

EXPLAINING HOW REASONS AND EVIDENCE SUPPORT POINTS

4.R.3.B.b Read, infer, and draw conclusions to analyze, make inferences, and draw conclusions about persuasive text and use evidence from the text to explain the author's purpose and support the analysis.

CONTENTS

TEACHER NOTES

An introduction to the lessons and a brief discussion of the research used

to develop the instructional resources included in the lesson set.

LEARNING MAP TOOL

Overviews of the standards, the learning map section, and the nodes

addressed for each lesson.

INSTRUCTIONAL ACTIVITIES

FOR LESSONS 1–3

Detailed walkthroughs of each lesson.

Texts designed to support the skills students practice in the lessons. You

may use the provided text or select your own. (Follow all copyright restrictions and guidelines as they pertain to material you select for

classroom use from any other source.)

STUDENT HANDOUTS FOR

LESSONS 1–3

PASSAGES

Reproducible handouts students will use to complete activities during the

lessons.

Copyright © 2019 by The University of Kansas.

Enhanced Learning Maps developed these materials under a grant from the Department of Education, PR/Award # S368A150013. Contents do not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the Federal Government. Learning map materials are freely available for use by educators but may not be used for commercial purposes without written permission.

EXPLAINING HOW REASONS AND EVIDENCE SUPPORT POINTS

TEACHER NOTES

4.R.3.B.b, Lessons 1-3

UNIT SUMMARY

In this unit, students learn to explain how an author uses reasons and evidence to support specific points in an informational text. As students proceed through the lessons, they will progress from identifying reasons and evidence related to a given point for a specific topic to identifying a point, reasons, and evidence in an informational text. Students will learn to identify the relationship between a point, reasons, and evidence and to explain how reasons and evidence support a point made in the text.

Lesson 1: In this lesson, students review the difference between a point, a reason, and a piece of evidence. The class will discuss the difference between an opinion, such as a point, and a fact, such as a piece of evidence. Students learn that a reason supports a point and a piece of evidence provides factual support for a reason. You demonstrate the relationships in an informational paragraph by brainstorming points, reasons, and evidence related to a familiar topic. Then students practice generating their own points, reasons, and evidence about the topic.

Lesson 2: This lesson extends students' understanding of points, reasons, and evidence to informational text. Students identify the point in a paragraph and locate reasons and evidence to support the point in the text and images.

Lesson 3: This lesson gives students the opportunity to practice identifying points, reasons, and evidence with a new informational texts. Students also learn to describe how the reasons and evidence support the paragraph's point.

Throughout the lessons, students will gain experience in identifying points, reasons, and evidence and in determining and describing the relationship between a point and its supporting reasons and evidence in a text.

Research Findings

Lesson Strategies, Approaches, or Activities

Authors use individual points to provide the foundation for their claims on a topic. The point is typically in the main idea position of a paragraph, usually the first sentence. (Chambliss, 1995) To understand a point and its supporting material in argumentative texts, readers must first be able to differentiate between facts and opinions. (Wallace, Hand, & Yang, 2004)	In Lesson 1, students gain understanding that a point is the author's opinion on the text's topic.
Fourth grade students have difficulty identifying text structure and thus typically recall information from these elements as a list of details. (Coté, Goldman, & Saul, 1998) When students gain the ability to identify text structure, they use the text structure to better comprehend the information. (Chambliss & Murphy, 2010) Effective strategies for teaching about argumentative texts focus on analyzing text structure. (Meyer, Brandt, & Bluth, 1980; Meyer & Freedle, 1984; Meyer & Rice, 1982)	Throughout the unit, students deconstruct text to understand how points, reasons, and evidence in an informational paragraph are related.
To understand the structure of an informational paragraph, readers need to locate the factual evidence and reasons in the text. (Wallace, Hand, & Yang, 2004)	In Lessons 2 and 3, students identify the reasons and evidence that support a paragraph's point.

