

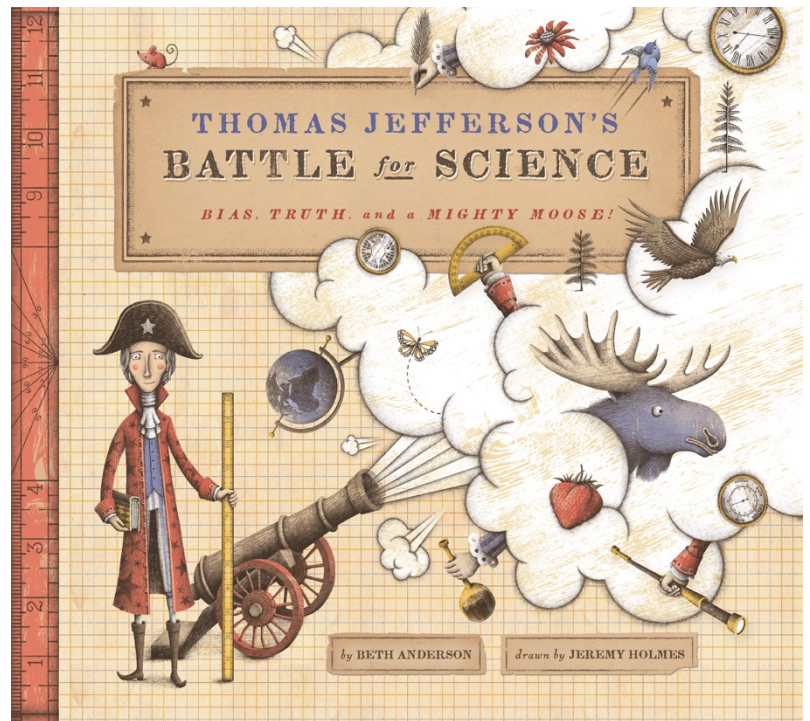
# DISCUSSION GUIDE

***THOMAS JEFFERSON'S BATTLE FOR SCIENCE: Bias, Truth, and a Mighty Moose!***

Written by Beth Anderson  
Illustrated by Jeremy Holmes

ISBN: 978-1-63592-620-0 HC  
ISBN: 978-1-63592-862-4 eBook

Grades: 2-5  
Ages: 7-12



## ABOUT THE BOOK

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Thomas Jefferson loved to measure the natural world: plants and animals, mountains and streams, crops and weather. With a notepad in his pocket, he constantly examined, experimented, and explored. He read book after book, including the works of well-known scientific author Count Georges-Louis Leclerc de Buffon.

But when he read Buffon's encyclopedia about America's natural world, Thomas was furious. According to the French count, the New World was cold and swampy, and filled with small, insignificant animals, nothing like the majestic creatures of the Old World. Jefferson knew Buffon had never even been to America. Where had Buffon gotten his information? And how could Thomas prove him wrong?

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### PRAISE FOR THOMAS JEFFERSON'S BATTLE FOR SCIENCE

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★ "With theatrical flair, Anderson and Holmes lay out a historical contretemps between Jefferson, who took 'supreme delight' in science and was an eager observer of the natural world, and renowned French naturalist Buffon over his unsupported claim that, with the mammoth extinct, the New World's wild creatures were uniformly smaller and weaker than those of the Old. Scarlet faced and with steam blowing out his ears (at least in the illustration), the founding father sets out furiously to prove Buffon wrong, not only by gathering data to disprove such outrageous errors but by sending the pundit tangible evidence, like a whole dead moose and 'an enormous panther pelt.' The illustrator underscores the narrative's droll, punchy tone by pinning cartoon figures in period dress, images of wildlife, leaf, and bone specimens with handwritten labels, and sheets and scraps with quotes on ruled or raw wooden backgrounds for an untidy scrapbook effect. In the end, Buffon dies before he can publish his promised corrections, but he turns out to be right about the mammoths, to Jefferson's great disappointment. Still, readers will come away knowing more about the multifaceted character of the man who, a few years later, sent out the Lewis and Clark Expedition and, oh yes, became our second president." —*Booklist, starred review*

