

Standard 3—People and Events: Students examine the impact of scientific and technological advances on the development of the United States.

Standard 5—People and Land: Students compare and contrast the physical and human characteristics of each United States region in order to understand their similarities and differences.

GLE 4.3.1 Explain how inventions and new processes affected the lives of people, migration, and the economy of regions of the United States

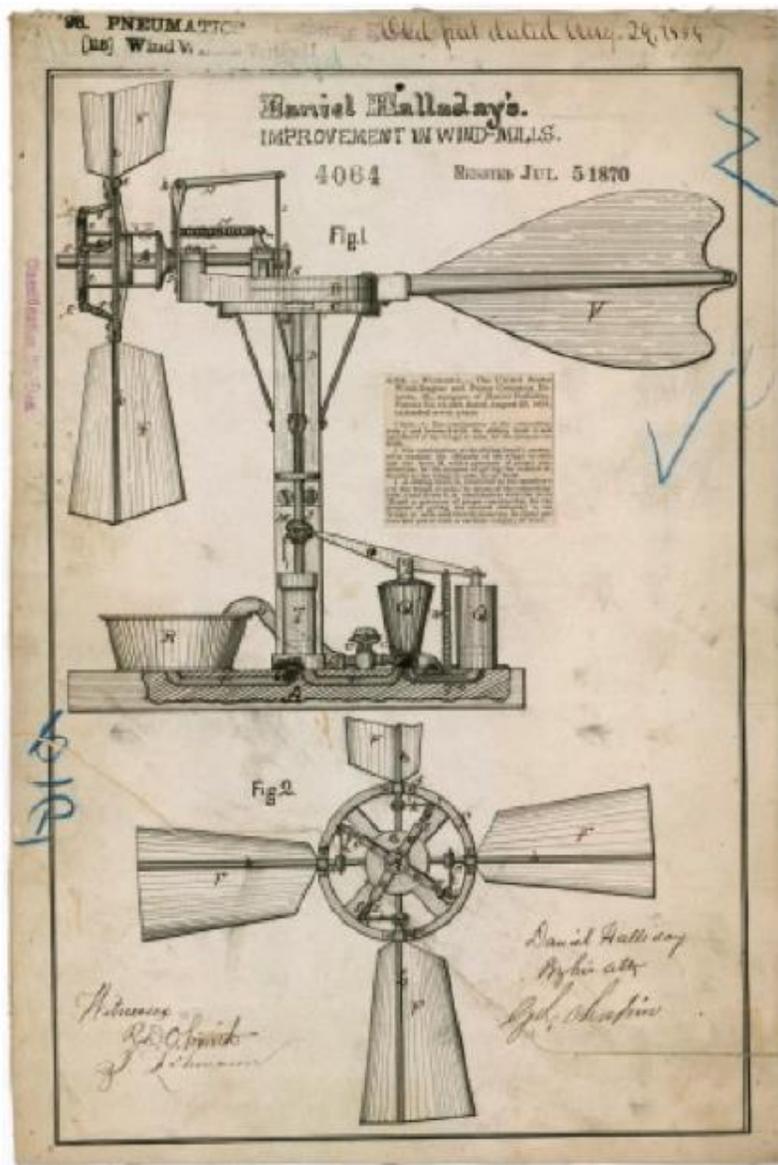
GLE 4.5.2 Analyze how physical characteristics of a region shape its economic development

Read and study the sources about inventions from the late 1800s. As you read the three sources, think about the effects that the inventions had on the American economy. After you read the sources, answer questions 1–4.

Source 1

Patent for Daniel Halladay's Improvement on the Windmill (1870)

