Lesson 3.4
Young Offspring
Lesson Overview

In this lesson, the class begins investigating young offspring and how they can survive. Students explore the photographs in *Parents and Offspring* and discuss their initial ideas about how young offspring survive. Partners then read the book to learn more about how young offspring survive. Using the images and the information they read from the book, partners act out different animal parent and young offspring pairs, including a pair in which the young offspring survive without any help from the parent. The class observes videos of other young living things that survive on their own, without help from their parents. The purpose of this lesson is to construct the idea that some kinds of young offspring get help from their parents to survive, while other kinds of young offspring, including all plants, survive on their own.

**Investigative phenomenon:** Young offspring survive.

**Students learn:**

- Plant offspring survive on their own.
- Animal parents that care for their young offspring may feed them, protect them from predators, keep them warm, carry them around, teach them things, clean them, or play with them.
Reading: Parents and Offspring

Partners read *Parents and Offspring* and visualize what parents and offspring do to help young offspring survive.

### Instructional Guide

1. **Augment instruction.** If you are adjusting instruction in this activity in response to Critical Juncture Assessment 3 (from Lesson 3.3), review the Assessment note in the Teacher Support tab (Augmenting Instruction: Differentiating in Response to Critical Juncture Assessment 3) for suggested modifications to this activity.

2. **Review the Chapter Question and the class’s progress toward constructing an answer.** Remind students they have been investigating as aquarium scientists to answer aquarium visitors’ questions about Spruce the Sea Turtle and, if Spruce has offspring, how her offspring will survive.

   - Some of the children who visit the aquarium are wondering how Spruce’s offspring will survive when they are young, before they grow up.

   Point to the Chapter 3 Question on the wall.

   - We have been working to answer the question: *How can Spruce the Sea Turtle’s offspring survive where there are sharks?*

   - So far, we have thought a lot about how Spruce’s offspring would survive once they have grown up. What have we figured out?  
     - [When offspring grow up, they defend themselves in the same way as their parents. Spruce’s grown offspring will use their shells and camouflage to defend themselves, just like Spruce does.]

3. **Introduce the new Investigation Question.**

   - We want to help the aquarium director explain to the children how Spruce's offspring can survive when they are young. Learning more about how all living things survive when they are young will help us answer the aquarium director’s question. We can investigate to answer a new question.

   Point to the Investigation Question on the board and read it aloud.
How do animals and plants survive when they are young?

4. Display the *Parents and Offspring* big book.

We know that scientists like us read to gather information to help answer their questions. Sometimes scientists go back to a book they have already read and read it again. Reading a book again helps them gather more information to answer a new question.

We can go back to *Parents and Offspring* and read it again. This time we will read to gather information to help figure out our new question.

5. Set the purpose for reading and review the visualizing strategy. Let students know they will read the book with a partner.

You will read to find out how young offspring can survive.

As you read, you can visualize what different parents and offspring do to help the young offspring survive. Remember that when you visualize, you make a picture or movie in your mind.

6. Revisit and model the Partner Reading Guidelines with a volunteer. Invite a volunteer to be your reading partner. Read each guideline on the chart aloud and model the corresponding behavior with a partner.

- Sit next to your partner.
- Put the book between you.
- Take turns.
- Read in a quiet voice.
- Work together to read and understand. (This is modeled in the next step.)

7. Model visualizing with your partner. Explain that you and your partner are going to work together to read and understand. Turn to page 7 and read it aloud. Point to the picture of the koala parent and offspring on this page.

I know that this young koala offspring needs to do different things to survive and not be eaten by another animal.

I do not see any structures like shells or spikes that the koala offspring could use to defend itself, but I can see the koala parent carrying the young offspring on its back.

Describe what you see in the picture—the koala sitting in a tree with the baby koala on its parent’s back. Then, close your eyes.

I am visualizing the koala parent climbing a tree with its offspring on its back to hide from predators. Hiding from predators can help the young koala offspring survive.
Turn and share with your partner:

I think the koala parent helps the young koala offspring survive.

Invite your partner to find another parent and offspring pair on this page and visualize how that offspring survives when it is young.

8. Distribute copies of Parents and Offspring. Distribute one copy of the book to each pair of students and have partners begin reading. Remind students that they are visualizing what parents and offspring do to help young offspring survive.

9. On-the-Fly Assessment: Students visualize parents and offspring. Provide students with time to read and visualize. Circulate and observe as students read and talk together.

10. Gather students in the discussion area to discuss what they read. Invite students to use the books as needed to show and explain what they read about animal offspring.

We read this book again to gather information about how young offspring survive.

What did you learn from this book about how young offspring survive? What did you visualize?

[Some young offspring have parents that take care of them. Some young offspring have parents that feed them. Some young offspring have parents that defend them. Some young offspring can survive on their own.]

11. Collect the Parents and Offspring books.
Embedded Formative Assessment

On-the-Fly Assessment 12: Visualizing Parents and Offspring

Look for: Students’ talk with their partners about what they visualize parents and offspring doing presents an opportunity to informally assess students’ developing ability to visualize based on what they see and read. In general, students should describe parents and offspring engaged in activities that connect to what they can see in the pictures or read in the text. For example, a student might look at the picture of the robin holding a worm over its chicks in the nest and say something like *I visualize the mama bird dropping the worm in the baby’s mouth so that they have something to eat.* It’s not important that students be correct as they visualize, only that their ideas are grounded in what they see and read in the book.

Now what? If students are not clearly basing their visualizations of parents and offspring on what they see and read in the book, pause the Partner Read to provide some additional structure to students’ reading work. Let students know that they should be trying to answer two questions each time they turn to a new kind of parent with its young offspring: *What do you see and read on this page?* and *From what you saw and read, what do you visualize happening next?* Model choosing a picture and describing what you see in the picture. Then, describe what else you visualize happening, based on what you see. Direct students to return to their books and to think about and discuss those two questions as they continue to read the book. Circulate as they read and talk, reminding them of the questions as necessary.

Teacher Support

Rationale

Pedagogical Goals: Partner Reading
Partner Reading is a way for students to become more independent with their reading and to practice fluency and comprehension with texts as they support each other during reading. This is a good opportunity to review the word-reading strategies you have already practiced with your class and to model how to read with a partner. You may want to have students use one of the following routines as they read:

- Partner A reads a page, and then Partner B reads the next page.
- Partner A reads a page, and then Partner B reads the same page. (Echo Reading)
- Read each page aloud together. (Choral Reading)

Instructional Suggestion

Augmenting Instruction: Differentiating in Response to Critical Juncture Assessment 3
This lesson provides an opportunity to support students who showed difficulty with content from Chapter 3 (as revealed through the Critical Juncture Assessment 3 in Lesson 3.3). If you think students do not have a clear understanding that grown offspring have similar defensive structures and functions as their parents, take time for additional instruction before beginning Activity 1. Using the Parent and Offspring Cards that feature familiar defenses (e.g., the snail, barrel cactus, and snowy owl), or the corresponding projections, lead a focused discussion. For each living thing, have students look at the parent on the card or projection. Ask them how they think the animal or plant...
survives where there are animals that try to eat it. If necessary, point out that the parent animal has a defensive structure that they have learned about, and invite students to recall how that structure keeps plants or animals from being eaten. Have students look at the grown offspring, and invite them to share how it is similar or different from the parent. Ask them if they think the offspring defends itself from animals that try to eat it in the same way or a different way than the parent. If necessary, call their attention to the offspring’s similar defensive structure. Having discussed all three examples, ask students to decide whether offspring survive in similar or different ways as their parents, inviting students to describe what they saw in the examples that makes them think so. If a smaller number of students are not showing evidence of understanding these ideas, you can lead a similar discussion with a selected group.

Instructional Suggestion

Literacy Note: Beginning Readers
While Parents and Offspring was written to be accessible to first graders, you may wish to provide additional support for students. If this is the case, you can preview the book with students by highlighting vocabulary, familiarizing students with the pattern of the book’s structure, or doing a “picture walk” through the book. You can also vary the approach to reading the book based on the needs of your class, keeping in mind that even if you read the book aloud with beginning readers, it’s important that they still have opportunities to hold and read the book themselves. Many teachers have been pleasantly surprised with how students’ engagement with the books in this unit helped them build familiarity with the vocabulary and concepts, enabling more of their beginning readers to read independently.

Background

Science Notes: About Parents Caring for Offspring
In many, but not all, animal species, parents provide some level of care for their young offspring. This can include feeding; carrying; keeping warm; providing a burrow, nest, or other protective shelter; fighting off predators; cleaning; teaching skills; and more. The length of time the care is provided differs greatly among different types of animals. For example, scorpion offspring ride on their mother for just about 10–20 days, and then live on their own. Elephant offspring receive care for about 10–15 years. The length of care provided may depend on how quickly the offspring grow, how well developed their structures are at birth or hatching, how harsh or dangerous the environment is, and whether any complex skills must be learned from the parent. Some animals provide some protection for their eggs, but do not care for their young once the eggs hatch. For example, sea turtles dig a protective nest in the sand for their eggs, but are not present once the eggs hatch. Some octopus mothers guard their eggs and waft water over them to keep them supplied with oxygen, never leaving even to eat, but die about the time the eggs hatch.

Background

Crosscutting Concept: Cause and Effect Across Chapter 3
In this chapter, students extend their understanding of cause-and-effect relationships to focus on how the actions of parents can cause offspring to survive and how the actions of offspring can cause parents to respond. A Partner Read of the book Parents and Offspring helps students visualize how parents do particular things that can cause their young offspring to survive (e.g., picking up young offspring and climbing a tree to hide from predators). Students then use a movement routine to demonstrate their understanding of this idea. The class also observes a series of videos depicting how some young offspring’s use of specific body structures can cause them to survive on their own. At the end of the chapter, students return to Parents and Offspring and observe a new series of videos, this time to visualize how the signaling of young offspring can cause parents to respond.
Partners read *Parents and Offspring* and visualize what parents and offspring do to help young offspring survive.

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### Instructional Guide

1. **Augment instruction.** If you are adjusting instruction in this activity in response to Critical Juncture Assessment 3 (from Lesson 3.3), review the Assessment note in the Teacher Support tab (Augmenting Instruction: Differentiating in Response to Critical Juncture Assessment 3) for suggested modifications to this activity.

2. **Review the Chapter Question and the class’s progress toward constructing an answer.** Remind students they have been investigating as aquarium scientists to answer aquarium visitors’ questions about Spruce the Sea Turtle and, if Spruce has offspring, how her offspring will survive.

   - Algunos de los niños que visitan el acuario se están preguntando cómo sobrevivirá la descendencia de Spruce cuando sea joven, antes de que crezca.

   Point to the Chapter 3 Question on the wall.

   - Hemos estado trabajando para responder la pregunta: ¿Cómo es que la descendencia de Spruce la tortuga de mar puede sobrevivir donde hay tiburones?

   - Hasta ahora, hemos pensado mucho en cómo sobrevivirá la descendencia de Spruce una vez que haya crecido. ¿Qué hemos averiguado?

     [Cuando la descendencia crece, se defiende de la misma manera que sus padres. La descendencia adulta de Spruce usará sus caparazones y camuflaje para defenderse, tal como lo hace Spruce].

3. **Introduce the new Investigation Question.**

   - Queremos ayudar a la directora del acuario a explicar a los niños cómo puede sobrevivir la descendencia de Spruce cuando es joven. Aprender más acerca de cómo sobreviven todos los seres vivientes cuando son jóvenes nos ayudará a responder la pregunta de la directora del acuario. Podemos investigar para responder una nueva pregunta.
Point to the Investigation Question on the board and read it aloud.

¿Cómo sobreviven los animales y las plantas cuando son jóvenes?


Sabemos que los científicos como nosotros leen para reunir información para ayudar a responder sus preguntas. A veces los científicos regresan a un libro que ya han leído y lo leen de nuevo. Leer de nuevo un libro les ayuda a reunir más información para responder una nueva pregunta.

Podemos regresar a Padres y descendencia y leerlo de nuevo. Esta vez leeremos para reunir información para ayudar a averiguar nuestra nueva pregunta.

5. Set the purpose for reading and review the visualizing strategy. Let students know they will read the book with a partner.

Leerán para averiguar cómo puede sobrevivir la descendencia joven.

Mientras leen, pueden visualizar lo que hacen diferentes padres y descendencia para ayudar a la descendencia joven a sobrevivir. Recuerden que cuando visualizan, hacen una imagen o una película en su mente.

6. Revisit and model the Partner Reading Guidelines with a volunteer. Invite a volunteer to be your reading partner. Read each guideline on the chart aloud and model the corresponding behavior with a partner.

- Sit next to your partner.
- Put the book between you.
- Take turns.
- Read in a quiet voice.
- Work together to read and understand. (This is modeled in the next step.)

7. Model visualizing with your partner. Explain that you and your partner are going to work together to read and understand. Turn to page 7 and read it aloud. Point to the picture of the koala parent and offspring on this page.

Sé que este descendiente de koala joven necesita hacer diferentes cosas para sobrevivir y no ser comido por otro animal.

No veo ninguna estructura como corazas o púas que pudiera usar el descendiente de koala para defenderse, pero puedo ver al koala padre cargando al descendiente joven sobre su espalda.

Describe what you see in the picture—the koala sitting in a tree with the baby koala on its parent’s back. Then, close your eyes.
Turn and share with your partner:

Pienso que el koala padre ayuda al descendiente de koala joven a sobrevivir.

Invite your partner to find another parent and offspring pair on this page and visualize how that offspring survives when it is young.

8. Distribute copies of Parents and Offspring. Distribute one copy of the book to each pair of students and have partners begin reading. Remind students that they are visualizing what parents and offspring do to help young offspring survive.

9. On-the-Fly Assessment: Students visualize parents and offspring. Provide students with time to read and visualize. Circulate and observe as students read and talk together.

10. Gather students in the discussion area to discuss what they read. Invite students to use the books as needed to show and explain what they read about animal offspring.

Leímos este libro de nuevo para reunir información acerca de cómo sobrevive la descendencia joven.

¿Qué aprendieron de este libro acerca de cómo sobrevive la descendencia joven? ¿Qué visualizaron? [Algunos descendientes jóvenes tienen padres que los cuidan. Algunos descendientes jóvenes tienen padres que los alimentan. Algunos descendientes jóvenes tienen padres que los defienden. Algunos descendientes jóvenes pueden sobrevivir solos].

11. Collect the Parents and Offspring books.
Embedded Formative Assessment

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