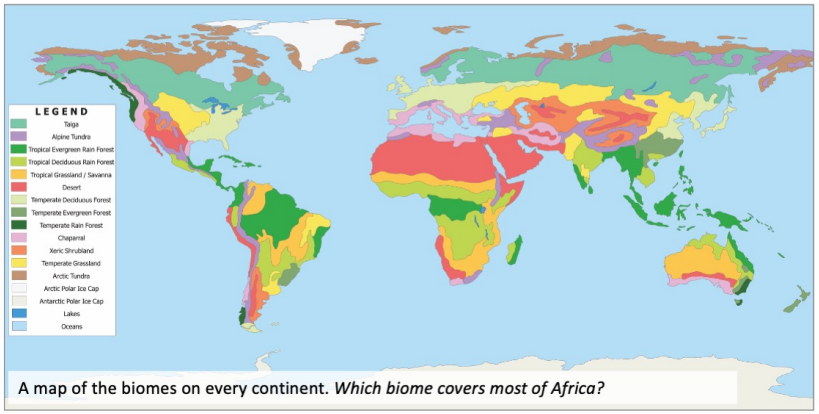
Supports science, reading, writing, and vocabulary!

SCIENCE PASSAGES

6 ARTICLES ABOUT BIOMES

LET'S EXPLORE SCIENCE

The World's Major Biomes



A map of the biomes on every continent. *Which biome covers most of Africa?*

What is a biome?

Biomes are very large sections of the Earth. Each of these sections is located in a different part of the planet with specific patterns of weather and types of soil. Because of this, the biomes allow different species of plants and animals to thrive.

There are seven major biomes that cover the planet. Here are their characteristics:

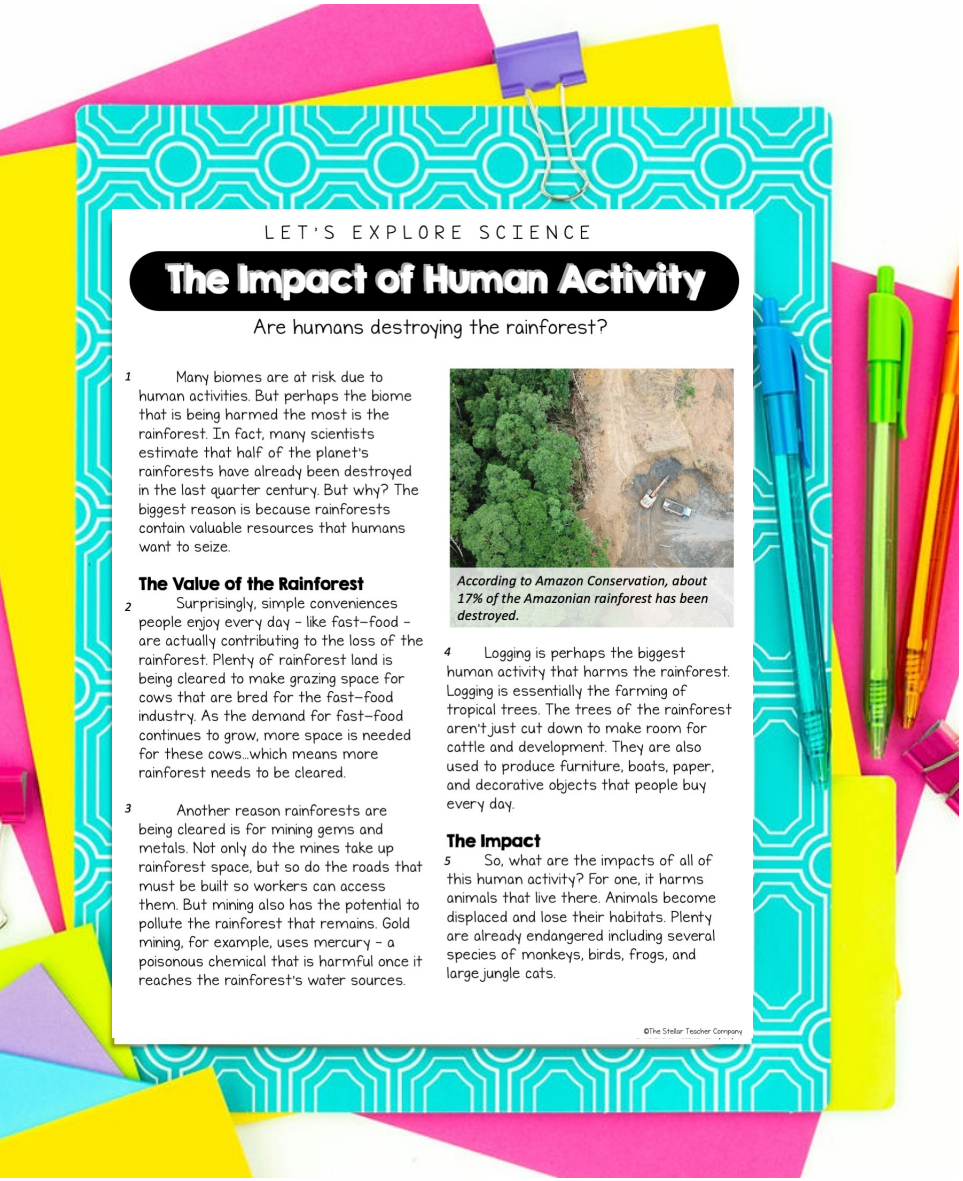
Tropical rainforests lie near the

Temperate rainforests are another major biome. Some of the largest are located on the western coasts of North America. They have mild temperatures (not too hot or cold) and two seasons. Winter is long and wet. Summer is short, foggy, and drier. This climate allows huge oak, elm, and birch trees to grow. It's also a pleasant environment for hawks, foxes, and deer to thrive.

Deserts are dry biomes – less than 10 inches of rain fall in deserts each year. The biggest deserts are found in

READING ACTIVITIES • COMPREHENSION CHECKS

3 REASONS TO LOVE
THESE NONFICTION SCIENCE ARTICLES



CROSS-CURRICULAR INSTRUCTION

Teachers are always short on time, and unfortunately this often means that science can take a hit. These science passages make it easy for you to teach key science content through a rich and engaging reading lesson. **You'll tackle multiple subjects at once.**

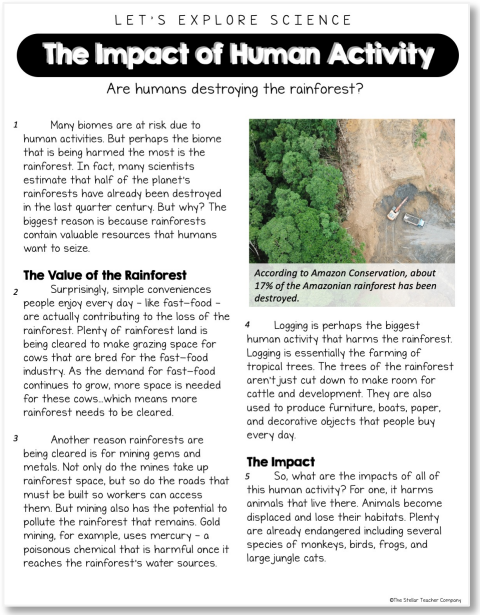
BUILDS BACKGROUND KNOWLEDGE

Building background knowledge in science is a key part of teaching reading. Each text in this set connects to the overarching topic of biomes. As students are reading, they will be able to connect what they learned in one passage to another passage they read from this set.

HIGH INTERESTS TEXTS

Not only do these texts connect to key sciences topics and concepts, but they are also highly engaging and interesting to read. Your students will love learning about the topics included in this science set!

WHAT'S INCLUDED



LET'S EXPLORE SCIENCE

The Impact of Human Activity

Are humans destroying the rainforest?

1 Many biomes are at risk due to human activities. But perhaps the biome that is being harmed the most is the rainforest. In fact, many scientists estimate that half of the planet's rainforests have already been destroyed in the last quarter century. But why? The biggest reason is because rainforests contain valuable resources that humans want to seize.

The Value of the Rainforest

2 Surprisingly, simple conveniences people enjoy every day – like fast-food – are actually contributing to the loss of the rainforest. Plenty of rainforest land is being cleared to make grazing space for cows that are bred for the fast-food industry. As the demand for fast-food continues to grow, more space is needed for these cows...which means more rainforest needs to be cleared.

3 Another reason rainforests are being cleared is for mining gems and metals. Not only do the mines take up rainforest space, but so do the roads that must be built so workers can access them. But mining also has the potential to pollute the rainforest that remains. Gold mining, for example, uses mercury – a poisonous chemical that is harmful once it reaches the rainforest's water sources.

According to Amazon Conservation, about 17% of the Amazonian rainforest has been destroyed.

4 Logging is perhaps the biggest human activity that harms the rainforest. Logging is essentially the farming of tropical trees. The trees of the rainforest aren't just cut down to make room for cattle and development. They are also used to produce furniture, boats, paper, and decorative objects that people buy every day.

The Impact

5 So, what are the impacts of all of this human activity? For one, it harms animals that live there. Animals become displaced and lose their habitats. Plenty are already endangered including several species of monkeys, birds, frogs, and large jungle cats.

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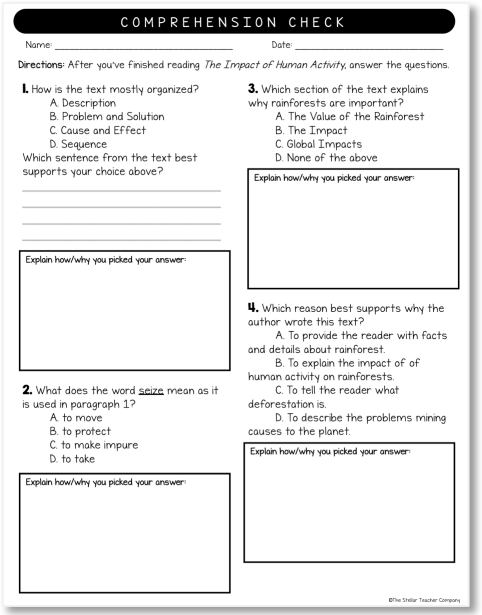
Reading Passages

Get six nonfiction science based articles. Each text is written in a different text structure and includes a variety of text features to support both reading and science standards.