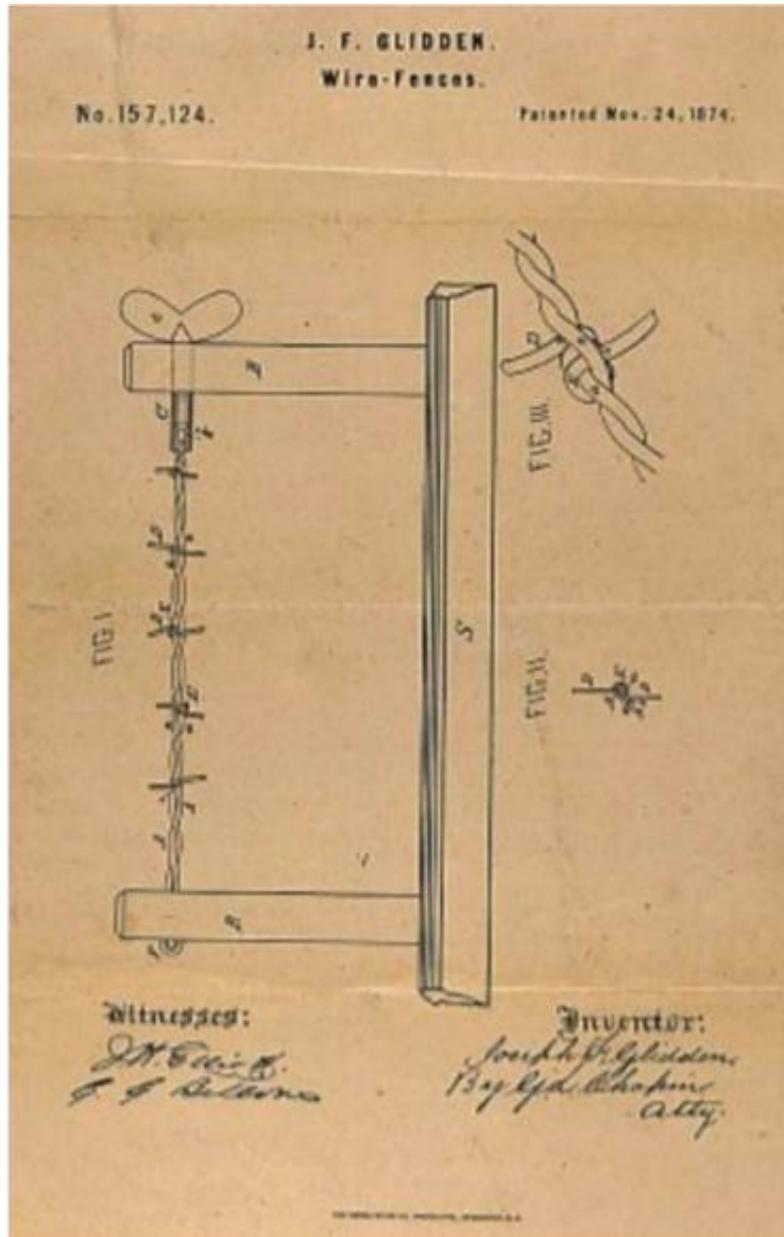
The windmill that Daniel Halladay developed was self-controlled, so farmers and ranchers did not have to use manual labor to make it work.



Source 2

Joseph Glidden Patent for Barbed Wire (1874)

Illinois farmer Joseph Glidden patented an improved design for barbed wire in 1874. His design held the wire barbs in place, and it became the barbed wire that was most often used in the American West. Since then, few changes have been made to his design.



Source 3

Homestead in the Great Plains (about 1900)



Item 1: Multiple Choice

Why was the invention shown in Source 1 useful to settlers in the Great Plains?

- A. It allowed farmers to read signs of approaching storms.
- B. It generated electrical power to homes and barns.
- C. It provided access to underground sources of water.
- D. It marked boundary lines on farms and ranches.

Item 2: Multiple Select

Which statements describe major effects of the invention shown in Source 2?

Select the **two** correct answers.

- A. It lowered the cost of fencing large tracts of land.
- B. It helped farmers mark their fields for crop rotation.
- C. It replaced lumber as a main building material on the Great Plains.
- D. It forced ranchers to sell their herds, driving many people out of business.
- E. It required large work crews to install it, making more jobs available for immigrants.
- F. It ended the open range, resulting in ranchers no longer having open grazing land for cattle in the western United States.

Item 3: Multiple Choice

How did inventions, such as those in Source 1 and Source 2, affect the lives of Americans in the late 1800s and early 1900s?

