



Name _____

5th Grade Modified ELA Remote Learning Packet

Week 13



Dear Educator,

My signature is proof that I have reviewed my scholar's work and supported him to the best of my ability to complete all assignments.

(Parent Signature)

(Date)

Parents please note that all academic packets are also available on our website at www.brighterchoice.org under the heading "Remote Learning." All academic packet assignments are mandatory and must be completed by all scholars.



Name: _____

Week 13 Day 1 Date: _____

BCCS Boys

MIT/Stanford




Do Now

1. What does Meg Lowman have in common with Bryson Voirin? Explain.

Unit 2, Module 2

Standard	RI.5.1: Quote accurately when drawing inferences from the text.
LEQ	How can making _____ deepen my understanding of a text?
Objective	I can make inferences about _____, research scientist.
Assignment to Submit	Exit Ticket (Google Form)

Input: Vocabulary

rainforest canopy	herbivory	naturalist
The part of the rainforest which may be over 100 feet above the ground is made up of the overlapping branches and leaves of rainforest trees.	Leaf and plant eating by animals and insects.	A student of or expert in natural history,
		

Input/CFU: “The Most Beautiful Roof in the World”: Today’s Excerpt



Underline:
What is
Meg trying
to figure
out?

MEG LOWMAN climbs trees. She has climbed trees since she was a little girl in search of insects, leaves, and flowers, and now it is her job. Meg is a rainforest scientist, and her specialty is the very top of the rainforest, the canopy.

During the past ten years Meg has spent at least five days a month in the treetops, which adds up to six hundred days. And this does not include the approximately ten days every month she spends at the base of trees looking up. Meg wants to know about the relationships between plants and insects in the canopy. She is especially interested in herbivory, leaf and plant eating by insects and other animals. She wants to know which insects eat which leaves and how their feeding affects the overall growth of the rainforest. To answer these questions she must spend a great deal of time either up in a tree or back in her laboratory, studying samples. Meg’s lab is at the Marie Selby Botanical Gardens, a rainforest research center in Sarasota, Florida, where she is director of research and conservation.

**Underline:
Evidence
Meg was
meant to
be a
scientist.**

Meg cannot remember a single day in her life when she wasn't either looking at or studying a plant, leaf, flower, or insect—except possibly those days when she went to the hospital to give birth to her two sons, Edward and James. Since Meg was six, she has been fascinated by the natural world. As a child she had a bird's nest collection, a rock collection, a shell collection, an insect and butterfly collection, and a bud collection. Her bedroom was stuffed with outdoor treasures. Her great love was flowers; in the fifth grade she was the only child in her class to enter the state science fair. She made a wildflower collection and won second prize.

**Underline:
Evidence
Meg was
meant to
be a
scientist.**

When Meg was ten years old, she was intrigued by two women: Rachel Carson, one of the first environmentalists, who studied and wrote about the delicate relationships in the web of life, and Harriet Tubman, the most famous “conductor” of the Underground Railroad. Threading through the countryside and deep woods on long, frightening nights, Harriet Tubman guided countless African Americans out of slavery to freedom. Meg read that she often navigated by feeling for the moss that grew on the north sides of trees. But it was not only moss that she had to look for. She had to know which berries and nuts could be eaten, which could make the difference between starvation and survival. She had to know how to find a swamp to plunge into when slave-hunting dogs bore down; the sulfurous mud and slime could disguise a human scent and confuse the dogs. She had to be attuned to the environment in order to guide her people on their perilous journey. Harriet Tubman, says Meg, was a pioneer field naturalist, one of the first women field naturalists in this country.

Application

	Main Ideas (paraphrase or list)	Supporting Details for the Text
What does Meg Lowman study in the rainforests?		
What were Meg Lowman's interests as a child?		



Name: _____

Week 13 Day 2 Date: _____

BCCS Boys

MIT/Stanford

Do Now




1. What is the genre of The Most Beautiful Roof in the World?
How do you know that?

2. How did Harriet Tubman inspire Meg Lowman?

Unit 2, Module 2

Standard	RI.5.3: Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.
LEQ	LEQ: What _____ do scientists use to study in the rainforest?
Objective	Objective: I can _____ steps of a procedure within an informational text.
Assignment to Submit	Exit Ticket (Google Form)

Input: Vocabulary & Text Features

specimen	bromeliad	foliage
<p>An individual animal, plant, piece of a mineral, etc., used as an example of its species or type for scientific study or display.</p>	<p>A plant native to tropical and subtropical America, typically having short stems with rosettes of stiff, usually spiny, leaves.</p>	<p>Leaves of plants.</p>
		

Input: Procedures

Steps to Make a Peanut Butter and Jelly Sandwich

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Input/CFU: “The Most Beautiful Roof in the World”: Today’s Excerpt

WHEN MEG is at Selby Gardens, she busily sorts, classifies, and prepares the samples of plants, flowers, and insects she has brought back from her explorations in rainforest canopies all over the world. She has a special permit that allows her to collect many rare specimens, some of which are brought back live and continue to grow in the Selby greenhouses. Selby has one of the largest collections of orchids and bromeliads in the world.

Underline:
 What does Meg do at Selby Gardens?

Thinking:
 Why would she need a special permit to bring specimens back to Selby?



Underline:
What does it
mean to
pickle a
plant?

Thinking:
Why is it
helpful to
pickle a
plant?



SOMETIMES Meg brings back parts of plants—leaves or blossoms. These she must carefully preserve by pickling or pressing. To pickle plant parts she puts them in a solution of alcohol and water. Although their color might change, the flowers retain their three-dimensional form for study.

To press a plant specimen she folds the flowers and leaves carefully in newspaper, then places them between sheets of cardboard, where they begin to dry out. Back at Selby the drying is finished in low-temperature ovens. Finally Meg glues them down on special acid-free paper. Each preserved plant is carefully tagged and labeled and then put in the herbarium, a plant library.

To gather species of plants and insects, Meg has climbed ropes to pluck leaves, sailed aloft in hot-air balloons to gather orchids, swung on trapezes through the foliage, and even hung over the side of an inflatable raft resting on the canopy. Meg has tried most methods of ascent in her exploration of the canopy. And it has been exciting; she has not only found marvelous insects but has joined the butterflies, swung with the spider monkeys, and peered into the magical little frog ponds at the tops of trees in the tanks of bromeliads.

Underline:
What does it
mean to press
a plant?

Thinking:
How many
steps does it
take to press
a plant?

Application: Steps for Pressing

Step	Description
1	
2	
3	
4	
5	
6	



Name: _____

Week 13 Day 3 Date: _____

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IA Retake #1

Directions: Read the passage and answer questions 1-6 on the Google Form.