COMPREHENSION CHECK

Name: _____ Date: _____

Directions: After you've finished reading *The Impact of Human Activity*, answer the questions.

1. How is the text mostly organized?
A. Description
B. Problem and Solution
C. Cause and Effect
D. Sequence

Which sentence from the text best supports your choice above?

_____
_____
_____
_____

Explain how/why you picked your answer:

2. What does the word seize mean as it is used in paragraph 1?
A. to move
B. to protect
C. to make impure
D. to take

Explain how/why you picked your answer:

3. Which section of the text explains why rainforests are important?
A. The Value of the Rainforest
B. The Impact
C. Global Impacts
D. None of the above

Explain how/why you picked your answer:

4. Which reason best supports why the author wrote this text?
A. To provide the reader with facts and details about rainforest.
B. To explain the impact of of human activity on rainforests.
C. To tell the reader what deforestation is.
D. To describe the problems mining causes to the planet.

Explain how/why you picked your answer:

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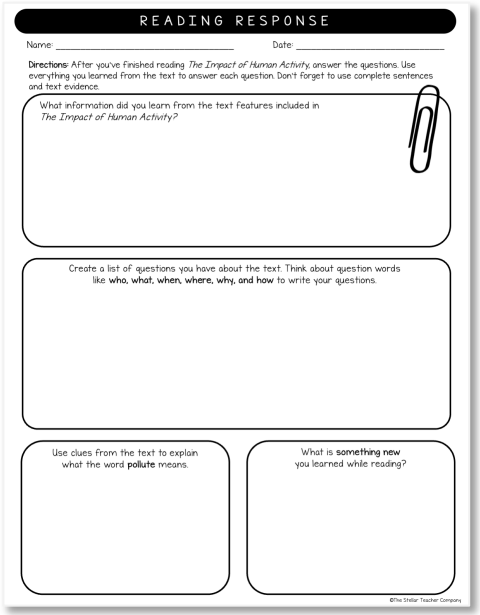
Comprehension Check

Each passage also has a short four-question, multiple-choice comprehension check. You can use this to asses their understanding of the science topic or their reading comprehension.



READING RESPONSE

Name: _____ Date: _____

Directions: After you've finished reading *The Impact of Human Activity*, answer the questions. Use everything you learned from the text to answer each question. Don't forget to use complete sentences and text evidence.

What information did you learn from the text features included in *The Impact of Human Activity*?

Create a list of questions you have about the text. Think about question words like **who, what, when, where, why, and how** to write your questions.

Use clues from the text to explain what the word **pollute** means.

What is **something new** you learned while reading?

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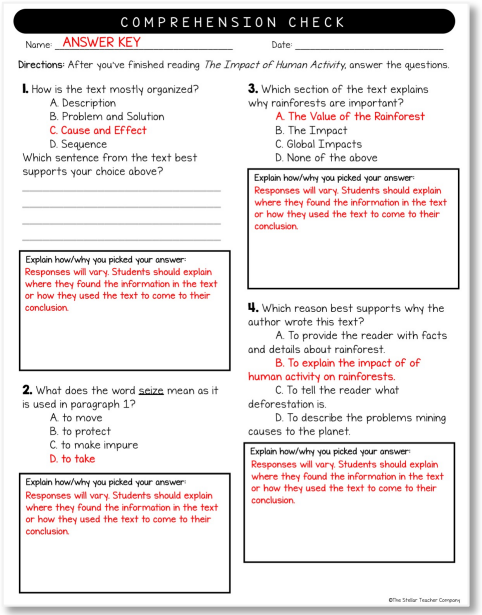
Reading Response

The reading response sheets following each passage will help your students build confidence when writing about a text. The questions cover a variety of reading skills.



COMPREHENSION CHECK

Name: ANSWER KEY Date: _____

Directions: After you've finished reading *The Impact of Human Activity*, answer the questions.

1. How is the text mostly organized?
A. Description
B. Problem and Solution
C. Cause and Effect
D. Sequence

Which sentence from the text best supports your choice above?

_____
_____
_____
_____

Explain how/why you picked your answer:
Responses will vary. Students should explain where they found the information in the text or how they used the text to come to their conclusion.

2. What does the word seize mean as it is used in paragraph 1?
A. to move
B. to protect
C. to make impure
D. to take

Explain how/why you picked your answer:
Responses will vary. Students should explain where they found the information in the text or how they used the text to come to their conclusion.

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Explain how/why you picked your answer:
Responses will vary. Students should explain where they found the information in the text or how they used the text to come to their conclusion.

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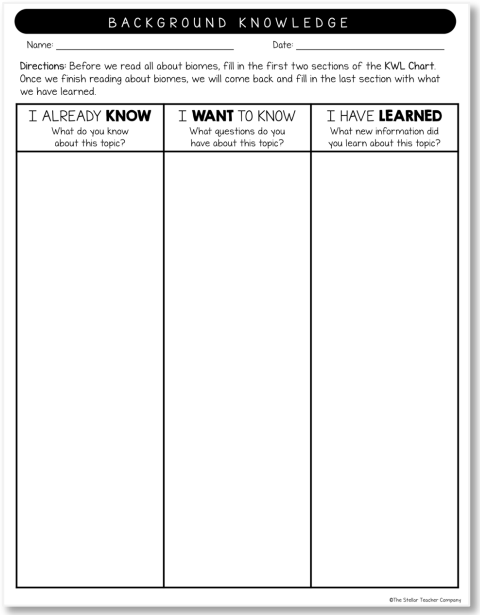
Answer Keys

We've included answer keys for all the student response pages. This will make it easy for you to check student work or to assign a grade.

ADDITIONAL ACTIVITIES


BACKGROUND KNOWLEDGE

Name: _____ Date: _____

Directions: Before we read all about biomes, fill in the first two sections of the KWL Chart. Once we finish reading about biomes, we will come back and fill in the last section with what we have learned.

I ALREADY **KNOW** What do you know about this topic?	I **WANT** TO KNOW What questions do you have about this topic?	I HAVE **LEARNED** What new information did you learn about this topic?

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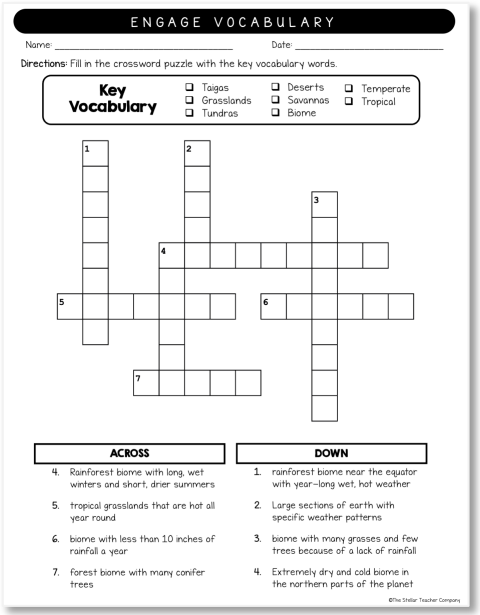
Background Knowledge

The background knowledge worksheets will help your students activate their prior knowledge of the topic. We include a variety of background knowledge activities.


ENGAGE VOCABULARY

Name: _____ Date: _____

Directions: Fill in the crossword puzzle with the key vocabulary words.

Key Vocabulary

- ❑ Taigas
- ❑ Grasslands
- ❑ Tundras
- ❑ Deserts
- ❑ Savannas
- ❑ Biome
- ❑ Temperate
- ❑ Tropical

ACROSS

4. Rainforest biome with long, wet winters and short, drier summers
5. tropical grasslands that are hot all year round
6. biome with less than 10 inches of rainfall a year
7. forest biome with many conifer trees

DOWN

1. rainforest biome near the equator with year-long wet, hot weather
2. Large sections of earth with specific weather patterns
3. biome with many grasses and few trees because of a lack of rainfall
4. Extremely dry and cold biome in the northern parts of the planet

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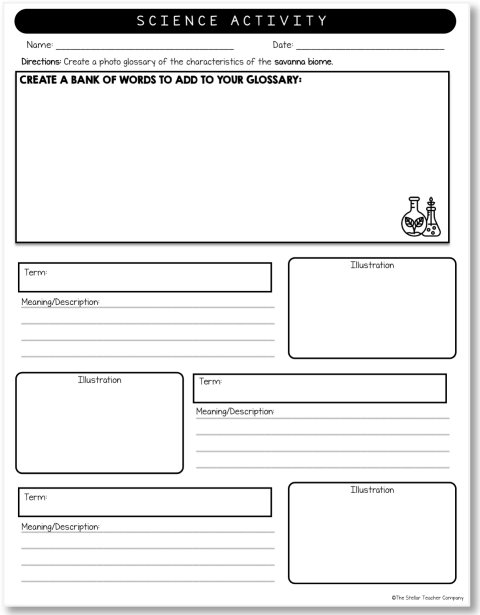
Vocabulary Activities

Vocabulary and word study are essential in helping our students improve their reading, writing, and speaking skills. We include several vocabulary activities you can use with this resource.


SCIENCE ACTIVITY

Name: _____ Date: _____

Directions: Create a photo glossary of the characteristics of the **savanna biome.**

CREATE A BANK OF WORDS TO ADD TO YOUR GLOSSARY:

Term:

Meaning/Description:

Illustration

Illustration

Term:

Meaning/Description:

Term:

Meaning/Description:

Illustration

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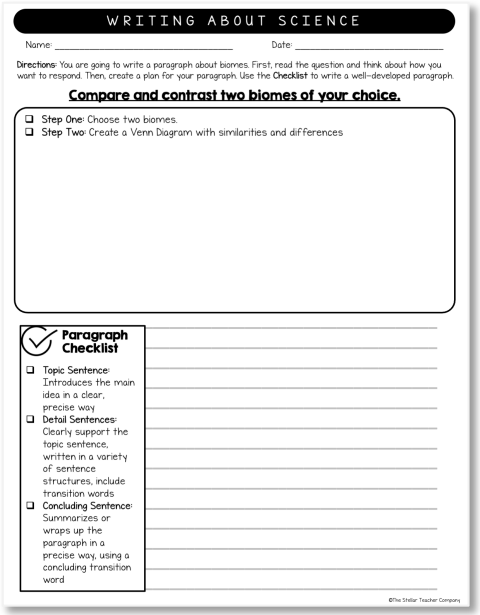
Science Activities

Whether it be performing steps of the scientific method, creating a picture glossary, or conducting an experiment, you'll get a handful of activities to support this science topic.


