

Grade 3rd	<p align="center"><b>Lesson:</b> <b>Habitat: Small Environment-1</b></p>	<p align="right">Reference to English Interconnections Lesson <b>Habitat: Small Environments</b> pg. 42</p>
<p><b>Science Standard(s): Standard 2.2</b> Interrelationships: Communities and their Environments</p>		
<p><b>Content Objective(s):</b></p>	<p><b>Language Objective(s):</b></p>	
<p>Students will identify living and non-living thing in a small environment and predict the effects of changes in the environment (e.g., temperature, light, moisture) on a living organism.</p> <p><i>I can tell if an object is a living or non-living thing to my partner. I can tell how changes in the environment can affect living things.</i></p>	<p>Students will verbally identify living or non-living things in a group or with a partner. Students will combine parts of “If... then...” statements to create a true statement about how changes in the environment affect living things.</p> <p><i>I can tell if an object is a living or non-living thing in a full sentence to my partner. I can combine phrases to make a true “If... then...” statement to predict the changes in the habitat with a group.</i></p>	
<p><b>Essential Questions:</b> How do living and non-living things adapt as the size of their environment grows?</p>	<p><b>Academic Vocabulary:</b>  <b>Listen:</b> environment, habitat, living, nonliving, organism, survive  <b>Speak:</b> Environment, living, non-living thing, survive,  <b>Read:</b> living things, non-living things, habitat  <b>Write:</b> Combine parts and copy “If...then...” statements from board.</p>	
<p><b>Materials:</b></p> <ul style="list-style-type: none"> <li>• Living and non-living things pictures (videos, real creatures) from woodland, desert, pond, rainforest.</li> <li>• 3 pictures of ponds</li> <li>• 3 pictures of desert</li> <li>• 3 pictures of woodland</li> <li>• 3 pictures of rainforest</li> <li>• Books, posters, or websites on ponds, desert, woodland, and rainforest.</li> <li>• Habitat Presentation Sheet (in Interconnections Manual)</li> <li>• “If...then” phrases written on a board, screen, or sheet for students to combine to make predictions.</li> <li>• Pictures to go with the “If...then” phrases to support comprehension</li> <li>• White boards &amp; markers (or sheet protectors and markers)</li> </ul>	<p><b>Additional Lesson Vocabulary:</b> observe, soil, air, water, plants, animals, rocks, trees, light, woodland, desert, pond, rainforest</p> <p><b>Sentence Frames:</b>  I see_____.  If___ then____.  If there is___ (too much light, too little light, too much water, too little water, too much heat, too little heat), then___ (the plants will wilt,</p>	
<p><b>Lesson:</b></p>	<p><b>Instructional Time:</b></p>	
<p><b>Opening: (3 minutes)</b></p> <p><b>T: “Remember that we studied about habitats in 2<sup>nd</sup> grade. You learned that a habitat is an environment in which an animal lives that provides all that the animal needs.”</b></p> <ul style="list-style-type: none"> <li>• Put up a picture of an environment and the word “Environment” on the board.</li> </ul> <p><b>T: “We also learned about living and non-living things recently.”</b></p> <ul style="list-style-type: none"> <li>• Put up the word cards for “living” and “non-living”</li> </ul> <p><b>T: “Let’s review living and non-living by looking at a picture of the rainforest.”</b></p> <ul style="list-style-type: none"> <li>• Show a picture or video of the rainforest. Make sure that animals, plants, and other main features are labeled to give support to the language activities.</li> </ul> <p><b>T: “I see a tree. A tree is a living thing. What else do you see? Can you tell your partner what <u>living</u> things you see in the picture/video?”</b></p> <p><i>S: “What living things did you see?” “I see...”(plant, tree, bird, animal, etc. They will probably not know many specific names, but should know general categories.)</i></p> <p><b>T: “Now let’s find the non-living things. I see some dirt. Dirt is a non-living thing. Tell your partner what <u>non-living</u> things you see in the picture/video?”</b></p>		

S: "What non-living things did you see?" "I see..." (sun, water, soil or dirt, rocks, etc.)

### **Introduction to New Material (Direct Instruction): ( 20 minutes)**

T: "You are going to research one of three types of habitats to do three things:

1. Identify what living and non-living things are in them.
2. Identify what your habitat needs.
3. Make some predictions of what would happen if you made changes to your environment."

- Show the habitat presentation sheet to help them to see what information they will need to find.

T: "I will place you in groups of 3-5 and assign you a habitat to study. Some of the groups may have the same topic. That will be okay because they may find out different things."

T: "The reason you will research these habitats is so you will know what is needed to make a small version of the habitat. After our research we are going to make a terrarium or aquarium and observe them."

