Lesson 3.4
Diagramming a System
Lesson Overview

In this lesson, the class creates diagrams to illustrate the relationships among plants and animals within a particular habitat. Students reread a section of Habitat Scientist and use information from the book to help the teacher complete a diagram of the mountain habitat depicted in the book. Partners revisit the “Broadleaf Forest in India” section of Handbook of Habitats and record the different plants and animals that live in this habitat in their notebooks. Using this recorded information, students create diagrams of the broadleaf forest habitat and complete sentences to describe the relationships among plants and animals in this habitat. The purpose of this lesson is for students to begin to develop an understanding that plants and animals within a habitat depend on each other to get what they need and that animals help seeds get to new places in their habitat.

Anchor phenomenon: No new chalta trees are growing in the Bengal Tiger Reserve in India.
Investigative phenomenon: Plants and animals in a Broadleaf Forest Habitat get what they need.

Students learn:

- Scientists create diagrams to show how something works or what its parts are.
- Some plants and animals in a habitat depend on each other to get what they need to live and grow.
Parts of the Broadleaf Forest Habitat

Partners read the “Broadleaf Forest in India” section of *Handbook of Habitats*. Students record the different parts of this habitat.

Instructional Guide

1. Revisit the broadleaf forest habitat.

Remember that we are working as plant scientists to figure out what is happening with the chalta trees in the Bengal Tiger Reserve. Let’s use a diagram of that habitat to better understand how the plants and animals in the Bengal Tiger Reserve depend on each other.

2. Project Broadleaf Forest Habitat.
The broadleaf forest habitat is a system with many parts. What are some parts of the broadleaf forest habitat that we have learned about?
[Chalta trees, fig trees, red silk trees, and sal trees.]


We can use *Handbook of Habitats* to find out how the plants and animals in the Broadleaf Forest habitat depend on each other.

Write, “Find out how the plants and animals in the broadleaf forest habitat depend on each other.” in the Reading column of the Setting a Purpose chart.

4. Project notebook page 48. Have students turn to page 48, Identifying the Parts of the Broadleaf Forest Habitat, in the Investigation Notebook. Read aloud the directions.

To understand how plants and animals depend on each other, we first need to know the parts of the habitat. We will start by reading the “Broadleaf Forest in India” section of *Handbook of Habitats* and listing all the parts of the Broadleaf Forest habitat.

5. Introduce the Parts of the Broadleaf Forest Habitat chart. Point out that the table is the same as the one in their notebooks.

6. Complete the “Plants” column of the Broadleaf Forest Habitat chart.

We have already learned about some of the plants that live in the Broadleaf Forest habitat.

Fill in the “Plants” column of this table with the responses students shared in Step 1, and have students complete that column in their notebooks at the same time. Write, “Chalta tree, fig tree, red silk tree, sal tree.”

Point to the “Animals” and “Other Important Parts” columns of the table. Let students know that they will complete the rest of the table in their notebooks while they read.

7. Distribute *Handbook of Habitats*. Provide one copy to each pair of students. If needed, revisit the Table of Contents and model how to find the page number for the “Broadleaf Forest in India” section.

8. Students read and complete the notebook page. Give pairs time to read the “Broadleaf Forest in India” section of *Handbook of Habitats* and to complete the table on page 48 in their notebooks. Circulate and provide support as needed.

9. Complete the Parts of the Broadleaf Forest Habitat chart. Invite students to share any additional plants, animals, or other important parts of the broadleaf forest habitat that they found while reading. Record their responses on the chart. Invite students to share any plant-animal relationships they learned about while reading.
Teacher Support

Instructional Suggestion

Materials Note: Multiple Books
This lesson requires students to read sections of two different books: Habitat Scientist and Handbook of Habitats. To manage these materials, you might consider identifying a particular place in the classroom to store each book and identifying student helpers at the start of class who will help distribute and collect these books at the appropriate time in the lesson.

Rationale

Literacy Note: Using the Reference Book
Students have now been exploring the Bengal Tiger Reserve, the fictional context for the unit, for multiple chapters. Using the reference book to diagram the parts of this habitat helps students to develop a deeper understanding of this particular habitat and of how the parts within it work together to get what they need to grow and live.