Excerpt from Snowflake Bentley by Jacqueline Briggs Martin

1 In the days when farmers worked with ox and sled and cut the dark with lantern light, there lived a boy who loved snow more than anything in the world. Willie Bentley's happiest days were snowstorm days. He watched snowflakes on his mittens, on the dried grass of Vermont farm fields, on the dark metal handle of the barn door. He said snow was as beautiful as butterflies, or apple blossoms.

2 He could net butterflies and show them to his older brother, Charlie. He could pick apple blossoms and take them to his mother. But he could not share snowflakes because he could not save them.

3 When his mother gave him an old microscope, he used it to look at flowers, raindrops, and blades of grass. Best of all, he used it to look at snow. While other children built forts and pelted snowballs at roosting crows, Willie was catching snowflakes. Day after stormy day he studied the icy crystals.

4 Their intricate patterns were even more beautiful than he had imagined. He expected to find whole flakes that were the same, that were copies of each other. But he never did. Willie decided he must find a way to save snowflakes so others could see their wonderful designs. For three winters he tried drawing snow crystals. They always melted before he could finish.

5 When he was sixteen, Willie read of a camera with its own microscope. "If I had that camera I could photograph snowflakes," he told his mother. Willie's mother knew that he would not be happy until he could share what he had seen.

6 "Fussing with snow is just foolishness," his father said. Still, he loved his son. When Willie was seventeen his parents spent their savings and bought the camera. It was taller than a newborn calf, and cost as much as his father's herd of ten cows. Willie was sure it was the best of all cameras.

7 Even so his first pictures were failures—no better than shadows. Yet he would not quit. Mistake by mistake, snowflake by snowflake, Willie worked through every storm. Winter ended, the snow melted, and he had no good pictures. He waited for another season of snow. One day, in the second winter, he tried a new experiment. And it worked! Willie had figured out how to photograph snowflakes! “Now everyone can see the great beauty in a tiny crystal,” he said.

8 But in those days, no one cared. Neighbors laughed at the idea of photographing snow. “Snow in Vermont is as common as dirt,” they said. “We don’t need pictures.” Willie said the photographs would be his gift to the world. While other farmers sat by the fire or rode to town with horse and sleigh, Willie studied snowstorms. He stood at the shed door and held out a black tray to catch the flakes.

9 When he found only jumbled, broken crystals, he brushed the tray clean with a turkey feather and held it out again. He waited hours for just the right crystal and didn’t notice the cold. If the shed were warm the snow would melt. If he breathed on the black tray the snow would melt. If he twitched a muscle as he held the snow crystal on the long wood pick the snowflake would break. He had to work fast or the snowflake would evaporate before he could slide it into place and take its picture. Some winters he was able to make only a few dozen good pictures. Some winters he made hundreds. . . .

10 But his snow crystal pictures were always his favorites. He gave copies away or sold them for a few cents. He made special pictures as gifts for birthdays. He held evening slide shows on the lawns of his friends. Children and adults sat on the grass and watched while Willie projected his slides onto a sheet hung over a clothesline.

11 He wrote about snow and published his pictures in magazines. He gave speeches about snow to faraway scholars and neighborhood skywatchers. “You are doing great work,” said a professor from Wisconsin. The little farmer came to be known as the world’s expert on snow, “the Snowflake Man.” But he never grew rich. He spent every penny on his pictures. Willie said there were treasures in snow. “I can’t afford to miss a single snowstorm,” he told a friend. “I never know when I will find some wonderful prize.”

1. Read this sentence from paragraph 1 of the article.

In the days when farmers worked with ox and sled and cut the dark with lantern light, there lived a boy who loved snow more than anything in the world.

How does the author's word choice in the sentence affect the meaning of the passage? (RI 5.5)

- A. by suggesting that the ideas in the passage are made up
 - B. by showing that the subject of the passage became famous
 - C. by suggesting that the topic of the passage is familiar
 - D. by showing that the events in the passage happened long ago
2. What is the meaning of the word "pelted" as it is used in paragraph 3? (RI 5.4)
 - A. created
 - B. found
 - C. saved
 - D. threw
 3. Which statement is true based on the information in paragraphs 6 and 11? (RI 5.1)
 - A. Bentley's work with snow required expensive equipment that he was willing to spend all his money on.
 - B. Bentley was thought to be foolish throughout his life because of his interest in snow.
 - C. Bentley's parents thought he should do something with his life other than taking pictures of snow.
 - D. Bentley became less interested in studying snow than in publishing pictures and giving speeches.

4. Which sentence best describes how the article is organized? (RI 5.5)
- A. The reasons for Willie Bentley's experiments with snow are presented, followed by their eventual conclusions.
 - B. The events of Willie Bentley's life and his study of snow are described as they happened over time.
 - C. The different problems of photographing snow are explained and then Willie Bentley's solutions are described.
 - D. The important ideas about snow in Willie Bentley's discoveries are presented, followed by details and examples.
5. How does the author organize the information in paragraph 4? (RI 5.5)
- A. by listing events in the order they happen
 - B. by comparing and contrasting the things Willie had done
 - C. by showing what caused Willie to decide he must find a way to save snowflakes
 - D. by stating how the problems Willie had with trying to capture the beauty of snowflakes
6. Circle one of the following that best describes the **most likely** central message from the passage. Then use 2 details from the passage to explain your choice. (RI 5.2)

Important things in the world can only be accomplished by those who keep on trying when there seemed to be no hope at all.

OR

Success isn't always about greatness. It's about consistency. Consistent hard work leads to success.

Write your response in the Google Form!

Directions: Read the following passage and answer questions 7-13 in the Google Form.

Excerpt from *The Woolly-Puff Rescue*

by Sue Mozena

1 Wendy and Alex stared at the strange flower at their feet. Dozens of them bloomed in this remote corner of the field.

2 Wendy bent down for a closer look. "We shouldn't name them until we're sure we can keep them," she warned. "But I like Woolly-Puffs. They look just like fleecy rainbows."

3 As tempting as it was to pet the feathery yellow-orange-red-purple-blue petals, neither of them did. Instead, Wendy pulled protective gloves from her belt pack.

4 On the asteroid-based colony of New Harmony, even twelve-year-old pioneers knew the number one rule for living in outer space: don't touch or taste or sniff anything that hasn't been tested.

5 "Where do you think they came from?" Wendy asked. With a gentle tug, she freed a Woolly-Puff from the thin layer of soil, sealed it in a clear bag.

6 "They were probably in the compost shipment that brought these niggers," Alex muttered. He slapped at one of the whining insects that swarmed around him looking for exposed skin to bite.

compost = a mixture of decaying plants used to improve the soil in a garden

7 New Harmony depended on shipments of rich compost from nearby planets to build up its soil. Usually the compost was treated before it arrived, but one shipment had been accidentally overlooked. The whining gnat-like insects the colonists called "niggers" had hatched from the compost. Without any natural enemies in this new world, the insects had multiplied, becoming a constant torment to the colonists.

