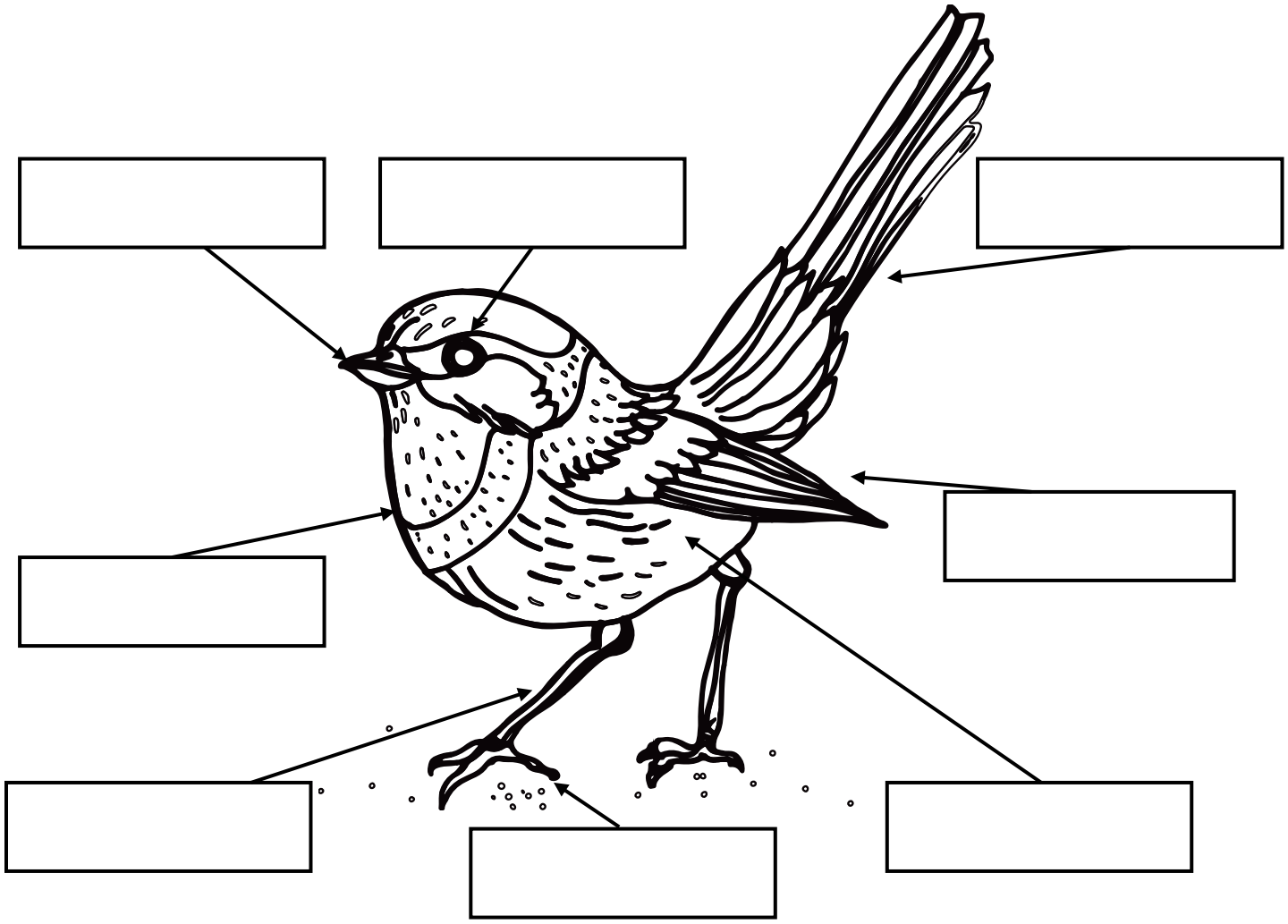
Bird Features Compare and Contrast

Write or draw features that birds all share, and features that can be different.

Same features	**Different features**

Name:_____ Date:_____

Features all Birds Share



Eyes	Beak	Wings	Tail
Legs	Feet	Feathers	Breast

Lesson 5: Washington animal parents and offspring

Standards

1-LS3-1. Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Constructing Explanations and Designing Solutions Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena. Engaging in Argument from Evidence Construct an argument with evidence to support a claim.	LS3.A: Inheritance of Traits: Young animals are very much, but not exactly like, their parents. Plants also are very much, but not exactly, like their parents.	Patterns Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence.

ELA Standards

RL.1.5 Explain major differences between books that tell stories and books that give information, drawing on a wide reading of a range of text types.

SL.1.1 Participate in collaborative conversations with diverse partners about *grade 1 topics and texts* with peers and adults in small and larger groups.

SL.1.2 Ask and answer questions about key details in a text read aloud or information presented orally or through other media.

Learning Objective

Students will observe and record similarities and differences between baby wildlife and their parents.

Essential question:

- Do wildlife offspring look like their parents?

Materials

- "Are You My Mother?" By P.D. Eastman OR "Is Your Mama a Llama?" By Deborah Gauri (books or read aloud)
- PowerPoint: Washington wildlife 1st grade unit
    - Video of baby bird (slide 2)
    - Optional: Parent and offspring (slides 15-21)
- Animal parent and offspring cards- printed in color, one animal parent and offspring card per student.

Vocabulary

Offspring

Anchoring Phenomenon

Video of baby bird: Who are my parents?

Show clip of baby bird in the grass. (Found in PowerPoint slide 2) Now that we have figured out that this animal is a bird by looking at its features, our next task will be to figure out what kind of baby bird it is and match it to its parents.

Part 1: Read aloud

Read aloud book suggestions:

- "Are You My Mother?" by P.D. Eastman
- "Is Your Mama A Llama?" By Deborah Gauri (Available as a YouTube video)

As you read, ask students the following questions:

- What should this baby's mother look like?
- What features would you expect the offspring and parents to share?
- Is this book fiction or non-fiction? (Real or make believe)
- Are any parts of the book true?

Part 2: Baby bird and possible parents

1. Show photo of the baby bird and explain that there were other birds observed around where the baby bird was found. One of these birds is probably the baby bird's parent.
2. Show photos of the possible parent birds.
3. Introduce the term "offspring" – another word for an animal's young or babies.

4. Show students the "Alike and Different" graphic organizer for comparing and contrasting animal parents and offspring.
5. Work together to compare and contrast the parts and features of the baby bird and the adult bird pictures.