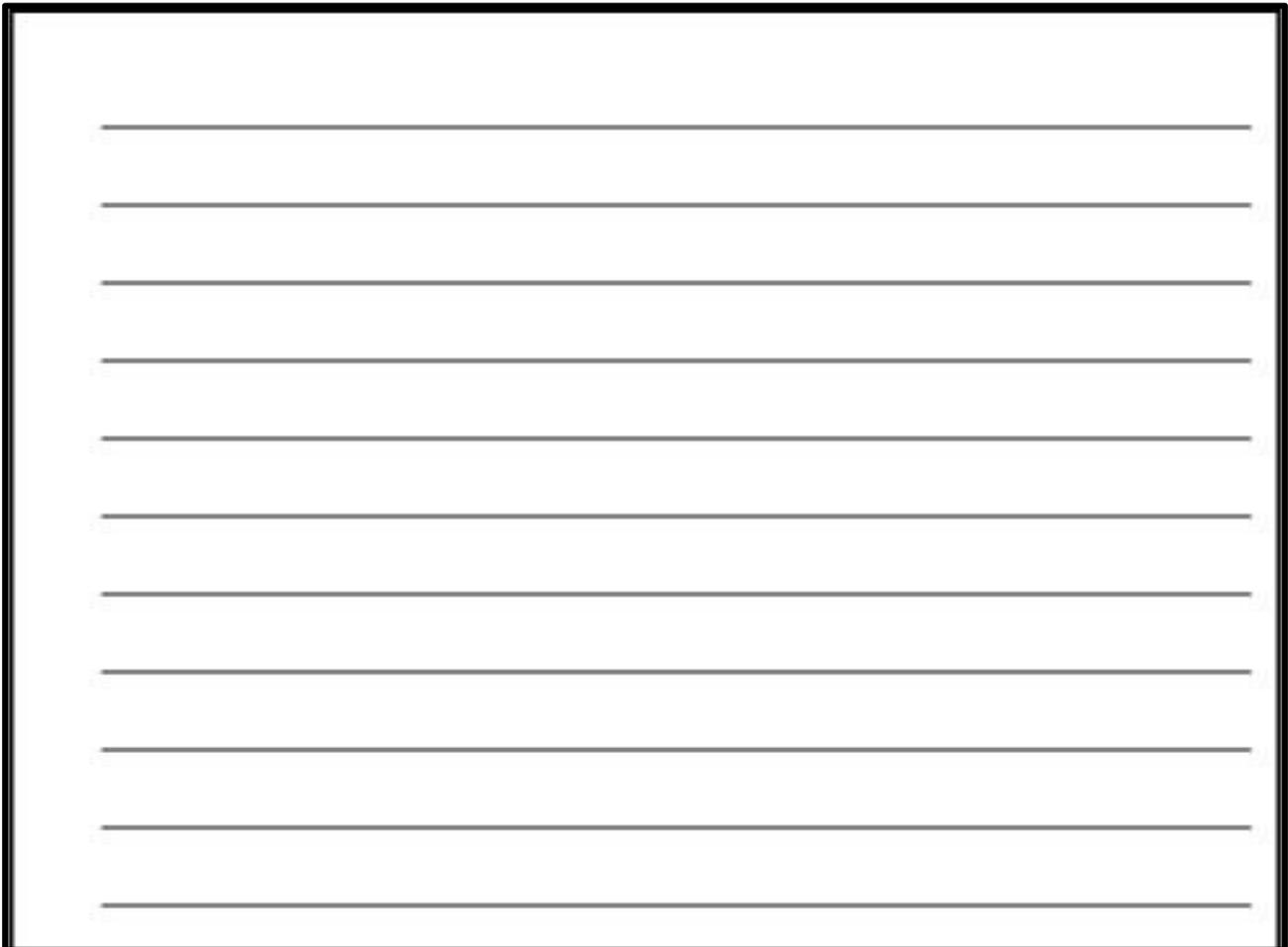
- A. They helped industries to locate on the Great Plains.
- B. They made farmers on the Great Plains very wealthy.
- C. They brought more people to the Great Plains to find jobs.
- D. They allowed settlers to adapt to life on the Great Plains.