WRITING ABOUT SCIENCE

Name: _____ Date: _____

Directions: You are going to write a paragraph about biomes. First, read the question and think about how you want to respond. Then, create a plan for your paragraph. Use the **Checklist** to write a well-developed paragraph.

Compare and contrast two biomes of your choice.

- ❑ **Step One:** Choose two biomes.
- ❑ **Step Two:** Create a Venn Diagram with similarities and differences

Paragraph Checklist

- ❑ **Topic Sentence:** Introduces the main idea in a clear, precise way
- ❑ **Detail Sentences:** Clearly support the topic sentence, written in a variety of sentence structures, include transition words
- ❑ **Concluding Sentence:** Summarizes or wraps up the paragraph in a precise way, using a concluding transition word

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Writing About Science

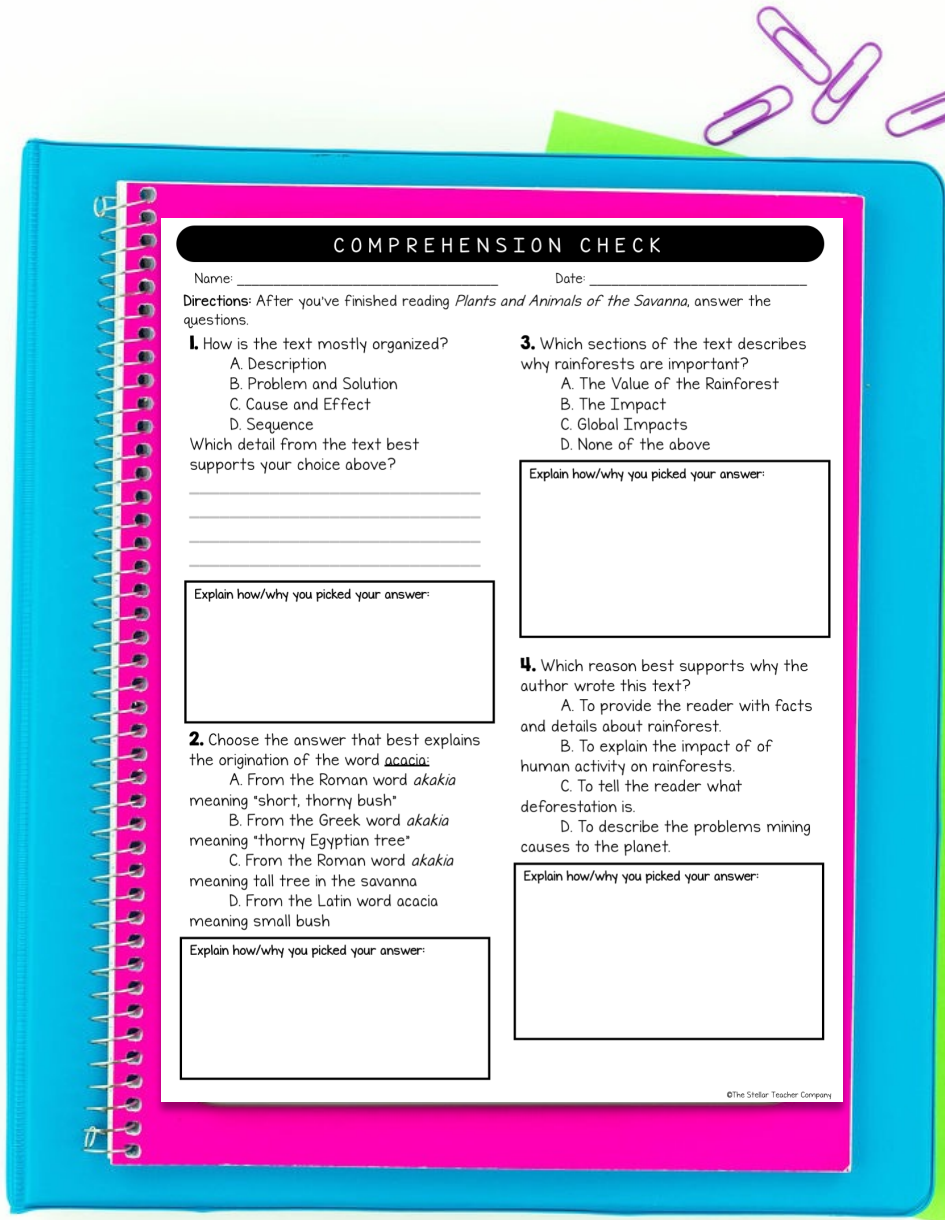
You will find two options for Writing About Science in this resource. The Paragraph Checklist will help your students write a well-developed paragraph about the topic with a topic sentence, details, and a conclusion.

HOW CAN I USE THIS RESOURCE?

- Use these resources in your reading block, science block, or both!
- Don't forget to utilize the *digital version* of this resource to help your students master digital literacy skills.
- Use the entire resource or pick and choose which activities work best for you and your students.
- These resources are the perfect addition to your science or reading block as you prepare for standardized testing.

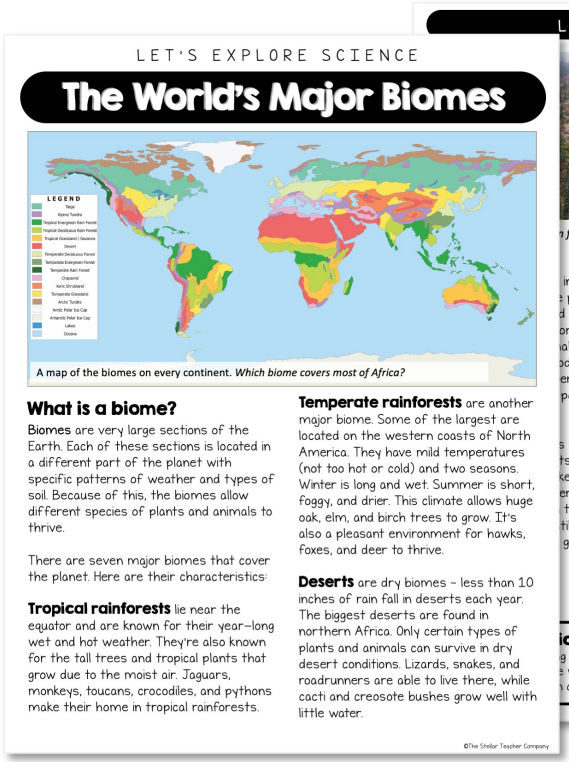
HOW CAN I USE THIS RESOURCE?

- You can use the passages and student response sheets as extra guided practice and do them as a whole group.
- You can use the passages and comprehension checks during small groups with students who need extra support.
- You can use the **Writing About Science** activities as a pre-assessment of a unit and then as a summative assessment to gauge learning.
- Partner students up for the **Science Activity** to add a layer of collaboration.



TAKE A CLOSER LOOK...

PASSAGE 1: THE WORLD'S MAJOR BIOMES


LET'S EXPLORE SCIENCE

The World's Major Biomes

A map of the biomes on every continent. *Which biome covers most of Africa?*

What is a biome?

Biomes are very large sections of the Earth. Each of these sections is located in a different part of the planet with specific patterns of weather and types of soil. Because of this, the biomes allow different species of plants and animals to thrive.

There are seven major biomes that cover the planet. Here are their characteristics:

Tropical rainforests lie near the equator and are known for their year-long wet and hot weather. They're also known for the tall trees and tropical plants that grow due to the moist air. Jaguars, monkeys, toucans, crocodiles, and pythons make their home in tropical rainforests.

Temperate rainforests are another major biome. Some of the largest are located on the western coasts of North America. They have mild temperatures (not too hot or cold) and two seasons. Winter is long and wet. Summer is short, foggy, and drier. This climate allows huge oak, elm, and birch trees to grow. It's also a pleasant environment for hawks, foxes, and deer to thrive.

Deserts are dry biomes - less than 10 inches of rain fall in deserts each year. The biggest deserts are found in northern Africa. Only certain types of plants and animals can survive in dry desert conditions. Lizards, snakes, and roadrunners are able to live there, while cacti and creosote bushes grow well with little water.


LET'S EXPLORE SCIENCE

...found in the tiaga.

...in the far ...planet. Tundras ...cold, with only ...ort grasses as ...als have thick ...body fat in order to ...eratures. Some ...polar bears, and

...s are **taigas** - ...ts of conifer trees ...ke pines and firs). ...er than tundras ...to help the trees ...till have very long, ...gray wolves, and

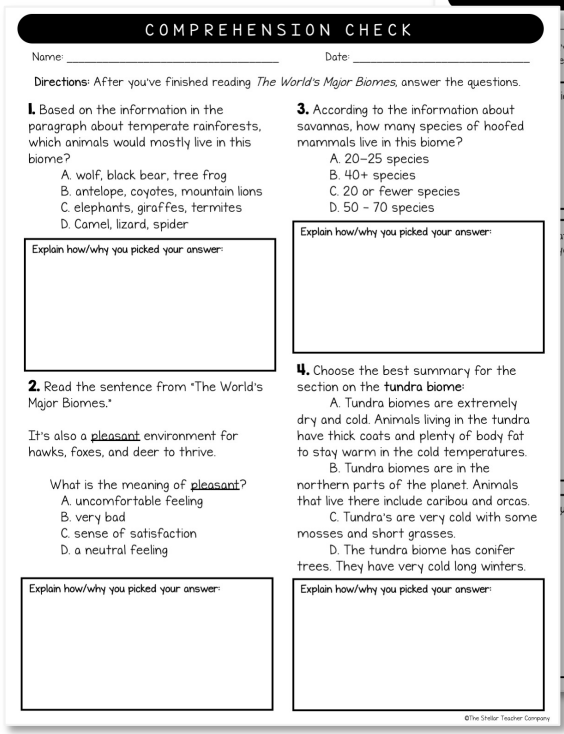
Grasslands are biomes where some rain falls - enough for grasses to grow - but not enough to support many trees. Grasslands are known for their wide, open spaces and grazing animals. Temperate grasslands, known for their hot summers and cold winters, are home to prairie dogs, jack rabbits, and coyotes. However, hotter grasslands make up the final major biome.