> **Teacher Note:**
> If the class is having a hard time agreeing which adult animal could be the baby bird's parent, show images of the parents and offspring together. Students should collectively decide that the baby bird is a robin!

6. Decide as a class which adult bird could be the baby bird's parent.
7. Pass out the "Question, Claim, Evidence" worksheet, and walk students through the expectations for completing it.

> **Teacher Note:**
> If the terms "claim and evidence" haven't been introduced yet, substitute for appropriate terms for your class.

Part 3: Animal parent and offspring patterns

Compare parent and offspring

1. Pass out one parent-offspring photo card per student along with an "Alike and Different" graphic organizer.
2. Have students work independently to fill out their worksheet for their animal parent and offspring pair.
3. Have students paste the wildlife parent and offspring card onto their graphic organizer.

Mix-Freeze-Pair

1. The activity begins by having students walk quietly around the room until you call out "freeze." Students then pair up with classmates who are closest to them.
2. Once students have paired, they will compare the parent-offspring cards they examined and look for any similarities or patterns they can notice about the features of wildlife parents and their offspring.

3. Repeat the mix-freeze-pair two to three more times to allow students to compare their parent-offspring pair with at least three other wildlife species.

> **Teacher Note:**
> Remind students that patterns can't emerge unless you compare three or more animal pairs.

4. Gather students back together, and lead discussion about what patterns we noticed about the features of animal parents and their offspring.

Name:_____ Date: _____

Animal Parents and Offspring: Alike and Different

Paste photo of animal parent and offspring here
How are they different?

How are they the same?

Cub

Bear

Deer

Fawn

Elk

Calf

Moose

Calf

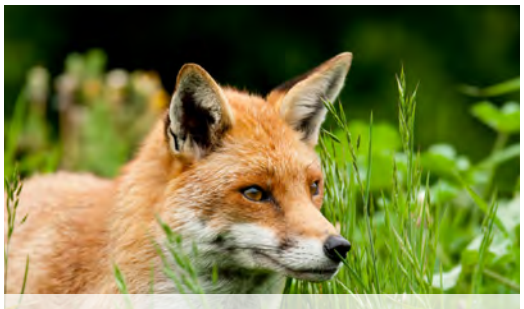
Mountain goat

Kid

Grouse

Chick

Kit



Fox

Kit/Cub

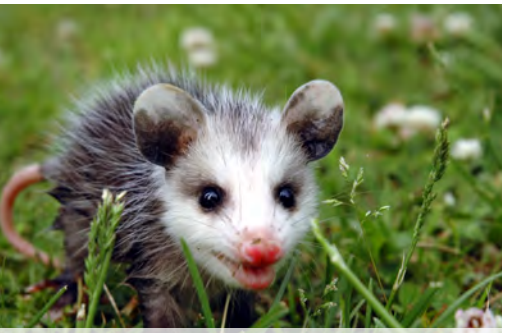
Cougar

Pup

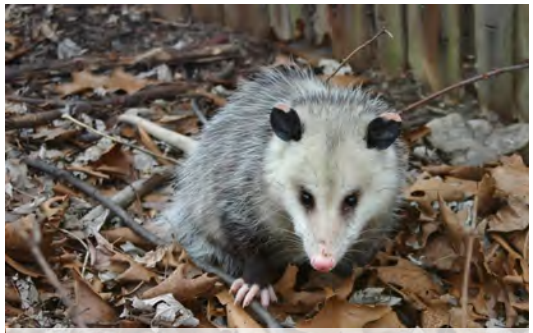
Seal

Kits

Racoon



Joey



Opossum

Duckling

Duck

Pup

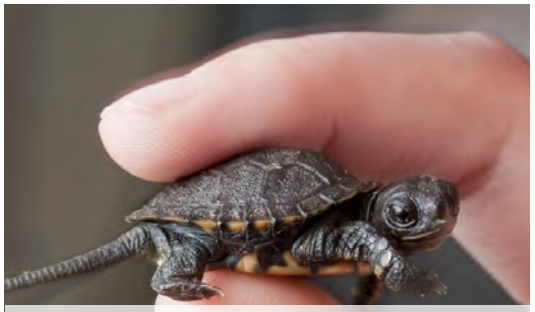
Wolf

Owl

Owlet

Chick

Robin

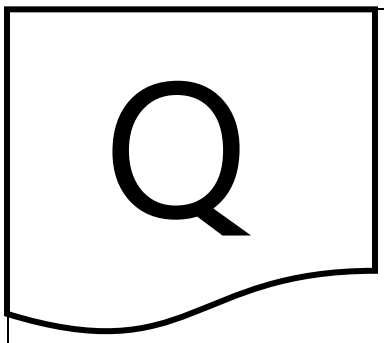


Hatchling

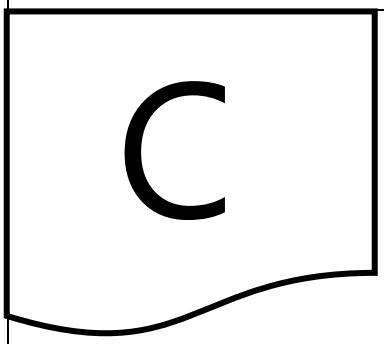
Turtle

Name:_____ Date: _____

Question, Claim, Evidence



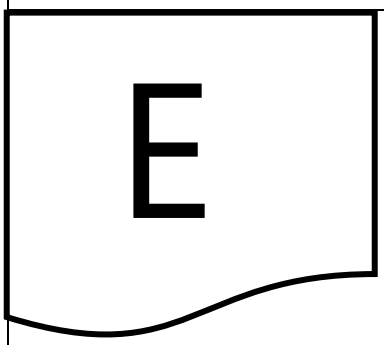
Who is the baby bird's parent?



I think the baby bird's parent is the _____

_____

_____



The baby bird and the parent are alike because they both:

_____

_____

_____

_____

_____

_____

_____

_____

_____

Mystery Bird

Owl

Robin

Hummingbird


© Roy Priest

Lesson 6: How do animal parents care for their young?

Standards

1-LS1-2. Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.		
Science and Engineering Practices	**Disciplinary Core Ideas**	**Crosscutting Concepts**
Obtaining, Evaluating, and Communicating Information Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world.	LS1.B: Growth and Development of Organisms Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.	Patterns Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence.

ELA Standards

SL.1.1 Participate in collaborative conversations with diverse partners about *grade 1 topics and texts* with peers and adults in small and larger groups.

SL.1.2 Ask and answer questions about key details in a text read aloud or information presented orally or through other media.