8 After turning in their discovery, Wendy settled on a stone bench in front of the New Harmony laboratory. Alex paced, then sat. "Poor Woolly-Puff," Wendy said. "What if it's just a weedy flower?"

- 9 “Then one living plant and a packet of seeds will be sent to the Botany Preserve on Mars,” Alex answered, rubbing a hot-pink nagger welt just above his elbow.
- 10 Wendy gingerly held the extra bouquet she had picked, in case the Woolly-Puffs proved keepers. “And the rest of the plants—”
- 11 “The rest will be pulled up and destroyed to make room for ‘useful’ plants,” Alex said.
- 12 The colony of New Harmony did have flowers. It just didn’t have a lot of room. Woolly-Puffs would have to be more than pretty if they wanted to grow here.
- 13 The two friends scrambled to attention as the lab door opened.
- 14 “Your Woolly-Puff isn’t toxic,” Professor Raglin said. His smile faded as he went on. “The sap is thick and sticky, but we already have a good glue. The stems are too woody and the leaves too bristly to eat. And the petals, well, they smell funny. Not flowery at all. More like moldy lemons. I’m sorry, but I’ll have to make my report to the council this afternoon. The good news is that they seem to grow only in the soil where you found them, so it won’t be hard to get rid of them.”
- 15 “At least they’re not poison,” Wendy said after Professor Raglin had left. She hugged her colorful, fuzzy bouquet. She had to admit they did smell funny. “Mayor Murphy will probably send a reclaim crew out after the council meeting.” She sighed. “I wish the council would let us adopt one, like a pet.”
- 16 “Fat chance,” Alex said. He blew at a pair of nagers trying to land on his knee. “Shoo! For harmless gnats, these bugs sure are pests.”
- 17 “Yeah.” Wendy reached up to scratch the end of her nose. Then she realized something. The end of her nose itched simply because that’s what the ends of noses do sometimes. The nagers weren’t biting her. They weren’t even landing on her.
- 18 “We’re going to the council meeting,” she announced.
- 19 That afternoon, when the council members emerged from the community center, Alex and Wendy were waiting.
- 20 “What is the meaning of this?” Mayor Murphy demanded as Alex and Wendy presented each member of the council with a Woolly-Puff garland.
- 21 Glancing at Alex for courage, Wendy said, “Woolly-Puffs are bug chasers.”
- 22 “Sorry,” Mayor Murphy said firmly. “We have already made our decision.”
- 23 “Just watch,” Wendy pleaded. “Watch the nagers.”

- 24 Then someone said, "What nagers? I don't see any."
- 25 "Where are the nagers?" asked Professor Raglin. "It's as if they're avoiding us."
- 26 Wendy smiled. "They are. Nagers don't like Woolly-Puffs."
- 27 So the Woolly-Puffs stayed in the vases and flower boxes and gardens of New Harmony because, of course, they weren't just pretty. They smelled like moldy lemons. And luckily, nagers couldn't stand the smell of moldy lemons.
-

7. In paragraph 2, what does the sentence, "They look just like fleecy rainbows" suggest about the flowers? (RL.5.4)

- A The flowers are colorful and fuzzy.
- B The flowers are wet and fluffy.
- C The flowers are striped and shaggy.
- D The flowers are transparent and puffy.

8. What does the word "welt" mean as used in paragraph 9? (RL.5.4)

- A itch
- B skin
- C gnat
- D bump

9. Read this sentence from paragraph 14.

His smile faded on he went on.

What does this sentence suggest about Professor Raglin? (RL.5.3)

- A He is suffering from the bad smell.
- B He regrets having to study the plant.
- C He dislikes the plant he is talking about.
- D He is about to deliver disappointing news.

10. Read this sentence from paragraph 15.

“At least they’re not poison,” Wendy had said after Professor Raglin had left.

What does this sentence suggest about Professor Wendy? (RL.5.3)

- A Wendy looks for the positive side of the situations.
- B Wendy does not like people to give her bad news.
- C Wendy challenges people who do not agree with her.
- D Wendy encourages people to learn to love flowers.

11. How does the setting of the story affect what happens to the Woolly-Puff? (RL.5.3)

- A A lack of space causes the flower to be shipped away.
- B A need for compost causes the plant to be valued.
- C A problem with insects causes the flower to be kept.
- D A lack of pets causes the plant to be adopted.

12. Which statement **best** states a theme of the story? (RL.5.2)

- A Friends should support each other in difficult situations.
- B Following the rules can sometimes get you in trouble.
- C It may take courage to speak up when you have a good idea.
- D The smallest things can cause big problems.

13. Reread paragraphs 7 and 8.

How do the ideas in these paragraphs support the main idea of the story?

Use at least 2 details from the text in your response. (RL.5.5)

Write your response in the Google Form!



Name: _____

Week 13 Day 4 Date: _____

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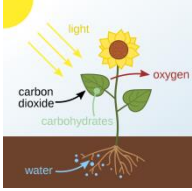
Do Now

1. What is the difference between pickling and pressing a specimen?

Unit 2, Module 2

Standard	RI.5.1: Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
LEQ	What _____ do scientists need to study in the rainforest?
Objective	I can support a personal claim with _____ from the text.
Assignment to Submit	Exit Ticket (Google Form)

Input: Vocabulary

ascend	gravity	photosynthesis
Go up or climb.	An invisible force that pulls objects toward each other.	The process in which green plants use sunlight to make their own food.
		

Input/CFU: “The Most Beautiful Roof in the World”: Today’s Excerpt



Underline: Why is it hard to study in the rainforest?

Think: Why is the canopy the “powerhouse” of the rainforest?

Underline evidence.

For a human being, ascending to the canopy is not easy. There is so much to conquer: gravity, stinging ants, rotten trunks, and thorns. For years rainforest scientists stood in the deep shadows on the forest floor, looking up as occasional shafts of pale green light broke through. They could only wonder about the canopy, brilliantly lit, noisy with bird life and the chatterings of monkeys. They knew that the canopy was the “powerhouse” of the rainforest, the place where most photosynthesis occurs and where 95 percent of the biomass, the living things of the rainforest, is produced. The canopy is where rainforest life begins. Yet for years it remained out of reach. Even deep-sea exploration was easier.

Underline: What obstacles do scientists face in the rainforest?

Think: What type of people do rainforest scientists need to be?

Underline evidence.

The rainforest canopy has been likened to an undiscovered continent, a kind of last frontier. Since the mid-1980s better technology has been developed, offering new ways for scientists to overcome the natural obstacles of gravity, ants, and thorns. Such scientists, however, must be strong, fearless, and physically fit as well as smart and hard-working. They must be as skillful as any mountaineer, perhaps more so, for the cliffs they ascend are made not of rocks but of leaves and branches of enormous elasticity. These women and men are the pioneers of a newly discovered continent as they feel their way up to the brightly lit canopy.