T: "The three habitats are ponds, deserts, and woodlands (or forests). I will show you an example of what you will do using a rainforest habitat. Next time, you will follow the same steps to learn about your habitat."

### **Guided Practice: ( minutes)**

- Use a book, internet page, or poster about rainforests or another habitat to guide the students through the process of filling out the habitat sheet. Make sure you have information on living and non-living things, what things the habitat needs to sustain itself, and information that will help the students make predictions about changes in amount of water, light, temperature, etc. If appropriate level texts are not available for student use, teachers should write simple descriptions of each habitat that are accompanied by clear, concise pictures.

T: "Last year you learned about the rainforest. (2<sup>nd</sup> Grade Interconnections pg 132 Navigating Habitats Around the World) Here we have a book on rainforests. Our first task is to identify the living and non-living things in the environment. Let's see if our book has a section about living and non-living things in the environment. Remember we can look in the table of contents or in the index to help us find things in a non-fiction book. (Using the table of contents or index is an important informational text skill the students need to know.)

- Find the section with the information about living and non-living things and read it to the class.

T: "Now, let's make a list on a t-chart like your paper. Turn to your neighbor and see how many living things you can name together. Be ready to tell me everything you two thought of."

S: *Students tell each other what living things are in a rainforest such as chameleon, snakes, birds, monkeys, trees, plants, ants, toucans, etc.*

T: Call on a pair and ask them "What did you two think of?"

- If they only name animals, prompt them to name plants and trees that are also living things.
- Write the living things on the t-chart.

T: "Good. Now we need to name the non-living things in a rainforest. Turn to your neighbor and see how many non-living things you can come up with."

S: *Rocks, soil, water, sunlight, air, etc.*

T: Call on a pair and ask them "What did you two name for non-living things?"

- Write the non-living things on the t-chart

T: "Now we need to do step 2. Let's look back at the important features of the rainforest. What things does a rainforest need to continue with the plants and animals? Raise your hand and we'll write it on our chart."

S: *Air, water, light, food for the animals, etc.*

- Write those things in the box next to "List what the habitat needs" on the habitat sheet.

### Teacher Does

T: "The last thing we need to do is make some predictions about what would happen if we changed things in our habitat. To do this, we are going to use some 'If...then...' statements. 'If there is too much water, then what will happen? Let's look at our list of 'then' statements and see if any of them will work."

- Read the "then" statements until you find one that fits such as "If there is too much water, then the animals drown." Or "If there is too much water, then the plants rot."
- Combine the two parts of the statement together.

### Teacher and Students Do

T: "Now we can read this one out loud and then write it on our chart." Read the statement. Write it on the sample chart.

T: "Let's do one more 'If...then...' statement to practice. Let's do 'If there is too little light...' As I read through the

**statements again, standup when you hear one that would work.”** Read through the ‘then...’ statements. Watch for students to stand up.

*S: Students listen to the statements and stand up when they hear one that completes the sentence like ‘then the plants cannot make food.’ or ‘then the plants die and then the animals that eat plants die.’ There may be others as well.*

**T: “I saw students stand up on...”** (read the statements for which they stood up.) **“Let’s choose one to write on our chart. Let’s write, ‘If there is too little light, then the plants cannot make food.’”**

- Teacher writes the statement on the chart.

### **Students Do**

**T: “Now let’s have you try one on your own. We’re going to use our white boards to show our answer.”**

- Pass out whiteboards and markers.

**T: “On your board, write the first part ‘If there is too little water,’. You can copy it from the board here.”** Point to where the statement is written. If needed, guide students through the process of writing each word or character.

**T: “Now I will read the statements again as I point to them. When you think you hear one you feel will complete the sentence of what happens if there is too little water, I want you to write that one on your board. I’ll look at them and let you know if it will work or not.”**

- Teacher reads each of the statements slowly and watches for students to begin writing. Guide any students that need help. Nod to those who are correct and shake your head “no” to students who are not. Help them find the correct one.

*S: Students write down “then the animals are thirsty and die.” Or “then the plants wilt.”*

**S: “Great! That is the hardest part of the habitat sheet, but now you know how to do it.”** (If most of the students were successful, you do not need to do more examples. If most of the students struggle, continue with additional examples of combining the statements together and writing them on the white boards.)

**T: “Those are great answers! I think you are ready to get into groups and begin your research. You will have more time to work on these presentations next time as well, so take your time to do a good job. I will put you in groups and assign you a habitat. You will research about ponds, woodlands, or deserts. Each person in the group will get a paper so that each person is responsible for writing down what the groups learns about the habitat. I will collect all of the papers, but I will randomly select one paper from each group to represent that group when you present.”**

**T: “You will have only a few minutes to get started today, but you will have more time later to finish your research. The presentations will be due on \_\_\_\_\_ (date)”**

### **Use the modeling cycle:**

**T: “Who can review for us what we are going to do?”**

*S: Student reviews the three steps on the habitat presentation page.*

- Correct any misconceptions or errors and confirm correct steps.