Learning Objective

Students will determine and describe the patterns of what animal parents and offspring do to help offspring survive.

Essential question:

- How do animal parents care for their babies? How do baby animals communicate their needs?

Materials

- PowerPoint: Washington wildlife 1st grade unit
  - Lesson 6 (slides 22-30)
- Parental care chart
- "How Animals Care for Their Babies" by Roger B. Hirshland (book or video of read aloud)
- "How Animal Babies Stay Safe" Mary Ann Fraser (book or video of read aloud)
- "Mama Built a Little Nest" by Jennifer Ward (book or video of read aloud)
- Animal parent and offspring videos

Lesson overview

In the prior lesson students determined that the found baby bird is a baby robin. The focus of this lesson is to explore different ways parent animals care for their offspring and discover ways that baby animals signal their needs. This will help students determine if the baby robin needs our help, or if it is okay on its own.

> **Teacher Note:**
> This unit is designed to have the individual animal research project introduced at the end of the unit. Alternatively, you can choose to introduce the blank animal research poster at this stage in the unit and fill the poster with what you have learned about the baby robin so far. You could then continue to fill the rest of the blank spaces out as you progress through the rest of the lessons. This way, when you introduce the individual animal research process in the final lesson, students are already familiar with the format of the poster and the information they will need to gather on their own animal.

Part 1: Act it out and introduction

Introduce theme of lesson for the day: Learning about how animals care for their offspring.

Share image of human parents with a baby (PowerPoint slide 23)

Strategy: Think Pair Share - Ask "What does this baby need to survive?" Responses could include: food, water, shelter, to be kept clean, etc. Write down student ideas on board or on chart paper.

ACT IT OUT: Have students stand next to their chairs. Tell them that they are going to pretend that they are a baby who can't speak and needs to communicate their needs. Ask students to act out the following needs without using words.

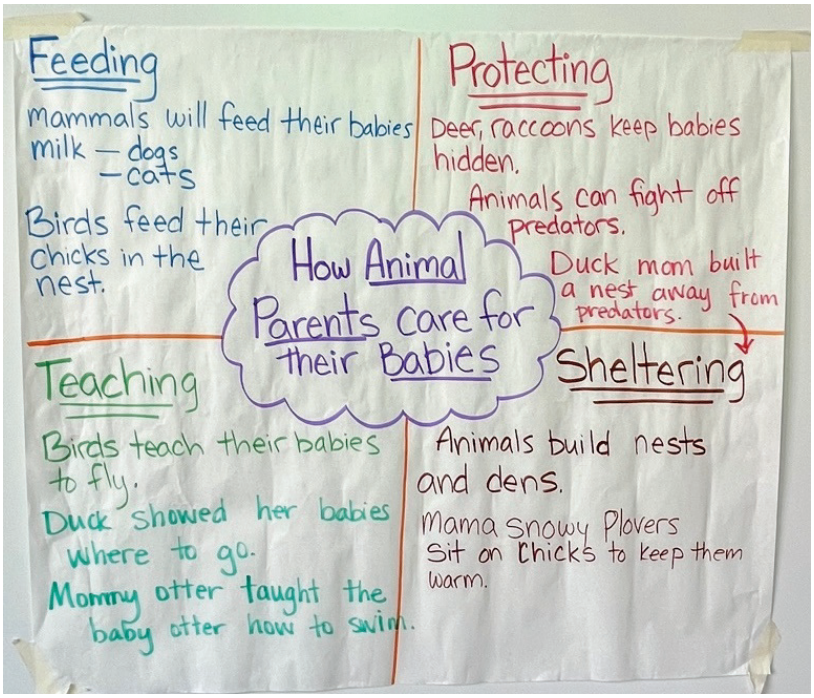
- You are hungry
- You are tired
- You are hurt
- You are scared
- You are dirty
- You are sticky
- You are in danger

Discuss how a human parent would respond to their baby's needs.

Explain to students that they showed ways that baby humans (who are also animals) signal their needs and ways human parents provide care for their babies. In this lesson we are going to learn how wildlife parents care for their young, and how wildlife babies signal their needs.

Introduce Parental Care Classroom Chart.

Explain that we are going to be looking for examples of how animal parents care for their babies in books and videos. We are also going to keep an eye out for how the baby wildlife signal their needs to their parents.



Example Parental Care classroom chart

Part 2: Read Aloud (Choose one text or video from the options below)

"How Animals Care for Their Babies" by Roger B. Hirschland for National Geographic

Video of read aloud of "How Animals Care for Their Babies"

"How Animal Babies Stay Safe" by Mary Ann Fraser

Video of read aloud of "How Animal Babies Stay Safe"

As you read the book or watch the video, pause frequently to allow students to identify ways parent animals provide care for their babies: feeding, cleaning, protecting, comforting, teaching, sheltering. Also pause and ask students to identify ways babies signal their needs. Fill out parental care chart with examples from the text.

Part 3: Parental care media explorations - feeding, teaching, protecting

The four most common modes of providing parental care by animals are: feeding, teaching, protecting, and sheltering. The following video gallery has short video clips (one to two minutes) showing different Washington wildlife engaging in the first three behaviors. The following lesson will focus on sheltering. A couple of possible ways to use these clips are outlined below.

- **Option 1.** Exploration stations: Set up a station where different computers are cued to a video that show animals engaging in one of the modes of parental care. (example: teaching station with computers cued to video of otter teaching baby to swim at zoo and video of a raccoon teaching baby to climb. Bring students back together after students have rotated through the four stations and add information and examples to the parental care classroom chart.
- **Option 2.** Whole class: Choose one or two videos per mode of parental care to show to the whole class. Following each video, lead students in a discussion of how the parent was caring for the baby animal, and how the baby animal signaled needs. Add information and examples to the parental care classroom chart.
- **Option 3.** Modified each-one-teach-one: Assign small groups to research one form of parental care and allow students in that group to watch all the video clips for that mode. Students then present to their classmates the examples of parental care they watched. Add information and examples to the parental care classroom chart.

Video gallery:

- Hooded merganser-protecting
- Otter at zoo-teaching
- Harbor seal pup-protecting
- Harbor seal swimming-comforting
- Deer fawn-protecting and feeding
- Mama bear and cub-teaching and protecting
- Mama grizzly-feeding
- Snowy plover on nest-protecting
- Shrews-protecting
- Sage Grouse (from 3:02-5:15)-teaching and protecting
- Pileated woodpeckers-feeding
- Fox cubs and vixen-feeding, comfort
- Cougar and kit-cleaning and feeding

Part 4: Parental care - Sheltering

Read aloud of "Mama Built a Little Nest" by Jennifer Ward

"Mama Built a Little Nest" by Jennifer Ward read aloud video

Read through the story or show the video of the read aloud. Pause to ask students how the nests being built are helping the parents care for the baby animals.