Immerse Yourself! First Read Note-catcher

Words or phrases that stand out or seem important	Based on the words and phrases... My initial thoughts about the meaning of this section of the text

Dive Deeper Second Read Note-catcher

Learning Targets:

I can explain why the canopy is a difficult place to research.

I can identify the skills needed by scientists in order to study the rainforest canopy.

Strategy Focus: I can use visual features to contribute to my understanding of the text.

Evidence from the text	My thinking



Name: _____

Week 13 Day 5 Date: _____

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Do Now

1. List two challenges that a scientist studying the canopy of the rainforest might face.




- _____
- _____

2. Meg Lowman is considered a “pioneer” of the rainforest. Why?

Unit 2, Module 2

Standard	RI.5.4: Determine the meaning of academic words or phrases in an informational text
LEQ	How does author’s _____ impact my understanding of a text?
Objective	I can explain how the author uses _____ to paint a picture of the biodiversity of the rainforest.
Assignment to Submit	Exit Ticket (Google Form)

Input: Vocabulary

biodiverse	buttress roots	altered
The variety of life in the world or in a particular habitat or ecosystem.	A tree root whose upper, exposed parts project from the trunk.	To make different in some way.
		

Input/CFU: “The Most Beautiful Roof in the World”: Today’s Excerpt



Underline the word pierced. Think: Why did the author choose this word?

Underline words in the 2nd paragraph that make the rainforest seem mysterious.

DEEP IN BELIZE, in Central America, there is a place called Blue Creek. Almost every month nearly 40 inches (102 centimeters) of rain falls. Blue Creek is considered one of the most humid places on the entire planet. In this shadowed world, pierced occasionally by slivers of sunlight, are more varieties of living things than perhaps any other place on earth. Within a 16-foot (five-meter) square there can be upward of two hundred different species of plants.

And there are animals, too. Bats swoop through the canopy. Vipers coil among buttress roots, waiting in ambush. A rare and mysterious tree salamander slinks into the petals of an orchid. Poison dart frog tadpoles swim high above the forest floor in the tanks of bromeliads.

The rainforest is a timeless, uncharted world, where mysteries abound and new or rare species appear like undiscovered islands. Within the tangled vines under the rotting bark of fallen trees, caught in the slime and mold of decaying vegetation and fungi, life teems with ceaseless energy. When

Underline the word “opportunistic”. Why does the author describe the species that way? Underline your evidence.

a tree falls, the stump rots, bark loosens, and new creatures move in and take over the altered habitats. It is the very diversity of the rainforest that allows life to thrive everywhere, to spring back with a rush of opportunistic species to fill the gaps.

Application: Text Dependent Questions

1. According to the second paragraph, what types of animals live in the Blue Creek rainforest? Support your answer with evidence from the text.

2. The third paragraph describes how “When a tree falls ... new creatures move in and take over the altered habitats.” What does the phrase altered habitats mean in this sentence? Support your answer with evidence from the text.



Name _____

5th Grade Modified ELA Remote Learning Packet

Week 14



Dear Educator,

My signature is proof that I have reviewed my scholar's work and supported him to the best of my ability to complete all assignments.

(Parent Signature)

(Date)

Parents please note that all academic packets are also available on our website at www.brighterchoice.org under the heading "Remote Learning." All academic packet assignments are mandatory and must be completed by all scholars.



Name: _____

Week 14 Day 1 Date: _____

BCCS Boys

MIT/Stanford

Do Now

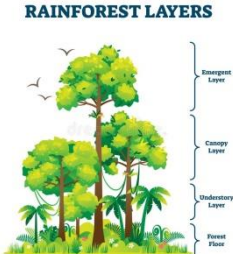


1. Describe what happens when a tree falls in the rainforest.

2. List at least three animals that live in the Blue Creek Rainforest.

Unit 2, Module 2

Standard	RI.5.2: Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.
LEQ	How can _____ statements and vocabulary analysis deepen my understanding of a text?
Objective	I can write gist statements for pages 13 – 16 and _____ how the first 2 paragraphs fit in with the rest.
Assignment to Submit	Exit Ticket (Google Form)

Input: Vocabulary

emergent	walkway	Mayan
A plant that is taller than the surrounding vegetation.	A raised passageway that connects different sections of an area.	Indigenous people of Mexico and Central America.
 <p>RAINFOREST LAYERS</p> <p>Emergent Layer</p> <p>Canopy Layer</p> <p>Understory Layer</p> <p>Forest Floor</p>		 <p>MAP OF THE MAYA WORLD</p> <p>MEXICO: CHICHEN ITZA, TULUM, UXMAL, COXAL, XCARET, XEL-HA</p> <p>BELIZE: ALTUN HA, XUNANTUNICH, CARACOL</p> <p>GUATEMALA: MONTI ALBAH, MITLA, TIKAL, CEIBAL</p> <p>HONDURAS: COPAN</p>

Input/CFU: “The Most Beautiful Roof in the World”: Today’s Excerpt

Think: What is the central idea of this section of text?

Think: How do the first 2 paragraphs fit in with the rest?

Underline the word pavilion: What is it? Underline the evidence.

Meg Lowman believes that science is the machinery that runs the earth. She explains, “I think that science is really the way things work, and that’s exciting. It is important to understand the bigger picture of our planet and where we live, how it functions, what we do with it, and how that will have impact.”

When Meg wants to have a close look at the machinery, she goes to the rainforest, and recently she has been coming to Blue Creek. Meg worries about the machinery. Although it seems invincible, although she can track a new swarm of ants rushing into a tree notch to fill a gap that was not there the previous day, she wonders how strong the machine really is. How many species can be removed before it will break?

Viewed from an airplane, the top of the rainforest at Blue Creek looks like a field of gigantic broccoli. The bright green florets are actually the emergent growth of the very tallest trees. The crowns of these trees extend above the canopy in the layer known as the pavilion. The pavilion is to the canopy as a roof is to a ceiling. From the emergent growth to the floor of the rainforest is a drop of 150 feet (46 meters) or more. Meg wants to go to the canopy, a layer below the emergent one. At Blue Creek a canopy walkway designed by specialists in rainforest platform construction has been built.

Think: What is the central idea of this section of text?

Underline the word jumar: What is it? Underline the evidence.

Think: Why haven't the boys ascended into the canopy yet?

