

Lessons 22–23

Plants or Animals of the Same Kind

Prepare

In this lesson set, students study different kinds of plants and animals to identify that individuals of the same kind are recognizable as similar but can also vary in many ways. In Lesson 22, students observe photographs to notice patterns of similarities and differences between plants or animals of the same kind. Students then study a photograph of a mystery animal and use their observations as evidence to identify the animal. In Lesson 23, students observe photographs of parents and offspring to identify patterns of similarities and differences between them. Students then use their observations to determine that young plants and animals are very much, but not exactly, like their parents. The knowledge they build in these lessons helps students answer the Concept 3 Focus Question **How do parents help their offspring survive?** in upcoming lessons.

Concept 3: Parents and Offspring

Focus Question

How do parents help their offspring survive?

Phenomenon Question

How do the same kind of plants or animals compare with each other?

Student Learning

Knowledge Statement

Plants or animals of the same kind are similar but not exactly alike.

Objectives

- Lesson 22: Observe similarities and differences between plants or animals of the same kind.
- Lesson 23: Use evidence to explain that young plants and animals look very much, but not exactly, like their parents.

Texas Essential Knowledge and Skills Addressed

- 2.4A **Collect, record, and compare information using tools, including** computers, hand lenses, rulers, plastic beakers, magnets, collecting nets, notebooks, and **safety goggles** or chemical splash goggles, **as appropriate**; timing devices; weather instruments such as thermometers, wind vanes, and rain gauges; **and materials to support observations of habitats of organisms such as terrariums and aquariums.** (Introduced)
- 2.4B Measure and **compare organisms and objects.** (Introduced)

English Language Proficiency Standards Addressed

- 2E Use visual, contextual, and linguistic support to enhance and confirm understanding of increasingly complex and elaborated spoken language.
- 3F Ask and give information ranging from using a very limited bank of high-frequency, high-need, concrete vocabulary, including key words and expressions needed for basic communication in academic and social contexts, to using abstract and content-based vocabulary during extended speaking assignments.

Materials

		Lesson 22	Lesson 23
Student	Same kind labeling activity (1 set per group): plastic handheld magnifier (1 per student pair), dry-erase marker (1 per student), paper towel (1 sheet), same kind cards (1 set)	•	
	Animal parents and offspring labeling activity (1 set per group): plastic handheld magnifier (1 per student pair), marker (1 per student), parent and offspring poster prepared by teacher (1)		•
	Cup with radish plants from Lesson 19 (1 per group)		•
	Plant parent cards (1 set per group)		•
Teacher	Radish and Mimosa Plant Photographs (Lesson 22 Resource A)	•	
	Mystery Animal Photograph (Lesson 22 Resource C)	•	
	Mother and Offspring Fox Photograph (Lesson 23 Resource A)		•
	Parent and offspring posters: chart paper (1 sheet per group), glue or tape, color copy of each photograph in Lesson 23 Resource B (1 per group), scissors (1)		•
Preparation	Prepare same kind cards. (See Lesson 22 Resource B.)	•	
	Prepare parent and offspring posters. (See Lesson 23 Resource B.)		•
	Prepare plant parent cards. (See Lesson 23 Resource C.)		•
	Identify three corners or areas of the classroom to use for a modified Question Corners routine. Prepare a color copy of each photograph in Lesson 23 Resource D. Post one photograph in each corner.		•

Lesson 23

Objective: Use evidence to explain that young plants and animals look very much, but not exactly, like their parents.

Launch 5 minutes

Display the photograph of the mother and offspring fox (Lesson 23 Resource A), and ask students to Think–Pair–Share in response to the following question. Encourage students to point out features of the animals that support their responses.



- Do you think these two animals are the same kind of animal? Why or why not?
- *Yes, I think they're both foxes. The small one looks like a baby, and the big one looks like an adult.*
 - *I'm not sure. They have some similar features like the color of their fur and pointy ears, but one is small and the other is big.*

Agenda

Launch (5 minutes)

Learn (25 minutes)

- Identify Similarities between Animal Parents and Offspring (12 minutes)
- Match a Plant Parent and Offspring (13 minutes)

Land (5 minutes)

Highlight student responses that describe similar features between the two animals. Reveal that the two animals are both red foxes and that the smaller fox is the offspring of the larger, adult fox. Explain that **offspring** are the babies of a plant or animal.  



English Language Development

Introduce the term *offspring* explicitly. Consider providing a familiar example of parents and offspring, such as a staff member in the school who recently had a baby.

► Do you think other offspring look similar to their parents?

- *I think so. My cat had kittens and they looked a lot like their mom.*
- *Yes, people tell me that I look like my dad, so I think other offspring look like their parents.*

Tell students that in this lesson they will look closely at other parents and offspring as they continue to explore the Phenomenon Question **How do the same kind of plants or animals compare with each other?**

Learn 25 minutes

Identify Similarities between Animal Parents and Offspring (12 minutes)

Display a prepared parent and offspring poster (Lesson 23 Resource B). Tell students that the poster shows the same kinds of adult animals they saw in the previous lesson, but now the animals are with their offspring. Divide the class into groups and distribute a parent and offspring poster to each group, a handheld magnifier to each student pair, and a marker to each student.

