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Mapping 17th Century New England: Proportional Reasoning and European Priorities

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KEYWORDS/LOCATIONS: Geography, Math and Maps [scale], Colonization and Settlement (1585-1763) [New England, Massachusetts], American History across the Eras [Indigenous]

GRADE LEVEL: 6

SUBJECT: Math, Social Studies

Summary: In this lesson, students explore ways that proportional reasoning connects to mapmaking while highlighting the perspectives of the mapmakers. Students consider the scale of maps, thinking about the relationships between quantities, as well as the use of exaggerated and understated map features to glean information about the mapmaker's perspective.

Time: Two class periods of 45 to 60 minutes; times given for 50 minute periods

Essential Questions:

Why are different scales appropriate for certain maps? How does the scale help fulfill the mapmaker's purpose?

How do mapmakers use varying sizes of objects to convey a message?

Objectives: By the end of this lesson,

Students will know...

- the difference between small, medium, and large scales
- a basic history of early mapping in New England by Europeans

Students will understand...

- that scale/size can be used to convey implicit messages within a map
- that maps tell a greater story aside from geography

Students will be able to...

- make an argument using claim, evidence, and reasoning conveying a key component of a mapmaker's perspective.

Curriculum Standards:

CCSS.MATH.CONTENT.6.RP.A.1

Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.

CCSS.MATH.CONTENT.6.RP.A.2

Understand the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$, and use rate language in the context of a ratio relationship.

CCSS.MATH.CONTENT.6.RP.A.3

Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

MA HISTORY AND SOCIAL STUDIES FRAMEWORKS

Review Grade 5 Learning Standards: *Pre-Columbian Civilizations of the New World and European Exploration, Colonization, and Settlement to 1700*

Grade 6: Concepts and Skills/History and Geography

4. Explain the difference between absolute and relative location and give examples of different ways to indicate relative location for countries or cities across the world.

Materials and Sources:

Mapping 17th Century New England: Proportional Reasoning and European Priorities

<https://collections.leventhalmap.org/educators>

Sequence of Learning Activities:

Class One

Warm Up/Build Background Knowledge (10 minutes)	
Process: <ol style="list-style-type: none">1) Explore – Give students two current maps of eastern Massachusetts (google: map and satellite views). They discuss at their table any important features or anything of note. <i>Worksheet [1] attached</i>2) Share out - Students share their ideas without comment. This should be quick. We are priming their thinking in order to juxtapose these maps with maps of the 1600s.	Emphasis: <ul style="list-style-type: none">• What matters about maps? What do we know about them?• We are used to seeing maps like this in our everyday life, but maps used to be hand drawn, integrating art along with the science of mapping.• We will be seeing some maps today whose creative licenses help tell a greater story
Notes: <ul style="list-style-type: none">• Quick - do not spend too much time on this because you want to get to the meat of the lesson	

Introduction to Scale by Comparison (15 minutes)	
Process: <ol style="list-style-type: none">1) Explore - Present two historical maps [<i>Page 2 of map set</i>] of different scales to students and ask them, “What is similar about these two maps? What is different?” <i>Worksheet [2] attached</i>2) Process and Share out - Provide personal think time, then partner talk, then time to share out in full group3) Contribute/Synthesize - Highlight and build on information described in “Notes” section below during share out.4) Take Notes – Lead notetaking on scale. <i>Worksheet [3] attached</i>	Emphasis: <ul style="list-style-type: none">• Scale is how “zoomed in” a map is and determines how much detail we can see• Different scales are chosen to serve different purposes

Notes:

- Rotate Foster map [*Page 2 of map set*] so it has North at the top to focus on scale
- The following should come out in discussion:
 - Similarities: both show Massachusetts (if students do not see this, direct them toward landmarks they may be familiar with)
 - Differences: size of different features like waterways, amount of coastline shown, amount of area/land

Investigation of Seller map (25 minutes)**Process:**

- 1) Explore - Present Seller map [*Page 3 of map set*] and follow modified VTS protocol with an emphasis on, “What do you notice that might be significant to the mapmaker or map viewer?”
- 2) Process and Share out - Personal think time, partner talk, group share
- 3) Contribute - Track noticings on board and note trends
- 4) Listen - Give background on Seller as described below
- 5) Discuss and Synthesize:
Why do you think the mapmaker made these particular choices?
How does the size of objects convey John Seller’s perspective?

