



Name: _____



Date: _____

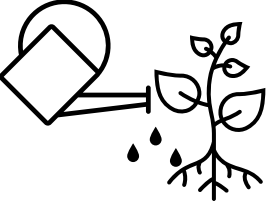


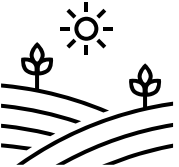
Cotton Industry Innovations: Scientific Explanations for Needs of Cotton Plant

Driving Question: How have scientists and engineers affected cotton farming and production practices?

- Obtain and evaluate information from several reliable sources on your specific phenomenon (_____).
- Use the graphic organizer to summarize the information you find.
- Construct a clear explanation for how _____ affected cotton farming and production practices.
- Prepare to share your information with your classmates in a 3-minute elevator speech.
- Requirements: Construct an explanation that describes the phenomenon. Include:
 - a model of the cotton plant at different points in its life cycle and include labels of its structures and their functions
 - all components of the habitat when the system is stable
 - description of the disrupter (e.g., soil depleted of nutrients, boll weevil infestation, lack of water)
 - cause for the disruption
 - effects of this disruption for both farming and production (e.g., price of cotton, trade, economic activity)
 - proposed solutions and any related innovations
 - outcomes of the solutions for both farming and production

Graphic Organizer:

Summary of the phenomenon 				
Develop and use a model of the cotton plant structure during its life cycle. 				

<p>Describe the components of a stable, healthy cotton habitat.</p> 	<p>Abiotic (Non-Living) Components</p>		<p>Biotic (Living) Components</p>
<p>Describe the components of what disrupted the cotton habitat, its causes, and effects.</p> 	<p>What was the disrupter?</p>	<p>What caused this disruption?</p>	<p>What were the effects of this disruption?</p>
<p>Describe any proposed solutions and the results of any experiments/tests.</p> 			
<p>Describe current practices that were influenced by this phenomenon.</p> 			

Rubric: Scientific Explanations for Needs of Cotton Plant

	Exemplar Response	Meets Expectations	Needs more practice
Summarize the phenomenon.	→Plus Sources other than those provided by the teacher were used in summary.	Multiple sources of information used and cited to accurately summarize the phenomenon.	Missing citation of multiple sources and/or the explanation of the phenomenon was inaccurate.
Develop and use a model of the cotton plant structure and function at different points of its life cycle.	→Plus Structure and function for more than four stages of the cotton plant life cycle are included.	Accurate model and labels of life cycle for cotton plant structure and function is provided for 1-2 weeks, 8-9 weeks, 16-17 weeks, and 20 or more weeks. Model is referenced in summary.	Missing more than one critical point in the cotton plant life cycle and/or does not reference model in summary.
Describe the components of a stable, healthy cotton habitat.	→Plus More than three abiotic or biotic factors are completely described.	Describe three abiotic and biotic factors for a healthy cotton habitat.	Two or fewer abiotic and biotic factors are described and/or descriptions of factors are incomplete.
Describe the components of what disrupted the cotton habitat, its causes, and effects.	→Plus Reference to the model is made to enhance the explanation.	Explanation for what disrupted the cotton habitat, its causes, and effects are summarized.	One or more component is missing and/or inaccurately explained.
Describe any proposed solutions and the results of any experiments/tests.	→Plus Any related innovations to the proposed tests are modeled and included in the description.	Scientists' proposed tests, the intended outcomes, and the actual outcomes are described.	Description is missing one or more components.
Describe current practices that were influenced by this phenomenon.	→Plus Individuals or companies responsible for contributing to the modern practices credited in the description.	Influences of the phenomenon on current farming and production practices are accurately summarized.	Summary is inaccurate or does not include influence on current farming and production practices.

Writing Mechanics	Topic is clearly introduced as a compound sentence.	Topic is clearly introduced.	Topic is unclear or introduced in several simple sentences.
	Related information is grouped logically in more than one paragraph.	Related information is grouped logically in a paragraph.	Information is not grouped logically.
	Facts, concrete details, quotations, or other information and examples used to thoroughly develop the topic in multiple paragraphs.	Facts, concrete details, quotations, or other information and examples used to develop the topic.	Missing relevant facts, details, and other information needed to develop the topic.
	Ideas and transitions between paragraphs are linked using words, phrases, and clauses (e.g., in contrast, especially).	Ideas within the paragraph are linked using words, phrases, and clauses (e.g., in contrast, especially).	Ideas are not linked using words, phrases, and clauses.
	Precise language and specific vocabulary support explanation of the topic.	Language and vocabulary support explanation of the topic.	Anticipated language and vocabulary are not used in support of the explanation.
	A concluding paragraph summarizes the explanation presented.	A concluding statement summarizes the explanation presented in the paragraph.	Conclusion is missing and/or does not summarize the topic.
Points Earned _____ / 100	_____ / 100 (8.3 points each)	_____ / 80 (6.7 points each)	_____ / 65 (5.4 points each)