BIBLIOGRAPHY

Chambliss, M. J. (1995). Text cues and strategies successful readers use to construct the gist of lengthy written arguments. Reading Research Quarterly, 30(4), 778–807. doi:10.2307/748198

Chambliss, M. J., & Murphy, P. K. (2010). Fourth and fifth graders representing the argument structure in written texts. *Discourse Processes, 34*(1), 91–115. doi: 10.1207/S15326950DP3401_4

- Coté, N., Goldman, S. R., & Saul, E. U. (1998). Students making sense of informational text: Relations between processing and representation. *Discourse Processes*, 25(1), 1–53. doi:10.1080/01638539809545019
- Meyer, B. J. F., Brandt, D. H., & Bluth, G. J. (1980). Use of top-level structure in text: Key for reading comprehension of ninth-grade students. *Reading Research Quarterly*, 16(1), 72–103.
- Meyer, B. J. F., & Freedle, R. O. (1984). Effects of discourse type on recall. *American Educational Research Journal*, 21(1), 121–143. doi:10.3102/00028312021001121
- Meyer, B. J. F., & Rice, G. E. (1982). The interaction of reader strategies and the organization of text. *Text:*An Interdisciplinary Journal for the Study of Discourse, 2(1–3), 155–192. doi:10.1515/text.1.1982.2.1-3.155
- Wallace, C. S., Hand, B., & Yang, E. (2004). The science writing heuristic: Using writing as a tool for learning in the laboratory. In E. W. Saul (Ed.), *Crossing borders in literacy and science instruction: Perspectives on theory and practice* (pp. 355–368). Newark, DE: International Reading Association.

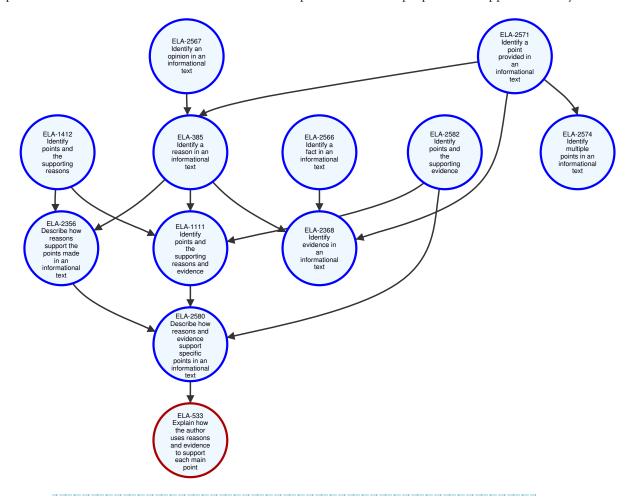
IDENTIFYING POINTS, REASONS, AND EVIDENCE RELATED TO A TOPIC

LEARNING MAP TOOL

4.R.3.B.b

STANDARD

4.R.3.B.b Read, infer, and draw conclusions to analyze, make inferences, and draw conclusions about persuasive text and use evidence from the text to explain the author's purpose and support the analysis.



* A section of the learning map model for 4.R.3.B.b.

