



# **Common Core State Standards**

## Mathematics Lesson

### Standard 6.RP.3

## Field Trip Performance Task

#### Contents

Template	2
Lesson Plan	4
Resource 1	6
Rubrics	8

<b>Subject: Mathematics</b>	<b>Unit Length: 1 periods</b>	
<b>Content: 6.RP.3 Ratios and Proportional Relationships</b>		
<b>Standards:</b>		
<b>Common Core State Standard 6.RP.3</b>		
Use ratio and rate reasoning to solve real-world and mathematical problems.		
Mathematical Practice 1. Make sense of problems and persevere in solving them.		
Mathematical Practice 2. Reason abstractly and quantitatively.		
Mathematical Practice 3. Construct viable arguments and critique the reasoning of others.		
Mathematical Practice 5. Use appropriate tools strategically.		
Mathematical Practice 6. Attend to precision.		
<b>Common Core State Standards for Literacy</b>		
<b>Reading 1</b>		
Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.		
<b>Writing 1</b>		
Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.		
<b>Writing 4</b>		
Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.		
<b>Writing 5</b>		
Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.		
<b>Writing 9</b>		
Draw evidence from informational texts to support analysis, reflection, and research.		
<b>Literacy Strategies: (circle all that apply)</b>		
<b>Pre-Reading</b>	<b>Reading</b>	<b>Post-Reading</b>
<ul style="list-style-type: none"> <li>• Preview Vocabulary</li> <li>• Identify Structure</li> <li>• Determine Meaning of Title</li> <li>• <input type="checkbox"/> Generate Questions</li> <li>• Chunk the Text</li> </ul>	<ul style="list-style-type: none"> <li>• Model</li> <li>• Annotate</li> <li>• Scaffold Text</li> <li>• <input type="checkbox"/> Repeat Reading</li> </ul>	<ul style="list-style-type: none"> <li>• <input type="checkbox"/> Analyze</li> <li>• <input type="checkbox"/> Synthesize</li> <li>• <input type="checkbox"/> Summarize</li> <li>• <input type="checkbox"/> Respond in Writing</li> <li>• <input type="checkbox"/> Respond Orally</li> </ul>

**"I Can" Statements:**

1. I can use rate reasoning to solve real-world mathematical problems.
2. I can make sense of problems and determine a path to reach a solution.
3. I can write arguments to support analysis claims.
4. I can draw evidence from texts to support analysis claims.
5. I can produce clear and coherent writing.
6. I can revise my mathematical approach and writing based on learned information.
7. I can evaluate the claims of others.

**Assessment Tasks:**

1. Students determine rate based on self-generated criteria and provided data.
2. Students use rate information to solve mathematical problems.
3. Students revise their answers based on additional information.
4. Students evaluate the mathematical claims of others.

**Rubric(s):**

1. Field Trip Performance Task Rubric
2. Smarter Balanced Constructed Response Rubric

**Resources:**

1. Smarter Balanced Sample Performance Task: Field Trip

- |              |   |
|--------------|---|
|              | 1. Students view the map of the field trip locations.   |
| pre-reading  | 2. Teacher poses the questions, “To which destination do you think most students would choose to go? Why? What about administrators?” for students to think about and discuss.  |
| reading      | 3. Students read the class voting list.   |
|              | 4. Teacher informs the students that there are several ways of determining the answer to question 1.  |
| post-reading | 5. Assessment task: Students independently respond to question 1. (CCSS 6.RP.3, MP1, MP2, MP3, R1, W1, W4, W9)  |
|              | <p><b>I can use rate reasoning to solve real-world mathematical problems.</b><br/> <b>I can make sense of problems and determine a path to reach a solution.</b><br/> <b>I can write arguments to support analysis claims.</b><br/> <b>I can draw evidence from texts to support analysis claims.</b><br/> <b>I can produce clear and coherent writing.</b></p> |
| reading      | 6. Students read the additional facts about the trip.   |
| post-reading | 7. With their group, students discuss the math involved in determining the answer to question 2.  |
| post-reading | 8. Assessment task: Students independently determine the solution to question 2. (CCSS 6.RP.3, MP1, MP2, MP3, MP5, MP6, R1, W1, W4, W9)   |
|              | <p><b>I can use rate reasoning to solve real-world mathematical problems.</b><br/> <b>I can make sense of problems and determine a path to reach a solution.</b><br/> <b>I can write arguments to support analysis claims.</b><br/> <b>I can draw evidence from texts to support analysis claims.</b><br/> <b>I can produce clear and coherent writing.</b></p> |
| post-reading | 9. Students share their answers to question 2 with their partner.   |

**post-reading**

10. Assessment task: Students revise their answers based on information or vocabulary learned from their partner. (CCSS W5)

**I can revise my mathematical approach and writing based on learned information.**

**post-reading**

11. Assessment task: Students independently determine the answer to question 3. (CCSS MP1, MP2, MP3, MP5, MP6, W1, W4, W9)

**I can evaluate the claims of others.**

**I can write arguments to support analysis claims.**

**I can draw evidence from texts to support analysis claims.**

**I can produce clear and coherent writing.**

**post-reading**

12. Assessment task: Students independently generate a response to the writing prompt that is question 4. (CCSS 6.RP.3, MP2, MP3, W1, W4, W9)