Meg is up at first light. It is drizzling, but she will not wear rain gear. It is too hot. She has beans and rice for breakfast because this is all that is available. For her boys she has brought along Cheez Whiz and crackers because they are tired of beans and rice. Unless the Mayan people who live in the nearby village come into the forest with chickens or melons, the menu does not vary. She kisses the boys good-bye and leaves them with her brother, Ed, who helped build the walkway. She puts on a hard hat and climbs into her safety harness. The harness has two six-foot lengths of rope attached. At the end of the ropes are Jumars, or ascenders. Jumars are used in technical rock climbing. The metal U-shaped device has a hinged and grooved gate that allows the rope to slide up as one climbs but locks instantly with downward motion. To descend, the climber must manually push the gate open to allow the rope to slide through.

“Bye, Mom.” James waves as he watches his mother begin her climb at the base of the *Ormosia*, or cabbage bark tree.

“Remember, it’s our turn next,” calls Edward as he watches his mom climb higher.

The boys have accompanied their mother to rainforests all over the world. Now, for the first time, Meg feels they are old enough to go up with her into the canopy. She has ordered special child-size harnesses for them. They are excited, but first their mother has work to do—traps to set for insects, leaves to tag, drawings to make, flowers to count. It will be many hours before they can join her. In the meantime, they can swim in the creek and explore a secret cave that their uncle promises to take them to.

**Think: How is
Meg like a
spider
monkey?**

Meg is fast. Within a few short minutes she has ascended 80 feet (24 meters). Then the metal ladders fixed to the Ormosia tree run out; for the next 15 feet (4.5 meters) the real climbing begins. Metal staples project from the tree trunk. These are the footholds. For the unpracticed they are scary. They seem spaced too far apart for easy stepping. There is a rhythm. A climber must clip the safety lines securely to wires strung above and then step. Clip, step, unclip one Jumar. Clip, step, unclip again. It is a mosaic of hand- and footwork until Meg is perhaps 95 feet (29 meters) above the ground and approaching the first platform. Meg swings herself onto the platform with the seeming ease of a spider monkey negotiating canopy vines. Now she is at the beginning of the walkway.

The walkway itself is Y-shaped. The main stem of the Y spans nearly one hundred feet (thirty meters) across Blue Creek to the other bank. Once across, the arms of the Y diverge into two separate walkways that tie into trees on the opposite bank of the creek. There is a major observation platform at the junction of the Y's arms and then others, higher up, that provide views at different levels.

When viewed from below, the canopy appears to be one big maze of tangled vines and foliage, but within the canopy there are a variety of distinct regions. Some might be sunny, some shadier; in some areas the branches of a tree grow at steep angles, while in another region they grow more horizontally.

At some points in the canopy there is what researchers call crown shyness, by which they mean the spacing between the crowns of the trees. This spacing influences what lives where in the canopy, providing pathways for toucans and macaws and other creatures that fly. For those creatures that swing or glide or climb, there are the "emerald highways" strung together by vines and lianas that lace the tops of the trees together into a web for commuting life.

First Read:

Write/Scholar Discourse: What is the central idea of these pages?

2nd Read of Paragraphs 1-2: Read Together

Thinking/Scholar Discourse: What is the purpose of the first 2 paragraphs? (How do they connect to the other pages in this section?)

Shared Writing:

Vocabulary	Gist Sketch
<p>Invincible:</p> <p>Pavilion:</p>	

Paragraphs 4-7: Partner Read

Gist:

Vocabulary	Gist Sketch
Drizzling: Jumars:	

Paragraphs 8-9: Partner Read

Gist:

Vocabulary	Gist Sketch
Ascended: Ease:	



Name: _____

Week 14 Day 2 Date: _____

BCCS Boys

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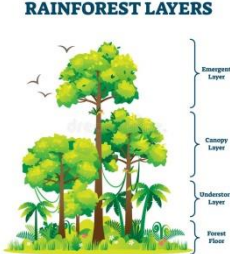


Do Now

1. Why did the author compare Meg Lowman to a spider monkey on the last few pages?

Unit 2, Module 2

Standard	RI.5.3: Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.
LEQ	How can I identify the _____ in a procedure?
Objective	I can identify the steps in Meg Lowman's _____.
Assignment to Submit	Exit Ticket (Google Form)

Input: Vocabulary

emergent	walkway	Mayan
A plant that is taller than the surrounding vegetation.	A raised passageway that connects different sections of an area.	Indigenous people of Mexico and Central America.
		

Input/CFU: “The Most Beautiful Roof in the World”: Today’s Excerpt



Meg has now crossed the creek. She is climbing to the first observation platform, 110 feet (33.5 meters) above the ground. She can hear monkey chatter just above her. She stops, balances on a staple, and looks straight up. There is a sudden dark streak against the sky. Two spider monkeys spring through the branches. They move in fluid loops and arcs, dancing in a tangled rhythm as they alternately grasp with hands, feet, and tail. The space between the branches changes with each new grip, making a shifting geometry against the sky of sliding rectangles, split-second parabolas, and drifting squares. The first monkey pauses at the end of a limb.

Spider monkeys prefer the middle layers of the canopy. The capuchins are often found in the lower levels, and the howler monkeys that bellow at dawn like distant foghorns live at the very top.

Meg begins taking “snapshots” of leaf-eating activity. Last month she had marked every leaf on several branches with a number. She now checks to see how much of each leaf has been eaten.

Underline the beginning of Meg’s experiment.

Underline the steps of Meg's experiment.

“Leaf number five is zero percent. Number three is fifty percent. Leaf number four is zero percent, with three minings,” Meg calls out to a graduate student assistant, who writes the figures down in a notebook. Mining occurs when an insect eats through just one layer of the leaf's surface, which results in a browning pattern. There might also be galls on a leaf to be noted. In this way Meg acquires her snapshot of leaf-eating activity on particular trees in certain regions of the canopy. She will later compare these figures and notations with what she already knows about the hatching periods of certain insect populations. She has a hunch that the hatchings are synchronized to occur when certain leaves flush, or first grow, and are at their most tender for eating. Through many years of research, Meg has seen a pattern, and her theory is that the newest leaves are the tastiest for insects. Within a matter of two months, 25 percent of the leaf will probably be eaten. The rate slows down as the tender young leaves grow older and tougher.



Meg and her assistant work for the better part of an hour making snapshots of eaten leaves. She then gets out a few mesh bags. It is necessary for a scientist not only to observe ongoing processes but to ask new questions that might only be answered by setting up experiments that often interrupt natural processes. With the mesh bags Meg is going to begin an exclusion experiment. She will tie each bag onto a branch, protecting its leaves from insect predators. Nearby will be another branch without a bag (called a control). She wants to know if by excluding one variable (the leaf-eating insects), the new growth will differ. If there is a barrier, those new leaves will not be eaten, but will this cause even more new leaves to flush out? Or does the fact that a branch's new leaves are being consumed stimulate the tree to produce more?

Application:

What is Meg's experiment?

Meg is studying _____ and the effect of their _____ on rainforest growth.