Savannas are tropical grasslands that are hot all year round. African savannas are home to over 40 species of hoofed mammals. These animals thrive in savannas because they have long legs to help them to run through the grasses. They also have strong digestive systems to process all the plants they eat. Some include zebras, elephants, gazelles, and wildebeests.

Zebras are just one of the many animals that live in the African Savanna.

...ich biome would you want to live in?

...g into consideration all the information you've learned about each biome ...e weather, vegetation, animals - which biome do you think you'd like to ... and why?


COMPREHENSION CHECK

Name: _____ Date: _____

Directions: After you've finished reading *The World's Major Biomes*, answer the questions.

1. Based on the information in the paragraph about temperate rainforests, which animals would mostly live in this biome?
A. wolf, black bear, tree frog
B. antelope, coyotes, mountain lions
C. elephants, giraffes, termites
D. Camel, lizard, spider

Explain how/why you picked your answer:

2. Read the sentence from "The World's Major Biomes."

It's also a pleasant environment for hawks, foxes, and deer to thrive.

What is the meaning of pleasant?
A. uncomfortable feeling
B. very bad
C. sense of satisfaction
D. a neutral feeling

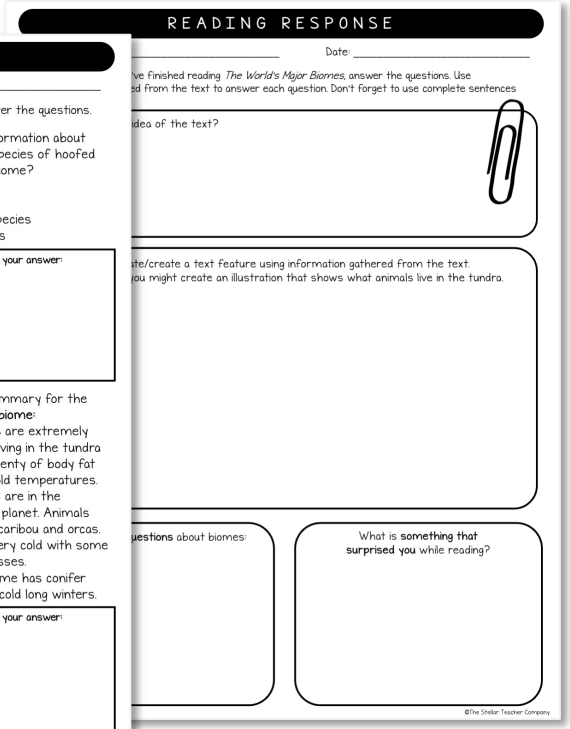
Explain how/why you picked your answer:

3. According to the information about savannas, how many species of hoofed mammals live in this biome?
A. 20-25 species
B. 40+ species
C. 20 or fewer species
D. 50 - 70 species

Explain how/why you picked your answer:

4. Choose the best summary for the section on the **tundra biome**:
A. Tundra biomes are extremely dry and cold. Animals living in the tundra have thick coats and plenty of body fat to stay warm in the cold temperatures.
B. Tundra biomes are in the northern parts of the planet. Animals that live there include caribou and orcas.
C. Tundra's are very cold with some mosses and short grasses.
D. The tundra biome has conifer trees. They have very cold long winters.

Explain how/why you picked your answer:


READING RESPONSE

Date: _____

...ve finished reading *The World's Major Biomes*, answer the questions. Use ...ed from the text to answer each question. Don't forget to use complete sentences

...idea of the text?

...te/create a text feature using information gathered from the text. ...ou might create an illustration that shows what animals live in the tundra.

...uestions about biomes:

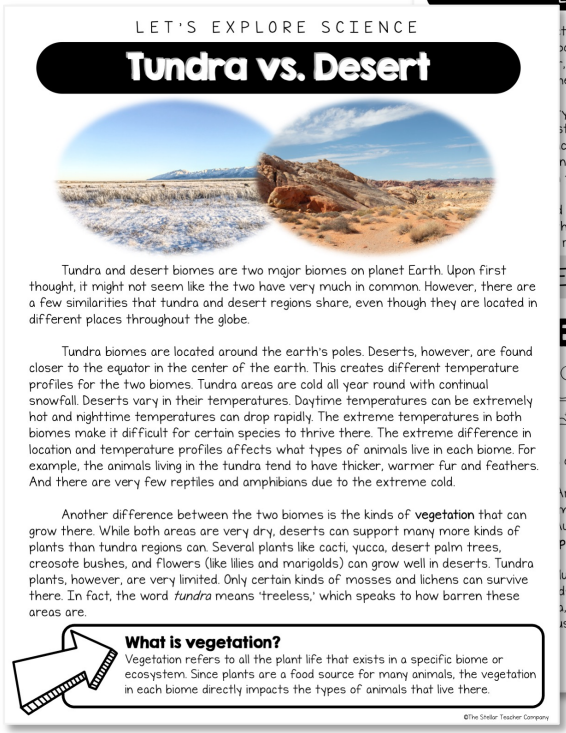
What is **something that surprised you** while reading?

Passage Details:

- **General Topic:** 7 Biomes of the World
- **Text Structure:** Description
- **Text Features:** Maps, Photographs and Captions, Headings
- **Reading Skills:** Evaluate Details & Key Ides, Main Idea, Summarize, Context Clues, Text Features

TAKE A CLOSER LOOK...

PASSAGE 2: Tundra vs. Desert


LET'S EXPLORE SCIENCE

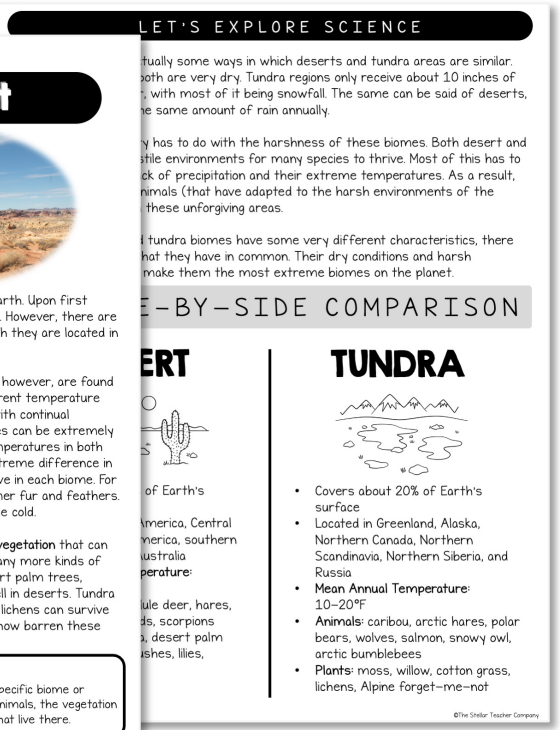
Tundra vs. Desert

Tundra and desert biomes are two major biomes on planet Earth. Upon first thought, it might not seem like the two have very much in common. However, there are a few similarities that tundra and desert regions share, even though they are located in different places throughout the globe.

Tundra biomes are located around the earth's poles. Deserts, however, are found closer to the equator in the center of the earth. This creates different temperature profiles for the two biomes. Tundra areas are cold all year round with continual snowfall. Deserts vary in their temperatures. Daytime temperatures can be extremely hot and nighttime temperatures can drop rapidly. The extreme temperatures in both biomes make it difficult for certain species to thrive there. The extreme difference in location and temperature profiles affects what types of animals live in each biome. For example, the animals living in the tundra tend to have thicker, warmer fur and feathers. And there are very few reptiles and amphibians due to the extreme cold.

Another difference between the two biomes is the kinds of **vegetation** that can grow there. While both areas are very dry, deserts can support many more kinds of plants than tundra regions can. Several plants like cacti, yucca, desert palm trees, creosote bushes, and flowers (like lilies and marigolds) can grow well in deserts. Tundra plants, however, are very limited. Only certain kinds of mosses and lichens can survive there. In fact, the word *tundra* means 'treeless,' which speaks to how barren these areas are.

What is vegetation?
Vegetation refers to all the plant life that exists in a specific biome or ecosystem. Since plants are a food source for many animals, the vegetation in each biome directly impacts the types of animals that live there.


LET'S EXPLORE SCIENCE

tually some ways in which deserts and tundra areas are similar.
both are very dry. Tundra regions only receive about 10 inches of
, with most of it being snowfall. The same can be said of deserts,
he same amount of rain annually.

y has to do with the harshness of these biomes. Both desert and
stile environments for many species to thrive. Most of this has to
ck of precipitation and their extreme temperatures. As a result,
nimals (that have adapted to the harsh environments of the
these unforgiving areas.

tundra biomes have some very different characteristics, there
hat they have in common. Their dry conditions and harsh
make them the most extreme biomes on the planet.

E-BY-SIDE COMPARISON

ERT

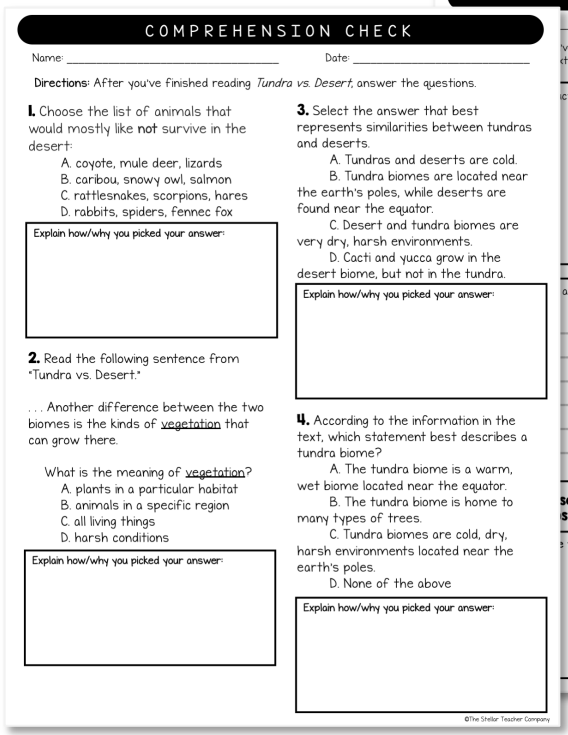
of Earth's

merica, Central
merica, southern
ustralia
perature:

ule deer, hares,
ds, scorpions
, desert palm
shes, lilies,

TUNDRA

- Covers about 20% of Earth's surface
- Located in Greenland, Alaska, Northern Canada, Northern Scandinavia, Northern Siberia, and Russia
- **Mean Annual Temperature:** 10–20°F
- **Animals:** caribou, arctic hares, polar bears, wolves, salmon, snowy owl, arctic bumblebees
- **Plants:** moss, willow, cotton grass, lichens, Alpine forget-me-not


COMPREHENSION CHECK

Name: _____ Date: _____

Directions: After you've finished reading *Tundra vs. Desert*, answer the questions.