Node	
ID	

Node Name

Node Description

ELA-385	IDENTIFY A REASON IN AN INFORMATIONAL TEXT	Identify a reason used by an author of an informational text to support a point made about a topic.
ELA-533	EXPLAIN HOW THE AUTHOR USES REASONS AND EVIDENCE TO SUPPORT EACH MAIN POINT	Explain how the author supports each point made in an informational text by providing reasons and evidence relevant to that specific point.
ELA-1111	IDENTIFY POINTS AND THE SUPPORTING REASONS AND EVIDENCE	Identify points and both reasons and evidence (examples) an author uses in an informational text.
ELA-1412	IDENTIFY POINTS AND THE SUPPORTING REASONS	Identify points the supporting reasons made by an author in an informational text.
ELA-2356	DESCRIBE HOW REASONS SUPPORT THE POINTS MADE IN AN INFORMATIONAL TEXT	Describe how the author of an informational text supports specific points by providing specific reasons.
ELA-2368	IDENTIFY EVIDENCE IN AN INFORMATIONAL TEXT	Identify evidence that provides indirect factual support for a point made in an informational text. (At this time, students may be unable to identify the point the evidence directly supports.)
ELA-2566	IDENTIFY A FACT IN AN INFORMATIONAL TEXT	Identify a fact in an informational text that relates to the topic of the text.
ELA-2567	IDENTIFY AN OPINION IN AN INFORMATIONAL TEXT	Identify an opinion in an informational text that relates to the topic of the text.
ELA-2571	IDENTIFY A POINT PROVIDED IN AN INFORMATIONAL TEXT	Identify the author's point related to a specific topic in an informational text. For example, in an informational text, identifying that removing vending machines from school is the author's point.
ELA-2574	IDENTIFY MULTIPLE POINTS IN AN INFORMATIONAL TEXT	Identify the multiple related points an author makes in an informational text.
ELA-2580	DESCRIBE HOW REASONS AND EVIDENCE SUPPORT SPECIFIC POINTS IN AN INFORMATIONAL TEXT	Describe how reasons and evidence combine to support specific points in an informational text.
ELA-2582	IDENTIFY POINTS AND THE SUPPORTING EVIDENCE	Identify points and the supporting evidence (examples) made by an author in an informational text.

IDENTIFYING POINTS, REASONS, AND EVIDENCE RELATED TO A TOPIC

INSTRUCTIONAL ACTIVITY

4.R.3.B.b, Lesson 1

LEARNING GOAL

In this lesson, students learn how to identify a point and relevant reasons and evidence.

STANDARD

4.R.3.B.b Read, infer, and draw conclusions to analyze, make inferences, and draw conclusions about persuasive text and use evidence from the text to explain the author's purpose and support the analysis.

PREPARATION

Before the lesson, identify two topics that are familiar to your students, for example, honeybees, dress codes, or whether schools should increase the length of recess. Both topics must have at least two sides from which they can be viewed. For each topic, prepare a list of reasons and evidence supporting each side.

HANDOUTS & MATERIALS

- list of reasons and evidence supporting different viewpoints of two familiar topics
- whiteboard
- ▶ STUDENT HANDOUT: REASONS AND EVIDENCE
- notebook paper

IMPLEMENTATION

As a class, turn the learning goal into an I Can statement: "I can identify points, evidence, and reasons related to a topic."

Review the difference between points, reasons, and evidence.

- A *point* is a main idea or a person's opinion on a topic (for example, The United States should continue to explore space).
- A *reason* is what a person uses to justify or explain a point (for example, There is a possibility of life on other planets).
- Evidence is relevant information, facts, or details that a person uses to support reasons related to a point (for example, Astronomers have identified planets that are similar to Earth).

Introduce the first selected topic by writing it on the board. Provide a short summary of the topic.

Draw a T-chart below the topic name, and **write** a main point related to the topic above each column. **Explain** how each point is a main idea or an opinion on the topic and how the two points are different from each other.

Model the process of producing a reason related to one of the points, and **explain** how the reason supports the point. **Write** the reason in the appropriate column of the T-chart.

Ask students to volunteer reasons supporting each of the points. When a student volunteers a reason, **pose questions** such as "Which point does this reason support?" and "How does this reason support the point?" **Write** each reason in the appropriate column.

After enough reasons have been collected, **model** the process of producing evidence. **Explain** how evidence is based on facts, how facts differ from opinions, and how evidence supports reasons. **Write** the piece of evidence next to the reason it supports.

Ask students to volunteer evidence supporting the identified reasons. When a student volunteers evidence, **pose questions** such as "How does this evidence support the reason?" **Write** each piece of evidence next to the appropriate reason.

Introduce the second selected topic by writing it on the board. Provide a short summary of the topic.

Ask students to identify points which could be made about the topic. Write the points on the board.

Model producing a reason and a piece of evidence that support one of the points. **Write** the reason and evidence next to the point on the board.

Group students in pairs, and pass out the STUDENT HANDOUT: REASONS AND EVIDENCE.

Direct student pairs to choose one of the points and to write the topic and their selected point on the first page of the handout. Next, students will write down three reasons and three pieces of evidence that support the point they chose.