**T: “Excellent! Let’s begin.”**

- Assign students to groups of 3 to 5 students and give them a habitat to research: ponds, woodlands, or deserts. If you have 2 groups per habitat (6 groups total), you will be able to have them present to the other groups in two areas of your room at the same time later. (i.e. pond presents to woodlands and desert in one corner. A different pond group presents to other woodland and desert groups in another corner.
- Give the students books, posters, web sites, etc. with information on their habitats.
- Remind them that everyone must write on their own paper what the group learns.
- Remind them how much time they will have, when the presentation will be due, and how you will have them present.

### **Independent Practice: ( 5-10 minutes)**

- Students work on the presentations based on information learned in the books.
- Teacher moves around the class answering questions and guiding students to find the information in their books.
- Teacher helps students use the correct form of the language for the predictions.

### **Closing: ( 2 minutes)**

- Gather students together on the rug to see what questions came up about the research project as they were working.
- Dismiss students to their desks by doing an informal assessment and then calling on certain people to go to their desks.

**T: “When I name something, show me it is living with a thumbs or non-living with thumbs down. I will call on certain people that got it correct to go their desks quietly. Keep showing me thumbs up or thumbs down until everyone is back at their seats.”**

**T: "Rock"**

*S: Thumbs down*

**T: "Correct, non-living. These students may go sit at their desks..."** Name 4-5 students.

**T: "Spider"**

*S: Thumbs up.*

- Dismiss 4-5 more students. Continue the process with things like **"snake, leaf, soil, flower, bird, etc."**

**Assessment:**

**Use the habitat presentation research page to assess the students understanding and predictions.**

**Extra Ideas:**

Teacher Information from the Interconnections Guide on the habitats

**Note: If appropriate level texts are not available for student use, the teacher should write simple descriptions of each habitat that are accompanied by clear, concise pictures.**

Ponds - inland body of water.

teeming with both animal and plant life. Some animals live in the water (fish, crayfish, tadpoles, etc.), some live above the water (ducks, insects, etc.), and others live in the area surrounding the pond (raccoons, earthworms, etc.).

Deserts - a region of land too dry to grow many plants.

Deserts cover about one fifth (20 percent) of the earth's land area. The desert is a harsh environment with very little rainfall and extreme temperatures; a desert is defined as a region that gets less than ten inches of precipitation per year. Because of these dry conditions, there is limited plant and animal life in deserts. Desert plants (like cacti) are not abundant; neither is animal life.

Some deserts get both very hot (during the day) and very cold (during the night, when temperatures can drop well below freezing). Some deserts, however, are always cold (for example, the Gobi Desert in Asia, and the desert on the continent of Antarctica).

Different animals live in the different types of deserts. Animals that live in the desert have adaptations to cope with the lack of water, the extreme temperatures, and the shortage of food. To avoid daytime heat, many desert animals are nocturnal; they burrow beneath the surface or hide in the shade during the day, emerging at night to eat. Many desert animals do not have to drink at all; they get all the water they need from their food. Most desert animals are small.

Rainforest - a region of land on either side of the equator characterized by a year-round warm, moist climate with lush vegetation.

Rainforests are very dense, warm, wet forests. They are havens for millions of plants and animals. Rainforests are extremely important in the ecology of the Earth. The plants of the rainforest generate much of the Earth's oxygen. These plants are also very important to people in other ways; many are used in new drugs that fight disease and illness.

Woodlands - a region of land found in a variety of climates that is characterized by large numbers of trees, plants, and living organisms.

Temperate deciduous forests are forests in cool, rainy areas; they have trees that lose their leaves in Fall and regrow them in Spring. Temperate deciduous forests are found in the middle latitudes around the globe and have four distinct seasons: Spring, Summer, Fall, and Winter. In the Northern Hemisphere, these forests are found in North America, Europe, and Asia. In the Southern Hemisphere, there are smaller areas of these forests, in South America, Africa, and Australia. The growing season in these forests is about 6 months long

Magic School Bus Hops Home (is on habitats)

# If...then...

If...	then...
If there is too much water,	then the animals are thirsty and die.
If there is too little water,	then the plants get too hot and die.
If there is too much light,	then the plants rot.
If there is too little light,	then the plants cannot make enough food.
If there is too much heat,	then the animals drown.
If there is too little heat,	then the plants wilt.
	then the plants freeze and die.
	then the animals freeze and die.
	then the animals get too hot and die.
	then the plants die and the animals that eat plants die.
	then the plants burn.