Possible Responses

Investigation Notebook
Identifying the Parts of the Broadleaf Forest Habitat (page 48)

Plants:
- Chalta tree
- Fig tree
- Red Silk tree
- Sal tree

Animals:
- Tiger
- Gaur
- Elephant
- Hornbill
- Jungle crow
• Wasp
• Monkey
• Deer
• Birds
• Insects

Other important parts:
• Sunlight
• Rain
• Wind
Identifying the Parts of the Broadleaf Forest Habitat

Directions:
1. Read pages 16–21, the "Broadleaf Forest in India" section, in Handbook of Habitats.
2. In the table below, list the different parts of the broadleaf forest habitat.

<table>
<thead>
<tr>
<th>Plants</th>
<th>Animals</th>
<th>Other important parts</th>
</tr>
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Parts of the Broadleaf Forest Habitat

Partners read the “Broadleaf Forest in India” section of *Handbook of Habitats*. Students record the different parts of this habitat.

**Instructional Guide**

1. Revisit the broadleaf forest habitat.

   Recuerden que estamos trabajando como científicos y científicas de plantas para averiguar qué les está sucediendo a los árboles de chalta en la Reserva Tigre de Bengala. Usemos un diagrama de ese hábitat para entender mejor cómo dependen unos de otros las plantas y los animales en la Reserva Tigre de Bengala.

2. Project Broadleaf Forest Habitat.

   Hábitat del bosque de hoja ancha
Un hábitat del bosque de hoja ancha es un sistema con muchas partes. ¿Cuáles son algunas partes del hábitat del bosque de hoja ancha sobre las que hemos aprendido? [Árboles de chalta, banianos, algodoneros rojos y shalas].


Podemos usar el *Manual de hábitats* para descubrir cómo dependen unos de otros las plantas y los animales en el hábitat del bosque de hoja ancha.

Write, “Find out how the plants and animals in the broadleaf forest habitat depend on each other.” in the Reading column of the Setting a Purpose chart.

4. Project notebook page 48. Have students turn to page 48, Identifying the Parts of the Broadleaf Forest Habitat, in the Investigation Notebook. Read aloud the directions.

Para entender cómo las plantas y los animales dependen unos de otros, primero necesitamos conocer las partes de un hábitat. Comenzaremos por leer la sección “Bosque de hoja ancha en India” del *Manual de hábitats* y enumerar todas las partes del hábitat del bosque de hoja ancha.

5. Introduce the Parts of the Broadleaf Forest Habitat chart. Point out that the table is the same as the one in their notebooks.

6. Complete the “Plants” column of the Broadleaf Forest Habitat chart.

Ya hemos aprendido acerca de algunas de las plantas que viven en el hábitat del bosque de hoja ancha.

Fill in the “Plants” column of this table with the responses students shared in Step 1, and have students complete that column in their notebooks at the same time. Write, “Chalta tree, fig tree, red silk tree, sal tree.”

Point to the “Animals” and “Other Important Parts” columns of the table. Let students know that they will complete the rest of the table in their notebooks while they read.

7. Distribute *Handbook of Habitats*. Provide one copy to each pair of students. If needed, revisit the Table of Contents and model how to find the page number for the “Broadleaf Forest in India” section.

8. Students read and complete the notebook page. Give pairs time to read the “Broadleaf Forest in India” section of *Handbook of Habitats* and to complete the table on page 48 in their notebooks. Circulate and provide support as needed.

9. Complete the Parts of the Broadleaf Forest Habitat chart. Invite students to share any additional plants, animals, or other important parts of the broadleaf forest habitat that they found while reading. Record their responses on the chart. Invite students to share any plant-animal relationships they learned about while reading.
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Investigation Notebook
*Identifying the Parts of the Broadleaf Forest Habitat* (page 48)

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Animals:

- Tiger
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- Elephant
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- Jungle crow
Other important parts:

- Wasp
- Monkey
- Deer
- Birds
- Insects
- Sunlight
- Rain
- Wind
Identificar las partes del hábitat del bosque de hoja ancha

Instrucciones:
1. Lee las páginas 16 a 21, la sección titulada “Bosque de hoja ancha en India” en el Manual de hábitats.
2. En la tabla debajo, enumera las diferentes partes del hábitat del bosque de hoja ancha.

<table>
<thead>
<tr>
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