Circulate and check for understanding as students write reasons and evidence.

CHECKING FOR UNDERSTANDING

Determine if students can IDENTIFY A POINT PROVIDED IN AN INFORMATIONAL TEXT (ELA-2571):

What is a point someone could make on this topic? Determine if students can IDENTIFY A REASON IN AN INFORMATIONAL TEXT (ELA-385)

What is a reason someone could use to support the point on this topic? Determine if students can IDENTIFY EVIDENCE IN AN INFORMATIONAL TEXT (ELA-2368):

What is a piece of evidence someone could use to provide a fact to support this reason?

When the activity is over, **ask** student pairs to share the point they used and to provide the reasons and evidence they used to support it. **Discuss** how the reasons justify the point while the evidence provides a factual foundation for the reasons.

As students share, facilitate a class discussion by asking the Checking for Understanding questions.

CHECKING FOR UNDERSTANDING

Determine if students can DESCRIBE HOW REASONS AND EVIDENCE SUPPORT SPECIFIC POINTS IN AN INFORMATIONAL TEXT (ELA-2580):

- How do your reasons and evidence relate to the point?
- How do your reasons and pieces of evidence support the point?

To close the lesson, have students write on an exit slip an explanation of points, reasons, and evidence and how they are different from one another. **Collect** the exit slip and the handouts.

For a discussion of the research that supports this instructional model, see the TEACHER NOTES for this lesson set.

REASONS AND EVIDENCE

STUDENT HANDOUT

Lesson 1

Topic:	:	
Point:		

Supporting Reasons	Supporting Evidence
1.	1.
2.	2.
3.	3.

IDENTIFYING POINTS, REASONS, AND EVIDENCE IN TEXTS WITH GRAPHICS

INSTRUCTIONAL ACTIVITY

4.R.3.B.b, Lesson 2

LEARNING GOAL

In this lesson, students learn to identify a point in an informational text and to explain how the reasons and evidence in the text, including graphs, charts, and illustrations, support the point.

STANDARD

4.R.3.B.b Read, infer, and draw conclusions to analyze, make inferences, and draw conclusions about persuasive text and use evidence from the text to explain the author's purpose and support the analysis.

PREPARATION

Before the lesson, identify a passage with three informational paragraphs that include graphics or illustrations from science or social studies texts that are familiar to your students. Each paragraph should present a single point and have reasons and evidence that support the point. Prepare to display the paragraphs with their graphics. This unit includes a passage, The Vanishing Rain Forest, which you are free to copy. Follow all copyright restrictions and guidelines as they pertain to material you select for classroom use.

MATERIALS

- ► PASSAGE: THE VANISHING RAIN FOREST
- ▶ STUDENT HANDOUT: REASONS AND EVIDENCE IN TEXT AND GRAPHICS
- sticky note for each student

IMPLEMENTATION

As a class, turn the learning goal into an I Can statement: "I can identify points, evidence, and reasons in informational texts that include graphics."

First, review the difference between points, reasons, and evidence.

Explain that today you will examine how images in an informational text help support the point the author is trying to make. Images in a text can be graphics, charts, or illustrations.

Group students in pairs or small groups. **Display** the paragraphs of the PASSAGE: THE VANISHING RAIN FOREST and assign one to each group. Each group should work with a different paragraph from those nearest them. **Pass out** STUDENT HANDOUT: REASONS AND EVIDENCE IN TEXT AND GRAPHICS to each student.

Ask students to read the paragraph and write down the point of the paragraph at the top of the handout. Next, **direct** groups to discuss what reasons or evidence in the paragraph support the point, including details in the image. **Instruct** students to write three reasons and three pieces of evidence from the text and image that support the point.

Circulate and check for understanding as groups discuss and write the point, reasons, and evidence.

CHECKING FOR UNDERSTANDING

Determine if students can IDENTIFY A POINT PROVIDED IN AN INFORMATIONAL TEXT (ELA-2571):

What point does this paragraph make?