Explain that students will work together in their groups to observe each parent and offspring photograph and then draw lines between each parent and offspring to show what is similar about the two animals. Students should label each similarity they identify next to the line they draw. Encourage students to use their handheld magnifiers to closely observe the animals in the photographs.



Teacher Note

Although organisms of all ages are offspring to at least one parent, the term *offspring* in this module refers to the relationship between adult plants and animals and their developmentally immature young.



Teacher Note

In this module, students see photographs of offspring with only one parent (2E).

Sample student responses:



After groups finish making their observations, invite students to share with the class the similarities they found for each parent and offspring. Then have them Think–Pair–Share in response to the following question.

► How are the parents and offspring similar?

- *All the baby animals look a lot like their parents.*
- *I think the parents and their offspring look alike.*

Highlight the pattern students describe: Offspring share many features with their parents. Direct students' attention back to the animal family photographs.

► Are the parents and offspring exactly alike? How do you know?

- *No, they aren't exactly alike. The young animals are smaller than their parents.*
- *They are a little different. The baby porcupine has darker fur than its parent.*

Use students' responses to summarize that animal offspring look very similar to, but not exactly like, their parents.

Match a Plant Parent and Offspring (13 minutes)

Display one of the cups with radish plants from Lesson 19, and ask groups to discuss the following question.

- Do you think plant offspring look similar to their parents?
 - *I think plant offspring look like their parents just like animal offspring look like their parents.*
 - *I'm not sure. I think plant offspring might have some similar features to their parents.*

Explain that the radish plants represent young offspring of a parent plant.  Distribute a cup with radish plants and a set of plant parent cards (Lesson 23 Resource C) to each group.

Explain that groups should closely observe both the radish plant offspring and the three plant parent cards to determine which plant might be the parent of the radish plant offspring. Encourage students to use handheld magnifiers to make close observations.

After groups have decided on their answer, tell students that they will participate in a modified Question Corners routine. Point out the photographs of Parents A, B, and C posted in three corners of the classroom and tell students to move to the corner with the photograph they think shows the parent of the young radish plants.

After students arrive at their chosen corner, ask them to find a partner at the same corner and explain to each other why they think the plant in that corner might be the parent of the young radish plants.

Bring the class back together and discuss students' reasoning as a class.  

- Why do you think the young radish plants belong to the plant parent you chose?
 - *I think the young radish plants belong to Parent B because their leaves are a similar shape.*
 - *I think the young radish plants and Parent B look the most similar because their stems look a lot alike.*
- What made you decide that the young radish plants didn't belong to the other plant parents?
 - *I didn't think the young radish plants belonged to Parents A or C because their leaves aren't the same shape as the leaves of the radish plants.*
 - *I thought the plant parent and young radish plants would look alike so I looked for similar features. Parents A and C don't have the same features as the radish plants.*



Teacher Note

The radish plant parent and offspring in this activity are a representative pair for the species. If necessary, explain to students that they are not an actual parent-offspring pair.



Differentiation

To help students articulate their ideas, consider providing sentence frames such as these (3F):

- I think the young radish plants belong to Parent __ because _____.
- I don't think the young radish plants belong to Parent __ because _____.
- I think the young radish plants might belong to Parent __, but I am not sure because _____.



Check for Understanding

As students discuss ideas and share their reasoning with the class, listen for them to provide evidence to explain why Parent B may be the parent of the young radish plants. Evidence may be similar features, such as similar shape and color of the leaves and similar shape and color of the stems.

If students do not provide adequate justification for their selection, consider meeting with students individually or in small groups, placing the photographs of the plant parents next to the young radish plants, and discussing each plant's parts. Compare the young radish plants' parts with the same parts of each plant parent until students can identify that the young radish plants and Parent B have the most similar features.

Confirm that Parent B is an adult radish plant and that it best represents the parent of the young radish plants because they have similar features, such as similar stem color and similar leaf shape.

Summarize that plant and animal offspring look similar to their parents but that they are not exactly alike. Record this learning on a sentence strip and post it on the anchor chart.

Sample anchor chart:

Survival
Body Parts <ul style="list-style-type: none">• Plants and animals have body parts.• The body parts of plants and animals have many different functions.• Plants and animals use their body parts in ways that help the plants and animals survive.
Sense and Response <ul style="list-style-type: none">• Animals sense information in their environment.• Animals communicate and respond to information in ways that help the animals survive.• Some plants respond to their environment in ways that help the plants survive.
Parents and Offspring <ul style="list-style-type: none">• The features of parents and offspring are similar but not exactly the same.

Land 5 minutes

Revisit the Phenomenon Question **How do the same kind of plants or animals compare with each other?** Ask students to Think–Pair–Share about how their new learning can help them answer this question.

Sample student responses:

- *Plants or animals of the same kind have a lot of the same features. All the beavers we saw have flat tails with no fur.*
- *I think plants or animals of the same kind are similar but each one is a little different. The jewelweed plants we saw are orange and red, but some are darker orange and some are lighter orange.*
- *Plant and animal offspring look a lot like their parents but can look different too. The offspring might be smaller than their parents, or they might be a different color.*