1. Choose the list of animals that would mostly like **not** survive in the desert:
A. coyote, mule deer, lizards
B. caribou, snowy owl, salmon
C. rattlesnakes, scorpions, hares
D. rabbits, spiders, fennec fox

Explain how/why you picked your answer:

2. Read the following sentence from "Tundra vs. Desert."

. . . Another difference between the two biomes is the kinds of vegetation that can grow there.

What is the meaning of vegetation?
A. plants in a particular habitat
B. animals in a specific region
C. all living things
D. harsh conditions

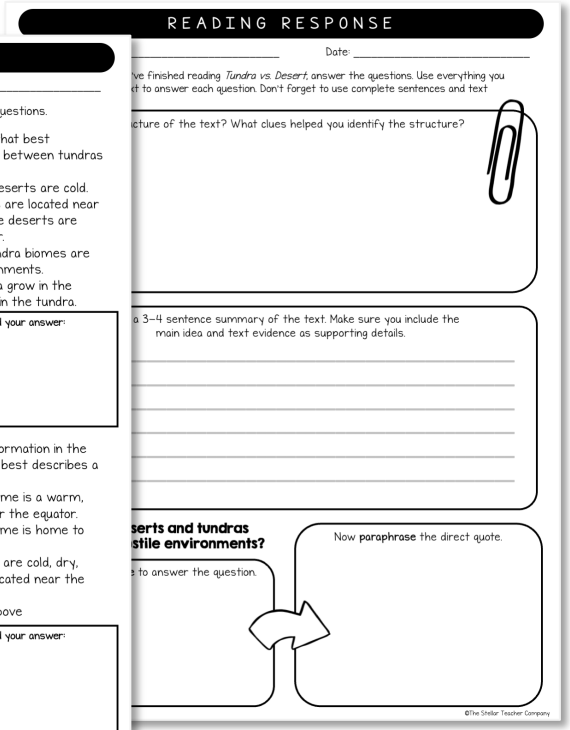
Explain how/why you picked your answer:

3. Select the answer that best represents similarities between tundras and deserts.
A. Tundras and deserts are cold.
B. Tundra biomes are located near the earth's poles, while deserts are found near the equator.
C. Desert and tundra biomes are very dry, harsh environments.
D. Cacti and yucca grow in the desert biome, but not in the tundra.

Explain how/why you picked your answer:

4. According to the information in the text, which statement best describes a tundra biome?
A. The tundra biome is a warm, wet biome located near the equator.
B. The tundra biome is home to many types of trees.
C. Tundra biomes are cold, dry, harsh environments located near the earth's poles.
D. None of the above

Explain how/why you picked your answer:


READING RESPONSE

Date: _____

ve finished reading *Tundra vs. Desert*, answer the questions. Use everything you
t to answer each question. Don't forget to use complete sentences and text

cture of the text? What clues helped you identify the structure?

a 3–4 sentence summary of the text. Make sure you include the main idea and text evidence as supporting details.

serts and tundras
stile environments?

to answer the question.

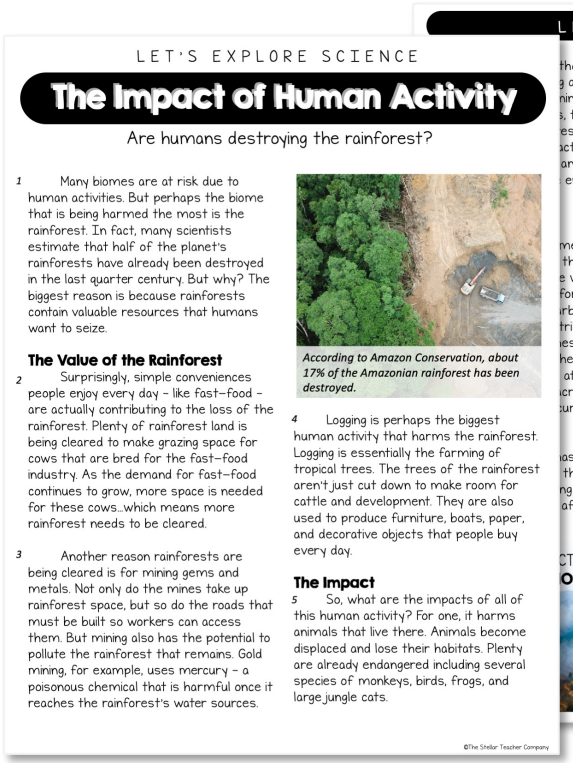
Now **paraphrase** the direct quote.

Passage Details:

- **General Topic:** Similarities & Differences in the Tundra & Desert
- **Text Structure:** Compare & Contrast
- **Text Features:** Photographs, Illustrations, Infographic
- **Reading Skills:** Evaluate Details & Key Ideas, Text Structure, Text Features, Context Clues, Summarize

TAKE A CLOSER LOOK...

PASSAGE 3: The Impact of Human Activity



LET'S EXPLORE SCIENCE

The Impact of Human Activity

Are humans destroying the rainforest?

1 Many biomes are at risk due to human activities. But perhaps the biome that is being harmed the most is the rainforest. In fact, many scientists estimate that half of the planet's rainforests have already been destroyed in the last quarter century. But why? The biggest reason is because rainforests contain valuable resources that humans want to seize.

The Value of the Rainforest

2 Surprisingly, simple conveniences people enjoy every day – like fast-food – are actually contributing to the loss of the rainforest. Plenty of rainforest land is being cleared to make grazing space for cows that are bred for the fast-food industry. As the demand for fast-food continues to grow, more space is needed for these cows...which means more rainforest needs to be cleared.

3 Another reason rainforests are being cleared is for mining gems and metals. Not only do the mines take up rainforest space, but so do the roads that must be built so workers can access them. But mining also has the potential to pollute the rainforest that remains. Gold mining, for example, uses mercury – a poisonous chemical that is harmful once it reaches the rainforest's water sources.

According to Amazon Conservation, about 17% of the Amazonian rainforest has been destroyed.

4 Logging is perhaps the biggest human activity that harms the rainforest. Logging is essentially the farming of tropical trees. The trees of the rainforest aren't just cut down to make room for cattle and development. They are also used to produce furniture, boats, paper, and decorative objects that people buy every day.

The Impact

5 So, what are the impacts of all of this human activity? For one, it harms animals that live there. Animals become displaced and lose their habitats. Plenty are already endangered including several species of monkeys, birds, frogs, and large jungle cats.

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LET'S EXPLORE SCIENCE

...that remain, they ...g a contaminated ...ning chemicals ..., the water ...es and plants that ...acts those that ...and plants as food ... entire food chain

...me continues to be ... there could be ...e world. The trees ...forest produce ...rbon dioxide – one ...tributes to global ...ese trees and ...he carbon dioxide is ... atmosphere which ...across the globe – ...currents, to rainfall,

...as many impacts ... these impacts ...g things within ...affect the entire

...CTS OF ...ON

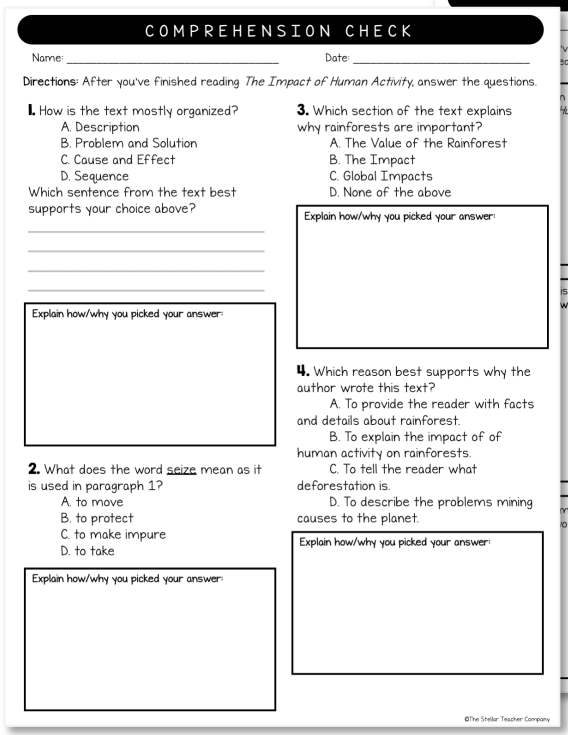
GLOSSARY

Atmosphere	the layers of gases surrounding a planet or other celestial body
Biome	a large, naturally occurring community of plants and animals occupying a habitat
Contaminated	made impure or unsuitable by contact with something unclean
Displaced	cause something to move from its proper or usual place
Endangered	to be seriously at risk of extinction
Mining	the process of extracting useful materials from the earth, such as coal, gold, iron, etc.
Seize	to take something suddenly and forcibly

- Climate change
- Soil erosion
- Flooding
- Increased greenhouse gases
- Threatens the world's biodiversity

***Deforestation** is the clearing, or removal, of trees in the forest. Experts estimate nearly 500,000 square miles of land is deforested every decade.*

Resource: https://kids.britannica.com/kids/article/deforestation/443116



COMPREHENSION CHECK

Name: _____ Date: _____

Directions: After you've finished reading *The Impact of Human Activity*, answer the questions.

