

## The Disappearing Rainforest: Scene 1

*After a busy year, a group of students from Mrs. Lovely's class decided to take a well-earned break, to Sunny Costa Rica. While the students are relaxing on the beach, eating Italian ice, and enjoying an ocean breeze, a man with a funny looking hat scrambles out of the nearby forest and onto their beach blanket.*

**Mister Ranger:** (*frantically*) I finally found you, I have been looking everywhere for you guys. I just hope that it isn't too late.

**Danielle:** (*yelling*) What's wrong and who are you?

**Mister Ranger:** Well..... Wheeze.....Cough....

**Danielle:** Please take a moment to catch your breath.

**Mister Ranger:** Thanks, listen there is a real emergency. Mr. Cutatree, the owner of The Vanishing Construction Company, is planning to cut down 100 acres of trees in the surrounding rain forest.

**Leroy:** That sounds awful, but, what does any of this have to do with us?

**Mister Ranger:** The tourist agent told me, that six young scientist were vacationing on this beach. You are the young scientists aren't you?

**Lonye:** We know a lot about science but I don't see how a couple of kids can stop a whole construction company.

*Mr. Cutatree enters the scene*

**Mr. Cutatree:** That's right; a few bratty kids couldn't stop me. Besides, the only thing that's going to suffer is a stupid rainforest moth. Why are you making such a big deal about one lousy moth, and a small 100 acres of rainforest? I always say, there's plenty more where that came from!

**Mister Ranger:** One moth can make a difference on how deforestation affects the whole ecosystem; I just wish I had someone to help me prove it. The leafy canopy of leaves storing chlorophyll in its chloroplast and branches gives shelter and food to hundreds of animals, insects and plants known as decomposers, producers and consumers. We need those photosynthesis engines from the trees to take in carbon dioxide and fuel clean oxygen. For our herbivores, carnivores, omnivores and scavengers, removing these giants provoke strange things to happen to the entire world, such as disrupting the food chain and energy pyramid cycles.

**Danielle:** I will be happy to help; especially if it means getting mean old Cutatree off the beach. He is ruining our tan!!

*The other students agreed by shaking their heads.*

**Mister Ranger:** Thank you, thank you, thank you!!! You are on your way to saving our abiotic and biotic environment. The first thing I need you to do is choose an animal that is at bottom of the food chain, and create a food chain. You need to show this by starting with photosynthesis, how one animal is tied together with all of the other animals. In other words, show a predatory vs. prey relationship between the animals. I need you to make a colorful presentation, and then present your product to the rest of your fellow scientists. After each group of you has seen what the different chains are; as a whole group we can make a gigantic food web. Oh, don't forget to include the scientific name of all your organisms. Finally, we can pick out which points in the food web would be upset by extinction and deforestation.

**Leroy:** That sure sound like a lot of work!

**Mister Ranger:** Are you guys up for this challenge?

**Brandon:** How can we present all of this information to Mr. Cutatree? It seems like a lot for anyone to take it.

**Mister Ranger:** Why not make a brochure explaining what you found.

## **The Disappearing Rainforest: Scene 1 Assignment**

1. Design and create a colorful food chain that can be found in the Costa Rican rainforest. Each group is to produce a different food chain. The final products of each group will be combined to create a food web.
2. Design a brochure that convinces Mr. Cutatree's company that deforestation of the rainforest affects the survival of the individual species and subsequently, a far broader system of organisms and ecosystems. Be creative. Be sure to include illustrations and/or pictures in your brochure.

## The Disappearing Rainforest: Brochure Grading Rubric

CATEGORY	4	3	2	1
<b>Writing - Organization</b>	Each section in the brochure has a clear beginning, middle, and end.	Almost all sections of the brochure have a clear beginning, middle and end.	Most sections of the brochure have a clear beginning, middle and end.	Less than half of the sections of the brochure have a clear beginning, middle and end.
<b>Writing - Grammar</b>	There are no grammatical mistakes in the brochure.	There are no grammatical mistakes in the brochure after feedback from an adult.	There are 1-2 grammatical mistakes in the brochure even after feedback from an adult.	There are several grammatical mistakes in the brochure even after feedback from an adult.
<b>Content - Accuracy</b>	All facts in the brochure are accurate.	99-90% of the facts in the brochure are accurate.	89-80% of the facts in the brochure are accurate.	Fewer than 80% of the facts in the brochure are accurate.
<b>Attractiveness &amp; Organization</b>	The brochure has exceptionally attractive formatting and well-organized information.	The brochure has attractive formatting and well-organized information.	The brochure has well-organized information.	The brochure's formatting and organization of material are confusing to the reader.
<b>Sources</b>	Careful and accurate records are kept to document the source of 95-100% of the facts and graphics in the brochure.	Careful and accurate records are kept to document the source of 94-85% of the facts and graphics in the brochure.	Careful and accurate records are kept to document the source of 84-75% of the facts and graphics in the brochure.	Sources are not documented accurately or are not kept on many facts and graphics.
<b>Knowledge Gained</b>	All students in the group can accurately answer all questions related to facts in the brochure and to technical processes used to create the brochure.	All students in the group can accurately answer most questions related to facts in the brochure and to technical processes used to create the brochure.	Most students in the group can accurately answer most questions related to facts in the brochure and to technical processes used to create the brochure.	Several students in the group appear to have little knowledge about the facts or technical processes used in the brochure.
<b>Graphics/Pictures</b>	Graphics go well with the text and there is a good mix of text and graphics.	Graphics go well with the text, but there are so many that they distract from the text.	Graphics go well with the text, but there are too few and the brochure seems "text-heavy".	Graphics do not go with the accompanying text or appear to be randomly chosen.

