Teacher’s Guide

Thank you so much for purchasing:

The questions are designed to confirm reading and encourage student use of text evidence. The structural response system known as RACE is on each page. This communicates to students and families the manner and expectation of detailed responses. Citing text evidence is a task difficult for many students. They are inclined by nature to use their background knowledge. This will help students to maintain integrity to “Cite Evidence”. Many teachers that are using standards based grading are using these as assessments of ELA standards within the realm of science.

This unit was updated to include a duplicate of each passage without a border for text coding, annotations and Close Reading.

Utilizations: This packet can also be used during small group time for guided reading and/or close reading. As the teacher you can have students highlight, code the text and conduct vocabulary mini-lessons. Students can then revisit the piece for homework. Answers provided in the key may be adjusted accordingly.

Common Core Standards are printed next to the respective question on each page. Questions are written so as not to frustrate students, but ensure that they are reading by providing detailed responses.

In an effort to make it clear and easy to print what you need I corrugated the passages by borders.

Find an error? Have a suggestion? Email me at teacher247@icloud.com.

Click here to access the passages without borders so you can implement close reading procedures.
**THUNDERSTORMS**
1. There are three stages of a thunderstorm. The first stage has fast rising currents of moist air. The second stage has falling precipitation. The third stage has all the currents moving downward.
2. The upward currents are rising currents called condensation and the downward currents are precipitation falling.
3. Lightning is created by the opposite charges and the thunder is created by the vibrations of the expansion of air.

**TORNADO 411**
1. The factors that determine a tornado is the vortex being in contact with a cloud and the ground.
2. The role of satellites and the Doppler Weather Station is to detect severe weather to advise people to take precautions and preventative measures.

**PRECIPITATION**
1. Precipitation is when water is evaporated into the air and when clouds get too heavy with water that the water is released back down to Earth as precipitation.
2. The four types of precipitation are rain, sleet, snow and hail. They are related because they all fall from the clouds.

**APRIL SHOWERS BRING MAY FLOWERS**
1. The word rotation means spinning. The author shows the meaning in the beginning of the paragraph.
2. Precipitation is when water is released from clouds.
3. The excess rain in April cause increased plant growth.

**PLEASE KEEP IN MIND ANSWERS WILL VARY!**
** ANSWER KEY**

**TROPICAL STORMS & MORE**
1. Dissipate means to disintegrate or go away. The author shows the meaning through the sentence arrangement and stating how the safest area is inland.

2. When a tropical storm intensifies the name changes into a hurricane, typhoon or cyclone depending on the location of origin.

**“AVERAGE” CLIMATE**
1. Weather and climate are different because weather is the condition in an area of a moment of time. Climate includes things like average temperature and average rainfall.
2. Bodies of water affect air temperature because the air does not change as quickly.
3. The climate on a mountain is cooler because of the higher land.

**DESERT BIOME**
1. The characteristics of a desert is that they have less than 10 inches or less than 250 millimeters of rain a year.
2. The main idea of the last paragraph is that deserts are all over the Earth.

**TROPICAL RAINFORESTS**
1. The characteristics that classify a rainforest are having more than 68 inches of rain and average temperatures of at least 80 degrees.
2. Desert animals have the characteristics to survive in desert areas so they would not survive in a rainforest area.
3. Tropical rainforests are called jewels because over one-fourth of oxygen comes from there and almost half of all ingredients for medicine have been discovered there.

**DECIDUOUS FORESTS**
1. Leaves on trees in a deciduous forest biome fall off because discarding leaves help them save food and water to survive the winter.
2. Adaptations of animals in deciduous forests are hibernating and eating acorns.
3. The author helps the reader understand the first meaning of the word fall as discarding by using the word off. The author helps the reader understand the second meaning of the word fall as a season by using the word "in." The word "in" indicates a time period as the season.
THREE N. AMERICAN BIOMES

1. The three sections of text are connected because they all talk about biomes in North America. The headings help you locate the information.
2. The tundra biome is the coldest because it's outside of the North Pole.
3. The purpose of this passage is to inform the reader about three North American Biomes.
How the Weather is Made

When air remains over an area for a period of time, it takes on properties of that area. It develops into an air mass. An air mass is a large body of air with like properties throughout. The important properties of an air mass are temperature and the amount of water vapor. The original properties remain for a period of time as it moves to a new area. There are four different basic bodies of air.

These large bodies of air drift across our planet. When they are pushed together, the weather may change. The air mass in your area is the kind of weather you will have. Winds move air masses. The winds may be coming from close to the ground or high above the ground from the jet stream. Storms occur at the edge of the air mass due to low and high pressure.

- **Maritime Polar Air**
  - This air mass is cold and moist.

- **Maritime Tropical Air**
  - This air mass is warm and moist.

- **Continental Polar Air**
  - This air mass is cold and dry.

- **Continental Tropical Air**
  - This air mass is warm and dry.

Maritime means oceanic.
Directions: Answer the questions in complete sentences citing evidence from the text.

RI.1
1. How is weather made?

RI.1
2. What happens to an air mass when it stays in one place for some time?

RI.5
3. How are the four types of air masses related?

Did You R-A-C-E?
- Reword or restate the question or prompt.
- Answer in a complete sentence.
- Cite evidence to prove the answer.
- Explain each part of the question or prompt.
Meteorologists study the weather. They found out thunderstorms form in different ways. The three stages below are an example of how a thunderstorm is made.

**Stage One:** This stage has strong, fast rising currents of moist air. As moisture condenses in the rising air, clouds are formed with ice crystals and water droplets. This is called condensation.

**Stage Two:** Precipitation starts to fall in the second stage. The falling of precipitation pulls air down with it. At this stage, there are upward and downward moving currents.

**Stage Three:** In this stage all the currents are moving downward.

Thunderstorm clouds have either positive or negative electrical charges. Meteorologists hypothesize thunderstorms to have charges because of the precipitation in the clouds. Between areas of opposite charges is a large electrical spark we call lightning. In a fraction of a second, lightning can reach thousands of degrees. Thunder occurs from the vibrations of the expansion of air.

- A severe thunderstorm watch means that severe thunderstorms with high winds, lightning, and hail may form.
- A severe thunderstorm warning means that severe thunderstorms have formed and it is important to take shelter.
Directions: Answer the questions in complete sentences citing evidence from the text.

RI.1
1. Describe the stages of a thunderstorm.

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RI.5
2. In stage two: How are there upward and downward moving currents?

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RI.2
3. Describe how lightning is created?

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- Reword or restate the question or prompt.
- Answer in a complete sentence.
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TORNADO 411

Did you know that a tornado and a twister are the same thing? A tornado is a rotating column of air. It forms a vortex or cone shape. A tornado is made when wind rolls between two layers of wind. The rolling air is turned so it stands upright. It becomes a funnel cloud.

Upward winds lift one end of a spinning column while downward winds push down on the other end. The spinning column is called a funnel cloud. When it touches the ground it is called a tornado. A tornado can last only a few minutes. Many tornadoes can reach 110 miles per hour. They are about 250 feet across. Records show that some tornadoes can be more extreme.

Satellites and Doppler weather radar stations are used to detect tornadoes. These devices help to warn people to seek shelter in a storm cellar, basement, or lowest floor of a building.

** A tornado watch is issued when conditions for severe weather are present in the area.
** A tornado warning is issued if it has either been spotted or satellites and radar show it has formed.
Directions: Answer the questions in complete sentences citing evidence from the text.

1. What factors determine a tornado?

2. What role do satellites and Doppler Weather stations have?

3. What is the difference between a tornado watch and a tornado warning?

Did You R-A-C-E?

- Reword or restate the question or prompt.
- Answer in a complete sentence.
- Cite evidence to prove the answer.
- Explain each part of the question or prompt.
Precipitation

Ever wonder about how rain, snow, or hail fall from the sky? Rain, sleet, snow, and hail are four types of precipitation. Precipitation starts when water from oceans, lakes, rivers, and streams are evaporated. Evaporation is when the water on the earth dries up. It rises into the atmosphere. The atmosphere is the gases that surround the planet. Water will dry up and mix with these gases. They will form clouds. Clouds get heavy with water from evaporation. They will then release the water back down to earth as precipitation. This process happens over and over again. It is called “The Water Cycle.”

Sometimes precipitation can come down quite violently. Sleet is frozen rain that can cause many problems. Hail is a lot like sleet, but it comes down in spherical, round balls of ice. Sleet and hail can be very damaging to cars, homes, and even people. Some of the chunks of ice that form will fall as hail. Hail can be the size of a peanut, as large as a gumball, and even as massive as a softball. There is even hail comparable to the size of a grapefruit!
Directions: Answer the questions in complete sentences citing evidence from the text.

RI.2
1. Describe the “Water Cycle” using at least two details from the text.

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RI.8
2. What are four types of precipitation in this text and how are they related?

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Did You R-A-C-E?

- Reword or restate the question or prompt.
- Answer in a complete sentence.
- Cite evidence to prove the answer.
- Explain each part of the question or prompt.
There are many reasons it rains in April. The reasons are all related to science. The spinning of the Earth on its axis, causes the weather to change. The Spring Equinox is also called the Vernal Equinox. This is when the Earth’s rotation and tilt cause the hours of night and day to be fairly equal. Therefore, it is called the Equinox. With the Spring Equinox, you can watch the daylight last longer each week.

With the Spring Equinox, weather starts to change rapidly. The faster the weather changes from cold to warm, the more the atmosphere goes from dry to wet. The sun quickly melts snow throughout the planet. This snow turns into water and fills rivers, lakes, and streams. A lot of this water is evaporated into the air. This means it dries up into invisible particles and enters the atmosphere. Billions of water particles are created from melting snow. Any water that evaporates will be transferred into the atmosphere to form clouds. When clouds become too heavy with water they will release precipitation as rain, sleet, or snow. For many parts of the U.S.A., April has the most precipitation.

The showers produced in April effect the plant growth for May. Many dormant plants absorb the water and begin to grow again.
Directions: Answer the questions in complete sentences citing evidence from the text.

1. In the first paragraph the author states “The Spring Equinox is also called the Vernal Equinox. This is when the Earth’s rotation and tilt cause the hours of night and day to be fairly equal.” What does the word rotation mean?

2. What is precipitation?

3. What happens because of the excess rain in April?

Did You R-A-C-E?

- Reword or restate the question or prompt.
- Answer in a complete sentence.
- Cite evidence to prove the answer.
- Explain each part of the question or prompt.
Tropical Storms form in tropical oceans such as the Atlantic, Pacific, or Indian Oceans. A tropical storm is a rapidly-rotating storm system. It has an area of low pressure, strong winds, and a cyclonic arrangement of thunderstorms. North of the equator, winds blow counterclockwise. Winds blow clockwise in the Southern Hemisphere.

The center of a hurricane, typhoon, or cyclone is typically calm. The center is called the eye! The winds outside of the eye are the strongest. They can reach 150 miles per hour. These weather systems usually dissipate when traveling over land. This makes inland territory the safest location when a hurricane approaches. The wind speed classifies hurricanes into 5 categories. Category 5 is the strongest!

Names vary for the intensified conditions according to the location of origin.

- Atlantic and Northeast Pacific = Hurricanes
- Northwest Pacific = Typhoons
- South Pacific and Indian Ocean = Cyclones
Directions: Answer the questions in complete sentences citing evidence from the text.

RI.4
1. In the sentence, “These weather systems usually dissipate when traveling over land.” What does dissipate mean?

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RI.3
2. What happens when a tropical storm intensifies?

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Did You R-A-C-E?

- Reword or restate the question or prompt.
- Answer in a complete sentence.
- Cite evidence to prove the answer.
- Explain each part of the question or prompt.
Did you know that weather and climate do not have the same definitions? Weather is defined as the conditions in an area at a moment in time. Climate is the average weather conditions over periods of time. It includes things like the average temperature and average rainfall. Climates do not change as the weather does each day. The land and bodies of water in an area can affect the climate.

Water temperatures do not change as quickly as air temperatures. Because of this, the temperature of the air near an ocean does not change rapidly. This makes temperatures near oceans and other bodies of water more constant. Oceans slow down the rise and fall of air temperature which impacts the climate.

The higher the land the cooler the temperature. Mountains have different climates than the land around them. Land areas not near any water may have a very dry climate.
Directions: Answer the questions in complete sentences citing evidence from the text.

1. How are weather and climate different?

2. How does a body of water affect the climate?

3. Describe climate on a mountain.

Did You R-A-C-E?

- Reword or restate the question or prompt.
- Answer in a complete sentence.
- Cite evidence to prove the answer.
- Explain each part of the question or prompt.
An area is called a desert by the amount of rainfall it gets. Humidity is also a factor. Humidity is the water vapor in the air.