★ "As a product of the Age of Reason, Thomas Jefferson was long fascinated by science in general and the natural world in particular... In other words, he followed the scientific method, nicely summarized in the back matter. The mixed-media illustrations, crafted with woodblocks and pencil, are highlighted in unusual but effective layouts. The written narrative appears in textboxes, acting either as previews for the often-humorous illustrations...or as comic panels." —*The Horn Book, starred review*

★ "The story of Thomas Jefferson's fury at a French scientist's misinformation about the New World introduces young readers to the scientific inquiry process... Anderson cleverly juxtaposes Buffon's faulty scientific claims alongside Jefferson's colorful outrage...Holmes wittily presents Jefferson's inquiries through comic-book panels depicting heads exploding with arguments set against sepia-colored notebook pages. In an author's note, Anderson calls out Jefferson for his bias as the owner of enslaved persons and for his lack of forethought in how Americans' exploration of the Louisiana Purchase would affect Indigenous people. A delightfully enlightening account and a welcome antidote to our own time's precarious truthiness." —*Kirkus Reviews, starred review*

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### DISCUSSION QUESTIONS

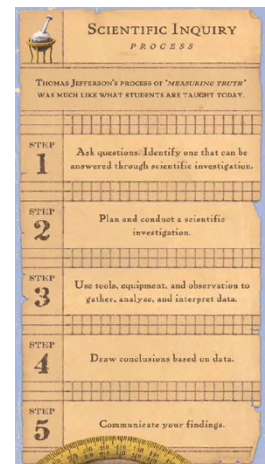
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#### Prereading:

1. Look at the cover and read the title. What details do you notice? What do you think the story is about? Make some predictions. What questions do you have?

#### After Reading:

2. Jefferson said science was his "supreme delight." What does that mean? What is *your* supreme delight? Why?
3. Why do you think Jefferson became so angry when he read Buffon's words about North America?
4. Jefferson questioned Buffon's theory that bigger is better. What do you think? When might bigger not be better?
5. Jefferson wasn't a professional scientist. Buffon was a famous European author and scientist, a respected authority. Put yourself in Jefferson's shoes...Why do you think he *first* tried to use his book to convince Buffon he was wrong? And then tried the panther skin?
6. What do you think about Jefferson's decision to send for a moose? Why do you think he went to all that trouble and expense? What would you have done? How would it be different today?
7. Discuss how Jefferson used the Scientific Inquiry Process. Match each step in the process shown in back matter with Jefferson's investigation.  
Step 1: What questions did Jefferson ask about Buffon and his theory? Which one did he choose to investigate?  
Step 2: What was his plan?  
Step 3: How did he collect data and analyze it?  
Step 4: What was his conclusion?  
Step 5: How did he communicate it?
8. Return to your predictions. Were you correct? Have your questions been answered by the story? What would you like to know more about?



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### CURRICULUM CONNECTIONS

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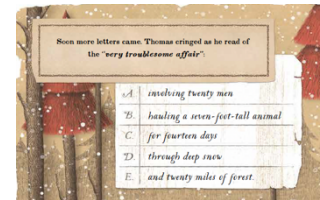
#### KEY IDEAS AND DETAILS

- **Fact & Opinion:** Facts can be proven true (or false). Opinions are personal beliefs, attitudes, or judgements about something. Discuss words and sentences on the spread shown to distinguish between facts and opinions. For example: Are the words “grand” and “ferocious” fact or opinion?