Determine if students can IDENTIFY A REASON IN AN INFORMATIONAL TEXT (ELA-385):

Why does the author use this image to support the point? Determine if students can IDENTIFY EVIDENCE IN AN INFORMATIONAL TEXT (ELA-2368):

What evidence does the author include in this image to provide factual support for the reason?

NOTE: To extend the activity, have groups repeat the exercise with a second paragraph.

When the activity is over, **call on** students to state the point made in their paragraph and the reasons and evidence supporting it. **Ask** them to explain how the graphic, chart, or illustration supports the point. As students share, **facilitate** a discussion by asking the Checking for Understanding questions.

CHECKING FOR UNDERSTANDING

Determine if students can DESCRIBE HOW REASONS SUPPORT THE POINTS MADE IN AN INFORMATIONAL TEXT (ELA-2356):

What reasons and evidence support the point made in the paragraph? Determine if students can DESCRIBE HOW REASONS AND EVIDENCE SUPPORT SPECIFIC POINTS IN AN INFORMATIONAL TEXT (ELA-2580):

How does the image support the paragraph's point?

To close the lesson, **hand out** a sticky note to each student. **Instruct** students to write one question for the author based on the information they read today. Then **ask** students to place the sticky notes on chart paper or the whiteboard. **Share** some of the questions with the class as a reflection.

For a discussion of the research that supports this instructional model, see the TEACHER NOTES for this lesson set.

The Vanishing Rain Forest

by Lisa Harkrader

Its trees soar over 100 feet in the air. It gets over 60 inches of rain per year. It is filled with a rich variety of plant and animal species. It is a tropical rain forest¹, and it is in danger. Tropical rain forests grow in hot areas near the equator². They once covered 14% of Earth's land. Today they cover only 6%, and that number is getting smaller. Every second, we lose one and a half acres—about the size of a football field—of rain forest to deforestation³ by people and businesses, mainly for logging and farming. Loggers sell the trees for lumber or paper pulp. Farmers plant crops in the cleared land.

Rain Forests Matter

If you don't live near a rain forest, you may not think rain forests are important. But rain forests are important to everyone.

 $^{^{1}\}mathrm{a}$ dense forest that gets a lot of rain, usually found in tropical areas

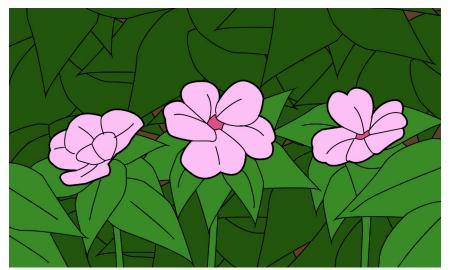
²the imaginary horizontal line around the middle of Earth

³the action of cutting down or burning large areas of trees in a forest



Tropical rain forests grow in hot areas near the equator.

Rain forests help Earth—and the people on it—in many ways.
Rain forests are sometimes called "Earth's lungs." Trees and other plants absorb carbon dioxide from the air and give off oxygen. Rain forest trees and plants give off over one-fourth of the world's oxygen—the oxygen we need to live. If you like to eat, rain forests are very important to you. About two-thirds of the world's plant species live in the rain forest. Most of the fruits, vegetables, spices, and nuts we eat today first grew in rain forests, including chocolate, bananas, tomatoes, sugar, and cinnamon. Also, many medicines come from rain forest plants. These medicines treat many problems, from headaches to cancer. Scientists continually examine rain forest plants, and new medicines will likely be found in rain forests in years to come. If we lose all rain forests, we may never discover lifesaving drugs.



Scientists have developed two powerful anticancer drugs from the Madagascar periwinkle, a rain forest plant that grows in Africa.

What Can We Do?