## The Disappearing Rainforest: Scene 2

*You have returned to your palm tree area on the beach, and after all of your hard work convincing Mr. Cutatree not to tear down the rainforest, you are ready for a nice summer beachy nap. Just before you drift off to sleep, you hear a familiar rumbling from the nearby trees.*

**Mister Ranger:** I, well, I, um...

**Danielle:** What is it this time?

**Mister Ranger:** I know you guys are trying to relax, but I have to ask you for another favor.

**Danielle:** Sure, but what kind of things did you have in mind?

**Mister Ranger:** We were so successful protecting the forest that I thought to myself, if we can get more tourists to come and visit, more people will see the wonder and want to help to protect it.

**Lonye:** But...

**Mister Ranger:** (*interrupting*) I am not too good advertising tourist type stuff; I am more of a hands-on type of guy. You show me a sick animal and no problem; but, I couldn't sell travel package to save my life.

**Brandon:** So how do you think we can help you out?

**Mister Ranger:** Well, I was thinking, you know how symbiotic relationships are one of the most interesting parts of the rainforest?

**Danielle:** Symbiot...what?

**Mister Ranger:** Well, I was thinking that if each group select two animals in a symbiotic relationship, and then made a commercial advertising this relationship, people would flock to the rain forest to come and visit.

**Lonye:** Isn't a symbiotic relationship when two organisms interact with one another with out using mutualism or competition?

**Brandon:** I'm not sure; we will have to look that up. Let me get this right, instead of sleeping on the beach, you want us to find animals in a symbiotic relationship, and then make a television commercial?

**Mister Ranger:** Exactly, will you help?

## **The Disappearing Rainforest: Scene 2 Assignment**

Create a commercial or print advertisement designed to increase tourism in the rainforest. Remember that Mister Ranger wants to secure the forest as a protected habitat. Be sure to use props or illustrations in your advertisement. Your advertisement should include at least 2 examples of symbiotic relationships that can be found in the Costa Rican rainforest.

## The Disappearing Rainforest: Advertisement Grading Rubric

CATEGORY	4	3	2	1
<b>Use of Class Time</b>	Used time well during each class period. Focused on getting the project done. Never distracted others.	Used time well during each class period. Usually focused on getting the project done and never distracted others.	Used some of the time well during each class period. There was some focus on getting the project done but occasionally distracted others.	Did not use class time to focus on the project OR often distracted others.
<b>Graphics - Originality</b>	Several of the graphics reflect an exceptional degree of student creativity in their creation and/or display.	One or two of the reflect student creativity in their creation and/or display.	The graphics are made by the student, but are based on the designs or ideas of others.	No graphics made by the student are included.
<b>Graphics - Relevance</b>	All graphics are related to the topic and make it easier to understand. All borrowed graphics have a source citation.	All graphics are related to the topic and most make it easier to understand. All borrowed graphics have a source citation.	All graphics relate to the topic. Most borrowed graphics have a source citation.	Graphics do not relate to the topic OR several borrowed graphics do not have a source citation.
<b>Required Elements</b>	The advertisement includes all required elements as well as additional information.	All required elements are included in the advertisement.	All but 1 of the required elements are included in the advertisement.	Several required elements were missing.
<b>Content - Accuracy</b>	At least 7 accurate facts are included in the advertisement.	5-6 accurate facts are included in the advertisement.	3-4 accurate facts are included in the advertisement.	Less than 3 accurate facts are included in the advertisement.

### **The Disappearing Rainforest: Scene 3**

*After an eventful vacation, you are preparing to board a DELTA flight home. Just before you step onto the plane, Mister Ranger steps in front of you, rapidly waving his hands while trying to get your attention.*

**Mister Ranger:** I sure am going to miss you guys!

**Lonye:** Uh, yeah, um us too?

**Mister Ranger:** I want you to do something very important for me when you get home.

**Brandon:** Oh Boy, here he goes again!

**Mister Ranger:** You have done a lot of good work towards saving my ecosystem but, it is also important to know that there are a number of other biomes. Just like how upsetting the balance in one animal disrupted the entire food chain; trouble in one biome can affect the other biomes. When you return to Atlanta, I give you a very important charge. I want you to learn about all of the other biome. You have to understand each one before you can realize how they are affected by one another. You learned how an ecosystem can be affected even by a change to its smallest members. I want you to apply this knowledge at home in Atlanta. Honor what you accomplished by finding a local ecological issue and writing a letter the Georgia Environmental Protection Agency.