In small groups, distinguish facts and opinions in this text:

*Soon more letters came. Thomas cringed as he read of the “very troublesome affair”: involving twenty men, hauling a seven-foot-tall animal, for fourteen days, through deep snow, and twenty miles of forest.*



- Using the timeline in back matter, choose three facts and write an opinion of your own about each one. Then, explore the idea of *bias*—a tendency, feeling, or opinion that is made before seeing evidence or isn’t reasonable. How did you arrive at each opinion? What is it based on? Why might each person have a different opinion?
- How did Jefferson “measure the truth”? How can you “measure the truth” when you read or hear information? Why is it important to investigate sources?
- What is the most important idea or theme you found in the story? Support your choice with textual evidence.

#### WORDS AND PICTURES

- When you go swimming you immerse yourself in water. Which illustrations help you understand what it means when the author says Jefferson “immersed himself in science”?
- How do words and illustrations work together to help you understand how Jefferson “thinks like a scientist”?

#### AUTHOR’S WORD CHOICE

- **Alliteration:** In this story, the author uses alliteration—the repetition of initial sounds. Look at this sentence. What initial sounds are repeated?

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*But when he read what the French scientist wrote about America, Thomas's fury flared and the marvel melted away...*

Why do you think the author wrote "Thomas's fury flared" instead of "Thomas got mad"? Find more examples in the story. How do the different sounds of letters affect the reader when it is read aloud?

- Synonyms and Shades of Meaning: Though synonyms have basically the same meaning, most have differences that bring richness to writing. In this story, the author uses many words that mean "big." Do a book search to find them and make a list. Consider why the author chose each word. Does the word bring attitude, tone, fun, emotion, variety, or an opportunity for alliteration? What are other synonyms for "big"? Where would you use them in the story? Why?

The author uses an interesting word for "small" in this sentence:

*Buffon claimed bears were smaller, deer antlers shorter, wolves downright puny.*

Why do you think she chose "puny"? Make a list of synonyms for "small." Use a thesaurus to find more. How are the words different?

Keep your "big" and "small" synonym lists as references to inspire attention to word choice in writing.

### INTEGRATION OF KNOWLEDGE AND IDEAS

- Setting: Authors and illustrators do research when they create historical stories. What details do you notice in the art that help you understand the time and place? Which scene is your favorite? Why?
- Jefferson refused to believe extinction was possible. But by the end of the story he accepts that extinction is real and is a scientific truth. Why does scientific truth change over time? What are some examples?
- How does the Author's Note in back matter help you understand more about bias?

### WRITE IN RESPONSE TO READING

- Write to persuade: In response to a question appropriate to student age/level, students formulate an opinion and take a stand. For example: Should wild animals be kept as pets? Is it acceptable to use animals in scientific research? etc. Using your classroom writing process, students write to persuade, supporting their position with facts and details.

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### EXTENTIONS

- Connect across curriculum with an inquiry-based science activity that fits your curriculum. [Examples from ACS Inquiry in Action here: <https://www.acs.org/education/resources/k-8/inquiryinaction.html>]
- Analyze a Written Document—an activity from the National Archives. The illustrator included three primary source documents in the art. Using the download tools from the Archives, explore and evaluate these historical documents by observing and asking questions. How do they help you understand the story better?

Primary Source links:

Peter Kalm travel notes:

<https://bethandersonwriter.files.wordpress.com/2024/01/peter-kalm-excerpt-in-illustration-1.docx>

The Moose bill:

<https://founders.archives.gov/documents/Jefferson/01-11-02-0304>

Letter to Jefferson from John Stuart:

<https://founders.archives.gov/documents/Jefferson/01-29-02-0043>

PDF downloads for students:

Younger students/ELLs:

<https://www.archives.gov/files/education/lessons/document-analysis/english/analyze-a-written-document-novice.pdf>

Intermediate students:

<https://www.archives.gov/files/education/lessons/document-analysis/english/analyze-a-written-document-intermediate.pdf>

Classroom visit video/Second Star to the Right:

<https://www.youtube.com/watch?v=ea-8Lq5CE3s&t=6s>

Guide written by Beth Anderson