**I can use rate reasoning to solve real-world mathematical problems.**

**I can make sense of problems and determine a path to reach a solution.**

**I can write arguments to support analysis claims.**

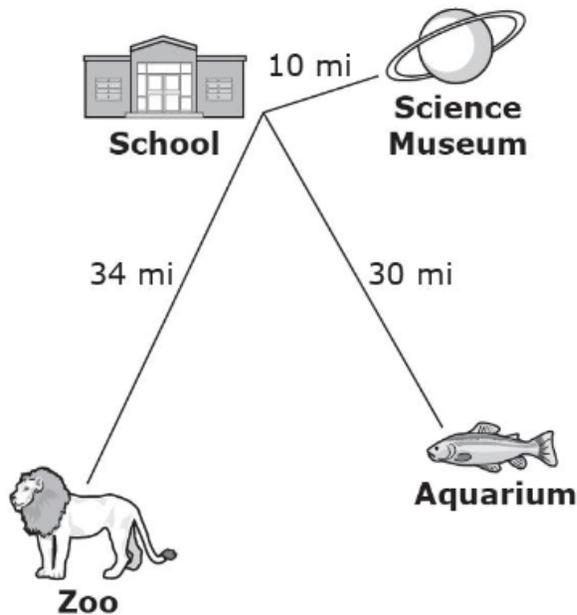
**I can draw evidence from texts to support analysis claims.**

**I can produce clear and coherent writing.**

## Student Task

Your class and your teacher are going on a field trip. There are three possible choices for the field trip: an aquarium, a science museum, or a zoo. Your teacher asked students to write down their first and second choices. In this task, you will determine where the class should go on the field trip based on the survey results and the cost per student.

This is a map of your school and the three different field trip locations.



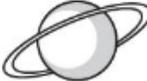
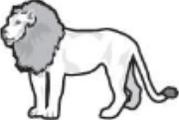
The class voted on which place to visit. These tables show the results.

Name	First Choice	Second Choice
Olivia	Zoo	Science Museum
Grace	Science Museum	Aquarium
Jessica	Aquarium	Zoo
Ruby	Zoo	Science Museum
Emily	Science Museum	Aquarium
Sophie	Aquarium	Zoo
Chloe	Aquarium	Science Museum
Lucy	Aquarium	Science Museum
Lily	Science Museum	Aquarium
Ellie	Science Museum	Aquarium
Ella	Zoo	Science Museum
Charlotte	Science Museum	Aquarium
Katie	Science Museum	Aquarium
Mia	Zoo	Science Museum
Hannah	Zoo	Science Museum

Name	First Choice	Second Choice
Jack	Aquarium	Zoo
Thomas	Zoo	Aquarium
Joshua	Zoo	Aquarium
Oliver	Science Museum	Aquarium
Harry	Aquarium	Zoo
James	Zoo	Science Museum
William	Science Museum	Science Museum
Samuel	Zoo	Aquarium
Daniel	Zoo	Science Museum
Charlie	Aquarium	Aquarium
Benjamin	Science Museum	Zoo
Joseph	Zoo	Aquarium
Callum	Zoo	Aquarium
George	Aquarium	Science Museum
Jake	Science Museum	Aquarium

1. Based only on the results of the class votes, where would you recommend the class go on the field trip? Show your work or explain how you found your answer.

Here are some more facts about the trip.

	 <b>Aquarium</b>	 <b>Science Museum</b>	 <b>Zoo</b>
<b>Distance from School (one way)</b>	30 miles	10 miles	34 miles
<b>Bus Charge</b>	\$6 per mile	\$6 per mile	\$6 per mile
<b>Entrance fee</b>	\$6 per person	\$10 per person	\$2.50 per person

- The teacher and parent helpers do not pay an entrance fee.
- There are 30 students in the class.
- Only 1 bus is needed.
- The bus charge is for the entire busload of students (not for each student).
- Each student will pay the same amount.
- The school fund will pay the first \$200 of the trip.

2. Now we will think about the costs of the trip. How much will each student pay to go on each trip? Show your work or explain how you found your answer.
3. Daniel thinks that it will cost less to go to the zoo because the entrance fee is only \$2.50 per person. Explain why you agree or disagree with Daniel's thinking.
4. Write a short note to your teacher stating where you think the class should go on its field trip, based on how you would evaluate all the different factors, including student votes, costs, distance, and what you think would be fun.