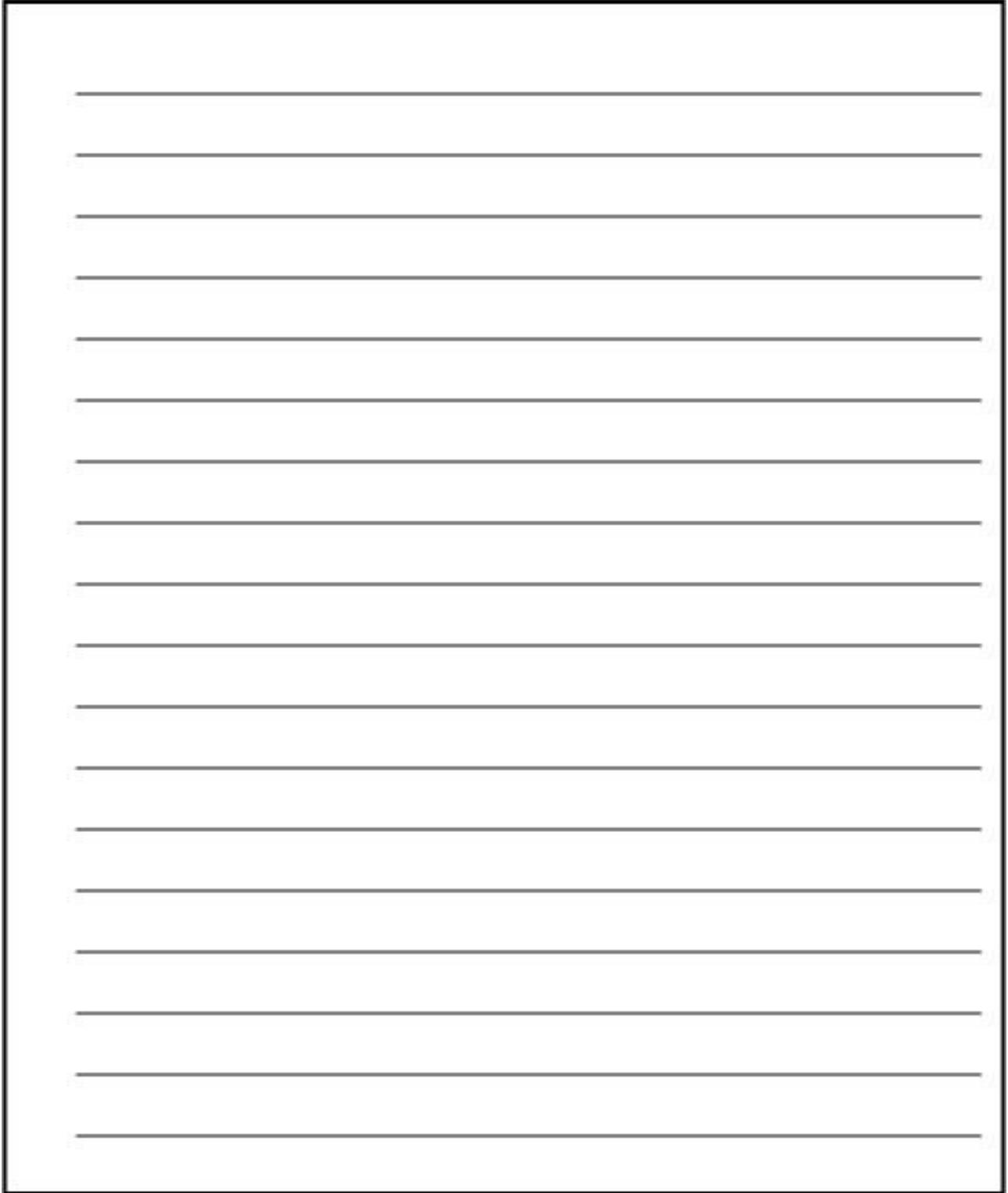
Item 4: Extended Response

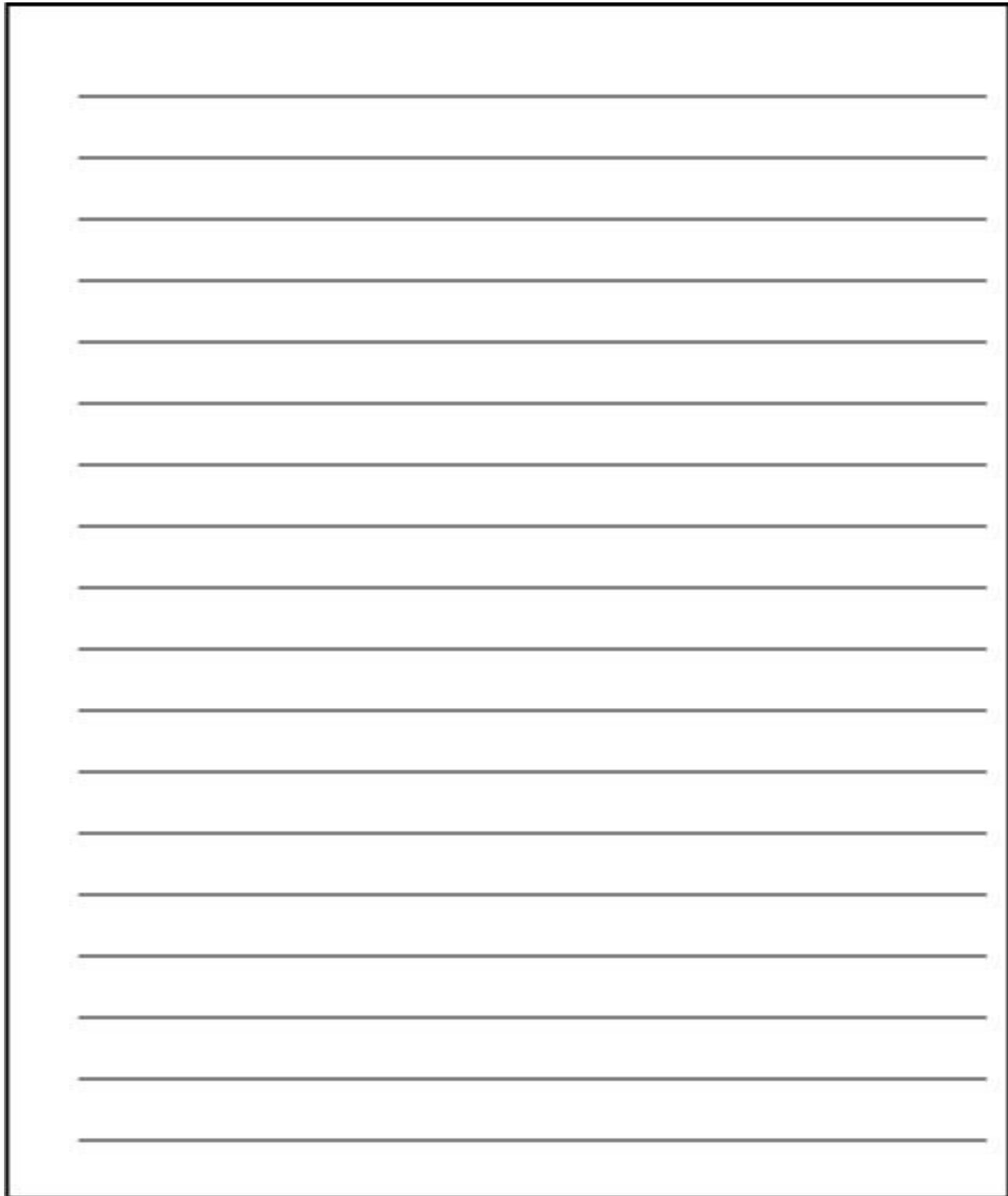
How did the geography of the Great Plains affect its settlement by Americans in the late 1800s and the early 1900s? What role did inventions, like those shown in Source 1 and Source 2, play in the settlement of the Great Plains?

As you write, follow the directions below.

- Address all parts of the prompt.
- Include information and examples from your own knowledge of social studies.
- Use evidence from the sources to support your response.







Scoring

The response should be scored **holistically** on its adherence to two dimensions: Content and Claims. Each response should be given the score that corresponds to the set of bulleted descriptors that **best** describes the response.

Dimension: Content	
Score	Description
4	The student's response: <ul style="list-style-type: none"> Reflects thorough knowledge of how the geography of the Great Plains affected its settlement by Americans in the late 1800s and the early 1900s, and what role inventions played in this settlement, by incorporating ample focused factual information from prior knowledge and the sources; Contains accurate understandings with no errors significant enough to detract from the overall content of the response; Fully addresses all parts of the prompt.
3	The student's response: <ul style="list-style-type: none"> Reflects general knowledge of how the geography of the Great Plains affected its settlement by Americans in the late 1800s and the early 1900s and what role inventions played in this settlement, by incorporating adequate factual information from prior knowledge and the sources; Contains mostly accurate understandings with minimal errors that do not substantially detract from the overall content of the response; Addresses all parts of the prompt.
2	The student's response: <ul style="list-style-type: none"> Reflects limited knowledge of how the geography of the Great Plains affected its settlement by Americans in the late 1800s and the early 1900s and what role inventions played in this settlement, by incorporating some factual information from prior knowledge and the sources; Contains some accurate understandings with a few errors that detract from the overall content of the response; Addresses part of the prompt.
1	The student's response: <ul style="list-style-type: none"> Reflects minimal knowledge of how the geography of the Great Plains affected its settlement by Americans in the late 1800s and the early 1900s and what role inventions played in this settlement, by incorporating little or no factual information from prior knowledge and the sources; Contains few accurate understandings with several errors that detract from the overall content of the response; Minimally addresses part of the prompt.
0	The student's response is blank, incorrect, or does not address the prompt.

