

Teacher Background Notes on Physical Regions of Africa

The Atlas Mountains, located in the far northwest, are the longest mountain range in Africa. They create a rain shadow, where the inland side of the Atlas Mountains experience much less rain than the ocean side.

The Sahara Desert is the largest desert in the world. It covers 3,500,000 square miles of northern Africa. The Sahara Desert is made up of different types of land surfaces: *ergs*, (windblown sand dunes); *wadis* (dry streambeds); gravel plains; *hammadas* (rocky plateaus); and mountains.

South of the Sahara is the Sahel which is a steppe area with small trees and grasses. The Sahel is a fragile land, resting between true desert and savanna. The Sahel has been gradually turning into desert due to years of drought, overgrazing and poor land management .

The savannas of Africa are tropical grasslands with scattered trees. Savannas have definite wet and dry seasons. Many of Africa's animals live in this region. Savanna land preserves have been set up to help protect the animals from poachers. The savanna belts of Africa are located both north and south of the tropical rainforest region of central Africa.

The tropical rainforests are located near the equator. Treetops of the rain forest form a canopy, or an umbrella-like cover of vegetation. The canopy lets very little sun light filter to the ground. Because of the lack of sunlight, the forest floor has very little plant life. Over 750 different types of trees live in the rainforest. The rainforest is being cut down for its precious wood.

The Congo River (once known as the Zaire River) flows 2,900 miles through central Africa, and much of its course flows through the dense tropical rainforest.

The Great Rift Valley (also called the East African Rift) is located in Eastern Africa. The Rift Valley is more than 3,000 miles long. Movement of the earth's crustal plates is slowly splitting Africa into two parts, at the rate of millimeters per year. If this spreading continues, millions of years in the future, the Red Sea will gradually expand southward into the Great Rift Valley. But for now, crustal spreading forms deep valleys that are filled with deep lakes. Volcanoes in the area help preserve fossils of the oldest known remains of early humans. At the northern end of the Great Rift Valley, lies the Ethiopian Highlands, a rugged mountainous region with high plateaus.

The Nile River is 4,160 miles long and is the world's longest river, starting in the highlands around Lake Victoria in Uganda. It flows north to form a major delta at its mouth, the Mediterranean Sea. The ancient Egyptian civilization once flourished along the banks of the Nile.

Southern Africa hosts two deserts that are much smaller than the Sahara: the coastal Namib Desert and the inland Kalahari Desert. In the summer, these deserts have temperatures that can reach 120 degrees Fahrenheit during the day and from 50 degrees Fahrenheit or lower at night. These deserts have cactus-like plants that store moisture and shrubs scattered throughout. The Drakensberg Mountains are located near the southeastern coast of South Africa. Many peaks in this range tower over 10,000 feet in elevation.

Vocabulary T-Chart on Desertification

Write a complete sentence describing each of the vocabulary below.

Vocabulary	Definition
1. Desert	<hr/>
2. Desertification	<hr/>
3. Drought	<hr/>
4. Topsoil	<hr/>
5. Overgrazing	<hr/>
6. Erosion	<hr/>
7. Nomads	<hr/>
8. Irrigation	<hr/>
9. Crop rotation	<hr/>
10. Sahel	<hr/>

Vocabulary T-Chart Answer Key

Vocabulary

Definition

Desert

an area that receives less than
10 inches of rain per year.

Desertification

is the spread of deserts into
once productive grasslands.

Drought

is long periods without rain.

Topsoil

is the top layer of nutrient-rich
soil that helps plants grow.

Overgrazing

is the destruction of vegetation
by putting too many animals
on the land for too long a time.

Erosion

is the loss of soil due to wind
or rain.

Nomads

are people who travel from
place to place with their
possessions and animals.

Vocabulary**Definition****Irrigation**

is the method of bringing water to dry areas.

Crop rotation

is the practice of planting a variety of crops in a specific order to gain the most productive crop yields and to conserve soil and water quality.

Sahel

is the steppe grassland region south of the Sahara Desert that is slowly disappearing.

Cause and Effect Student Model #1



Cause is something that brings about a result
Effect is the result of something.

➤ **Example of a Cause and Effect Sequence:**

Cause

The student does not study for a test.

Effect

The student fails the test.

Cause

Because he/she fails the test,

Effect

The student's parents are upset.

Cause

The student's parents are upset.

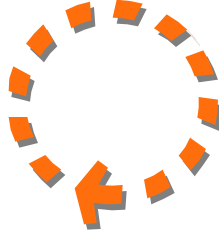
Effect

The student is grounded until the next test.

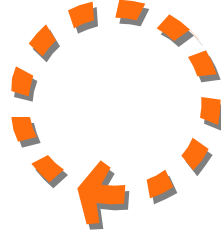
As you see from the example above, every cause has an effect, and the effect can in turn become a cause.

- **CAUSE and EFFECT GRAPHIC ORGANIZER:** Create a shorthand diagram of the previous cause and effect sequences in the graphic organizer that follows.

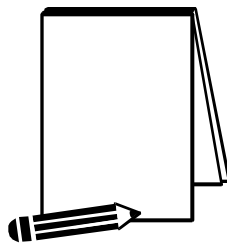
Cause



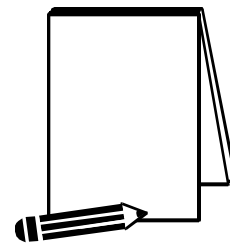
Effect



Cause



Effect



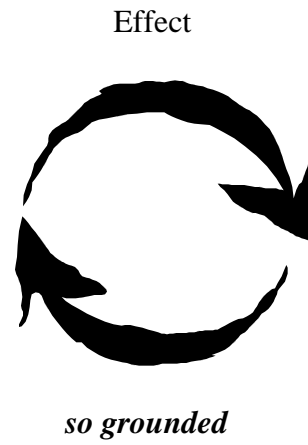
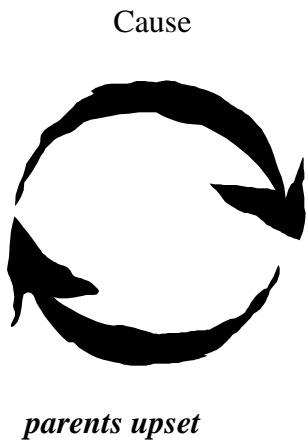
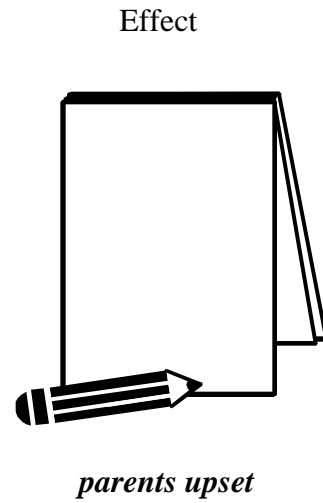
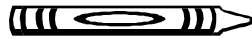
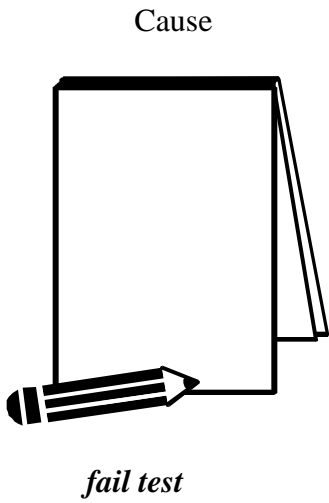
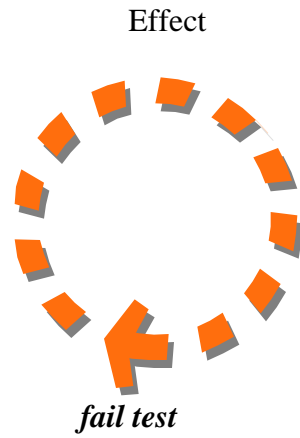
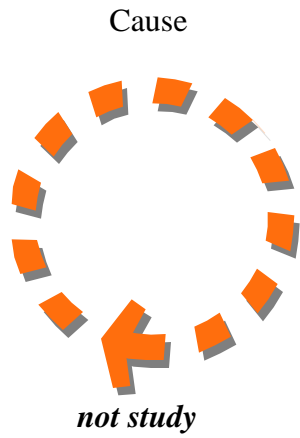
Cause



Effect



Cause and Effect Answer Key for Model #1
Answers should be placed inside the graphics.



Cause and Effect Sequence #1

EXAMPLE of a Cause and Effect Sequence as applied to Desertification

Cause

The Sahel has been suffering from drought for many years.

Effect

Without water, crops and vegetation die.

Cause

Crops and vegetation die leaving the topsoil _____.

Effect

The bare topsoil is easily blown away by desert _____.

