Lesson 1.4
Discovering the Problem in the Reserve
Lesson Overview

In this lesson, students develop an understanding that different kinds of plants live in different habitats. Students compare maps of the Bengal Tiger Reserve sample study site from 1995 and 2015. They discover that although various new trees have grown during that time period, no new chalta trees have grown, which leads to the question, Why aren’t new chalta trees growing in the Bengal Tiger Reserve? Students use the reference book to learn more about the different kinds of plants that live in the broadleaf forest habitat. They also read and write about the different kinds of plants in another habitat of their choosing. Finally, the class discusses two key concepts to reinforce how scientists study habitats and habitat diversity. The purpose of this lesson is for students to discover and begin to investigate the central problem that frames their investigation throughout the unit: New chalta trees are not growing in the Bengal Tiger Reserve.

Anchor phenomenon: No new chalta trees are growing in the Bengal Tiger Reserve in India.

Students learn:

- One way scientists study habitats is by observing the plants in them over time.
- There are many types of habitats. Each habitat has many different kinds of plants and animals.
Partners use the reference book to read about plants and animals that live in a Broadleaf Forest Habitat.

### Instructional Guide

1. Review that the Bengal Tiger Reserve is in a broadleaf forest.

   We have been counting and comparing different types of trees that live in the Bengal Tiger Reserve. Remember that the Bengal Tiger Reserve is part of a broadleaf forest habitat.

2. Hold up *Handbook of Habitats*.

   We’ve learned that this reference book has information about different types of habitats around the world, and about the plants and animals that live in these different habitats.

3. Set purpose for reading.

   We have observed how trees have changed or stayed the same over time in the sample study site at the Bengal Tiger Reserve. Next, let’s read to find out more about these plants that live in broadleaf forest habitats like the one at the Bengal Tiger Reserve.

   Write “Find out more about the plants that live in a broadleaf forest habitat” in the Reading column of the Setting a Purpose chart.

4. Distribute books. Distribute one copy of *Handbook of Habitats* to each pair of students.

5. Turn to the Contents and find “Broadleaf Forest.” Point out the “Broadleaf Forest” heading on the contents page and have students turn to this section on page 16.

6. Students read pages about the broadleaf forest habitat. Instruct students to read pages 16–19 with their partners.
7. Have students reflect on plants in the broadleaf forest.

What kinds of plants did you observe?
[Chalta trees, fig trees, red silk trees, and sal trees.]

Point out that the plants they just read about are the same as the ones on the Bengal Tiger Reserve Sample Study Maps.

Teacher Support

Instructional Suggestion

Providing More Experience: Setting a Purpose for Reading
This is students’ second opportunity to use the strategy of setting a purpose for reading. At this point in the unit, students are still getting comfortable with the strategy, so the purpose is set by the teacher. This continued teacher modeling will help prepare students to use the strategy more independently later in the unit when they will select their own purpose for reading.
Partners use the reference book to read and write about the plants and animals that live in another habitat on Earth.

Instructional Guide

1. Set a purpose for investigating a different habitat.

*Handbook of Habitats* also has information about other habitats on Earth. We can use this book to study the plants and animals in these other habitats too.

Let’s learn more about the plants and animals that live in another habitat and see if they are the same or different from the plants and animals in the broadleaf forest.

2. Project notebook page 10. Have students turn to page 10, Investigating a Different Habitat, in their notebooks. Read the directions aloud. Let students know they do not have to read the section of the habitat they choose completely, but should flip through the section to understand what plants and animals live there.

3. Have students turn to the contents page. Read the names of the different habitats listed on the contents page. Let students know they can choose any habitat from this list (other than the broadleaf forest) to explore with their partners.

4. Have students complete the notebook page. Give students several minutes to complete this task. Circulate as students work.
5. **Introduce the discussion question.** Project the discussion question and read it aloud. Have students discuss the question with their partners. Encourage students to look at other sections in *Handbook of Habitats* as they talk about the discussion question.

**Discussion Question**

*Are the plants and animals the same in every habitat? Why do you think so?*

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6. **On-the-Fly Assessment: Partners discuss.** As students discuss, circulate and listen for whether they notice differences and similarities among different habitats.

7. **Reflect on habitat diversity on land and in water.** Invite volunteers to share the habitat they selected and what they learned about the different plants that live in that habitat.

  Are the plants and animals the same in every habitat? How do you know?
  
  [No, there are different kinds of plants and animals in different habitats. I know because I read about the plants and animals in different habitats in the reference book.]

Have students turn to page 22 in *Handbook of Habitats*.

Are the plants and animals the same in every habitat? How do you know?

The Everglades Wetlands in Florida are where land and water meet. Some habitats, like the broadleaf forest, are on land, and others are in water. Can you think of any other animals that live in water?

Accept all responses.