More than half of Earth's rain forests are gone. Scientists warn that unless we take steps to save them, rain forests could disappear completely within 40 years. Saving the rain forest may seem too big a problem for one person to solve. But when people, businesses, and governments work together, they can make a difference. Some countries have passed laws that help protect their rain forests. Conservation⁴ groups teach people and companies to earn money without destroying the forest. Rain forest plants are valuable as food and medicine. As part of a sustainable⁵ harvest, these plants can produce more income than the lumber and farming that destroy the rain forest. A sustainable

⁴protecting natural resources—such as soil, water, or forests—from harm

⁵using a resource in a way that does not permanently harm or entirely use up the resource

harvest allows new plants to grow, replacing the plants that were harvested. We can pressure governments and companies to protect the rain forest. We can refuse to buy food and wood products that are not harvested sustainably. They can use recycled products so that fewer trees need to be cut down.

People have been destroying rain forests for more than 100 years. Now it is up to people to save them.

Bibliography:

"Rain Forests." *National Geographic*. National Geographic Society. Web. 7 Feb. 2019. Retrieved from www.nationalgeographic.com/environment/habitats/rain-forests.

"Rain Forest Threats." *National Geographic*. National Geographic Society. Web. 7 Feb. 2019. Retrieved from www.nationalgeographic.com/environment/habitats/rain forest-threats.

Taylor, Leslie. "About the Rain Forest." The Healing Power of Rainforest Herbs. Garden City, NY: Square One Publishers, Inc., 2005. *Raintree*. Web. 7 Feb. 2019. Retrieved from www.rain-tree.com/facts.htm.

REASONS AND EVIDENCE IN TEXT AND GRAPHICS

STUDENT HANDOUT

Lesson 2

Point: _		

Supporting Reasons	Supporting Evidence
1.	1.
2.	2.
3.	3.

IDENTIFYING POINTS, REASONS, AND EVIDENCE IN INFORMATIONAL TEXTS

INSTRUCTIONAL ACTIVITY

4.R.3.B.b, Lesson 3

LEARNING GOAL

In this lesson, students learn how to identify multiple points, reasons, and evidence in informational texts and to explain how the reasons and evidence support specific points.

STANDARD

4.R.3.B.b Read, infer, and draw conclusions to analyze, make inferences, and draw conclusions about persuasive text and use evidence from the text to explain the author's purpose and support the analysis.

PREPARATION

Before the lesson, identify a passage with three informational paragraphs from science or social studies content. Each paragraph should present one explicitly stated point, and the three points should combine to form a main point. Each paragraph should contain several reasons and pieces of evidence. Arrange to display the text for the class. This unit includes a passage, ORANGUTANS: UNUSUAL AND ENDANGERED, which you are free to copy. Follow all copyright restrictions and guidelines as they pertain to material you select for classroom use.

MATERIALS

- ▶ PASSAGE: ORANGUTANS: UNUSUAL AND ENDANGERED
- ► STUDENT HANDOUT: HOW AN AUTHOR SUPPORTS A POINT
- whiteboard
- notebook paper

IMPLEMENTATION

As a class, turn the learning goal into an I Can statement: "I can identify multiple points in an informational text and the reasons and evidence that support the points."

Explain how informational texts include multiple points on the topic and how these points combine into a main point.

Group students in pairs. **Display** the PASSAGE: ORANGUTANS: UNUSUAL AND ENDANGERED and **assign** one of the paragraphs to each group. Then **pass out** the STUDENT HANDOUT: HOW AN AUTHOR SUPPORTS A POINT to each student.

Explain that students will become "text experts" on their paragraph. **Ask** pairs to discuss and write their paragraph's point, reasons, and evidence on the handout.

Next, **pair** each group with another group. **Direct** each partner team to explain their findings to the other team of students. The listening group will give feedback on whether the "text experts" explained the point, reasons, and evidence clearly. **Instruct** both groups to take turns sharing; then rotate pairs so that each group of students hears from at least two pairs of "text experts."

Walk around and ask the Checking for Understanding questions as students discuss.

CHECKING FOR UNDERSTANDING

Determine if students can IDENTIFY MULTIPLE POINTS IN AN INFORMATIONAL TEXT (ELA-2574):

How is this point similar to the others in the text? Determine if students can IDENTIFY A REASON IN AN INFORMATIONAL TEXT (ELA-385):

What is a reason the author uses to support the point in the text?

