Lesson 3.4
Above and Below
Lesson Overview

Students reflect on their conclusion that plants use their leaves to get the light they need to live and grow. Then, they return to the broader concept that all living things, including animals, have needs. The teacher begins the lesson by guiding students to complete two new mini-book pages about how milkweed plants get the light they need to live and grow. Partners read *Above and Below* with the purpose of identifying examples in the illustrations of plants and animals meeting their needs. The teacher follows this with a Shared Reading of *Above and Below*, with students sharing examples from the text of plants and animals getting what they need. The class records their new findings on the What Living Things Need chart. Included in this lesson is the fourth Critical Juncture Assessment, which provides an opportunity to assess students’ understanding that leaves help plants get the light they need to live and grow. The purpose of this lesson is to solidify students’ understanding of what plants need to live and grow and to shift the focus back to the broader concept that all living things have needs.

**Anchor Phenomenon:** There are no monarch caterpillars in the Mariposa Grove community garden since a vegetable garden was planted.

**Investigative Phenomenon:** Plants need light to help them live.

**Students learn:**

- Animals need to stay safe to live.
Partners read *Above and Below* and use sticky notes to identify instances of plants and animals getting what they need to live.

**Instructional Guide**

1. Revisit what plants need to live and grow.
   - We know that plants have different parts that work together to help the plant live and grow. We have been investigating to figure out what plants need to live and how they use their parts to get what they need. We just wrote down what we figured out in our mini-books.
   - What are some of the things we have learned all plants need to live and grow? [Water. Light.]
   - How do plants get the water they need to live and grow? [They use their roots.]
   - How do plants get the light they need to live and grow? [They use their leaves.]

2. Revisit the What Living Things Need chart.
   - Plants are living things. We used this chart to record what we learned about what plants need to live and grow—water and light.

Point to the *Plants* column on the chart and read aloud the list of things that plants need.

- We know that animals are living things, too. Just like plants, animals also need things to live and grow. When animals grow, they do not get more parts like plants, but they do get bigger. We have learned about some of the things that animals need to live and grow.

Point to the *Animals* column on the chart and ask students to recall the things they figured out that animals need. [Food and water.]
3. Display the *Above and Below* big book and set a purpose for reading.

We know scientists read to learn new things. We are going to read this book today in order to find examples of things that plants and animals need to live and grow. That is our purpose for reading.

Point to and read the title aloud.

*Above and Below.*

Invite students to describe what they observe on the cover.

4. Explain the Partner Reading task.

You are going to work with your partner to find pictures of plants and animals getting what you think they need to live and grow.

You and your partner will each get one sticky note. You can place the sticky note on a picture where you observe a living thing getting what it needs.

5. Revisit the Partner Reading Guidelines. Point to the Partner Reading Guidelines and review as needed. Remind students that these guidelines will help them make sense of the book as they browse through it with their partner.

6. Assign partners. You may choose to keep the same partners as in Activity 1, or you may have students choose to work with new partners. Distribute a copy of *Above and Below* and two sticky notes to each pair. Give students time to look through the book to find different living things getting what they need. Encourage students to talk to their partners about the living things they observe and what their needs might be.

7. Critical Juncture Assessment: Partners place sticky notes in the book. Circulate and ask questions to prompt students to demonstrate their understanding of the importance of leaves and sunlight for plants to get what they need to live and grow.

8. Gather students back together in the discussion area. Have them bring their copies of *Above and Below* with them.
Embedded Formative Assessment

Critical Juncture Assessment 4: Understanding How Plants’ Leaves Help Them Get Light

Assess understanding: The Partner Reading is a final opportunity for you to assess students’ understanding of how plants use leaves to get the light they need. The Chapter 3: Clipboard Assessment Tool is available as a reference for the relevant questions and a place to record notes on students’ responses. While students are reading, circulate and take note of whether students are placing sticky notes on the leaves of plants or on the sun. When you notice a sticky note on leaves, you can ask students *Why are the leaves an example or evidence of a plant getting what it needs?* Students should respond that leaves help plants catch the light they need to live and grow. When you notice a pair of students putting a sticky note on the sun, ask *What part of a plant helps the plant get the sunlight that it needs?* Students should say that a plant’s leaves help it catch sunlight.

If you do not notice pairs putting sticky notes on leaves or the sun, it might be because they are focused on animals or other plant parts. You can prompt them to demonstrate understanding of the purpose of leaves by asking *Where could you put a sticky note to show a plant that it is getting what it needs to live and grow?* or *This plant looks green and healthy. How could it be getting what it needs to live and grow?* When prompted, students should be able to describe that leaves and/or the sun show a plant getting what it needs because leaves are the part that helps plants get the sunlight they need to live and grow.