Show students images of different animal shelters and nests (PowerPoint slides beginning on slide 25)

- Birds
- Squirrels
- Rabbits
- Beavers
- Reptiles

Ask, "Why would a wildlife parent build a nest? How do these nests help the wildlife offspring survive?" Introduce the fourth mode of parental care: sheltering. Nests provide shelter for baby animals and help to keep them warm, dry, and safe. As you look through the slideshow, add information and examples of wildlife parents who provide shelter for their babies on the parental care chart.

Part 5: Patterns in parental care

Patterns of behavior charades: This modified charades game reinforces the idea of patterns of parental care and baby animal signaling. The object of the game is to have students identify which mode of parental care the students are modeling.

1. Pass out scenario cards to each small group. Give students a few minutes to discuss how they will act out the scenario. You can allow students to talk, make noises, or to act silently.
2. Have each group act out their scenario.
3. After their scene is finished, allow students to discuss in their small group and decide which kind of parental care was identified. Encourage students to make guesses about what kinds of animals the students were acting like. Have students try to describe the behaviors of the parent and baby.
    a. Example: Baby birds with opened mouths and parents gave them food.
    b. Example: Baby birds chirped with open mouths and parents gave them food.
4. Share out guesses and help students notice patterns occurring between parent and offspring behaviors.

After completing the charades game, pass out Patterns of Behavior Between Parents and Offspring worksheet and model how students should fill it out. This worksheet can be used as an exit sheet for the lesson or could be used as a review in future.

Name: _____ Date:_____

Patterns of Behavior Between Parent and Offspring

Read the sentences. Then complete the statement.

The baby birds are chirping in their nest. They hold their mouths open wide.

The mother bird sees this. Now the mother bird will…

_____

_____

_____

_____

Lesson 7: What do you do if you find a baby animal?

Standards

1-LS1-2. Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Obtaining, Evaluating, and Communicating Information Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world. Developing and Using Models Distinguish between a model and the actual object, process, and/or events the model represents. Compare models to identify common features and differences.	LS1.B: Growth and Development of Organisms - Adult plants and animals can have young. In many kinds of animals, parents, and the offspring themselves engage in behaviors that help the offspring to survive.	Patterns Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence.

ELA Standards

W.1.7 Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions).

SL.1.1 Participate in collaborative conversations with diverse partners about *grade 1 topics and texts* with peers and adults in small and larger groups.

SL.1.2 Ask and answer questions about key details in a text read aloud or information presented orally or through other media.

SL.1.5 Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.

Learning Objective

Students will use observations and resources to determine if baby bird needs help.

Essential question:

- How do you help a lost baby animal?

Materials

- WDFW Video: What do you do if you find a baby animal alone?
- PAWS Wildlife Self Service
- "The Nest that Wren Built" by Randi Sonenshine
- Video read aloud of "The Nest That Wren Built"
- Video: Robin Babies from Egg to Flying

Part 1: Does the robin chick need help?

Refer to anchoring photo of the robin chick. Remind students that earlier they looked at the features of the baby bird and of the nearby parent birds to determine what kind of baby it was. In this lesson, we will be trying to figure out if the chick needs help, and if so, what we can do to help it.

1. Watch video from WDFW outlining some of the most common calls that come into WDFW Customer Service about baby animals. The video outlines the steps you should take if you find a baby animal.
2. After watching the video, return to the photo of the baby bird. Think-pair-share: "What do we know about how birds care for their young?" Keep notes of student answers in a visible location.
3. Read or watch video of "The Nest That Wren Built." As you read, keep note of the ways birds care for their young, including the following key parts:
    a. Birds feed their babies in a nest.
    b. When babies don't have feathers, the parent birds sit on their babies in the nest to keep them warm.
    c. When babies are big enough and their feathers are fully grown in, they fly away.
4. Show video Robin Babies from Egg to Flying. Pause frequently to highlight how the parents are caring for their babies. Be sure to note all four modes of parental care, and make sure students understand that when robin chicks leave the nest, the parent robins continue to care for the chicks for another 11 days or more. During this time, the parents are engaged in teaching the fledglings how to find food, avoid predators, and fly.
5. Pass out "robins growing up" sequencing cards.
6. Have students place the cards in the order in which a robin goes from an egg to an adult.

7. Show the anchoring photo of the robin chick and ask students to decide which stage of the robin's growth they think the robin is in. Is it a nestling? An egg? A fledgling?
8. Based on what we know about how birds care for their babies, do we need to help this baby bird?

Students should determine that the bird is fledgling and most likely doesn't need help from people.

Part 2: What if the robin chick was younger?

Show image of younger robin chicks. Ask students to identify which stage of robin growth these robins are in. If a chick this age was found on the ground, would it need help?

YES!

We have figured out that this baby might need some help. There are many resources we can use to find out what to do. Log into Progressive Animal Wildlife Society (PAWS) website. This will be the primary source for discovering how to help a baby animal found alone. Click through the self-help portal and pause on the page that shows the pictures of the baby birds at different stages. Have the students identify features of the baby bird that correspond to photos on PAWS website.

> **Teacher Note:**
> To be able to advance through the self-help portal, you will need to select Western Washington as your location. If you actually find an animal that needs help and you live in Eastern or Central Washington, a list of contacts for rehabilitators in your region can be found at wdfw.wa.gov/species-habitats/living/injured-wildlife/rehabilitation/find.

9. Continue until you find the animal information sheet. This sheet will give instructions on how to help the baby bird.

> **Teacher Note:**
> Never attempt to treat or raise a wild animal – it's illegal and harmful to yourself and the wildlife. Wildlife species differ widely in terms of their capture, care, and handling requirements. If you are not properly trained, you could make an animal's situation worse or kill it. If kept improperly, animals may lose their natural fear of humans and become more vulnerable to predation or injury. Euthanasia is often the only option for wild animals that become habituated to humans.

10. The goal for helping a baby bird that has fallen out of its nest is to reunite the baby bird with its parents.

    a. If you can see and reach the nest the baby has fallen from, gently place the baby bird back in the nest, and watch to see that the parents return.

    b. If you can't reach the nest but know where it is, the best thing to do is to build a little nest for the baby bird and place the nest and the baby as close to the original nest as you can.

