



## Tractor Museum Virtual Tour Educational Resources

Use this structured inquiry lesson guide as a way to engage with students and ensure they engage in meaningful inquiry throughout the learning process. The blueprint design is *\*Adapted from **Blueprinting: An Inquiry-Based Curriculum | Planning with the Inquiry Design Model.***

### Setting the Stage

**Staging the Compelling Questions** serves the purpose of introducing the inquiry. It provides an engaging framework to interact with the content of the Tractor Museum Virtual Tour and promotes inquiry.

**The compelling question** identifies issues and topics found in and across the academic disciplines.

The **primary source** is the primary content used in this lesson. It will serve as the source for students to engage with the compelling and supporting questions.

WHY IS THERE A NEBRASKA TRACTOR TEST LAW?	
Staging the Compelling Questions	<p>Nebraska is the only state and one of few places in the world to have a facility to test tractor performance. How a law requiring this came to exist, how it has been modified over the years, and whether it is still relevant provides a compelling opportunity for students to engage in civil inquiry while exploring how policies become law and impact change.</p> <p>Why might this be? Why did other states not follow suit? What purpose does the test serve? To Nebraska? To the United States?</p>
Primary Source	Nebraska Tractor Test Virtual Tour



## Supporting Questions, Performance Tasks and Additional Sources

**Supporting questions** sequence the content that students need to understand in order to address the compelling question; the formative tasks help them learn that content and develop the inquiry skills necessary to communicate their emerging understandings.

**Formative performance tasks** are aligned to supporting questions and encourage students to engage with the content more deeply as they synthesize their understanding.

**Additional Sources** help students make sense of the questions and tasks. Sources serve to expand students' curiosity about the topic, build students' content knowledge, and help students construct and support their arguments.

Once students have examined the supporting questions and completed the associated tasks, they will finish their inquiry with the summative performance task. The summative performance task provides students an opportunity to disagree over their answers to a compelling question, extend their learning and encourage students to act upon that new learning.

### Supporting Question Number One

Supporting Question 1	What is the Nebraska Tractor Test and how did it start?
Formative Performance Task	Summarize the events leading up to the passing of the tractor test law in Nebraska.  Write/Record a summary of the events leading up to the new tractor test law in Nebraska.  Or...  Create a news story covering an event or events identified in the tractor museum.
Additional Sources	<a href="#">Larsen Tractor Museum Website</a>  <a href="#">Les Larsen Interview Transcript</a>  <a href="#">The Nebraska Tractor Test Law, 1919-1927 - Gas Engine Magazine</a>



## Supporting Question Number Two

Supporting Question 2	What does the tractor test measure and how has it changed over time?
Formative Performance Task	Analyze the ways in which the tractor test has changed.  Create a timeline highlighting key events throughout the years or the tractors that are featured in the museum.  Or...  Graph the results of the test using at least one of the key measurements to show how the results have changed over time. time.e tractor museum.
Additional Sources	<a href="#">Nebraska Tractor Test from Antique Power Magazine</a>  <a href="#">Tractor Test Lab Tractor Test Results Database</a>

## Supporting Question Number Three

Supporting Question 3	What are some of the different perspectives and opinions about the test?
Formative Performance Task	Compare and contrast different viewpoints about the test.  Assume the perspective of one of the people or companies in the museum. Take a stance on the tractor test law and support that position with evidence. Present or share with the class your findings assuming the role of the person or a representative of the company.  Or...  Analyze the claims of the Ford Motor Company about the performance of its tractor. Identify misleading content. Create a poster but provide more accurate information. Select another tractor from the museum and do the same.
Additional Sources	<a href="#">Buyer Beware - Ford Tractor Company Commercial</a>  <a href="#">Tractor Factor - University of Nebraska Alumni Association Article</a>  Ford Motor Company Advertisement



## Supporting Question Number Four

Supporting Question 4	What are current issues with tractor technology that are issues today? What are pros and cons to having a test?
Formative Performance Task	Construct a rationale to continue the test and suggest additional changes that could be made.  Write a proposal that suggests additional measurements that could be added to the test. (ie repairability score, automation performance, other technological enhancements)
Additional Sources	<a href="#">Farmers Fight John Deere Over Who Gets to Fix an \$800,000 Tractor - Bloomberg Tractor Factor</a>  <a href="#">How John Deere plans to build a world of fully autonomous farming by 2030</a>

## Summative Performance Task and Taking Informed Action

A summative performance tasks comes at the end of an inquiry. A summative task that involves the making and supporting of arguments. All steps in the inquiry have led to this. Using the sources they analyzed during the formative task and guided by the supporting question, students will construct a claim, whether through a written composition, a detailed outline, or a poster, in which they answer the compelling question. Teachers may also choose to organize a class debate where students can prepare to share their claims.

Summative Performance Task	ARGUMENT Construct an argument that discusses the continued need for the test or conversely, the need to repeal or modify the tractor test while acknowledging competing viewpoints.
	EXTENSION Create a commercial or advertisement that would be in favor or against having a tractor test. Highlight key components to make a compelling case to persuade others to act.
Taking Informed Action	UNDERSTAND Policy is shaped by different perspectives and those decisions in policy have both intended and unintended consequences. Write a letter to a senator in support of the tractor test. What additional factors could be tested in the future by the laboratory?
	ASSESS Create a list of possible ways to promote, celebrate or help others learn about the Nebraska Tractor Test Law. Include key elements in the celebration or campaign to highlight some of the significant events or tractors in the museum.
	ACT Chose one of the options to implement as an individual, small group, or class.



# Structured Inquiry Template

Use this template to build and personalize structure inquiry lessons in conjunction with the virtual tour.