Tailor instruction: Look over your notes on students’ responses during this Activity, and from the On-the-Fly Assessment from Lesson 3.3. If many of your students are not showing evidence of understanding that plants need light to live and grow and use their leaves to catch that light, we recommend offering additional instruction in Lesson 4.3, Activity 1. (See the Augmenting Instruction: Differentiating in Response to Critical Juncture Assessment 4 note in the Teacher Support tab in that activity for more information.) You can use the milkweed plants cards from Explanation Language Frames Cards: Set 1 (from Lesson 1.6) or plants from the Plant Investigations to review plant parts and how each part helps the plant get what it needs to live and grow. If a smaller number of students are not showing evidence of understanding that plants need light to live and grow, you may work with those students in a small group to provide a more in-depth review of the Do All Plants Need Light Investigation.

Teacher Support

Instructional Suggestion

Literacy Note: Partner Reading
Partner Reading is a way for students to become more independent with their book-handling skills and their reading of words and pictures. This is a good opportunity to review the book-handling skills you have already practiced with your class and to model how partners should pay attention to the pictures. You may want to have students use one of the following routines as they read:

- Partner A discusses the illustration on a page, and then Partner B repeats this process on the next page.
- Discuss each page together.
Background

About the Book: *Above and Below*

*Above and Below* uses engaging cutaway illustrations and repeating text to explore how different plants and animals are meeting their needs above and below the ground. Plants get water from below the ground; some animals stay safe and find food below the ground. Plants get sunlight from above the ground; some animals walk around and find food above the ground. Students first explore this book in pairs, searching the illustrations for plants and animals getting what they need. The class then reads the book as a Shared Reading, focusing on how plants and animals meet their needs in their habitat. Students use what they learn from this book to inform their discussions of monarchs and milkweed.
needs of plants and animals
lesson guides

reading: above and below

the teacher leads a shared reading of *above and below*. partners share examples of plants and animals getting what they need to live.

instructional guide

1. display the *above and below* big book.

you and your partner just read *above and below* to look for plants and animals getting what they need to live and grow. now we will read the book together. as we read, you and your partner can share the places where you put a sticky note to show an example of plants or animals getting what they need.

encourage students to follow along in their books as you read.

2. read *above and below*. pause after reading each two-page spread to invite students to share any plants or animals they found getting what they need to live and grow on those pages. pose the following questions as students share:

- what living thing did you find?
- is that living thing a plant or an animal?
- what is that living thing getting that it needs?
- how is that living thing getting what it needs?

3. debrief the living things and their needs found in the book. note that students met their purpose for reading and found in the book many things that plants and animals need. briefly summarize the living things and their needs that students described.

4. turn to page 9 and reread the text. emphasize that animals need to stay safe from things such as weather and other animals.

- many animals dig holes to stay safe below the ground.

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5. Turn to page 11 and discuss how living things change the places where they live. Review the animals below the ground. Invite students to visualize or act out being an ant, a mole, or an earthworm to move the soil and rocks to make a tunnel below ground. Point out that animals are moving the soil when they are digging to create a safe place.

Sometimes animals and plants change the place where they live. When animals dig a hole to stay safe or to find food, they are changing the ground.

Point to the tree and flower, illustrated on the right side of page 11.

When plants get water with their roots, they can change the place where they live, too. Some plants, like trees, have very large roots. Those roots can move the soil and push rocks out of their way—sometimes you can see bumps or cracks above the ground where tree roots grow. Other plants with smaller roots do not make changes that you can see above the ground.

6. Revisit the What Living Things Need chart. Point to the chart.

We have been using this chart to record what we learn about the things that living things need to live and grow.

Point to the Animals and Plants columns and read the entries in each column aloud. Encourage students to read along with you by pointing out the pictures.

From this book, we learned some new things that animals need that we can add to the chart. We can add “stay safe” to the Animals section of our chart to help us remember that animals need to stay safe to live and grow.

Write “stay safe” in the Animals column on the chart and draw a small picture to represent staying safe. Add any other appropriate needs to the chart according to students’ suggestions, such as “air to breathe.”

7. Conclude the lesson and collect the copies of Above and Below. Let students know that in the next few lessons, they will use what they have learned about what plants and animals need so they can think about how all living things can get what they need to live and grow.