1. How is the text mostly organized?
A. Description
B. Problem and Solution
C. Cause and Effect
D. Sequence

Which sentence from the text best supports your choice above?

Explain how/why you picked your answer:

2. What does the word seize mean as it is used in paragraph 1?
A. to move
B. to protect
C. to make impure
D. to take

Explain how/why you picked your answer:

3. Which section of the text explains why rainforests are important?
A. The Value of the Rainforest
B. The Impact
C. Global Impacts
D. None of the above

Explain how/why you picked your answer:

4. Which reason best supports why the author wrote this text?
A. To provide the reader with facts and details about rainforest.
B. To explain the impact of of human activity on rainforests.
C. To tell the reader what deforestation is.
D. To describe the problems mining causes to the planet.

Explain how/why you picked your answer:

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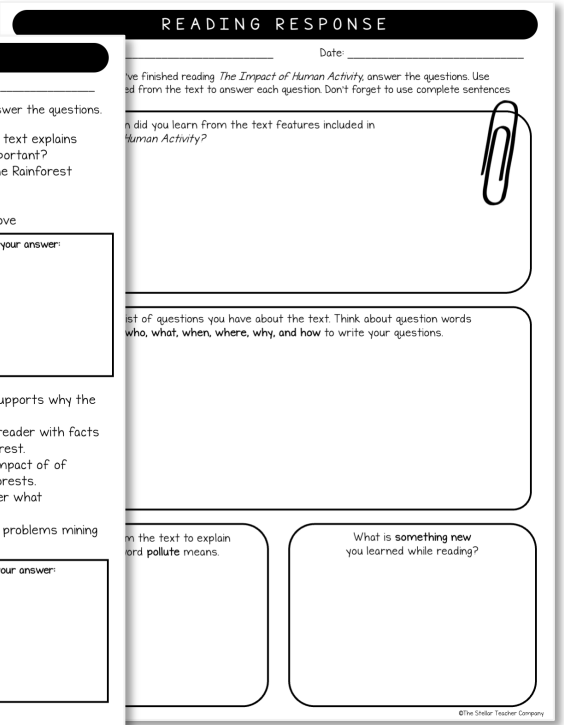

READING RESPONSE

Date: _____

...ve finished reading *The Impact of Human Activity*, answer the questions. Use ...ed from the text to answer each question. Don't forget to use complete sentences.

...n did you learn from the text features included in ...*Human Activity?*

...ist of questions you have about the text. Think about question words **who, what, when, where, why, and how** to write your questions.

...m the text to explain ...ord **pollute** means.

What is **something new** you learned while reading?

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Passage Details:

- **General Topic:** How Human Activity is Destroying The Rainforst
- **Text Structure:** Cause & Effect
- **Text Features:** Photographs and Captions, Glossary, Infographic
- **Reading Skills:** Key Details & Ideas, Text Evidence, Text Features, Text Structure, Asking Questions

TAKE A CLOSER LOOK...

PASSAGE 4: Grassland Biome


LET'S EXPLORE SCIENCE

Environmental Changes in the Grasslands

Grassland Biome

Large areas of grasslands are often thought of as the meat in the middle of a sandwich, with forests making up one slice of bread and deserts the other. That's because grasslands can thrive in between these environments. They need some moisture for grass to grow, but not enough to sustain large numbers of trees and plants like forests. But the grass can't survive with no water, like plants in deserts can. As a result, grassland biomes are a blend of these extreme environments. But how did they get here?

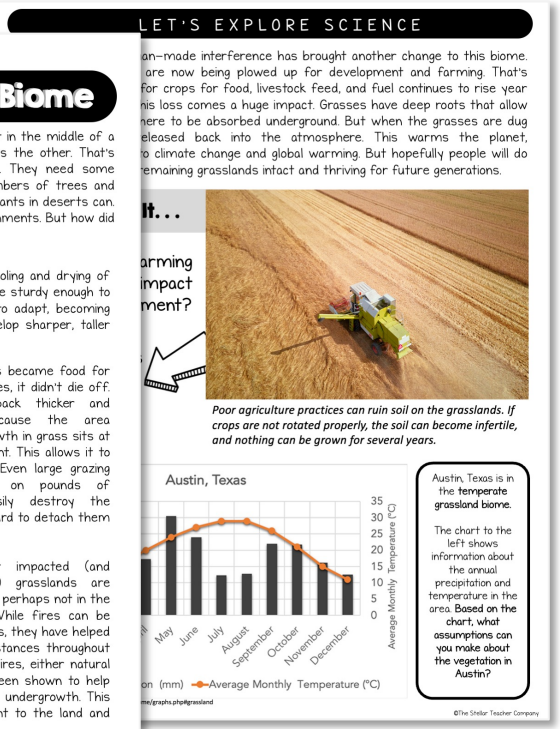
The Origin of the Grasslands

Natural grasslands came to be during a period of intense cooling and drying of the planet thousands of years ago. As a result, grasslands became sturdy enough to endure periods without heavy rain. The grass itself also began to adapt, becoming tougher and spikier. As a result, many mammals evolved to develop sharper, taller teeth to withstand grittier grasses, including many rodents.

The grassland biome is the largest on earth. They exist on every continent except Antarctica.

Additionally, as grasses became food for many kinds of creatures, it didn't die off. It actually came back thicker and stronger. That's because the area responsible for re-growth in grass sits at the bottom of the plant. This allows it to re-grow very quickly. Even large grazing animals who feast on pounds of vegetation can't easily destroy the grasses because it's hard to detach them from their roots.

Another factor that impacted (and continues to impact) grasslands are droughts and fires...but perhaps not in the way that you think. While fires can be very harmful to forests, they have helped grasslands in some instances throughout the years. Occasional fires, either natural or man-made, have been shown to help clear grasslands of old undergrowth. This brings additional sunlight to the land and supports new growth.


LET'S EXPLORE SCIENCE

...an-made interference has brought another change to this biome. ...are now being plowed up for development and farming. That's ...for crops for food, livestock feed, and fuel continues to rise year ...his loss comes a huge impact. Grasses have deep roots that allow ...here to be absorbed underground. But when the grasses are dug ...eleased back into the atmosphere. This warms the planet, ...o climate change and global warming. But hopefully people will do ...emaining grasslands intact and thriving for future generations.

...lt...

...arming ...impact ...ment?

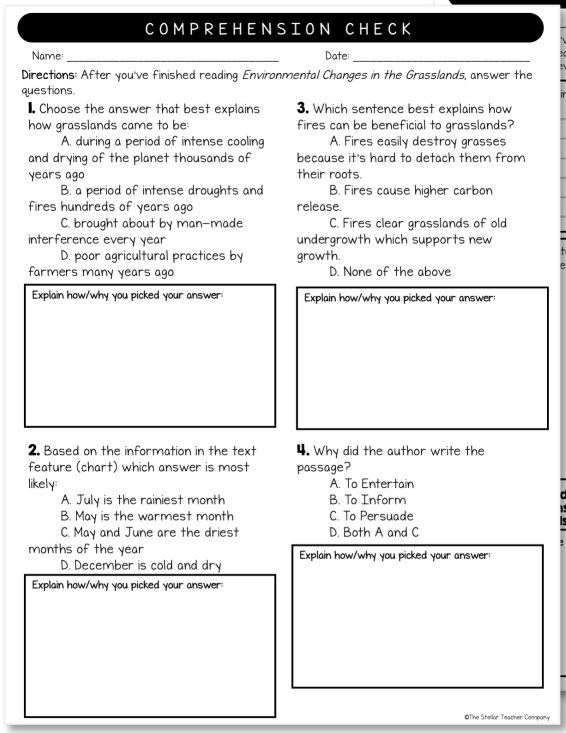
Poor agriculture practices can ruin soil on the grasslands. If crops are not rotated properly, the soil can become infertile, and nothing can be grown for several years.

Austin, Texas

Average Monthly Temperature (°C)

Austin, Texas is in the **temperate grassland biome.**

The chart to the left shows information about the annual precipitation and temperature in the area. **Based on the chart, what assumptions can you make about the vegetation in Austin?**


COMPREHENSION CHECK

Name: _____ Date: _____

Directions: After you've finished reading *Environmental Changes in the Grasslands*, answer the questions.

1. Choose the answer that best explains how grasslands came to be:
A. during a period of intense cooling and drying of the planet thousands of years ago
B. a period of intense droughts and fires hundreds of years ago
C. brought about by man-made interference every year
D. poor agricultural practices by farmers many years ago

Explain how/why you picked your answer:

2. Based on the information in the text feature (chart) which answer is most likely:
A. July is the rainiest month
B. May is the warmest month
C. May and June are the driest months of the year
D. December is cold and dry

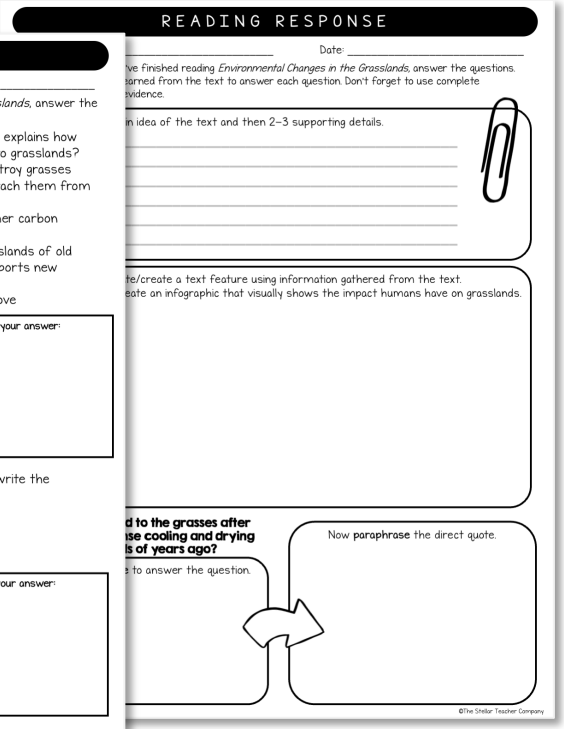
Explain how/why you picked your answer:

3. Which sentence best explains how fires can be beneficial to grasslands?
A. Fires easily destroy grasses because it's hard to detach them from their roots.
B. Fires cause higher carbon release.
C. Fires clear grasslands of old undergrowth which supports new growth.
D. None of the above

Explain how/why you picked your answer:

4. Why did the author write the passage?
A. To Entertain
B. To Inform
C. To Persuade
D. Both A and C

Explain how/why you picked your answer:


READING RESPONSE

Date: _____

...ve finished reading *Environmental Changes in the Grasslands*, answer the questions. ...arned from the text to answer each question. Don't forget to use complete ...vidence.