> **Teacher Note:**
> A common misconception is that if you handle a baby bird with bare hands the parents will reject it due to the presence of your scent. Most birds lack a sense of smell. **However, it is imperative to always wear gloves and eyeglasses to prevent the spread of disease and for your safety.**

"Turdus migratorius–American Robin Eggs" by David Illig is licensed under CC BY-NC-SA 2.0. "

Robin Hatchlings-1" by chriggy1 is licensed under CC BY-NC-ND 2.0.

"American Robin nestlings" by Paul.J.Hurtado is licensed under CC BY-SA 2.0.

"robin fledgling" by foxrosser is licensed under CC BY-ND 2.0.

"Juvenile American Robin / Merle d'Amérique juvénile" by Eric Bégin is licensed under CC BY-NC-ND 2.0.

"American Robin Turdus migratorius" by Mark Peck Bird Photography is licensed under CC BY-NC-SA 2.0.

Lesson 8: Animal engineering - building a nest for a lost baby bird

Standards

1-LS1-2. Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Developing and Using Models Distinguish between a model and the actual object, process, and/or events the model represents. Compare models to identify common features and differences.	LS1.B: Growth and Development of Organisms - Adult plants and animals can have young. In many kinds of animals, parents, and the offspring themselves engage in behaviors that help the offspring to survive.	Structure and Function The shape and stability of structures of natural and designed objects are related to their function(s). Scale and Proportion Relative scales allow objects and events to be compared and described (e.g., bigger and smaller; hotter and colder; faster and slower).

ELA Standards

RL.1.5 Explain major differences between books that tell stories and books that give information, drawing on a wide reading of a range of text types.

W.1.7 Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions).

SL.1.1 Participate in collaborative conversations with diverse partners about *grade 1 topics and texts* with peers and adults in small and larger groups.

SL.1.2 Ask and answer questions about key details in a text read aloud or information presented orally or through other media.

Learning Objective

Students will engage in an engineering project to design and create a nest analog appropriate for use by the baby bird.

Essential question:

- How do you help a lost baby animal?

Materials

- WDFW book "The Robin's Nest" – available for download on WDFW website along with other materials for the unit.
- Videos
  - Nuthatch nest 1:30-2:30 (cavity nest)
  - Cliff swallows 0:00-1:45 (mud nests)
  - Bushtit hanging nest (hanging nest)
  - Found nest dissection (cup nest)
- Nest engineering materials
  - Box or bowl for each student
  - Nesting materials-
    - Dry grasses or raffia
    - Dry leaves
    - Moss or lichen
    - Shredded paper
    - Lint or cotton balls
    - Sticks and twigs
    - Glue

Part 1: How do animals build nests?

When baby birds get separated from their mother by falling out of their nest and we can't find or reach the original nest, the best thing we can to do to help the baby is to create a nest. Then we can place the nest and the baby bird back in the tree or near the tree it fell from. Then the mother can come and care for the baby.

For baby mammals, the mother will pick the baby up and carry it back to the nest. For baby birds, the parent birds will feed and care for the baby birds in both the old nest and the new nest.

Today we are going to focus on bird nests. Birds are amazing animal engineers. They use their beaks and feet to make nests for their young out of many different materials. There is a story of how one bird taught all the birds of the forest how to build a nest.

1. Read aloud WDFW adaptation of Folk Tale "The Magpie's Nest". Book can be found on in this document or WDFW lesson plan website along with the other materials for this unit.
2. Following the story, show videos and photos of birds building nests. Point out how the birds use their beaks, feet, and wings to help shape the nests.

Watch the video of Found nest dissection to see all the different materials a bird may choose to use to engineer their nest.

Part 2: Engineering a new nest for baby robin

Introduce the nest engineering challenge. Present materials students can use to create their nests. You could also choose to take students outside to have them gather materials to use to build their nest from the natural environment. The challenge will be to build a nest that would help shelter a baby bird who fell out of its original nest. The nest will need to be small enough to fit inside the box or bowl provided and will need to hold and protect the baby bird.

> **Teacher Note:**
> Students are creating a "nest analog" for helping a baby bird. This is a replica of a nest that could be used to shelter the baby bird while the parent birds continue to provide care. For more information on how to set up the engineering challenge see Science Buddies: Build a Bird Nest.

Optional: Take photos of students at different stages of building their nest. Print them out and have students put photos into correct sequence. This can be used as a visual support when asking students to write simple steps for building a nest to help reunite a lost baby animal with their parents.

Things to consider when building your nest:

- Size: Must be the right size for the baby bird (not too big or too small).
- Shape: Must create a cup shaped nest that can hold an egg or baby bird and not let them fall or roll out.
- Strength: Must be able to hold together in the wind or rain.

Allow students to work independently or with a partner on their nest engineering challenge.

> **Teacher Note:**
> You may wish to allow your students to test their nest design by seeing if the nest can:
> 1. Hold a fake egg or a fake baby bird
> 2. Stay in the correct shape without the box or bowl
> 3. Hold together in windy conditions by blowing on it or putting it in front of a fan.