WHY IS THERE A NEBRASKA TRACTOR TEST LAW?	
Staging the Compelling Questions	
Primary Source	

  

Supporting Question (1)	Supporting Question (2)	Supporting Question (3)	Supporting Questions (4)
Formative Performing Task	Formative Performing Task	Formative Performing Task	Formative Performing Task

  

Additional Sources 1	Additional Sources 2	Additional Sources 3	Additional Sources 4

  

Summative Performance Task	ARGUMENT
	EXTENSION
Taking Informed Action	UNDERSTAND
	ASSESS
	ACT



## Nebraska State Standards

Social Studies	<p><b>Social Studies</b></p> <p><b>SS 4.1.2</b> Investigate how different perspectives impact government decisions at the state level.</p> <p><b>SS 4.1.2.f</b> Analyze the decisions of state leaders and how they impact public policy.</p>
English Language Arts	<p><b>LA.4.W.4</b> Write opinion pieces that explain a perspective with supporting reasons and/or evidence.</p> <ul style="list-style-type: none"><li>a. Introduce a topic or text clearly, state an opinion, and develop a structure that includes reasons and/or evidence.</li><li>b. Use facts and details to support reasons and/or evidence.</li><li>c. Use linking words and phrases to connect ideas.</li><li>d. Provide a concluding statement or section related to the opinion.</li></ul> <p><b>LA.4.W.5</b> Write informative/explanatory pieces to examine a topic or text and convey ideas and information.</p> <ul style="list-style-type: none"><li>a. Introduce a topic clearly and group related information into paragraphs and sections including text features, illustrations, and/or multimedia elements.</li><li>a. Develop the topic with Information (e.g., facts, definitions, details, quotations) related to the topic.</li><li>b. Use linking words and phrases and key vocabulary to connect ideas and categories of information.</li><li>c. Provide a concluding statement or section related to the information or explanation(s).</li></ul>



## Activities

Accompanying classroom activities can be aligned and adapted to the supporting question in order to engage students in academic content.

### Scavenger Hunt

Use the scavenger hunt as an introduction to the classroom museum. After overviewing the museum and explaining navigation, consider having the students use the

1. Used as an introduction to the museum. Have the students explore the museum, individually or in small groups. After having explored the museum, hand the students the scavenger hunt checklist and ask them to find and document each item. Have them be on the lookout for different items and check them off when they find them. They can screen shot or take a picture of the item when they find it. Some of the things to look for include:

- The first tractor ever tested
- An advertisement for the Ford Tractor Company
- The Name of the Museum
- A tractor that has crankshaft horsepower over 55
- The newest tractor in the museum
- The title of a tractor book in the gift shop.
- A video playing on a tv
- The original machine used to test tractors
- Audio clip of Les Larson talking about what has changed

2. As an extension, instead of completing the scavenger hunt, students could create their own scavenger hunt for their classmates. Have the students exchange the scavenger hunts they created and complete. As a class list out some of the similar locations and content that were identified during this time.

### Write/Record a Summary

After exploring the museum, have the students write or record a summary of the events that led to the passing of the Nebraska Tractor Test law. It may be helpful for the students to answer some of the questions embedded in the tour to help guide their learning. Key points to include about the law and test are:

- The name of the company the produced the tractors that prompted the test
- The name and role of the Nebraskan resident that seeked to pass the law
- The reason he wanted the test

### News Report or News Article

Creating a news story is a good way for students to explore content more deeply. Using the



information about the tractor test, have students create a news report covering the story of the Nebraska Tractor Test Act and Law. Students may choose to create a news article and include important information about the events surrounding the test and law. The students could also choose to cover the story if they were a news reporter in 1919. Students could also create a video news report. For more information on creating a news story, [visit these resources from StoryMaker](#).

## Graphing Lesson

1. Have students explore the virtual museum.
2. On their visit, alone or in small groups, have them explore at least five different tractors.
3. Have the students record the following information about the different tractors. This includes the brand of the tractor, the year it was tested, and the horsepower of the machinery. Here is an example of a [template to use](#).
4. The students can explore the data in many different ways. Some questions to consider when graphing could include:
  - a. What has happened to horsepower over time?
  - b. Which brand of tractor has a history of more horsepower? (An higher average over time)
  - c. Is there other information you find interesting that you could potentially graph?
  - d. How has the RPM (Revolutions Per Minute) of tractors changed over time?
  - e. How has the increase in cylinders impacted other data? What do you notice about the impact of more cylinders has on the output of the tractors?
5. Have students create a graph from the data they recorded.
6. Students share their findings in groups or to the class

Have students extend the activity by looking at current tests in this database.

<https://tractortestlab.unl.edu/test-page-nttl>

## Advertisement Poster

1. Have the students explore the tractor museum and search for specific advertisements in the museum.
2. Have students especially observe the poster advertisements in the museum for tractors.
3. Have the students record anything they find interesting, unusual or that jumps out to them about the posters.
4. After learning about several of the tractors, have them decide on one tractor they would like to share more about. Read the accompanying PDF about the tractor.
5. Have the students in small groups or individually, create a list, diagram, or snapshots about some of the interesting information about the tractor.
6. Have the students create a one page poster advertisement for their tractor including key information about their tractor.





7. Have the students hang their posters around the room and have the students do a gallery walk to explore other students' creations.

## Thirty Second Commercial

1. Explore the museum in small groups or individually.
2. Have the students identify a tractor they would like to learn more about.
3. Read the information about the tractor to build a better understanding about it and some of the unique features it has that separates itself from other tractors.
4. Storyboard a 30 second commercial for the tractors highlighting some of its unique features.
5. Film and produce commercials to share with the class. For more information on creating media content in the classroom, visit [StoryMaker](#).