Teacher Support

Instructional Suggestion

Science Note: Survival Needs

The scope of this unit is intentionally limited to what plants need for survival (e.g., water and light) and what animals need for survival (e.g., food, water, and protection, which is listed on the What Living Things Need chart as “stay safe”). Based on their own experiences, students might suggest other needs, such as “to breathe air” or “to stay warm.” These are fine to add to the list. However, avoid adding social needs, like family, love, or education. If students bring these up, let them know that these are important things that humans need, but they are not necessary for survival.
Assessment

Assessment Opportunities: Assessing Students’ Understanding That Plants and Animals Can Change Their Environment

This activity can be used to assess whether or not students understand that plants and animals can change their environment. If you would like to assess students’ understanding of this idea, consider adding to your discussion in Step 5. After describing the examples on page 11 of *Above an Below*, you can invite students to look at pages 12 and 13 and identify examples of animals and plants changing the environment. [Worms and roots are changing the ground by moving through it. The farmer is changing the soil with his tractor.] If students have difficulty with this idea, you can choose an example and guide them in describing what the animal is doing and how it is changing the environment. Then you can invite students to find and describe additional examples on page 14. [The worm and the bug are making holes in the ground. The person is changing the top of the soil with their hands.]
Previewing Above and Below

Partners read *Above and Below* and use sticky notes to identify instances of plants and animals getting what they need to live.

**Instructional Guide**

1. Revisit what plants need to live and grow.

   - Sabemos que las plantas tienen diferentes partes que trabajan juntas para ayudar a la planta a vivir y crecer. Hemos estado investigando para averiguar lo que necesitan las plantas para vivir y cómo usan sus partes para obtener lo que necesitan. Acabamos de escribir lo que averiguamos en nuestros minilibros.

   - ¿Cuáles son algunas de las cosas que hemos aprendido que todas las plantas necesitan para vivir y crecer? [Agua. Luz].

   - ¿Cómo obtienen las plantas el agua que necesitan para vivir y crecer? [Usan sus raíces].

   - ¿Cómo obtienen las plantas la luz que necesitan para vivir y crecer? [Usan sus hojas].

2. Revisit the What Living Things Need chart.

   - Las plantas son seres vivientes. Usamos esta gráfica para apuntar lo que aprendimos sobre lo que necesitan las plantas para vivir y crecer: agua y luz.

   - Sabemos que los animales también son seres vivientes. Tal como las plantas, los animales también necesitan cosas para vivir y crecer. Cuando los animales crecen, no obtienen más partes como las plantas, pero sí se hacen más grandes. Hemos aprendido acerca de algunas de las cosas que los animales necesitan para vivir y crecer.

   - Point to the *Plants* column on the chart and read aloud the list of things that plants need. [Food and water.]
3. Display the *Above and Below* big book and set a purpose for reading.

Point to and read the title aloud.

*Arriba y abajo.*

Invite students to describe what they observe on the cover.

4. Explain the Partner Reading task.

Van a trabajar en parejas para encontrar imágenes de plantas y animales obteniendo lo que ustedes piensan que ellos necesitan para vivir y crecer.

Cada estudiante recibirá una nota adhesiva. Pueden colocar la nota adhesiva sobre una imagen donde observen un ser viviente obteniendo lo que necesita.

5. Revisit the Partner Reading Guidelines. Point to the Partner Reading Guidelines and review as needed. Remind students that these guidelines will help them make sense of the book as they browse through it with their partner.

6. Assign partners. You may choose to keep the same partners as in Activity 1, or you may have students choose to work with new partners. Distribute a copy of *Above and Below* and two sticky notes to each pair. Give students time to look through the book to find different living things getting what they need. Encourage students to talk to their partners about the living things they observe and what their needs might be.

7. Critical Juncture Assessment: Partners place sticky notes in the book. Circulate and ask questions to prompt students to demonstrate their understanding of the importance of leaves and sunlight for plants to get what they need to live and grow.

8. Gather students back together in the discussion area. Have them bring their copies of *Above and Below* with them.
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If you do not notice pairs putting sticky notes on leaves or the sun, it might be because they are focused on animals or other plant parts. You can prompt them to demonstrate understanding of the purpose of leaves by asking Where could you put a sticky note to show a plant that it is getting what it needs to live and grow? or This plant looks green and healthy. How could it be getting what it needs to live and grow? When prompted, students should be able to describe that leaves and/or the sun show a plant getting what it needs because leaves are the part that helps plants get the sunlight they need to live and grow.