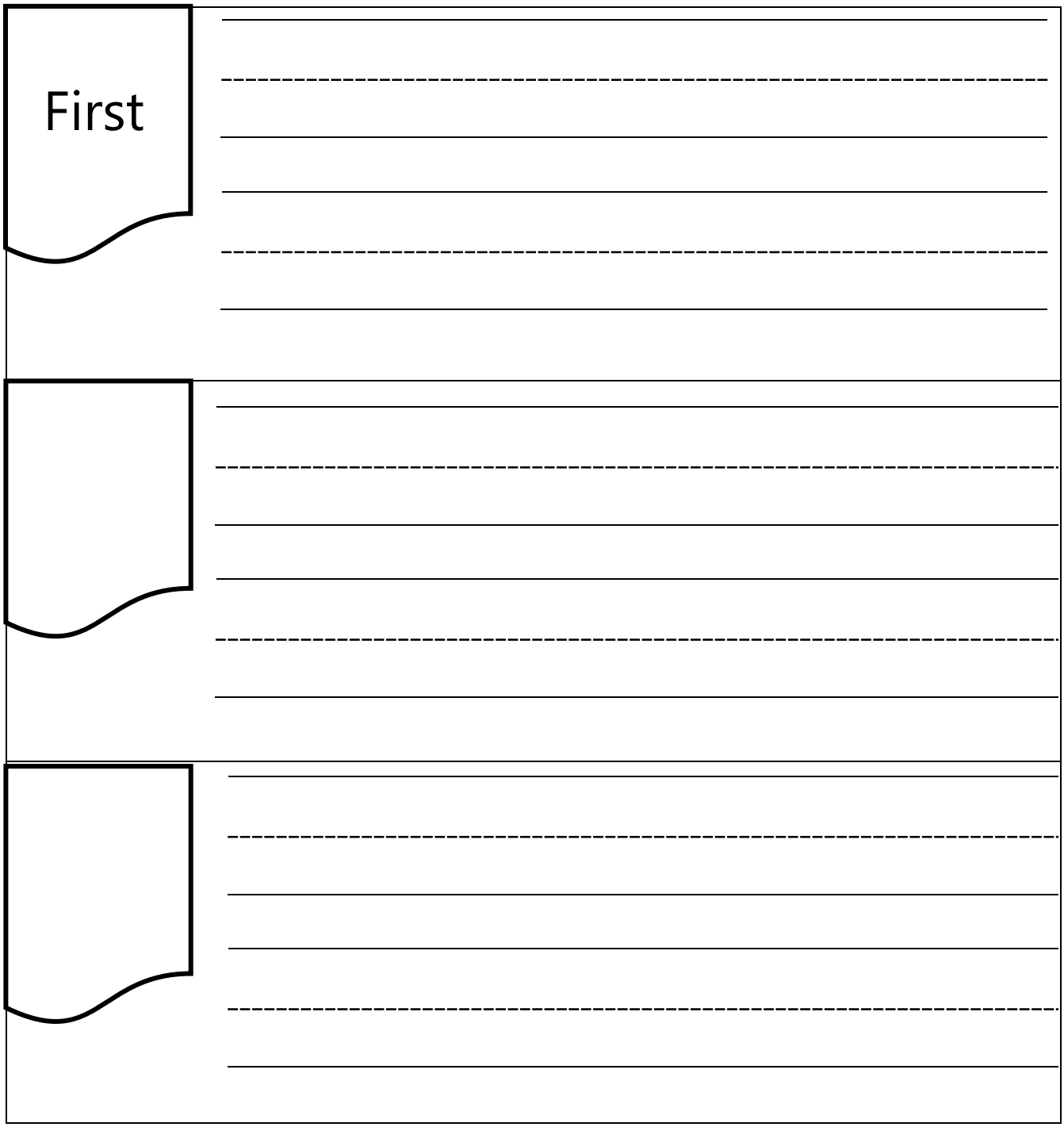
Part 3: Simple instructions

Students will write simple instructions to help teach members of our community about how to reunite a baby bird that has fallen out of the nest.

Show students the worksheet provided and lead a discussion of the sequence of events they used when they built their nests. Building nests may include lots of steps, so you may need to use multiple worksheets to include all of them! Remind students of the sequencing words they can use when writing their “how to build a nest” instructions.

Name:_____ Date: _____

How to Build a Nest for a Lost Baby Bird



Sequencing Words: First, Then, Next, Finally

RENESTING AND REUNITING: SONGBIRDS

BACKGROUND INFORMATION

Songbirds are a really broad group of birds, so there are many different types and locations of nests as well as behaviors of young and parents. One constant is all songbirds are routinely left alone for short periods of time, especially as they get older, while the parents are out foraging.

Many songbirds leave the nest before they can fly, and they move around on the ground with their parents until they get big enough to fly. This seems unsafe at first, but it actually increases the chances some young will survive. If a predator finds a nest, all babies will be killed. If the young are scattered around and able to move away, the likelihood a predator will harm them all is small. Do not intervene because you are worried something bad may happen to the babies. Even with all the hazards in the wild, babies are still best raised by their parents.

If you moved a bird, disturbed a nest, or suspect orphanage for another reason, please attempt reuniting and monitoring for healthy young unless mom ***AND*** dad are found dead. The parents spend a lot of time and energy reproducing. They won't abandon their babies because you touched them, but they will not return if you (a predator) are too close.

NEST IS DAMAGED (BY DOG, PREDATOR, STORM, YARD WORK, ETC.)

When bird nests are on the ground, some assume the nest fell, and the babies are orphans. In reality, nests rarely fail under normal circumstances, and many birds build their nests directly on the ground intentionally! You can discern a fallen nest from a ground nest because the latter will be intact, upright, and appear as if it were built in place. If the nest didn't fall, no intervention is needed.

Sometimes dogs and other predators find and damage nests, but if the babies are unharmed, you can salvage the nest and monitor as described in the "renesting" section below. Keep your dog on a leash and cat indoors during baby bird season. You can prevent pet access to ground nests by putting a temporary fencing barrier around the nest. Make sure the holes are large enough to allow the parents (and later fledglings) to pass through.

Occasionally, tree work and storms displace nests or the babies in them. If the nest has uninjured, hatched young, you can put up a surrogate nest and monitor as described in the "renesting" section below. The Migratory Bird Act prohibits moving or interfering with active nests, but renesting attempts are considered an exception as long as the nests and birds are returned to the location found.

TIMELINE

Renest or reunite baby birds as soon as possible during the daytime when the parents are active. If you picked up and kept the bird for eight daylight hours or more already AND no other babies remain outside, they need to go to a wildlife rehabilitator (Box 2).

HEALTH CHECK

Renest or reunite reasonably healthy babies only. Mom won't return for a sick baby nor can she help them recover. If the baby is cold to touch, warm them before the renesting process (Box 1). Check for the following:

- Significant injury (broken bone, lacerations, non-responsive, gasping, limp, etc.)
- Confirmed cat attacks
- Excessive ectoparasites (mites, lice)
- Fly packs or maggots

Any baby with these symptoms needs a wildlife rehabilitator (Box 2) to assess them. Minor scratches or bruises are not cause for concern unless cats were involved.

HEAT SOURCES

Instant Hand Warmers
HotHands® or similar. Lasts about 5 hours.

Rice Sock
Fill a sock with uncooked rice and microwave until warm. Lasts 1-2 hours.

- ➔ Check that heat source won't burn baby.
- ➔ Make sure baby has space to move away from heat source.

Box 1

RENESTING AND REUNITING: SONGBIRDS

AGE DETERMINATION

Estimate age by choosing the closest description, and then follow the correct reuniting or renesting instructions.