...n idea of the text and then 2-3 supporting details.

...te/create a text feature using information gathered from the text. ...eate an infographic that visually shows the impact humans have on grasslands.

...d to the grasses after ...se cooling and drying ...s of years ago?

...e to answer the question.

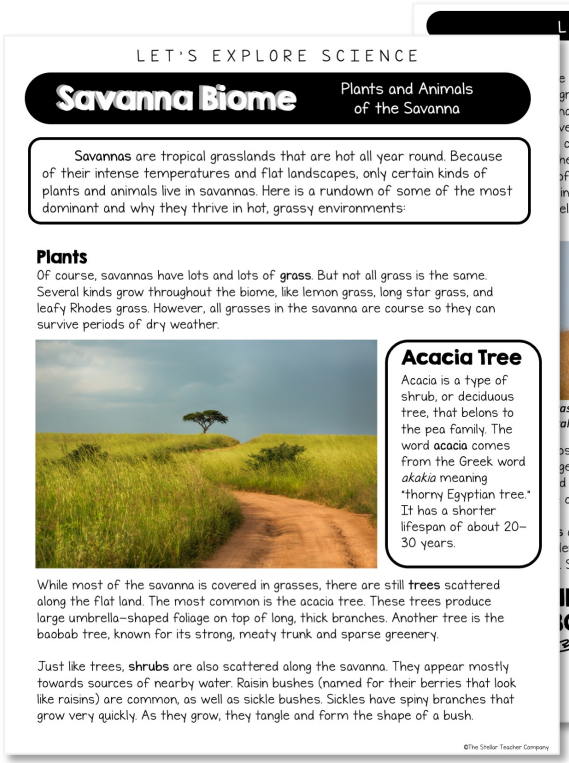
Now **paraphrase** the direct quote.

Passage Details:

- **General Topic:** Environmental Changes in the Grasslands
- **Text Structure:** Cause and Effect
- **Text Features:** Photographs and Captions, Graph, Text Boxes
- **Reading Skills:** Evaluate Details & Key Ides, Main Idea, Summarize, Context Clues, Text Features

TAKE A CLOSER LOOK...

PASSAGE 5: Savanna Biome



LET'S EXPLORE SCIENCE

Savanna Biome Plants and Animals of the Savanna

Savannas are tropical grasslands that are hot all year round. Because of their intense temperatures and flat landscapes, only certain kinds of plants and animals live in savannas. Here is a rundown of some of the most dominant and why they thrive in hot, grassy environments:

Plants

Of course, savannas have lots and lots of **grass**. But not all grass is the same. Several kinds grow throughout the biome, like lemon grass, long star grass, and leafy Rhodes grass. However, all grasses in the savanna are course so they can survive periods of dry weather.

Acacia Tree

Acacia is a type of shrub, or deciduous tree, that belons to the pea family. The word **acacia** comes from the Greek word *akakia* meaning "thorny Egyptian tree." It has a shorter lifespan of about 20–30 years.

While most of the savanna is covered in grasses, there are still **trees** scattered along the flat land. The most common is the acacia tree. These trees produce large umbrella-shaped foliage on top of long, thick branches. Another tree is the baobab tree, known for its strong, meaty trunk and sparse greenery.

Just like trees, **shrubs** are also scattered along the savanna. They appear mostly towards sources of nearby water. Raisin bushes (named for their berries that look like raisins) are common, as well as sickle bushes. Sickles have spiny branches that grow very quickly. As they grow, they tangle and form the shape of a bush.

LET'S EXPLORE SCIENCE

mammals that feed grasses, so they has. Lots of these vel in large groups characteristic they ne savanna biome has f hooved-mammals include giraffes, elephants, gazelles, and

Many hooved-mammals live in the savanna.

asses of the alk their prey.

Predatory creatures also make their home in savannas. These are mammals that hunt other animals for food. They use the biome's long grasses to hide and stalk their prey before pouncing on it. Some savanna predators include cheetahs, lions, and wild dogs.

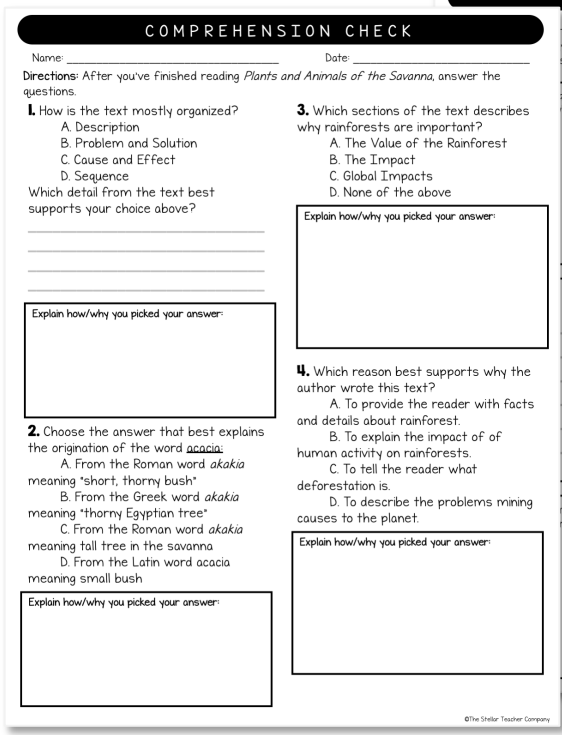
Savannas are also home to many **birds**, both large and small. The biggest birds that live in the biome are also the biggest birds in the world: ostriches.

ostriches have strong legs that allow them to run up to 45 miles ge savanna bird is the secretary bird. Even though they can fly, d most of their time on the ground, chasing down their prey on other predatory birds like eagles, hawks, and vultures.

also live in savannas. Since they can burrow, they make their erneath the flat grasses. This not only keeps them cool, but also . Some examples include meerkats and naked mole rats.

INK OUT IT

Think about what you've learned about the savanna biome – the climate, vegetation, animals, etc. **What animals from other biomes would not survive in the savanna?** Give several examples and explain your thinking.



COMPREHENSION CHECK

Name: _____ Date: _____

Directions: After you've finished reading *Plants and Animals of the Savanna*, answer the questions.

1. How is the text mostly organized?
A. Description
B. Problem and Solution
C. Cause and Effect
D. Sequence

Which detail from the text best supports your choice above?

Explain how/why you picked your answer:

2. Choose the answer that best explains the origination of the word acacia:
A. From the Roman word *akakia* meaning "short, thorny bush"
B. From the Greek word *akakia* meaning "thorny Egyptian tree"
C. From the Roman word *akakia* meaning tall tree in the savanna
D. From the Latin word acacia meaning small bush

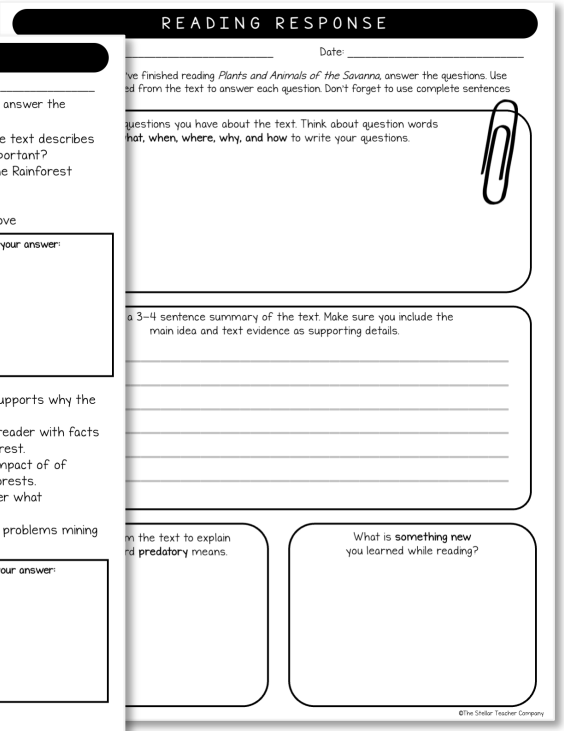
Explain how/why you picked your answer:

3. Which sections of the text describes why rainforests are important?
A. The Value of the Rainforest
B. The Impact
C. Global Impacts
D. None of the above

Explain how/why you picked your answer:

4. Which reason best supports why the author wrote this text?
A. To provide the reader with facts and details about rainforest.
B. To explain the impact of of human activity on rainforests.
C. To tell the reader what deforestation is.
D. To describe the problems mining causes to the planet.

Explain how/why you picked your answer:



READING RESPONSE

Date: _____

ve finished reading *Plants and Animals of the Savanna*, answer the questions. Use d from the text to answer each question. Don't forget to use complete sentences

questions you have about the text. Think about question words **hat, when, where, why, and how** to write your questions.

a 3–4 sentence summary of the text. Make sure you include the main idea and text evidence as supporting details.

n the text to explain d **predatory** means.

What is **something new** you learned while reading?

Passage Details:

- **General Topic**: Plants and Animals of the Savanna
- **Text Structure**: Description
- **Text Features**: Photographs and Captions, Text Boxes
- **Reading Skills**: Evaluate Details & Key Ideas, Main Idea, Text Structure, Asking Questions, Summarize

TAKE A CLOSER LOOK...

PASSAGE 6: The Food Chain in the Taiga

LET'S EXPLORE SCIENCE

The Food Chain in the Taiga

The food chain describes the process in which living things in a certain area rely on each other for food. In the taiga biome, many food chain relationships are necessary to keep the ecosystem in balance. These relationships start with the plants that grow there.

The first level of the taiga food chain has to do with its green plants called **producers**. Producers make their own food through photosynthesis. Common producers that grow in the taiga include lots of mosses, lichens, and trees like firs, pines, and spruces. Producers are important because creatures in the second level of the food chain use them for food.