Tailor instruction: Look over your notes on students’ responses during this Activity, and from the On-the-Fly Assessment from Lesson 3.3. If many of your students are not showing evidence of understanding that plants need light to live and grow and use their leaves to catch that light, we recommend offering additional instruction in Lesson 4.3, Activity 1. (See the Augmenting Instruction: Differentiating in Response to Critical Juncture Assessment 4 note in the Teacher Support tab in that activity for more information.) You can use the milkweed plants cards from Explanation Language Frames Cards: Set 1 (from Lesson 1.6) or plants from the Plant Investigations to review plant parts and how each part helps the plant get what it needs to live and grow. If a smaller number of students are not showing evidence of understanding that plants need light to live and grow, you may work with those students in a small group to provide a more in-depth review of the Do All Plants Need Light Investigation.

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- Partner A discusses the illustration on a page, and then Partner B repeats this process on the next page.
- Discuss each page together.
Background

About the Book: Above and Below

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Reading: Above and Below

The teacher leads a Shared Reading of *Above and Below*. Partners share examples of plants and animals getting what they need to live.

**Instructional Guide**

1. **Display the *Above and Below* big book.**

   Acaban de leer *Arriba y abajo* para buscar plantas y animales obteniendo lo que necesitan para vivir y crecer. Ahora leeremos el libro juntos. Mientras leemos, pueden compartir los lugares donde pusieron una nota adhesiva para mostrar un ejemplo de plantas o animales obteniendo lo que necesitan.

   Encourage students to follow along in their books as you read.

2. **Read *Above and Below*.** Pause after reading each two-page spread to invite students to share any plants or animals they found getting what they need to live and grow on those pages. Pose the following questions as students share:

   - ¿Qué ser viviente encontraron?
   - ¿Ese ser viviente es una planta o un animal?
   - ¿Qué está obteniendo ese ser viviente que necesita?
   - ¿Cómo está obteniendo ese ser viviente lo que necesita?

3. **Debrief the living things and their needs found in the book.** Note that students met their purpose for reading and found in the book many things that plants and animals need. Briefly summarize the living things and their needs that students described.

4. **Turn to page 9 and reread the text.** Emphasize that animals need to stay safe from things such as weather and other animals.

   - Muchos animales cavan agujeros para mantenerse seguros bajo la tierra.
5. Turn to page 11 and discuss how living things change the places where they live. Review the animals below the ground. Invite students to visualize or act out being an ant, a mole, or an earthworm to move the soil and rocks to make a tunnel below ground. Point out that animals are moving the soil when they are digging to create a safe place.

A veces los animales y las plantas cambian el lugar donde viven. Cuando los animales cavan un agujero para mantenerse seguros o encontrar comida, están cambiando la tierra.

Point to the tree and flower, illustrated on the right side of page 11.

Cuando las plantas obtienen agua con sus raíces, también pueden cambiar el lugar donde viven. Algunas plantas, como los árboles, tienen raíces muy grandes. Esas raíces pueden mover el suelo y empujar las rocas. A veces se pueden ver bultos o grietas arriba de la tierra donde crecen las raíces de árboles. Otras plantas con raíces más pequeñas no hacen cambios que se pueden ver sobre la tierra.

6. Revisit the What Living Things Need chart. Point to the chart.

Hemos estado usando esta gráfica para apuntar lo que aprendamos sobre lo que necesitan los seres vivientes para vivir y crecer.

Point to the Animals and Plants columns and read the entries in each column aloud. Encourage students to read along with you by pointing out the pictures.

De este libro, aprendimos algunas cosas nuevas que los animales necesitan que podemos agregar a la gráfica. Podemos agregar “mantenerse seguros” a la sección Animales de nuestra gráfica para ayudarnos a recordar que los animales necesitan mantenerse seguros para vivir y crecer.

Write “stay safe” in the Animals column on the chart and draw a small picture to represent staying safe. Add any other appropriate needs to the chart according to students’ suggestions, such as “air to breathe.”

7. Conclude the lesson and collect the copies of Above and Below. Let students know that in the next few lessons, they will use what they have learned about what plants and animals need so they can think about how all living things can get what they need to live and grow.

Teacher Support

Instructional Suggestion

Science Note: Survival Needs

The scope of this unit is intentionally limited to what plants need for survival (e.g., water and light) and what animals need for survival (e.g., food, water, and protection, which is listed on the What Living Things Need chart as “stay safe”). Based on their own experiences, students might suggest other needs, such as “to breathe air” or “to stay warm.” These are fine to add to the list. However, avoid adding social needs, like family, love, or education. If students bring these up, let them know that these are important things that humans need, but they are not necessary for survival.