NESTLING

- Eyes closed, partly open, or fully open
- Bare skin still visible on body
- May have some down and/or regular feathers starting to grow in
- Unable to fully stand

FLEDGLING

- Eyes fully open
- Fully feathered
- Able to fully stand, walk, perch, and hop
- No trouble holding head up

RENESTING AND MONITORING NESTLINGS

1. **Identify where the nestling came from.** Look around the location found for adult birds or trees/bushes with nests. Remember, some birds nest on the ground and some birds (Box 3) use cavities rather than nests for young. If possible, simply return baby to the original nest. Ask for help from tree services or neighbors if access is a problem. If you cannot identify where the baby/nest may have fallen from, the baby needs a rehabilitator (Box 2) and renesting is not an option.
2. **Make an artificial nest (if original is damaged).** Choose a shallow plastic container big enough to hold baby. For cavity nesters, use plastic gallon milk jug or other enclosed plastic container to make an alternate nest cavity. Cut a hole big enough to allow parents access and high enough that the young will not fall out. Poke holes in the bottom for drainage. Add some grass, sticks, or moss to bottom for a nest.
3. **Add a heat source (Box 1).** Place heat under a thin layer of grass or twigs and maintain for duration of attempt.
4. **Secure the nest and add baby.** Return to where you found the young, and attach the nest as close to the suspected original nest as you can. Use zip ties, nails, or similar to secure the nest. Once secure, add the young.
5. **Monitor the nest.** Observe the nest area continuously for one hour from a distance. Remember, the parents will not return if predators (you) are too close. We recommend using a camera, computer, or similar.
6. **Review the footage.** If you see the parents coming to the nest, the reunion is successful! If you do not see the parents, check on the baby. If they are still doing okay, you can give the parents another hour.

If the parents don't return within 2 hours or their condition is worsening, find a wildlife rehabilitator (box 2).

REUNITING AND MONITORING FLEDGLINGS

1. **Determine fledging behavior of species.** Most birds learn to fly from the ground, but some fly directly from the nest (Box 4). If you find one of those birds on the ground unable to fly at all, they are sick, injured, or too young to be out of the nest (see nestling instructions above).
2. **Leave (or return) fledgling to the location found.** You do not need to move them or put them on a branch, etc.
3. **Monitor the fledgling.** Observe the bird continuously for one hour from a distance. Remember, the parents will not return if predators (you) are too close. We recommend using a camera, computer, and/or binoculars.
4. **Review the footage.** If you see the parents coming to the bird, the reunion is successful! If you do not see the parents, check on the baby. If they are still doing okay, you can give the parents another hour.

If the parents don't return within 2 hours or their condition is worsening, find a wildlife rehabilitator (box 2).

RENESTING AND REUNITING: SONGBIRDS

FIND A REHABILITATOR

Bring confirmed orphans to PAWS Wildlife Center during open hours for admission as soon as possible. We are open seven days a week from 8AM to 7PM during summer season (April 1 to September 30). You do not need to call ahead. Please do not offer any food or water as these things tend to do more harm than good

PAWS Wildlife Center
15305 44th Avenue W
Lynnwood, WA 98087
425-412-4040

Box 2

Cavity Nesting Species

Use an enclosed artificial nest.

Swallows (except Barn Swallow)

Bushtit

Chickadee

Nuthatch

Wren

Box 3

Species Who Fly from Nest

These birds should not be on ground unable to fly.

Swallows

Swifts

Chickadee

Nuthatch

Warbler

Bushtit

Wren

Kinglet

Box 4

Lesson 9: Unit wrap up and final project

1-LS1-2. Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.

1-LS3-1. Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Constructing Explanations and Designing Solutions Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena. Obtaining, Evaluating, and Communicating Information Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world.	LS1.B: Growth and Development of Organisms - Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive. LS3.A: Inheritance of Traits - Young animals are very much, but not exactly like, their parents. Plants also are very much, but not exactly, like their parents. LS3.B: Variation of Traits - Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways.	Patterns Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence.

ELA Standards

W.1.2 Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.

W.1.7 Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions).

Materials

- Animal Research Poster template (download from WDFW website)
- Grade appropriate books and websites for students to use for their individual animal research

Learning Objective

Students will work as a class to create informational poster about robins by synthesizing information learned through the unit. Students will use text and media to research a Washington Wildlife species and create an informational poster.

Essential question:

- What have we learned about the lost baby bird?

Overview

In this final lesson, the teacher and students will work together to fill out a research poster using all the information learned throughout the unit. Students will then be introduced to their final project of completing an animal research project on a Washington wildlife species of their choice. Students will work independently using text and media to find out information about their chosen wildlife and will fill out their own animal research poster. Finally, students will share their wildlife research poster with their classmates.

Part 1: Introduce animal research project

This lesson begins by introducing the wildlife research poster template. Engage students in a discussion of what they have learned about robins throughout the investigation into learning how to help the baby bird. Model how to fill out the animal research poster by filling a class version out focusing on what we have learned about robins.

Part 2: Animal research project introduction - Meet your animals

Create explorations stations by gathering grade appropriate books, websites, videos, print outs, etc. of the five to eight wildlife species you will allow students to study.

These Washington wildlife species would be great for students to research: raccoons, opossums, squirrels (gray), owls (barred, great horn, barn), common garter snakes, north Pacific rattle snakes, ravens, bald eagles, deer (black tailed, mule) frogs (chorus or northern leopard), pygmy rabbits, salmon, coyotes, black bears, western pond turtles, cougars, moose, etc.

Allowing student choice in the animal they will research will enhance student engagement.

> **Teacher Note:**
> The wildlife you choose to allow your students to research will depend on materials you have available. Your school librarian may help with additional resources. Add the animals you are allowing students to research to the word bank on the "choice worksheet."

Split the class into small groups (one group per station). Give directions (below) for how students will rotate through exploration stations.

Set time for how long you will allow students to read and explore information about the animals at each station. Five to six minutes at each station should be enough to allow students to look through pictures, read a couple of facts, and decide if they want to learn more about that animal.

Bring the class back together. Pass out choice sheet for wildlife research. Remind students of the wildlife they can choose from and explain that they will research one of their top three. Have students fill out their choice sheet and turn it in. You will divvy students into small groups researching the same animal and return their choice sheet in the next lesson.

> **Teacher Note:**
> In collaborative learning, grouping students by strengths and weaknesses, differing abilities, and diversity and social capability will allow for small group discussions about the animals and allow for collaboration within the group.

Part 3: Wildlife research poster

Pass out research posters to students and highlight the information they will have to gather to fill out their poster. Students may complete sections of the poster on other paper (for example, draw and color a picture of their wildlife then paste the final product onto the poster.