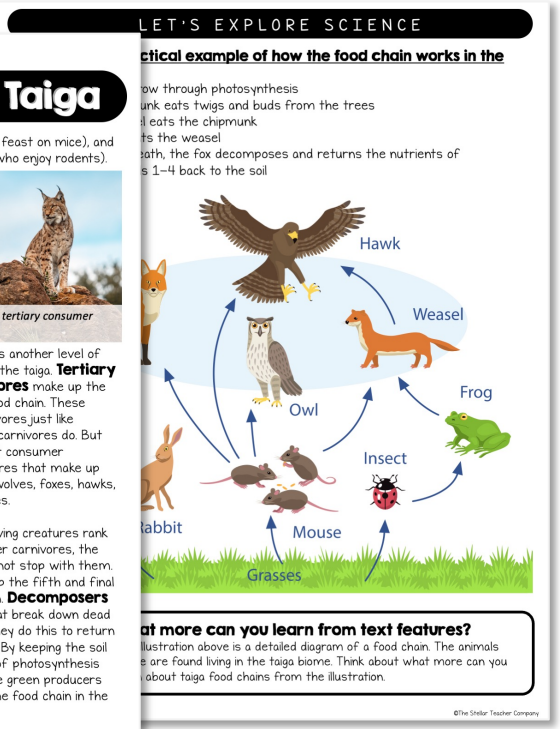
Herbivores, or plant-eating creatures, make up the second level of the taiga food chain. They rely on producers for nourishment. Some that live in the taiga include insects, rodents (like rats, mice, chipmunks, porcupines, and squirrels), white-tailed deer, elk, and moose. They munch on the greens from producers in order to survive.

But other creatures in the taiga rely on eating herbivores to ensure their own survival. **Secondary consumer carnivores** are meat-eating animals who hunt and eat herbivores. They make up the third level of the food chain in the taiga. Common examples include tarantulas and lizards (who eat lots of insects), snakes (who feast on mice), and skunks and weasels (who enjoy rodents).

The lynx, a wild cat, is a tertiary consumer carnivore.

However, there is another level of carnivores that live in the taiga. **Tertiary consumer carnivores** make up the fourth level of the food chain. These carnivores hunt herbivores just like secondary consumer carnivores do. But they also hunt and eat consumer carnivores too. Creatures that make up this category include wolves, foxes, hawks, and wild cats like lynxes.

While no other living creatures rank over tertiary consumer carnivores, the taiga food chain does not stop with them. Decomposers make up the fifth and final part of the food chain. **Decomposers** are tiny organisms that break down dead animals and plants. They do this to return nutrients into the soil. By keeping the soil healthy, the process of photosynthesis can continue and more green producers can grow. That way, the food chain in the taiga can continue!



LET'S EXPLORE SCIENCE

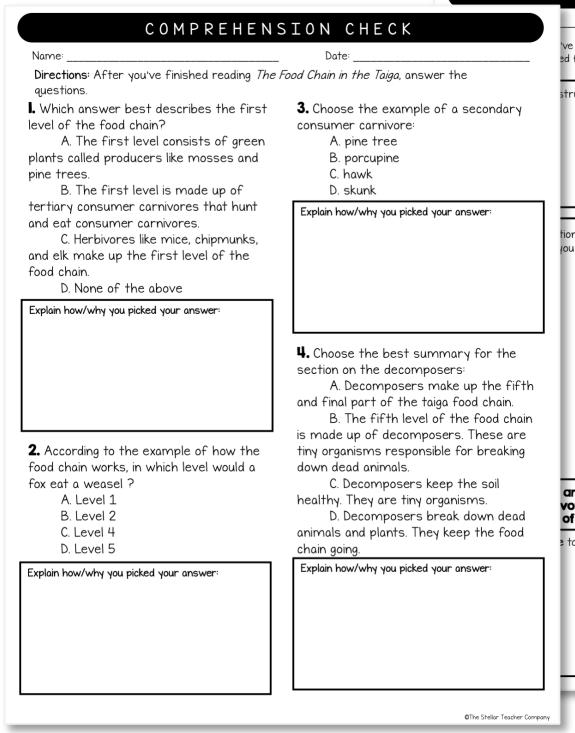
ctical example of how the food chain works in the

ow through photosynthesis
unk eats twigs and buds from the trees
l eats the chipmunk
ts the weasel
ath, the fox decomposes and returns the nutrients of
s 1–4 back to the soil

Hawk
Weasel
Owl
Frog
Insect
Rabbit
Mouse
Grasses

at more can you learn from text features?

llustration above is a detailed diagram of a food chain. The animals
e are found living in the taiga biome. Think about what more can you
about taiga food chains from the illustration.



COMPREHENSION CHECK

Name: _____ Date: _____

Directions: After you've finished reading *The Food Chain in the Taiga*, answer the questions.

1. Which answer best describes the first level of the food chain?
A. The first level consists of green plants called producers like mosses and pine trees.
B. The first level is made up of tertiary consumer carnivores that hunt and eat consumer carnivores.
C. Herbivores like mice, chipmunks, and elk make up the first level of the food chain.
D. None of the above

Explain how/why you picked your answer:

2. According to the example of how the food chain works, in which level would a fox eat a weasel ?
A. Level 1
B. Level 2
C. Level 4
D. Level 5

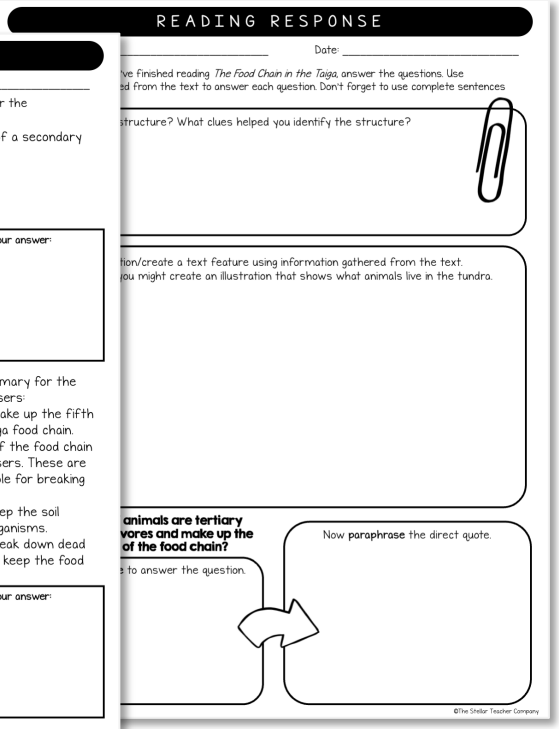
Explain how/why you picked your answer:

3. Choose the example of a secondary consumer carnivore:
A. pine tree
B. porcupine
C. hawk
D. skunk

Explain how/why you picked your answer:

4. Choose the best summary for the section on the decomposers:
A. Decomposers make up the fifth and final part of the taiga food chain.
B. The fifth level of the food chain is made up of decomposers. These are tiny organisms responsible for breaking down dead animals.
C. Decomposers keep the soil healthy. They are tiny organisms.
D. Decomposers break down dead animals and plants. They keep the food chain going.

Explain how/why you picked your answer:



READING RESPONSE

Date: _____

ve finished reading *The Food Chain in the Taiga*, answer the questions. Use
d from the text to answer each question. Don't forget to use complete sentences

structure? What clues helped you identify the structure?

tion/create a text feature using information gathered from the text.
ou might create an illustration that shows what animals live in the tundra.

animals are tertiary
vores and make up the
of the food chain?

to answer the question.

Now **paraphrase** the direct quote.

Passage Details:

- **General Topic:** Levels of the Food Chain in the Taiga
- **Text Structure:** Sequence
- **Text Features:** Photograph and Caption, Diagram, Bold Words
- **Reading Skills:** Evaluate Details & Key Ideas, Text Features, Summarize, Text Structure

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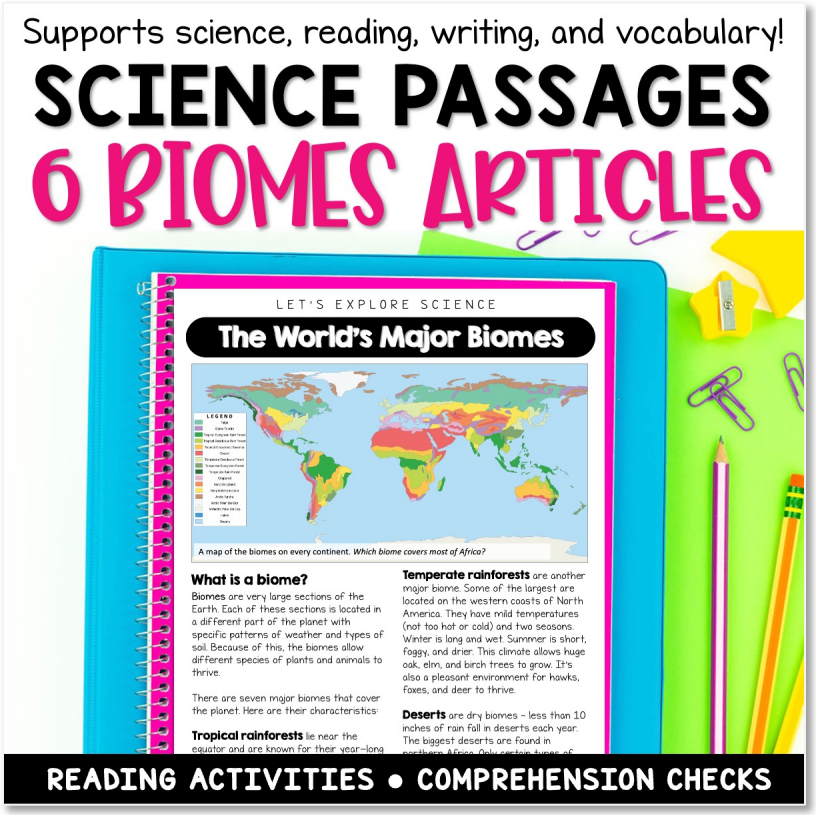

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