Emphasis:

- The size of objects conveys a specific emphasis with exaggerated objects being emphasized and understated objects being de-emphasized
- We can use the size of objects to understand perspective

Notes:

- Seller was an English mapmaker who was sending this map back to England, wanted to advertise New England to others and describe different industries to be taken advantage of

Class Two

Warm Up/Re-introduce Seller Map (10 minutes)

Process:

- 1) Review and Reflect – Re-present Seller map. Have students formalize their thinking from the previous day in writing - What does John Seller want people viewing the map to know about New England? How does this relate to him being an English settler? How do you know? *Worksheet included [4]*
- 2) Share out - Write down statements/claims on the board

Emphasis:

- The size of objects conveys a specific emphasis with exaggerated objects being emphasized and understated objects being de-emphasized
- We can use the size of objects to understand a perspective
- Different scales are chosen to serve different purposes

Notes:

- Don't need to emphasize varying sizes too heavily because you want students to do the heavy lifting in their defense paragraphs
- Leave statements on the board for reference while students begin writing their arguments

Claim, evidence, and reasoning (40 minutes)

Process:

- 1) Write and Synthesize – Students write claim, evidence, and reasoning paragraphs. *Worksheet included*
- 2) Review/Revise - If done early, students may self and peer edit
- 3) **Homework:** Revise/Write – Students write final draft of paragraph

Emphasis:

- What statement was John Seller trying to make with this map?

Notes:

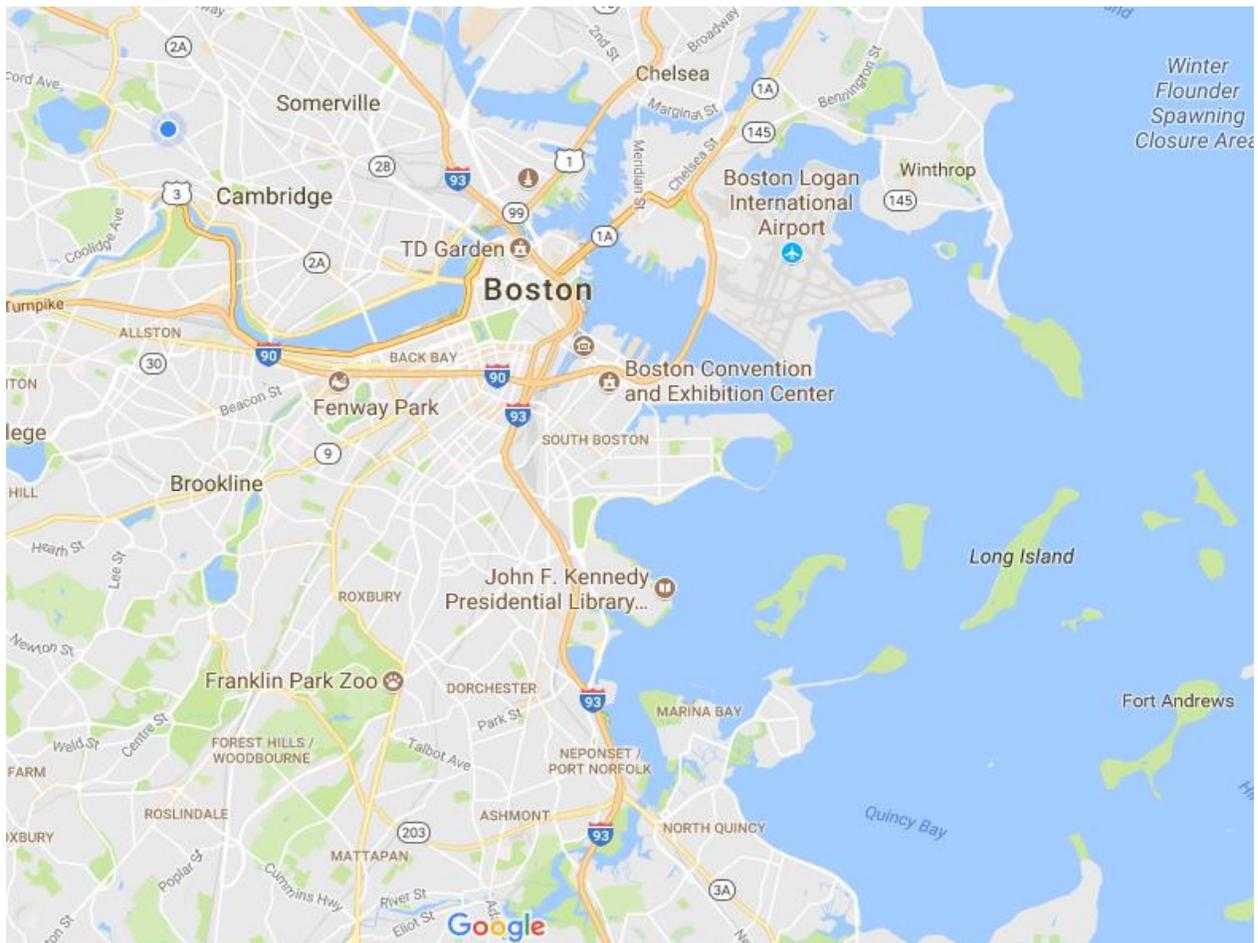
- Claim: describes perspective of John Seller
- Evidence: something you see in the map
- Reasoning: how that relates to the proposed Seller perspective
- Can differentiate by requiring different number of evidences needed