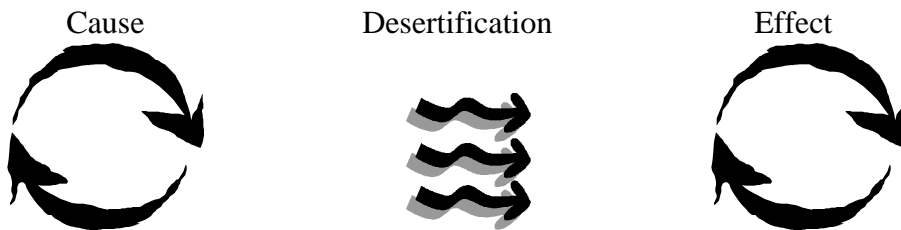
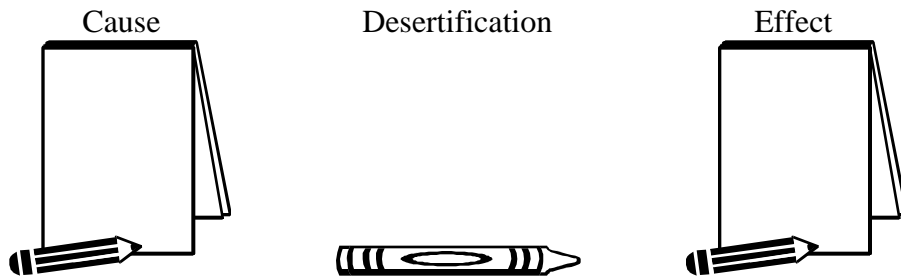
Cause

The Sahel's soil is eroded and covered with _____.

Effect

Once productive fields and grazing lands become a _____.

- **Cause and Effect Graphic Organizer: Create a shorthand diagram of the previous cause and effect sequence in the graphic organizer that follows.**



Cause and Effect Answer Key for Sequence #1

➤ Example of a Cause and Effect Sequence as applied to Desertification

Cause

The Sahel has been suffering from **drought** for many years.

Effect

Without water, **crops and vegetation die.**

Cause

Crops and vegetation die leaving the **topsoil bare.**

Effect

The bare topsoil is easily **blown away by desert winds and sandstorms.**

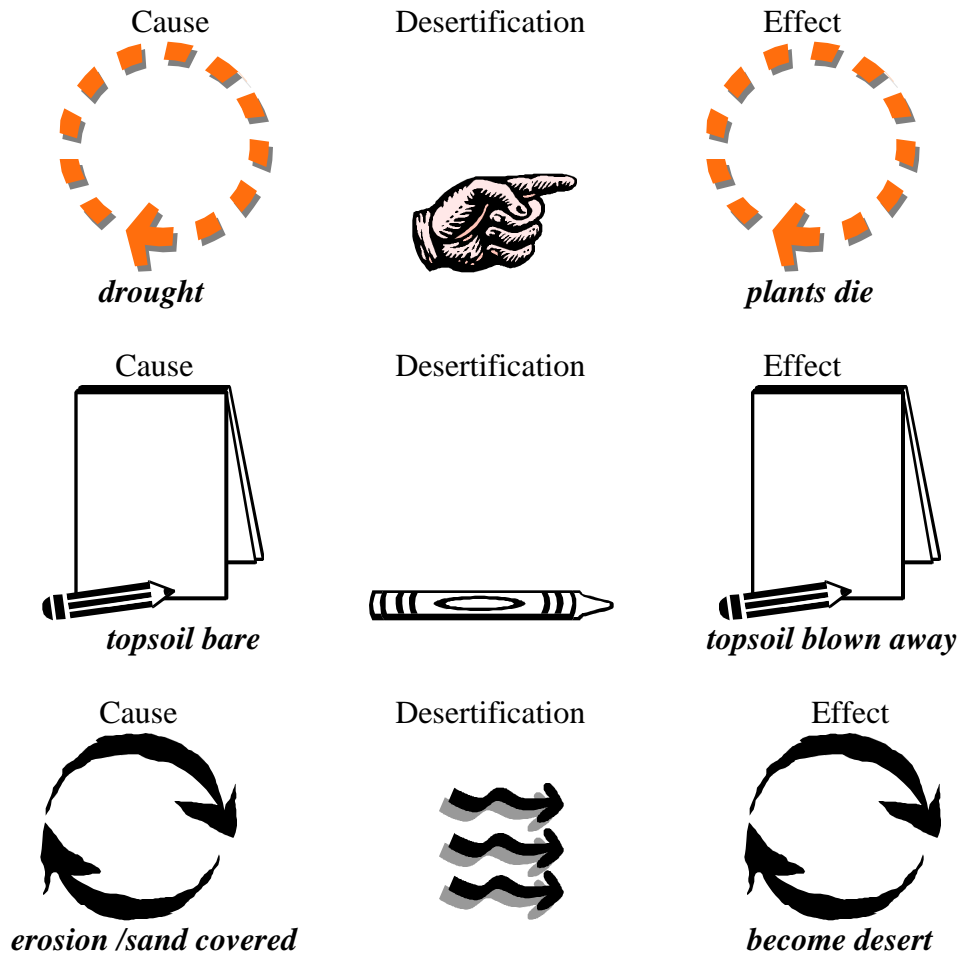
Cause

The Sahel's soil is **eroded and covered with desert sand.**

Effect

Once productive fields and grazing lands become a **desert.**

- **Cause and Effect Graphic Organizer: Create a shorthand diagram of the previous cause and effect sequence in the graphic organizer that follows.**
Students should place answers inside the graphics.



Cause and Effect Sequence #2

- **Directions:** Write out another cause and effect sequence that applies to the problem of Desertification. Use complete sentences.

Cause 1 _____

Effect 1 _____

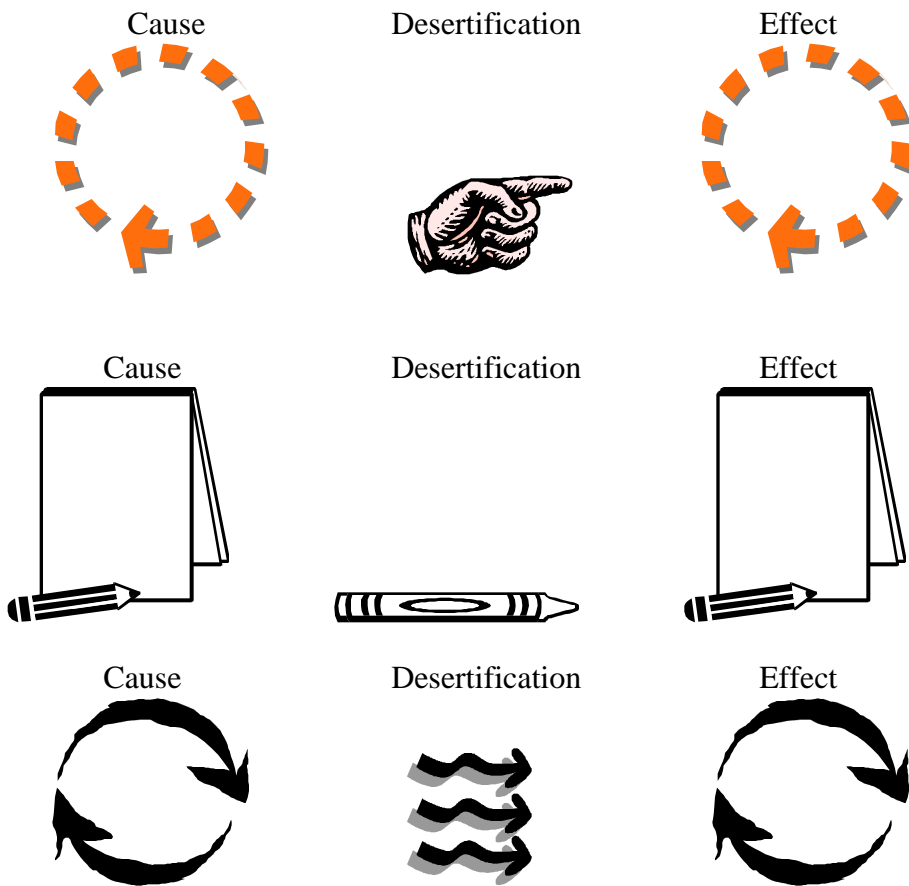
Cause 2 _____

Effect 2 _____

Cause 3 _____

Effect 3 _____

- **Directions:** Create a shorthand diagram of the previous Cause and Effect sequence in the Graphic Organizer that follows.



Cause and Effect Answer Key for Sequence #2

- **Directions:** Write out another cause and effect sequence that applies to the problem of Desertification. Use complete sentences.

Cause 1 The livestock herds trample the grass.

Effect 1 The grass dies.

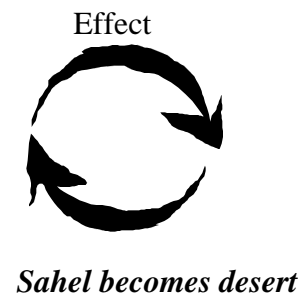
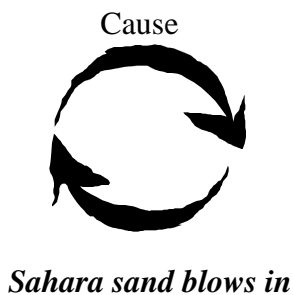
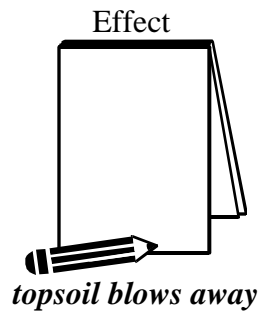
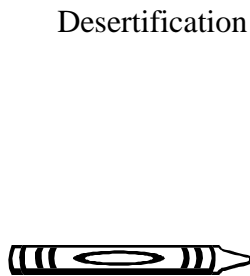
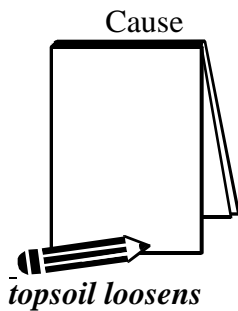
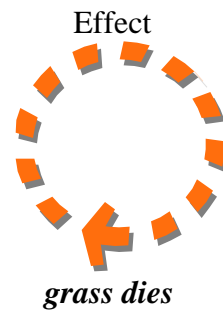
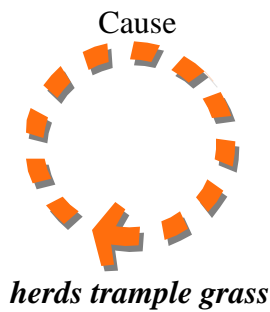
Cause 2 Without roots, the topsoil is loose.

Effect 2 Winds will blow the topsoil away.

Cause 3 The sand from the Sahara Desert will blow in.

Effect 3 The Sahel becomes a desert.

- **Directions:** Create a shorthand diagram of the previous Cause and Effect sequence in the Graphic Organizer that follows. *Students should place answers inside the graphics.*



Cause and Effect Sequence #3

- Directions: Write out another cause and effect sequence that applies to the problem of Desertification. Use complete sentences.

Cause 1 _____

Effect 1 _____

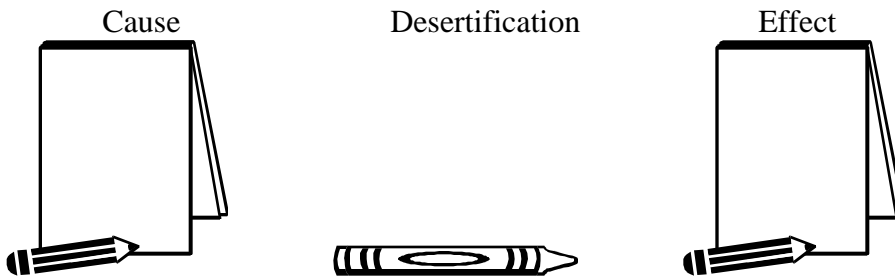
Cause 2 _____

Effect 2 _____

Cause 3 _____

Effect 3 _____

- Directions: Create a shorthand diagram of the previous Cause and Effect sequence in the Graphic Organizer that follows.



Writing Prompt for Cause and Effect of Desertification

You are a journalist writing for a news magazine (such as *National Geographic* or *Time*). Your editor has asked you to write a feature article on the importance of preserving the Sahel: 1) explaining both human and natural causes and effects of desertification and 2) describing possible solutions for preventing or reversing desertification.

Read the Idea/Content and Word Choice Rubrics before writing your paper.

List in the chart below the Human and Natural Causes and Effects of Desertification.
(Use the Cause and Effect Sequence #1, #2, and #3 Worksheets.)

Human	Natural

List 5 possible solutions for preventing or reversing desertification.

1) _____
2) _____
3) _____
4) _____
5) _____

**Desertification Essay
Word Choice Rubric**

6	<ul style="list-style-type: none"> ❖ Rich, broad range of words, carefully chosen ❖ Powerful word choices that energize the writing ❖ Slang, if used, seems purposeful, effective ❖ Uses all 10 T-Chart vocabulary words defined accurately 	3	<ul style="list-style-type: none"> ❖ Generic word choice, familiar words and phrases ❖ Words that work but don't capture reader's interest ❖ Expression mundane, general ❖ Reliance on slang ❖ Uses 6 T-Chart vocabulary words defined with limited problems
5	<ul style="list-style-type: none"> ❖ Broad range of words, carefully chosen ❖ Word choices that energize the writing ❖ Slang, if used, seems effective ❖ Uses 9 T-Chart vocabulary words defined accurately 	2	<ul style="list-style-type: none"> ❖ Words are colorless, flat, imprecise ❖ Monotonous repetition ❖ Worn expression that detracts from the message ❖ Images are fuzzy or absent ❖ Uses 4 T-Chart vocabulary words defined with some inaccuracy
4	<ul style="list-style-type: none"> ❖ Variety of words that are functional and appropriate ❖ Words that work but do not energize the writing ❖ Slang, if used, is not effective ❖ Attempts at colorful language are overdone ❖ Uses 8 T-Chart vocabulary words defined accurately 	1	<ul style="list-style-type: none"> ❖ Limited word choice ❖ Words that do not fit text ❖ Words imprecise, wrong ❖ Vague language hides meaning of message ❖ Uses 2 T-Chart vocabulary words defined with some inaccuracy

Desertification Essay Ideas and Content Rubric (part 1)

6

The writing is exceptionally clear, focused and interesting. It holds the reader's attention throughout. Main ideas stand out and are developed by strong support and contain rich details suitable to audience and purpose. The writing is characterized by:

- Clarity, focus, and control
- Main ideas that stand out
- Supporting, relevant, carefully selected details; when appropriate, use of resources provides strong, accurate, credible support
- A thorough, balanced, in-depth explanation/exploration of the topic; the writing makes connections and shares insights
- Content and selected details that are well suited to audience and purpose
- 3 crystal-clear cause & effect sequences explaining desertification
- 5 fully developed solutions for desertification

5

The writing is clear, focused, and interesting. It holds the reader's attention. Main ideas stand out and are developed by supporting details suitable to audience and purpose. The writing is characterized by:

- Clarity, focus, and control
- Main ideas that stand out
- Supporting, relevant, carefully selected details; when appropriate, use of resources provides strong, accurate, credible support
- A thorough, balanced explanation/exploration of the topic; the writing makes connections and shares insights
- Content and selected details that are well suited to audience and purpose
- 3 strong cause & effect sequences explaining desertification
- 5 adequately developed solutions for desertification

4

The writing is clear and focused. The reader can easily understand the main idea. Support is present, although it may be limited or rather general. The writing is characterized by:

- An easily identifiable purpose
- Main ideas that are clear
- Supporting details that are relevant, but may be overly general or limited in places; when appropriate, resources are used to provide accurate support
- A topic that is explored/explained, although developmental details may occasionally be out of balance with the main idea(s); some connections and insights may be present
- Content and selected details that are relevant, but perhaps not consistently well chosen for audience and purpose
- 3 adequate cause & effect sequences explaining desertification
- 4 adequately developed solutions for desertification

Desertification Essay Ideas and Content Rubric (part 2)

3

The reader can understand the main ideas, although they may be overly broad or simplistic, and the results may not be effective. Supporting detail is often limited, unsubstantial, overly general, or occasionally off-topic. The writing is characterized by:

- An easily identifiable purpose and main ideas
- Predictable or overly obvious main ideas; conclusions or main points seem to echo observations heard elsewhere
- Support that is attempted but developmental details are often limited, uneven, somewhat off-topic, predictable, or overly general
- Details that may not be well grounded in credible resources; they may be based on clichés, stereotypes or questionable sources of information
- Difficulties when moving from general observations to specifics
- 2 adequate cause & effect sequences explaining desertification
- 3 adequately developed solutions for desertification

2

Main ideas and purpose are somewhat unclear or development is attempted but minimal. The writing is characterized by:

- A purpose and main ideas that may require extensive inferences by the reader
- Minimal development or insufficient details
- Irrelevant details that clutter the text
- Extensive repetition of detail
- One adequate cause and effect sequence explaining desertification
- 2 adequately developed solutions for desertification

1

The writing lacks a central idea or purpose. The writing is characterized by:

- Ideas that are extremely limited or simply unclear
- Attempts at development that are minimal or nonexistent; the paper is too short to demonstrate the development of an idea
- One partially developed cause and effect sequence explaining desertification
- 2 partially developed solutions for desertification