She is trying to see if leaves grow _____ or _____ if they have been nibbled on by _____.

Step Number	Description



Name: _____

Week 14 Day 3 Date: _____

BCCS Boys

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Mid-Unit Assessment
Module 2 Unit 2

Directions: Read and annotate the following pages from “The Most Beautiful Roof in the World”. Answer the questions that follow in the Google Form.



Meg climbs higher into the canopy. The light twinkles brightly. Above her is a cascade of orchids. Suddenly, through the avenues of emerald light, like winged rainbows two macaws sweep through the canopy. The very air seems splattered with their brilliant color. The birds fly in silence, but the spider monkeys screech in alarm. Branches shake. The bright pair settles in a nearby kapok tree. There might be a nest with chicks in it, for this is the time when the young hatch. Or the pair might be foraging in the surrounding mahogany and kapok trees for fruits and nuts. The beaks of macaws are among the most powerful in the world; macaws can crack almost any nut or seed and also deliver the most wicked of bites. The two birds suddenly explode from the tree like a burst of fireworks and go to another tree nearby. Meg thinks that they are most likely foraging for food to bring to their young. They deliver the food by first chewing it up until it is a pulpy mass that they then swallow and store in a food pouch. When they return to their young, they will regurgitate this food into the mouths of their chicks. Soon they fly off. Meg wishes James and Edward could have seen them.

Meg continues climbing up. She reaches the third platform, 115 feet (35 meters) aboveground. This platform is built in

the spreading branches of a Nargusta tree. Two lianas snake out along one branch, seeming to choke it in their twisted grip. From this platform she has a good view of four ant gardens she is monitoring as well as of two very special bromeliads.

First she peeks in on the ant gardens. They appear to be almost hanging, with their tendrils of plant roots and vines swaying in the still air. They are actually firmly based on the branches of trees.

“Ah, there’s a new one just beginning!” Meg exclaims as she focuses her viewing scope. At the V where one branch joins another, there appears to be a clump of dirt with several small spear-shaped leaves, similar to those of a Christmas cactus, projecting. This, in fact, is the foundation for the little tree-top farms so carefully tended by several different species of ants.

Meg clips her Jumars into some extending cable so she can go higher and get closer to the ant gardens. She wants to observe a mature one that fairly bristles with plant life. Meg counts at least six different kinds of seedling plants here, ranging from orchids to cacti. A *Peperomia* plant forms its base. The ant gardens are magnets for epiphytic growth. Epiphytes, unlike vines or lianas, usually start growing from the canopy down. They need the tree for support. They root on the bark or soil found on the tree. They often begin when a bird excretes a seed from overhead, or as in this case, when the ants themselves drag in bits of plant materials. The bits take root, the seeds sprout. The little ant farmers tend them night and day, and in return they feed off the glucose and proteins that the plants contain in their succaries, the sugary deposits made by the plants’ metabolic processes. Scientists think that the ant gardens themselves may be of benefit to more than just the ants, that these gardens help the tree itself by allowing it to capture more solar energy and to trap atmospheric nutrients that might slip off a bare trunk.

1. Choose the letter next to the name of the tree or plant that is NOT found in the area Meg Lowman is studying.
 - A. lianas
 - B. Nargusta tree
 - C. Christmas cactus
 - D. Kapok tree
2. In the sentence, “From this platform she has a good view of four ant gardens she is *monitoring*,” what does the word *monitoring* mean? Support your answer with evidence from the text.

Write your paragraph response in the Google Form! (2 points)

3. Epiphytes are _____ vines and lianas because they usually start growing from the canopy down.
 - A. unlike
 - B. like

4. The text tells us that *epiphytes* root on the bark or soil found on a tree. Number each step (1–6) to show the order of epiphyte growth. (2 points)

_____ Seeds sprout

_____ Plants deposit sugars.

_____ The plant takes root.

_____ A bird excretes a seed from overhead, or ants drag in bits of plant material.

_____ Ants feed off the glucose proteins of the plants’ succaries.

_____ Ant farmers tend the sprouts.

5. The author states: “Scientists think that the ant gardens themselves may be of *benefit* to more than just the ants.” What does the word *benefit* mean in this sentence? In what way(s) do the ant gardens *benefit* more than just the ants? Quote the text in your answer.

Write your response in the Google Form! (2 points)



Name: _____

Week 14 Day 4 Date: _____

BCCS Boys

MIT/Stanford

Directions: Complete the first read and second read for Day #4.

Animals of the Tropical Rainforest

by ReadWorks



Where can you find more animal species than anywhere else in the world? It's not a zoo or the circus. It's a very special type of ecosystem called a rainforest, and most rainforests can be found in tropical climates in the Southern Hemisphere.

Why are rainforests only found in certain parts of the globe? Let's start with geography. A "hemisphere" is a half of the earth, so the Northern Hemisphere is the northern half and the Southern Hemisphere is the southern half of Earth. They are divided by a line called the equator. The Northern Hemisphere starts just above the equator and ends at the Arctic Circle. The Southern Hemisphere starts just below the equator and ends at the South Pole in Antarctica.

The two most common climates in the Southern Hemisphere, temperate and tropical, both have lots of precipitation. The difference is that temperate climates have warm summers and cold winters, while tropical climates are warm all year long.

Because there's lots of rain and the temperature stays at about 75-85 degrees Fahrenheit year round, rainforests in tropical climates have optimal conditions for many animal species. Rainforest animals don't have to worry about freezing during the winter or finding shade in the summer. Plus, because it rains almost every day, animals rarely have to search for water. This makes tropical rainforests a suitable home for many species.

In addition to their tropical climates, another reason why rainforests are home to so many different types of animals is because they are some of the oldest *ecosystems* on Earth. Scientists think that some

rainforests have been around since dinosaurs roamed the earth at least 100 million years ago.

One of the rainforests in the world is the Amazon rainforest in Brazil. Jaguars, toucans, parrots, and tarantulas all call it home. Yet this is only a small sample of rainforest animals. Many other rare and often endangered animals can be found in rainforests, like the okapi. This beautiful creature has striped hindquarters and front legs like a zebra. Okapis also have tall perky ears, like a giraffe, and they mostly live in the Ituri rainforest of Central Africa. In fact, there are so many different types of animals in tropical rainforests that we haven't been able to name all the species yet.

Rainforests are also home to some animals you might want to avoid, like flying snakes (although their name is actually a misnomer since they can only glide and not gain altitude) and spiders that eat birds. Other rainforest animals, like the coral snake and the poison arrow frog, produce a natural poison that protects them from harm. Get too close, and they could easily harm you with poison. Many of these species are *endemic* to tropical rainforests, meaning that rainforests are the only place they live on Earth.