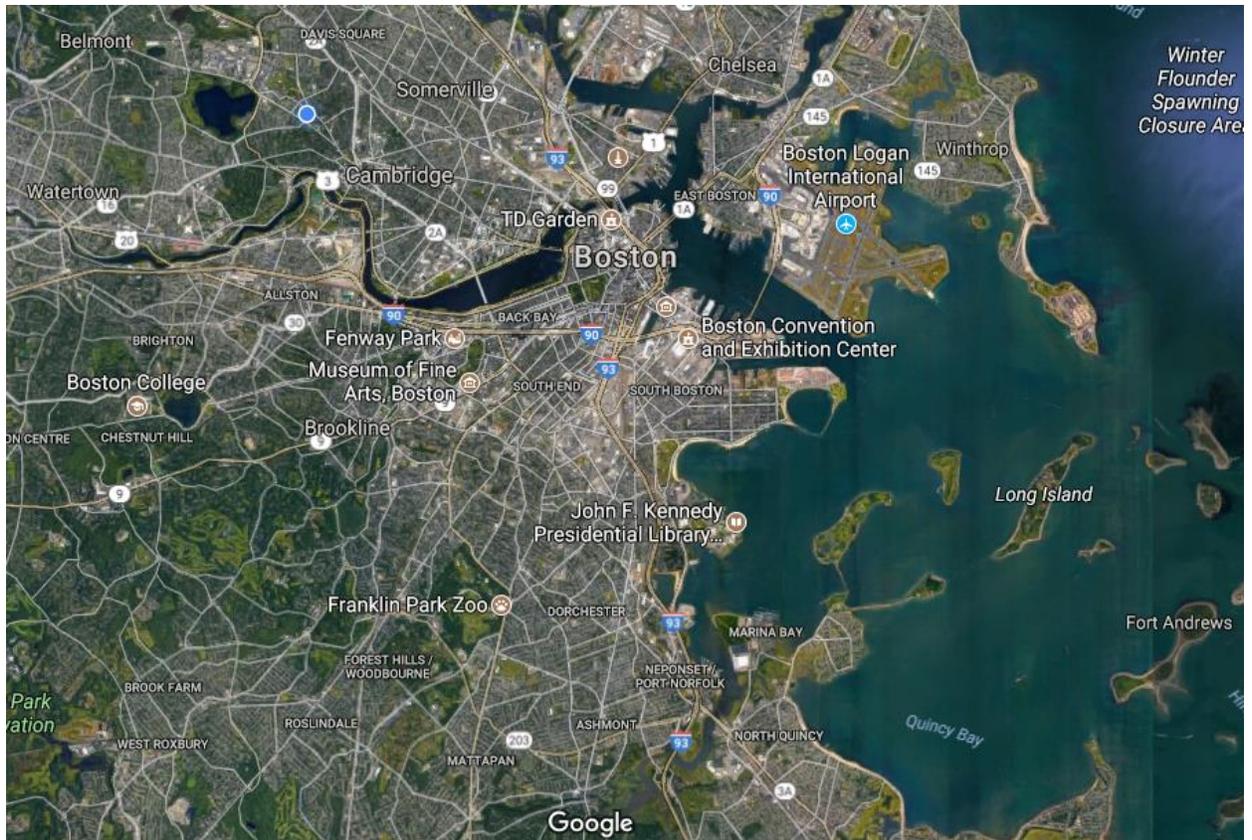
[1]

Name: _____

Warm Up

What are some important features shown in the maps below and on the back? List them.





[2 and 3]

Name: _____

Map Scale Notes

Look at the two maps given to your table. Note any similarities and differences in the table below. Be ready to share your thinking with the class.

Similarities	Differences

Vocab

When talking about maps, scale is...

Types of scale:

-
-
-

[4]

Name: _____

Warm Up

Refer back to the John Seller map from yesterday for the following.

What does John Seller want people viewing the map to know about New England? How does this relate to him being an English settler? What do you see that leads you to this conclusion?

What I see	Relate to Seller's perspective

Name: _____

Warm Up

Refer back to the John Seller map from yesterday for the following.

What does John Seller want people viewing the map to know about New England? How does this relate to him being an English settler? What do you see that leads you to this conclusion?

What I see	Relate to Seller's perspective

[5]

Name: _____

Map Perspectives: CER Practice

What statement was John Seller trying to make with his map? Use claim, evidence, and reasoning to defend your answer.

Criteria for Success

- A CLAIM that provides a one-sentence answer to the question.
- Two pieces of EVIDENCE that cites information you know to be true
- REASONING that explains why your evidence is important to answer your claim

Claim:
Evidence:
Reasoning:
Evidence:
Reasoning:

