

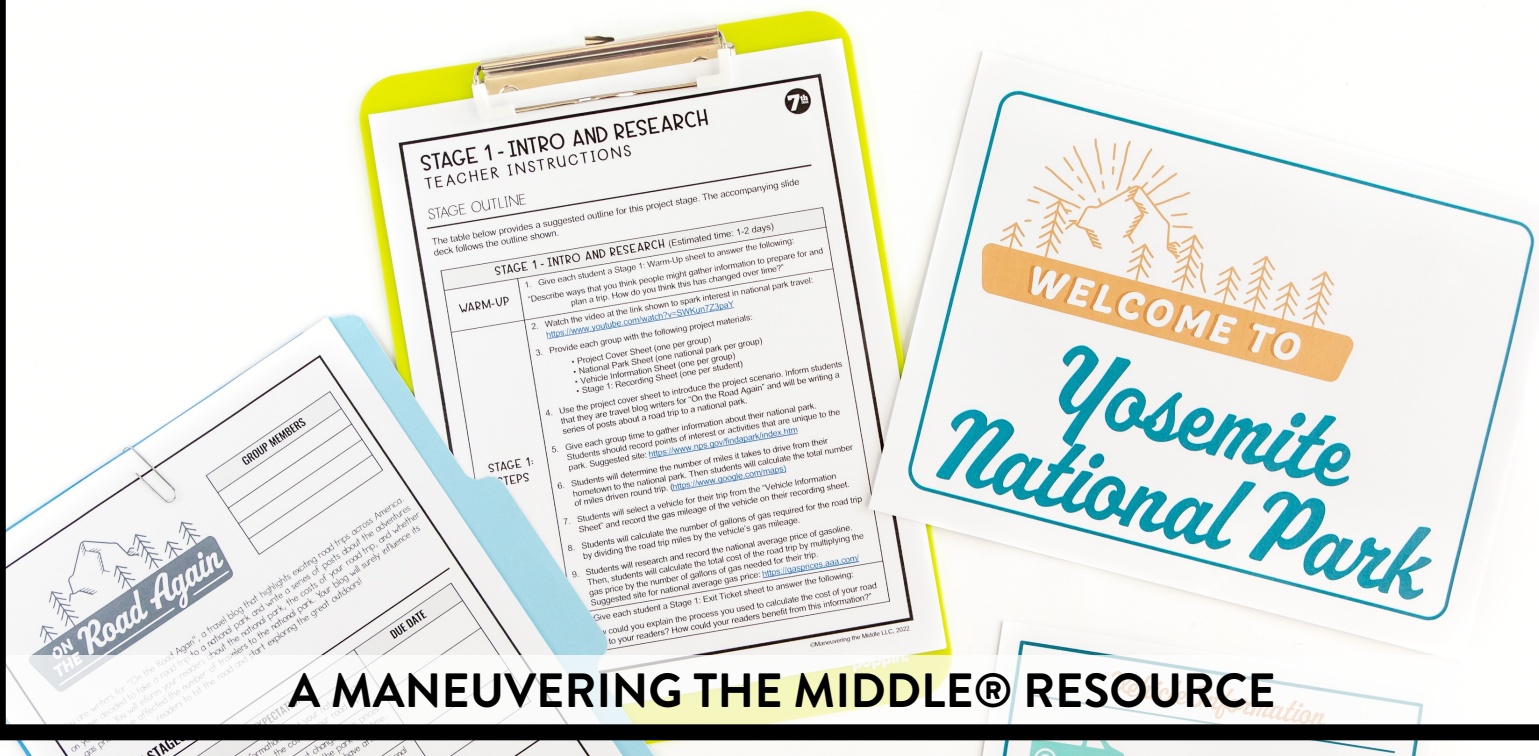
# RATIONAL NUMBERS collaborative project



CCSS: 7.NS.3, 7.RP.3 | TEKS: 7.3B, 7.4D

The problem: You are writers for the travel blog "On the Road Again" and are taking a road trip to a national park to write a series of posts about the adventures on your trip.

The investigation: Students will use operations with rational numbers to determine the cost of a road trip to a national park. Students will calculate the percent change in park attendance and gas prices over time to determine if changes in gas prices affect park attendance.



# RATIONAL NUMBERS

## collaborative project



TIME FRAME: 3-5 DAYS



how is this  
project  
organized?

materials needed:

computer  
+ internet access

STAGE	DESCRIPTION	TIME FRAME
1: Intro and Research	Students will learn the project scenario and will research information about a national park. Then, students will calculate the cost of gas for a road trip to the national park.	1-2 days
2: Investigation	Students will investigate whether changes in gas prices affected the number of visitors to their national park. Students will calculate the percentage change of gas prices and the number of visitors to the park over time.	1 day
3: Summarize and Post	Students will write a series of short posts summarizing information about their national park and the costs of their road trip.	1-2 days

# RATIONAL NUMBERS

## collaborative project

**7<sup>th</sup>**  
GRADE

WHAT IS THE FINISHED PRODUCT?