Some species have had to adapt to their surroundings in the rainforest in order to survive. For example, toucans and parrots both have very large, strong beaks. These powerful beaks make it easy for them to crack open the tough shells of nuts that grow on many rainforest trees. Birds with small beaks, like robins and sparrows living in the Northern Hemisphere, probably would not be able to survive in the rainforest without being able to crack open hard nuts.

Another way animals adapt to life in the rainforest is by camouflaging themselves to hide from predators. An insect called the "walking stick" lives in the palm tree, and it blends in so well with it that it's practically unnoticeable unless it moves. When some butterflies close their wings, they look identical to leaves, which masks them from predators.

Despite the biodiversity in the rainforests of the Southern Hemisphere, many species are quickly becoming extinct, as people cut down trees and destroy natural habitats. Other threats to species of the rainforest include illegally trading monkeys to sell them as pets and killing jaguars for their highly-valued skins. Pollution from mining has killed many types of fish as well.

Because of the unique tropical climate in rainforests of the Southern Hemisphere, the animals within these ecosystems most likely cannot survive elsewhere if their habitats are destroyed. It's crucial to take care of our planet, especially the rainforests, so that these animals can continue to thrive.

Topic: _____

Central Idea:



Name: _____

Week 14 Day 5 Date: _____

BCCS Boys

MIT/Stanford

Directions: Answer the comprehension questions based on yesterday's article.

1. In which ecosystem can you find more animal species than anywhere else in the world?

- A. grass plains
- B. desert
- C. urban city
- D. rainforest

2. What does the author describe in the passage?

- A. how the Ice Age destroyed many old rainforests
- B. the climates of different countries in the Southern Hemisphere
- C. the conditions that make tropical rainforests ideal environments for many species
- D. different species that live in temperate forests

3. Tropical rainforests have optimal conditions for many animal species. What evidence from the text supports this conclusion?

- A. "Rainforest animals don't have to worry about freezing during the winter or finding shade in the summer."
- B. "The difference is that temperate climates have warm summers and cold winters, while tropical climates are warm all year long."
- C. "The two most common climates in the Southern Hemisphere, temperate and tropical, both have lots of precipitation."
- D. "[The Northern and Southern Hemispheres] are divided by a line called the equator."

4. Why do rainforests have some of the most diverse plant and animal life on earth?

- A. because tropical explorers have introduced many new species to rainforests during their explorations
- B. because they are some of the oldest ecosystems on earth, and have optimal conditions for many species
- C. because many animals migrated to rainforests as humans and natural forces destroyed their habitats
- D. because rainforests are the largest ecosystems on the planet

5. What is this passage mainly about?

- A. types of climates
- B. the Southern Hemisphere
- C. tropical rainforests
- D. environmental preservation

6. Read the following sentences: "Where can you find more animal species than anywhere else in the world? It's not a zoo or the circus. It's a very special type of ecosystem called a rainforest, and most can be found in tropical climates in the Southern Hemisphere. [...] Despite the **biodiversity** in the rainforests of the Southern Hemisphere, many species are quickly becoming extinct, as people cut down trees and destroy natural habitats."

What does **biodiversity** mean?

- A. having a range of organisms in an environment
- B. having organisms that are similar in an environment
- C. having very few species in an environment
- D. having species that have adapted to different environments

7. Choose the answer that best completes the sentence below.

Different animals have adapted to life in the rainforest in different ways, _____ camouflaging themselves.

- A. finally
- B. however
- C. although
- D. such as



Name _____

5th Grade Modified ELA Remote Learning Packet

Week 15



Dear Educator,

My signature is proof that I have reviewed my scholar's work and supported him to the best of my ability to complete all assignments.

(Parent Signature)

(Date)

Parents please note that all academic packets are also available on our website at www.brighterchoice.org under the heading "Remote Learning." All academic packet assignments are mandatory and must be completed by all scholars.



Name: _____

Week 15 Day 1 Date: _____

BCCS Boys

MIT/Stanford

Directions: Complete the first read and second read for Day #1.

Drip-Tips and Other Adaptations in the Rainforest

by Mimi Jorling



Tropical rainforests have ideal climates for plant growth. Tropical rainforests are hot, humid, and wet. They have abundant rainfall and are warm year-round. Temperatures range from about 85 degrees Fahrenheit during the day to 70 at night. Tropical rainforests get at least 80 inches of rainfall each year. (Compare that to how much your town or city gets each year.) These two factors also create challenges for the plants that live there. As a result, plants in tropical rainforests have adapted to these conditions by making adjustments in how they grow.

The perfect conditions for plant life—warm temperatures and plenty of water—cause plants to grow quickly. One consequence of rapid plant growth is the depletion of nutrients in the soil. It also creates a thick layer of leaves in the upper part of the forest (the canopy) that blocks sunlight from reaching the forest floor.

Most plants get their nutrients, water, and oxygen from soil. However, in the rainforest, where soil is not nutrient-rich, many plants don't rely on it for their source of food. Some plants called epiphytes, or air plants, have learned to get water and nutrients from the air. Some examples of epiphytes in rainforests are mosses, lichens, and orchids. Although they often live on other plants, they don't take any nutrients from the other plant—they get what they need straight from the air with special root systems.

Other plants that grow on plants actually DO take nutrients from that plant. They are called

parasitic plants, and the plant they grow on is called a host plant. Instead of getting food and water from the soil, parasitic plants have developed roots to cling to a host plant, pierce through its leaves, stem, or trunk, and suck the nutrients out of the host. An example of a parasitic plant you might know is mistletoe. Parasitic plants can kill their host plant if they grow too rapidly. However, they tend to *not* kill their host plant because without a host, the parasitic plant will also die.

Another condition created by rapid plant growth is a lush canopy that shades out plants living below. Large trees grow quickly, reaching for sunlight. They create a dense shade that prevents sunlight from reaching the forest floor. In fact, only about 1 to 2% of sunlight reaches the ground in a tropical forest. Since plants depend on sunlight for growth, very few plants live on the ground. Instead, they find ways to live on other plants by climbing them, as vines do, or by growing very large, dark green leaves to absorb as much sunlight as possible.

Hot, humid, and wet conditions are also ideal for bacteria and fungi to grow. Water trapped in the crevices of a plant, in combination with warm temperatures, is a breeding ground for bacterial and fungal growth, which can harm plants. One adaptation many plants have made in the tropical forest is to develop smooth bark so that water runs off quickly. Another adjustment plants have made to shed water efficiently is to grow leaves with 'drip tips.' This shape prevents water from collecting on leaves. Look at the shape of leaves of plants around you. If possible, and after checking with an adult, gently pour water on the plant and watch where it goes. It may be channeled toward the stem of the plant or far away from it. These observations can give you clues to how a plant lives.