## Field Trip Performance Task Rubric

Common Core State Standard 6.RP.3 Use ratio and rate reasoning to solve real-world and mathematical problems

Assessment Question	Scoring Criteria	Math Practice
1. Based only on the results of the class votes, where would you recommend the class go on the field trip? Show your work or explain how you found your answer.	<p><b>0 – 1 Point</b> Full credit for correctly answering “Zoo” based on total first place votes OR correctly answering “Aquarium” based on total first and second place votes OR correctly answering “Science Museum” based on a weighted total for votes.</p> <p>Accept other valid responses.</p>	<ol style="list-style-type: none"> <li>1. Make sense of problems and persevere in solving them.</li> <li>2. Reason abstractly and quantitatively.</li> <li>3. Construct viable arguments.</li> </ol>
2. Now we will think about the cost of the trip. How much will each student pay to go on each trip? Show your work or explain how you found your answer.	<p><b>0 – 4 Points</b></p> <ul style="list-style-type: none"> <li>• Full credit for total cost per destination calculated, award 1 point.</li> <li>• Total distance per destination calculated, award 1 point.</li> <li>• Cost per student per destination calculated, award 1 point.</li> <li>• Final answer expressed in correct units, award 1 point.</li> </ul> <p>For minor errors (omitting roundtrip mileage, school fund) deduct 1 point for this section.</p>	<ol style="list-style-type: none"> <li>1. Make sense of problems and persevere in solving them.</li> <li>2. Reason abstractly and quantitatively.</li> <li>3. Construct viable arguments.</li> <li>5. Use appropriate tools strategically.</li> <li>6. Attend to precision.</li> </ol>
3. Daniel thinks that it will cost less to go to the zoo because the entrance fee is only \$2.50 per person. Explain why you agree or disagree with Daniel’s thinking.	<p><b>0 – 1 Point</b> Full credit for using the calculations in the response above; the student would disagree with Daniel and make the argument that the Zoo option is \$2.10 more than the Science Museum option.</p> <p>Full credit for correct reasoning based on incorrect #2</p>	<ol style="list-style-type: none"> <li>1. Make sense of problems and persevere in solving them.</li> <li>2. Reason abstractly and quantitatively.</li> <li>3. Construct viable arguments and critique the reasoning of others.</li> <li>5. Use appropriate tools strategically.</li> <li>6. Attend to precision.</li> </ol>
4. Write a short note to your teacher stating where you think the class should go on its field trip, based on how you would evaluate all the different factors, including student votes, costs, distance, and what you think would be fun.	<p><b>0 – 1 Point</b> Full credit for a note that includes a recommendation based on reasoning that includes votes, costs, distance, and personal opinion.</p>	<ol style="list-style-type: none"> <li>2. Reason abstractly and quantitatively.</li> <li>3. Construct viable arguments and critique the reasoning of others.</li> </ol>

## Smarter Balanced Constructed Response Rubrics

<b>Sample Generic 3-point (Grades 3 – 11) Brief Writing Rubric</b>	
<b>3</b>	<p>The response:</p> <ul style="list-style-type: none"> <li>• maintains adequate focus on the topic and has adequate supporting details</li> <li>• has a logical organizational pattern and conveys a sense of wholeness and completeness, although some lapses occur</li> <li>• provides adequate transitions in an attempt to connect ideas</li> <li>• uses adequate language and appropriate word choices for intended audience and purpose</li> <li>• includes sentences, or phrases where appropriate, that are somewhat varied in length and structure</li> </ul>
<b>2</b>	<p>The response:</p> <ul style="list-style-type: none"> <li>• demonstrates an inconsistent focus on the topic and includes some supporting details, but may include extraneous or loosely related details</li> <li>• shows an attempt at an organizational pattern, but exhibits little sense of wholeness and completeness</li> <li>• provides transitions that are weak or inconsistent</li> <li>• has a limited and predictable vocabulary that may not be appropriate for the intended audience and purpose</li> <li>• shows limited variety in sentence length and structure</li> </ul>
<b>1</b>	<p>The response:</p> <ul style="list-style-type: none"> <li>• demonstrates little or no focus and few supporting details that may be inconsistent or interfere with the meaning of the text</li> <li>• has little evidence of an organizational pattern or any sense of wholeness and completeness</li> <li>• provides transitions that are poorly utilized, or fails to provide transitions</li> <li>• has a limited or inappropriate vocabulary for the intended audience and purpose</li> <li>• has little or no variety in sentence length and structure</li> </ul>

<b>Sample Generic 2-point (Grades 3 – 11) Brief Writing Rubric</b>	
<b>2</b>	<p>The response:</p> <ul style="list-style-type: none"> <li>• demonstrates sufficient focus on the topic and includes some supporting details</li> <li>• has an adequate organizational pattern, and conveys a sense of wholeness and completeness, although some lapses occur</li> <li>• provides adequate transitions in an attempt to connect ideas</li> <li>• uses adequate language and appropriate word choices for intended audience and purpose</li> <li>• includes sentences, or phrases where appropriate, that are somewhat varied in length and structure</li> </ul>
<b>1</b>	<p>The response:</p> <ul style="list-style-type: none"> <li>• demonstrates little or no focus and few supporting details that may be inconsistent or interfere with the meaning of the text</li> <li>• has little evidence of an organizational pattern or any sense of wholeness and completeness</li> <li>• provides transitions that are poorly utilized, or fails to provide transitions</li> <li>• has a limited or inappropriate vocabulary for the intended audience and purpose</li> <li>• has little or no variety in sentence length and structure</li> </ul>
<b>0</b>	<p>A response gets no credit if it provides no evidence of the ability to meet the intended target and includes no relevant information from the text.</p>