Determine if students can IDENTIFY EVIDENCE IN AN INFORMATIONAL TEXT (ELA-2368):

What evidence does the author use to provide support for each point in the text?

Ask for volunteer pairs to share out the point, reasons, and evidence in their paragraph. On the board, **collect** a list of the points students identified for each paragraph. **Ask** students to explain the similarities in what they wrote on the handout and what they heard from other pairs.

As pairs share, **facilitate** a discussion by asking the Checking for Understanding questions.

CHECKING FOR UNDERSTANDING

Determine if students can IDENTIFY A POINT PROVIDED IN AN INFORMATIONAL TEXT (ELA-2571):

What is the main point of the text?

Determine if students can DESCRIBE HOW REASONS AND EVIDENCE SUPPORT SPECIFIC POINTS IN AN INFORMATIONAL TEXT (ELA-2580):

How are the reasons and evidence in the paragraph related to the paragraph's point? Determine if students can EXPLAIN HOW THE AUTHOR USES REASONS AND EVIDENCE TO SUPPORT EACH MAIN POINT (ELA-533):

How does the author use the reasons and evidence to support the points made in the text?

To close the lesson, **instruct** the class to write a one-sentence summary that describes how all the paragraphs are related. **Collect** the summaries.

For a discussion of the research that supports this instructional model, see the TEACHER NOTES for this lesson set.

Orangutans: Unusual and Endangered

by Lisa Harkrader

Orangutans are unusual animals. All animal species are unique in some ways, but orangutans have several traits that set them apart from other animals. Gorillas, chimpanzees, bonobos, and orangutans are all great apes¹. But orangutans are the only great apes that are native to Asia. They live in the rain forests² of Borneo and Sumatra, two large islands in southeastern Asia. Orangutans are the largest arboreal³ animal in the world. They live in the rain forest canopy⁴. They rarely climb down from the treetops to the ground. Orangutans also stay with their mothers longer than any other mammal⁵ species except humans. Orangutan mothers carry their babies until the babies are about five years old. A young orangutan lives in its mother's nest until the orangutan is eight to 10 years old.

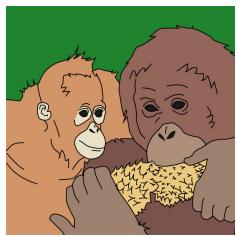
¹a member of the ape family—such as the gorilla, chimpanzee, bonobo, and orangutan—that closely resembles humans and does not have a tail

²a dense forest that gets a lot of rain, usually found in tropical areas

³living in trees

⁴the highest layer of the rain forest that forms a roof of branches over the lower layers

 $^{^{5}}$ a type of animal that has hair and feeds its babies with milk from the mother



Orangutans rarely climb down from the treetops to the ground. They eat and sleep in trees and drink water that pools in the trees' leaves and hollows. One of their favorite foods is the durian, a spiny and strong-smelling fruit.

Critically Endangered

Another striking—and troubling—fact about orangutans is that they are critically endangered⁶. Hundreds of thousands of orangutans once lived in the wild. Now fewer than 50,000 remain. Scientists believe that orangutans could become extinct⁷ in the next 50 years. The main threat to orangutans is habitat⁸ loss. They are losing their rain forest home, mainly because of logging and farming. Loggers cut and sell valuable rain forest trees. Farmers and agriculture companies cut down or burn large areas of rain forest to build palm plantations⁹.

⁶facing a serious risk of becoming extinct, or dying out

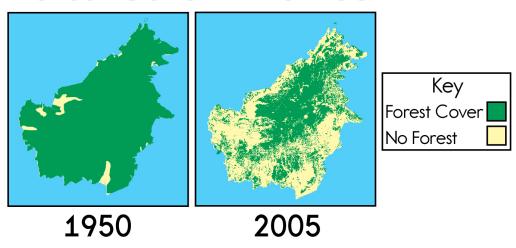
⁷no longer existing as an animal species

⁸the natural place an animal or plant lives

⁹a large farm

Uniquely, orangutans also produce offspring more slowly than any other mammal. This fact puts orangutans in even greater danger of becoming extinct. Female orangutans begin having babies at about age 16. They give birth every six to 10 years, so a female orangutan will have only two or three babies during her entire lifetime. When the orangutan population shrinks, the remaining orangutans do not reproduce quickly enough to restore their numbers.