Photos of completed posters can be submitted to WDFW at wdfw.wa.gov/share to be shared on social media pages and blog posts.

Name: _____ Date: _____

Choosing Wildlife to Study

Wildlife I am interested in studying:

Wildlife you can choose from include:

1. _____

2. _____

3. _____

I have chosen to research:

I am interested in this wildlife species because:

_____

_____

_____

_____

Resources

If reading a printed version, scan QR code for the unit resource links.

WDFW Videos and Resources

WDFW intro video
WDFW Video: What do you do if you find a baby animal alone?
Submit Completed Research Posters to wdfw.wa.gov/share

Book Read Aloud Videos

"The Salamander Room" read aloud video
"Is Your Mama A Llama?" read aloud video
Video of read aloud of "How Animals Care for Their Babies"
Video of read aloud of "How Animal Babies Stay Safe"
"Mama Built a Little Nest" by Jennifer Ward read aloud video
Video read aloud of "The Nest That Wren Built"

Videos used in Lessons

Parental Care Video Gallery:

- Hooded merganser-protecting
- Otter at zoo-teaching
- Harbor seal pup-protecting
- Harbor seal swimming-comforting
- Deer fawn-protecting and feeding
- Mama bear and cub-teaching and protecting
- Mama grizzly-feeding
- Snowy plover on nest-protecting
- Shrews-protecting
- Sage Grouse (from 3:02-5:15) -teaching and protecting
- Pileated woodpeckers-feeding
- Fox cubs and vixen-feeding, comfort
- Cougar and kit-cleaning and feeding

Robin Babies from Egg to Flying
Nuthatch nest 1:30-2:30 (cavity nest)
Cliff swallows 0:00-1:45 (mud nests)
Bushtit hanging nest (hanging nest)
Found nest dissection (cup nest)

Additional Resources

Question Formulation Technique (QFT)
PAWS Wildlife Self Service
Find a Rehabilitator
Science Buddies: Build a Bird Nest

NEXT GENERATION SCIENCE STANDARDS
For States, By States

**Unless otherwise specified, "descriptions" referenced in the evidence statements could include but are not limited to written, oral, pictorial, and kinesthetic descriptions.*

1-LS1-2 From Molecules to Organisms: Structures and Processes

Students who demonstrate understanding can:

1-LS1-2. **Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.** [Clarification Statement: Examples of patterns of behaviors could include the signals that offspring make (such as crying, cheeping, and other vocalizations) and the responses of the parents (such as feeding, comforting, and protecting the offspring).]

The performance expectation above was developed using the following elements from the NRC document *A Framework for K-12 Science Education*:

Science and Engineering Practices

Obtaining, Evaluating, and Communicating Information

Obtaining, evaluating, and communicating information in K–2 builds on prior experiences and uses observations and texts to communicate new information.

- Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world.

Connections to Nature of Science

Scientific Knowledge is Based on Empirical Evidence

- Scientists look for patterns and order when making observations about the world.

Disciplinary Core Ideas

LS1.B: Growth and Development of Organisms

- Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive.

Crosscutting Concepts

Patterns

- Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence.

Observable features of the student performance by the end of the grade:		
1	Obtaining information	
	a	Students use grade-appropriate books and other reliable media to obtain the following scientific information:
		i. Information about the idea that both plants and animals can have offspring.
		ii. Information about behaviors of animal parents that help offspring survive (e.g., keeping offspring safe from predators by circling the young, feeding offspring).
		iii. Information about behaviors of animal offspring that help the offspring survive (e.g., crying, chirping, nuzzling for food).
2	Evaluating information	
	a	Students evaluate the information to determine and describe* the patterns of what animal parents and offspring do to help offspring survive (e.g., when a baby cries, the mother feeds it; when danger is present, parents protect offspring; some young animals become silent to avoid predators).

NEXT GENERATION SCIENCE STANDARDS
For States, By States

**Unless otherwise specified, "descriptions" referenced in the evidence statements could include but are not limited to written, oral, pictorial, and kinesthetic descriptions.*

1-LS3-1 Heredity: Inheritance and Variation of Traits

Students who demonstrate understanding can:

1-LS3-1. **Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.** [Clarification Statement: Examples of patterns could include features plants or animals share. Examples of observations could include leaves from the same kind of plant are the same shape but can differ in size; and, a particular breed of dog looks like its parents but is not exactly the same.] [*Assessment Boundary: Assessment does not include inheritance or animals that undergo metamorphosis or hybrids.*]

The performance expectation above was developed using the following elements from the NRC document *A Framework for K-12 Science Education*:

Science and Engineering Practices

Constructing Explanations and Designing Solutions

Constructing explanations and designing solutions in K–2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions.

- Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena.

Disciplinary Core Ideas

LS3.A: Inheritance of Traits

- Young animals are very much, but not exactly like, their parents. Plants also are very much, but not exactly, like their parents.

LS3.B: Variation of Traits

- Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways.

Crosscutting Concepts

Patterns

- Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence.

Observable features of the student performance by the end of the grade:			
1	Articulating the explanation of phenomena		
	a	Students articulate a statement that relates a given phenomenon to a scientific idea, including the idea that young plants and animals are like, but not exactly like, their parents (not to include animals that undergo complete metamorphoses, such as insects or frogs).	
	b	Students use evidence and reasoning to construct an evidence-based account of the phenomenon.	
2	Evidence		
	a	Students describe* evidence from observations (firsthand or from media) about patterns of features in plants and animals, including:	
		i.	Key differences between different types of plants and animals (e.g., features that distinguish dogs versus those that distinguish fish, oak trees vs. bean plants).
		ii.	Young plants and animals of the same type have similar, but not identical features (e.g., size and shape of body parts, color and/or type of any hair, leaf shape, stem rigidity).
		iii.	Adult plants and animals (i.e., parents) of the same type have similar, but not identical features (e.g., size and shape of body parts, color and/or type of any hair, leaf shape, stem rigidity).
		iv.	Patterns of similarities and differences in features between parents and offspring.
3	Reasoning		
	a	Students logically connect the evidence of observed patterns in features to support the evidence-based account by describing* chains of reasoning that include:	
		i.	Young plants and animals are very similar to their parents.
		ii.	Young plants and animals are not exactly the same as their parents.
		iii.	Similarities and differences in features are evidence that young plants and animals are very much, but not exactly, like their parents.
		iv.	Similarities and differences in features are evidence that although individuals of the same type of animal or plant are recognizable as similar, they can also vary in many ways.