The plants and animals in the Everglades habitat and in other water habitats are very different from the plants and animals we saw living in the broadleaf forest and the other habitats that you just investigated.

Have students turn to page 26 and point out the manatee.

Some animals live on land, and others, such as the West Indian manatees, live in the water.

8. **Post the new key concept on the classroom wall and read it aloud.**
We’ve learned about different habitats and their different plants and animals. This is another important idea that we will keep using. We will remember it by making it one of our key concepts: *There are many types of habitats. Each habitat has many different types of plants and animals.*

9. **Collect books and conclude the lesson.** Let students know that they will think more about the plants in the Bengal Tiger Reserve in the next lesson, and will start to investigate where new plants come from.

**Embedded Formative Assessment**

**On-the-Fly Assessment 2: Habitat Diversity**

**Look for:** As students talk with their partner about the discussion question, circulate and listen for how they are making sense of habitat diversity. Do students notice that different habitats have different plants and animals?

**Now what?** If students have trouble noticing the differences among different habitats, give them a few additional minutes to flip through *Handbook of Habitats*. Ask them to consider how the plants and animals in the habitat they chose are different from the plants and animals in other habitats. Have pairs discuss what they notice about the range of plants and animals in different habitats. Encourage students to notice specific features of different plants and animals, such as their color, size, and shape.

**Teacher Support**

**Rationale**

**Literacy Note: Modeling Writing**
Throughout the unit, students have the opportunity to observe as you model writing and to assist you in Shared Writing activities before they are asked to write independently. This gradual release of responsibility is intended to support beginning writers in learning concepts of words, concepts of print, and writing conventions. Modeling how to use resources while you write, such as referring to the reference book, helps students see how they can use these resources to write more independently. Some students may need additional scaffolding, such as resources at their table, a friend or teacher to scribe for them, or suggestions to write in a native language other than English.

**Rationale**

**Pedagogical Goals: Student Choice**
Giving students a choice of which habitat to read about gives them ownership of their ideas, motivating them to expand their understanding of habitat diversity, and it allows different student pairs to contribute new knowledge during the whole-class discussion. It also gives students the opportunity to hear about many different habitats during the whole class discussion, further supporting their understanding that there are many plants within a single habitat, and there are different plants in different habitats.
Investigating a Different Habitat

Directions:
1. With your partner, choose another habitat section in Handbook of Habitats.
2. Write the name of the habitat you chose.
3. With your partner, look through the section that you chose.
4. List three plants and three animals in that habitat.

Name of the habitat I chose: _________________________________________

Some of the plants in that habitat:
• ________________________________________________________________
• ________________________________________________________________
• ________________________________________________________________

Some of the animals in that habitat:
• ________________________________________________________________
• ________________________________________________________________
• ________________________________________________________________
Partners use the reference book to read about plants and animals that live in a Broadleaf Forest Habitat.

**Instructional Guide**

1. **Review that the Bengal Tiger Reserve is in a broadleaf forest.**

   Hemos estado contando y comparando diferentes tipos de árboles que viven en la Reserva Tigre de Bengala. Recuerden que la Reserva Tigre de Bengala forma parte del hábitat del bosque de hoja ancha.

2. **Hold up Handbook of Habitats.**

   Hemos aprendido que este libro de referencia tiene información sobre diferentes tipos de hábitats alrededor del mundo, y acerca de las plantas y los animales que viven en estos hábitats diferentes.

3. **Set purpose for reading.**

   Hemos observado cómo los árboles han cambiado o permanecido igual a través del tiempo en el sitio de estudio de muestras en la Reserva Tigre de Bengala. A continuación, leamos para averiguar más sobre estas plantas que viven en hábitats del bosque de hoja ancha como el de la Reserva Tigre de Bengala.

   Write “Find out more about the plants that live in a broadleaf forest habitat” in the Reading column of the Setting a Purpose chart.

4. **Distribute books.** Distribute one copy of Handbook of Habitats to each pair of students.

5. **Turn to the Contents and find “Broadleaf Forest.”** Point out the “Broadleaf Forest” heading on the contents page and have students turn to this section on page 16.

6. **Students read pages about the broadleaf forest habitat.** Instruct students to read pages 16–19 with their partners.
7. Have students reflect on plants in the broadleaf forest.

¿Qué tipos de plantas observaron?
[Arboles de chalta, bananos, algodoneros rojos y shalas].

Point out that the plants they just read about are the same as the ones on the Bengal Tiger Reserve Sample Study Maps.

Teacher Support

Instructional Suggestion

Providing More Experience: Setting a Purpose for Reading
This is students’ second opportunity to use the strategy of setting a purpose for reading. At this point in the unit, students are still getting comfortable with the strategy, so the purpose is set by the teacher. This continued teacher modeling will help prepare students to use the strategy more independently later in the unit when they will select their own purpose for reading.
Partners use the reference book to read and write about the plants and animals that live in another habitat on Earth.