**Brandon:** Do you mean how if people ignore conservation, don't use biodegradable products and ignore the three R's, then pollution and overpopulation can limit our resource recovery and damage our earth?

**Danielle:** No, I think he means how damaged to a terrestrial biome can also affect an aquatic environment.

**Mister Ranger:** I think you are both right. Changes in one habitat, be it the deciduous forest, tundra, taiga, tropical rainforest, savanna, desert and grassland can affect the vegetation and the overall climate in each of the other.

**Brandon:** So what you mean is that if an environment in Atlanta is injured or polluted, this can affect a biome clear across the country?

**Mister Ranger:** Yes! We can even feel it down here in Costa Rica!

*The young scientists thought about all that they had learned and decided that they should use this new knowledge to help protect their own environment in Atlanta.*

**Lonye:** Maybe we can help by writing letters to the EPA, telling them what we've learn about the inner relationships between species and environment.



**Brandon:** That's a great idea. Then we can continue protecting the earth as well as the world. Danielle, why do you look so sad?

**Danielle:** I can't believe I am saying this but I'm going to miss that crazy ranger.

**Mister Ranger:** Don't worry my new friends; I will be coming to visit you soon for my vacation!!!

## **The Disappearing Rainforest: Scene 3 Assignment**

You are to write a letter to the Environmental Protection Agency (EPA) explaining how pollution or disruption of your local habitat affects your own biome and subsequently, the other biomes in the world. Although you may do this research in groups, this is an individual assignment and each student must turn in his or her own letter. You may want to check out a local newspaper or TV newscast to find current ecological problems in your area.

## The Disappearing Rainforest: Letter Grading Rubric

CATEGORY	4	3	2	1
<b>Sentences &amp; Paragraphs</b>	Sentences and paragraphs are complete, well-constructed and of varied structure.	All sentences are complete and well-constructed (no fragments, no run-ons). Paragraphing is generally done well.	Most sentences are complete and well-constructed. Paragraphing needs some work.	Many sentence fragments or run-on sentences OR paragraphing needs lots of work.
<b>Grammar &amp; spelling (conventions)</b>	Writer makes no errors in grammar or spelling.	Writer makes 1-2 errors in grammar and/or spelling.	Writer makes 3-4 errors in grammar and/or spelling	Writer makes more than 4 errors in grammar and/or spelling.
<b>Ideas</b>	Ideas were expressed in a clear and organized fashion. It was easy to figure out what the letter was about.	Ideas were expressed in a pretty clear manner, but the organization could have been better.	Ideas were somewhat organized, but were not very clear. It took more than one reading to figure out what the letter was about.	The letter seemed to be a collection of unrelated sentences. It was very difficult to figure out what the letter was about.
<b>Content Accuracy</b>	The letter contains at least 5 accurate facts about the topic.	The letter contains 3-4 accurate facts about the topic.	The letter contains 1-2 accurate facts about the topic.	The letter contains no accurate facts about the topic.
<b>Format</b>	Complies with all the requirements for a friendly letter.	Complies with almost all the requirements for a friendly letter.	Complies with several of the requirements for a friendly letter.	Complies with less than 75% of the requirements for a friendly letter.

**The Disappearing Rainforest: Box Chart**

<p><b>Facts</b> What did you read?</p>	<p><b>Pre-Hypothesis</b> If (fact) ... then or I think that ...</p>
<p><b>Learning Issues</b> What I need to know to solve ...</p>	<p><b>Action Task</b> Where will I find the information for my learning issues</p>

## The Disappearing Rainforest: Evaluation

Date: \_\_\_\_\_

Your Name: \_\_\_\_\_ Group #: \_\_\_\_\_

**Instructions:** Please circle the response with which you agree the most. This evaluation will only be read by your teacher and will **not** be shown to other students.

1. How would you rate *your* participation in group discussion and group work?

**5 Excellent      4 Very Good      3 Good      2 Fair      1 Poor**

2. How would you rate *your* effort in completing the case?

**5 Excellent      4 Very Good      3 Good      2 Fair      1 Poor**

3. Did *you* complete the assigned homework?      **Yes**      **No**

If No, explain why:

4. How well did *you* work with everyone in your group?

**5 Excellent      4 Very Good      3 Good      2 Fair      1 Poor**

5. Overall, how would you rate *your* performance in this case?

**5 Excellent      4 Very Good      3 Good      2 Fair      1 Poor**

6. What praise or criticism do you have for other group members? What are your thoughts about the case?

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