Deserts are areas that receive less than 10 inches or 250 milliliters of precipitation each year. Desert plants have their root systems near the surface of the ground. This is so they can quickly absorb water from precipitation.

Every continent on Earth has a desert. The Arctic and Antarctica have the largest deserts. The largest non-polar deserts are found in northern Africa and southwest Asia. About one third of our planet is desert.
Directions: Answer the questions in complete sentences citing evidence from the text.

1. What are the characteristics of a desert? Use at least three details for the text.

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RI.1

2. What is the main idea of the last paragraph?

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RI.2

3. In the sentence, “An area is called as a desert by the amount of rainfall it gets. Humidity is also a factor.” What does factor mean?

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RI.4

Did You R-A-C-E?

- Reword or restate the question or prompt.
- Answer in a complete sentence.
- Cite evidence to prove the answer.
- Explain each part of the question or prompt.
Tropical Rainforest

Ecosystems near the equator have warm temperatures. An area is called a rainforest if it has at least 68 inches of rain. It also has to have an average temperature of at least 80 degrees.

Monsoons help rainforests form. A monsoon is a downpour of heavy rain which lasts for a very long time. Some monsoons can last a whole season. That is three months!

Most animals that live in the rainforest would not survive in a desert. These animals have characteristics to live in wet areas.

Rainforests generate over one-fourth of our planet's oxygen. Tropical rainforests are called “The Jewels of Earth.” This is because almost half of all medicine have been discovered there. Rainforests are important for our planet. They are divided into four main layers. The bottom is the forest floor followed by the understory. The canopy is next and the top is the emergent layer.
1. What characteristics classify a rainforest?

2. Why can’t most desert animals survive in a rain forest?

3. Why did the author say, “Tropical rainforests are called "The Jewels of Earth."”

Did You R-A-C-E?

- Reword or restate the question or prompt.
- Answer in a complete sentence.
- Cite evidence to prove the answer.
- Explain each part of the question or prompt.
Deciduous forests are located in the zones above tropical forests. These areas are called the temperate zone. The trees in a deciduous forest biome may produce nuts or acorns. They also have leaves which fall off as the cold season of winter arrives. Deciduous forests get an average amount of rain. These forests are found in the United States and Europe.

Trees will lose their leaves in fall. This helps them save food and water to survive the winter. In deciduous forests, animals hibernate for the cold winter months.

There are five zones of a deciduous forest.
- The top is the tree stratum zone.
- Then the small tree zone.
- The sapling zone.
- The herb zone is the fourth.
- The ground zone is at the bottom.
Directions: Answer the questions in complete sentences citing evidence from the text.

1. According to the text, why do leaves on trees fall off?

2. What is an adaptation of animals in a deciduous forest biome?

3. In the text the word fall is used in two different ways. How does the author help you understand the meaning of both ways the word is used?

Did You R-A-C-E?

- Reword or restate the question or prompt.
- Answer in a complete sentence.
- Cite evidence to prove the answer.
- Explain each part of the question or prompt.
Three North American Biomes

A biome is a large geographical area with distinct plant and animal groups. Plants and animals adapt to their environment. All the biomes together make up the biosphere. Climate and geography of a region determine the biome. There are many biomes in North America, below are three.

**Grassland Biomes**

Grassland biomes cover enormous areas. They are large rolling terrains of grasses with very few trees. Temperatures can go below zero degrees and up to 70 degrees Fahrenheit. The average rainfall per year is less than 60 inches. This makes it difficult for trees to thrive unless the trees are close to a water source.

**Taiga Biomes**

This is the largest biome in the world. They are only in the Northern Hemisphere. Taigas are cold and dry. Most trees in the taiga biome are coniferous trees with needles and cones. Taigas make up over 25% of our planet's surface.

**Tundra Biomes**

This is the coldest biome. The tundra biome is close to the North Pole. It covers 20% of the our planet's surface. Some tundra-like areas are outside of the Northern Hemisphere. In some areas, the top layer of frost melts for a few weeks of summer. This allows small plants and grass to grow.
Directions: Write complete sentences to answer the questions below.

RI.5
1. How are the three sections of text connected? How do the headings help?

RI.1
2. Why is the tundra biome the coldest?

RI.2
3. What is the purpose of this passage?

Did You R-A-C-E?
• Reword or restate the question or prompt.
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