**Instructional Guide**

1. **Set a purpose for investigating a different habitat.**

   El *Manual de hábitats* también tiene información acerca de otros hábitats sobre la Tierra. También podemos usar este libro para estudiar las plantas y los animales en estos otros hábitats.

   Aprendamos más acerca de las plantas y los animales que viven en otro hábitat y veamos si son iguales o diferentes a las plantas y los animales en el bosque de hoja ancha.

2. **Project notebook page 10.** Have students turn to page 10, Investigating a Different Habitat, in their notebooks. Read the directions aloud. Let students know they do not have to read the section of the habitat they choose completely, but should flip through the section to understand what plants and animals live there.

3. **Have students turn to the contents page.** Read the names of the different habitats listed on the contents page. Let students know they can choose any habitat from this list (other than the broadleaf forest) to explore with their partners.

4. **Have students complete the notebook page.** Give students several minutes to complete this task. Circulate as students work.
5. **Introduce the discussion question.** Project the discussion question and read it aloud. Have students discuss the question with their partners. Encourage students to look at other sections in *Handbook of Habitats* as they talk about the discussion question.

**Pregunta de discusión**

¿Las plantas y los animales son iguales en todos los hábitats? ¿Por qué piensan eso?

6. **On-the-Fly Assessment: Partners discuss.** As students discuss, circulate and listen for whether they notice differences and similarities among different habitats.

7. **Reflect on habitat diversity on land and in water.** Invite volunteers to share the habitat they selected and what they learned about the different plants that live in that habitat.

¿Las plantas y los animales son iguales en todos los hábitats? ¿Cómo lo saben?  
[No, hay diferentes tipos de plantas y animales en diferentes hábitats. Sé esto porque leí sobre las plantas y los animales en diferentes hábitats en el libro de referencia].

Have students turn to page 22 in *Handbook of Habitats*.

Los humedales de los Everglades en Florida son donde se juntan la tierra y el agua. Algunos hábitats, como el bosque de hoja ancha, están en tierra, y otros en agua. ¿Se les ocurren algunos otros animales que vivan en el agua?

Accept all responses.

Las plantas y los animales en el hábitat de los Everglades y en otros hábitats del agua son muy diferentes a las plantas y los animales que vimos viviendo en el bosque de hoja ancha y en otros hábitats que acaban de investigar.

Have students turn to page 26 and point out the manatee.

Algunos animales viven en la tierra, y otros, como los manatíes antillanos, viven en el agua.
8. Post the new key concept on the classroom wall and read it aloud.

Hemos aprendido acerca de diferentes hábitats y sus diferentes plantas y animales. Esa es otra idea importante que continuaremos usando. La recordaremos haciéndola uno de nuestros conceptos clave: *Hay muchos tipos de hábitats. Cada hábitat tiene muchos tipos diferentes de plantas y animales.*

9. Collect books and conclude the lesson. Let students know that they will think more about the plants in the Bengal Tiger Reserve in the next lesson, and will start to investigate where new plants come from.

**Embedded Formative Assessment**

**On-the-Fly Assessment 2: Habitat Diversity**

**Look for:** As students talk with their partner about the discussion question, circulate and listen for how they are making sense of habitat diversity. Do students notice that different habitats have different plants and animals?

**Now what?** If students have trouble noticing the differences among different habitats, give them a few additional minutes to flip through *Handbook of Habitats.* Ask them to consider how the plants and animals in the habitat they chose are different from the plants and animals in other habitats. Have pairs discuss what they notice about the range of plants and animals in different habitats. Encourage students to notice specific features of different plants and animals, such as their color, size, and shape.

**Teacher Support**

**Rationale**

**Literacy Note: Modeling Writing**
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**Pedagogical Goals: Student Choice**
Giving students a choice of which habitat to read about gives them ownership of their ideas, motivating them to expand their understanding of habitat diversity, and it allows different student pairs to contribute new knowledge during the whole-class discussion. It also gives students the opportunity to hear about many different habitats during the whole class discussion, further supporting their understanding that there are many plants within a single habitat, and there are different plants in different habitats.
Nombre: ____________________________________  Fecha: ________________

Investigar un hábitat diferente

Instrucciones:
1. Con tu compañero o compañera, elige otra sección de hábitat en el Manual de hábitats.
2. Escribe el nombre del hábitat que elegiste.
3. Repasa la sección que elegiste con tu compañero o compañera.

Nombre del hábitat que elegí: ____________________________________________

Algunas de las plantas en ese hábitat:

- ________________________________________________________________
- ________________________________________________________________
- ________________________________________________________________

Algunos de los animales en ese hábitat:

- ________________________________________________________________
- ________________________________________________________________
- ________________________________________________________________