Forest Cover in Borneo



In 1950, rain forest covered nearly all of Borneo. Fifty-five years later, in 2005, less than half remained.

New Discovery, New Risk

Scientists have long believed that only two species of orangutans exist: Bornean orangutans and Sumatran orangutans. But in 2005, scientists began studying a population of orangutans in the mountains of northern Sumatra. In 2017, they announced that this population is a third orangutan species: Tapanuli orangutans. Tapanuli orangutans are the rarest and most endangered species of great ape in the world. Only 800 Tapanuli orangutans exist. Their habitat is small; it is broken into three chunks that are separated by roads and farms, and it is shrinking quickly. Mining, farming, and illegal logging have destroyed much of the area's rain forest. More forest is being cleared to build a dam and power plant. Scientists warn that unless people take steps quickly to protect the species and its habitat, Tapanuli orangutans could soon become extinct. This means that the most recently found great ape species could become the next to vanish from the planet.

Bibliography:

Griffin, Andrew. "Scientists Just Found a New Orangutan. And It's Already Endangered." *The Independent*. Independent Digital News and Media, 2 Nov. 2017. Web. 13 February 2019. Retrieved from https://www.independent.co.uk/news/science/new-orangutan-endangered-tapanuli-great-ape-endangered-extinct-liverpool-a8034036.html.

Goldman, Jason G. "New Species of Orangutan Is Rarest Great Ape on Earth." *National Geographic*. National Geographic Society, 4 Nov. 2017. Web. 13 February 2019. Retrieved from https://news.nationalgeographic.com/2017/11/new-orangutan-species-sumatra-borneo-indonesia-animals.

"Orangutan." *WWF*. World Wildlife Fund. Web. 13 February 2019. Retrieved from www.worldwildlife.org/species/orangutan.

"Orangutan Behavior." *Orangutan Foundation International*. Orangutan Foundation International. Web. 13 February 2019. Retrieved from https://orangutan.org/orangutan-facts/orangutan-behavior.

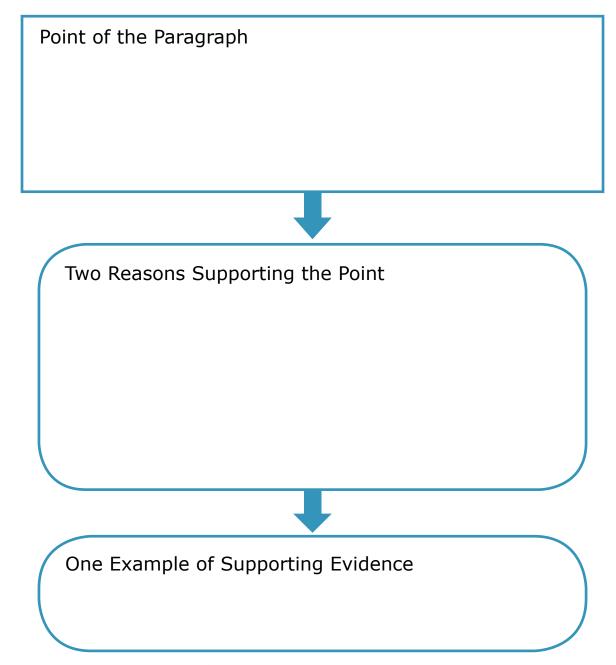
"Orangutan Conservation." *Orangutan Foundation International*. Orangutan Foundation International. Web. 13 February 2019. Retrieved from https://orangutan.org/orangutan-facts/why-is-the-orangutan-in-danger/.

How an Author Supports a Point

STUDENT HANDOUT

Lesson 3

Directions: Read the paragraph and fill in each box below.



Copyright © 2016 by The University of Kansas.