The environments plants and animals live in provide useful and harmful conditions for living. As a result, all living things must learn how to adapt to the challenges of where they live. The adaptations that plants in a tropical rainforest have help them survive in their particular environment.

Topic: _____

Central Idea:



Name: _____

Week 15 Day 2 Date: _____

BCCS Boys

MIT/Stanford

Directions: Answer the following questions based on the article in Day #1.

1. What are the climates of tropical rainforests ideal, or perfect, for?

- A. building roads
- B. raising cattle
- C. extreme sports
- D. plant growth

2. One effect of rapid plant growth is the depletion of nutrients in the soil. What is another effect of rapid plant growth?

- A. the depletion of animal life in the lower part of the rainforest
- B. the creation of a thick layer of leaves in the upper part of the rainforest
- C. an increase in temperature from 70 degrees Fahrenheit to 85 degrees Fahrenheit
- D. a decrease in rainfall from 80 inches each year to 65 inches each year

3. Read these sentences from the text:

"There are also some plants called parasitic plants. They grow on other plants, their host plants. Parasitic plants actually DO take nutrients from their host plants. Instead of getting food and water from the soil, parasitic plants have developed roots to cling to a host plant, pierce through its leaves, stem, or trunk, and suck the nutrients out of the host. An example of a parasitic plant you might know is mistletoe. Parasitic plants can kill their host plants if they grow too rapidly."

Based on this evidence, how might a rapidly growing parasitic plant kill its host plant?

- A. by sucking too many nutrients out of its host plant
- B. by sucking too few nutrients out of its host plant
- C. by preventing the host plant from taking in food and water from the soil
- D. by trying to help the host plant take in food and water from the soil

4. Read these sentences from the text:

"Another condition created by rapid plant growth is a lush canopy that shades out plants living below. Large trees grow quickly, reaching for sunlight. They create a dense shade that prevents sunlight from reaching the forest floor. In fact, only about 1% to 2% of sunlight reaches the ground in a tropical forest. Since plants depend on sunlight for growth, very few plants live on the ground. Instead, they find ways to live on other plants by climbing them, as vines do, or by growing very large, dark green leaves to absorb as much sunlight as possible."

Based on this information, what can you conclude about the connection between a leaf's size and the amount of sunlight it absorbs?

- A. The smaller a leaf is, the more sunlight it absorbs.
- B. The larger a leaf is, the more sunlight it absorbs.
- C. The connection between the size of a leaf and the amount of sunlight it absorbs cannot be predicted.
- D. Large leaves and small leaves absorb about the same amount of sunlight.

5. What is the main idea of this text?

- A. Some plants, such as mosses, lichens, and orchids, have learned to get water and nutrients from the air.
- B. Instead of getting food and water from the soil, parasitic plants have developed roots to cling to a host plant, pierce through its leaves, stem, or trunk, and suck out nutrients.
- C. Plants in tropical rainforests have adapted to their warm and wet conditions by making adjustments in how they grow.
- D. Water trapped in the crevices of a plant, in combination with warm temperatures, is a breeding ground for bacterial and fungal growth.



Name: _____

Week 15 Day 3 Date: _____

BCCS Boys

MIT/Stanford

Directions: Complete the first and second read of this article.

The Tropical Rainforest

Rainforest Series, Part 1 - by Mikki Sadil

Tropical rainforests are among the most mysterious of all geographical biomes in the world. A biome is an area with very distinctive plants and animals that have adapted to life in that particular environment.

Rainforests have covered large portions of the Earth for millions of years, and can have trees that are 1,000 years-old or more. They are called *rainforests* because they are among the

wettest areas on Earth, receiving anywhere from 80 to 100 inches of rain a year. In most rainforests, the temperature ranges from 70 to 85 degrees Fahrenheit all year long, and the air is almost always humid.

Rainforests have four very distinct layers of trees. The first is the emergent layer which has giant trees growing from 100 to 240 feet tall. These trees have umbrella-shaped crowns that grow high above the rest of the forest. They have their own distinct plant and animal life.

The next layer is called the canopy. These trees grow up to 130 feet tall, and they form a tight canopy, or covering, over the rest of the forest which allows very little sunlight to come down. The branches and trunks of these trees are covered with smaller plants and appear to be tied together with hundreds of vines. About 90% of all rainforest animals live way up high in the canopy.



The third layer is the understory, and it's very shady. Only about 15% of the sunlight from the canopy falls, and it tends to be very warm and humid. Trees and leafy plants that require little sun grow here, with the trees growing to about 60 ft. This layer has many smaller trees, shrubs, vines, and plants, but little air movement. There are many animals and insects living in this layer.

The final layer of the rainforest is the forest floor. It is surprisingly dark and less than 2% of the sun's light reaches this area. Because the sun's rays don't shine on the ground, there is very little plant life on the forest floor. It is an area covered with fallen leaves, seeds, dead flowers, and fruits and branches that decompose very quickly. It also has a distinctive variety of animals and plants that live here.

Rainforest Facts

- Rainforests produce about 40% of the world's oxygen.
- About 25% of all medicines come from rainforest plants.
- 1,400 plants in the rainforest are believed to offer cures for cancer.





Name: _____

Week 15 Day 4 Date: _____

BCCS Boys

MIT/Stanford

Directions: Complete the comprehension questions for yesterday's article.

1. In a rainforest, the tallest trees can grow...
- a. almost 200 feet tall
 - b. more than 200 yards tall
 - c. over 270 feet tall
 - d. almost 250 feet tall



2. The forest floor tends to be very dark. Why?

3. What is a biome?

4. Most animals that live in the rainforest live in the...
- a. emergent layer
 - b. canopy
 - c. understory
 - d. forest floor

5. Read the following sentence from the article and choose the best definition for the underlined word.

In most rainforests, the temperature ranges from 70 to 85 degrees Fahrenheit all year long, and the air is almost always humid.

The underlined word means...

- a. difficult to breathe
- b. containing lots of oxygen
- c. warm and comfortable
- d. containing lots of water vapor

Match each vocabulary word on the left with its definition on the right.



_____ 1. giant

_____ 2. umbrella

_____ 3. canopy

_____ 4. decompose

_____ 5. Fahrenheit

_____ 6. mysterious

_____ 7. adapted

a. difficult to understand

b. adjusted to certain conditions

c. covering

d. device for keeping rain or sun off of a person

e. decay; rot

f. huge

g. scale for measuring temperature commonly used in the USA



Name: _____

Week 15 Day 5 Date: _____

BCCS Boys

MIT/Stanford

Directions: Complete the writing assignment below based on the article, "Tropical Rainforest".

In the article, "Tropical Rainforest," you learned about the four different layers of the rainforest.

Write a short paragraph that compares and contrasts the rainforest's canopy and the forest floor. Be sure you tell how the canopy and floor are the same, and how they're different.