**ON THE ROAD AGAIN**  
7<sup>th</sup> GRADE PROJECT RUBRIC

Name \_\_\_\_\_  
Total Points \_\_\_\_\_

	ABOVE STANDARD
<b>MATHEMATICAL CONTENT</b>	Calculates the cost of the road trip and percent change values without errors 40 points
<b>MATHEMATICAL THINKING</b>	Provides appropriate reasoning for conclusions about gas prices affecting park attendance 15 points
<b>PARTICIPATION</b>	Participates fully 15 points
<b>FOLLOWS TEACHER INSTRUCTIONS AND PROJECT CRITERIA</b>	Follows directions and criteria fully 15 points
<b>FINAL PRODUCT</b>	Final product is well organized and includes all required details 15 points

**ON THE ROAD AGAIN**  
7<sup>th</sup> GRADE PROJECT RUBRIC

	ABOVE STANDARD
<b>MATHEMATICAL CONTENT</b>	Calculates the cost of the road trip and percent change values without errors 40 points
<b>MATHEMATICAL THINKING</b>	Provides appropriate reasoning for conclusions about gas prices affecting park attendance 15 points
<b>PARTICIPATION</b>	Participates fully 15 points
<b>FOLLOWS TEACHER INSTRUCTIONS AND PROJECT CRITERIA</b>	Follows directions and criteria fully 15 points
<b>FINAL PRODUCT</b>	Final product is well organized and includes all required details 15 points

**On the Road Again**  
7<sup>th</sup> Grade Project Rubric

Name \_\_\_\_\_ Date \_\_\_\_\_ Pd \_\_\_\_\_

**PROJECT RUBRIC**

	ABOVE STANDARD	MET STANDARD	BELOW STANDARD
<b>MATHEMATICAL CONTENT</b>	Calculates the cost of the road trip and percent change values without errors 40 points	Calculates the cost of the road trip and percent change values with few errors 30 points	Calculates the cost of the road trip and percent change values with multiple errors 20 points
<b>MATHEMATICAL THINKING</b>	Provides appropriate reasoning for conclusions about gas prices affecting park attendance 15 points	Provides some reasoning for conclusions about gas prices affecting park attendance 10 points	Does not provide reasoning for conclusions about gas prices affecting park attendance 5 points
<b>PARTICIPATION</b>	Participates fully 15 points	Participates with minor redirects from teacher 10 points	Participates with major redirects from teacher 5 points
<b>FOLLOWS TEACHER INSTRUCTIONS AND PROJECT CRITERIA</b>	Follows directions and criteria fully 15 points	Follows directions and criteria with few errors 10 points	Follows directions and criteria with multiple errors 5 points
<b>FINAL PRODUCT</b>	Final product is well organized and includes all required details 15 points	Final product is somewhat organized and includes most required details 10 points	Final product lacks organization and is missing several required details 5 points

**TEACHER NOTES:**

**TOTAL POINTS:**

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rubrics are  
provided to  
streamline  
grading



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# RATIONAL NUMBERS collaborative project



PLANNING IS DONE FOR YOU

## STAGE 2 - INVESTIGATION TEACHER INSTRUCTIONS

7<sup>th</sup>

### STAGE OUTLINE

The table below provides a suggested outline for this project stage. The accompanying slide deck follows the outline shown.

STAGE 2 – INVESTIGATION (Estimated time: 1 day)	
WARM-UP	1. Give each student a Stage 2: Warm-Up handout to answer the following: "Do you think gas prices affect where people choose to travel? Explain your thinking."
MINI-LESSON	2. Give each student a copy of Stage 2: Recording Sheet. 3. Tell students they will attend a brief training called "Road Trip Stops" to practice calculating percent change. Inform students they will need to utilize the skills learned in this training to write one of their blog posts. Use the examples on the slide deck to discuss calculating the percent change in prices over time.
STAGE 2: STEPS	4. Provide each group with a "Historic Gas Prices Table". Inform students that they will be calculating the percent change in park attendance and gas prices over time to determine if changes in gas prices appear to have affected park attendance. 5. Students will record the year and the number of visitors to the park when attendance was a Suggested site: <a href="#">h in-the-us/#topic</a> visitors to [their N 6. Students will calc park between the 7. Students will use the corresponding 8. Students will com and conclude wh those years. <i>Note: Please note the data from 2008-2021 same time period. If other websites will re</i>
EXIT TICKET	9. Give each student "What did you find n about t

each of the three stages includes teacher lesson plans



## INVESTIGATION

STAGE 2

Travel costs are often a consideration when travelers decide where to go on a road trip, and gasoline is the main expense of a road trip. Today, your group will investigate whether changes in gas prices appear to have affected the number of visitors to your national park.



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and a slide deck to present the material



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7<sup>th</sup>  
GRADE

EVERYTHING YOU NEED TO KEEP  
STUDENTS ON TRACK

### STAGE 2: EXIT TICKET

Name: \_\_\_\_\_ Date: \_\_\_\_\_

What did you find most interesting in your research? Did anything surprise you about the change in gas prices or park attendance?

ON THE ROAD AGAIN: STAGE 2 EXIT TICKET

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✓ student materials

✓ warm-ups

✓ exit tickets

### STAGE 2: EXIT TICKET

Name: \_\_\_\_\_

What did you find most interesting in your research? Did anything surprise you about the change in gas prices or park attendance?

ON THE ROAD AGAIN: STAGE 2 EXIT TICKET

### STAGE 2: WARM-UP

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Do you think gas prices affect where people choose to travel? Explain your thinking.

ON THE ROAD AGAIN: STAGE 2 WARM-UP

### STAGE 2: EXIT TICKET

Name: \_\_\_\_\_

What did you find most interesting in your research? Did anything surprise you about the change in gas prices or park attendance?

ON THE ROAD AGAIN: STAGE 2 EXIT TICKET

### STAGE 2: WARM-UP

Name: \_\_\_\_\_

Do you think gas prices affect where people choose to travel? Explain your thinking.

ON THE ROAD AGAIN: STAGE 2 WARM-UP



BLOG WRITER: \_\_\_\_\_

NATIONAL PARK: \_\_\_\_\_

STAGE 2  
RECORDING  
SHEET

### "ROAD TRIPS STOPS" TRAINING

YEAR	NUMBER OF VISITORS	AVERAGE GAS PRICE
PERCENT CHANGE		

### CALCULATIONS

### CONCLUSION

ON THE ROAD AGAIN: STAGE 2 RECORDING SHEET

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