Dimension: Claims	
Score	Description
4	The student's response: <ul style="list-style-type: none"> ● Develops a valid claim that effectively expresses a solid understanding of the topic; ● Thoroughly supports the claim with well-chosen evidence from the sources; ● Provides a logically organized, cohesive, and in-depth explanation of the connections, patterns, and trends among ideas, people, events, and/or contexts within or across time and place.
3	The student's response: <ul style="list-style-type: none"> ● Develops a relevant claim that expresses a general understanding of the topic; ● Supports the claim with sufficient evidence from the sources; ● Provides an organized explanation of the connections, patterns, and trends among ideas, people, events, and/or contexts within or across time and place.
2	The student's response: <ul style="list-style-type: none"> ● Presents a claim that expresses a basic understanding of the topic; ● Includes limited support for the claim by using some evidence from the sources; ● Provides a weak explanation of the connections, patterns, and trends among ideas, people, events, and/or contexts within or across time and place.
1	The student's response: <ul style="list-style-type: none"> ● Presents a claim with little or no evidence from the sources; ● Provides a vague, unclear, or illogical explanation of the connections among ideas, people, events, and/or contexts within or across time and place.
0	The student's response is blank, incorrect, too brief to evaluate, or lacks a claim that addresses the prompt.

Characteristics of a Strong Response

A strong response is logically organized into several paragraphs. Any errors in spelling, punctuation, grammar, or capitalization do not interfere with the ability of the reader to understand the ideas presented.

A strong response may develop one or more lines of reasoning to support the claim. Here are some examples.

- The Great Plains was a flat region with few hills. The introduction of technology allowed farmers to take advantage of the flat, grassy terrain that was perfect for supporting large herds of animals, such as bison or cattle. The farmers were able to gain access to water for livestock and for household needs, using windmills that pumped water from below the ground. As a result, cattle ranchers grew large herds of cattle and drove them from the southern plains to the central plains, where they were then loaded onto trains and shipped to meatpacking plants in the Midwest. They were also able to use barbed wire to prevent cattle from wandering on their land, causing damage to their crops.
- Before the middle of the 1800s, the Great Plains was considered to be the “great desert” because of the lack of water or trees. The semi-arid climate meant that few wanted to live there. It was mainly seen as an obstacle that settlers needed to pass to get to California and the Northwest. With the invention of the self-controlled windmill, settlers could establish homesteads and spend their time farming or raising cattle with enough water to meet their daily needs.
- The settlement of farmers effectively ended the large cattle drives that had defined the use of the Great Plains in the first half the 1800s. The introduction of barbed wire prevented cattle from walking freely across the plains as they had done in the first half of the 1800s. They were now restricted to specific fields for grazing and the cattle had to be shipped by railroads from stations further west and south.

A strong response shows understanding of the topic by analyzing the required sources and including well-chosen evidence from the sources, such as:

- Farmers used windmills for pumping water from aquifers. Windmills use the power of the wind to pump water from underground sources to provide water for household needs and for livestock. Windmills did not pump enough water for large acres of cereal crops. Much of that still relied on spring and summer rains. (Source 1).
- Farmers used barbed wire because it was cheap, portable, and easy to work with to build fences. The lack of forests in the region made wood expensive. Barbed-wire fences were cheap and easy to build, in contrast to wooden-post fences (Source 2).
- Barbed-wire fences prevented ranchers from moving their cattle up the Great Plains to railroad heads. Barbed wire ended the sense of freedom that the Great Plains represented for the great cattle barons. The boundaries of property had become clearly defined, and the frontier began to

end as a dream to settlers. Instead, it represented the chance for farmers to own defined plots of land that they knew were theirs to tend (Source 2).

- The Great Plains were very flat, with few trees or rivers (Source 3).

A strong response also includes important information beyond what is presented in the sources, such as:

- The introduction of the steel plow was instrumental in breaking the thick prairie soil to plant rows of wheat and corn through a method known as dry farming.
- The introduction of the mechanical reaper was important in allowing farmers to harvest large fields of wheat and other grains that were staple crops on the Great Plains.
- The building of railroads on the Great Plains was important for bringing immigrant farmers to the region. They also provided an efficient and quick way of moving crops and livestock from farms on the Great Plains to food-processing plants in the Midwest.
- The settlement of the Great Plains resulted in the region becoming the breadbasket of the nation and becoming integrated into the national economy through the development of a cash-crop economy in the region. Farmers did not only produce enough food for their own consumption or for local use. They produced food for sale in distant markets, with the specific purpose of earning money that would allow them to buy goods shipped from midwestern and northeastern manufacturers.