## RED, WMIITEE \& BLUE: PLANNING A PATRIOTIC PARADE Project Based Learning <br> $3^{\text {ra }}$ Grade Print \& Google Slides

## PARADE ROUTE

questions about the parade routes below.
the lengths of the different parade routes. Fill in the blanks with the correct symbol $<,>,=$
Route $C \geq$ Route $A$
A C Route B
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te 6
Your first task is to determine thASAD E P
routes are shown on the maps the ideal route for the parade through the
he difference in


## PARADE ATTENDANC <br> equestions below using the data on the previous page.

age group had the largest attendance at the parade in 2019? years old
ge group had the smallest atten years old
y children (ages 18 and younge each number on the the clipboard below shows how many peop each number on the clipboard to the nearest ten and hundred. Fill in the table with your rounded the parade

## PARADE ATTENDANCE

ou want to determine approximately how many people you a
ou organize the parade accordingly and ensure you hou can expect to attend the parade. Knowing this will help arade safely. The table below shows the you have enough security and space for everyone to enjoy the e nearest hundred. Then, plot the rounded ate attendance by year. First, round the attendance for each year to (attendance on the table on the bar graph.


# Meaningful practice of $3^{\text {rd }}$ grade math skills. 



You want to determine approximately how many people you can expect to attend the parade. Kno organize the parade accordingly and ensure you have enough security and space for everyone to safely. The table below shows the parade attendance by year. First, round the attendance for ear nearest hundred. Then, plot the rounded attendance on the table on the bar graph by drawing an bars.

MAPLETON PATRIOTIC PARADE ATTE

| Year | Attendance | Attendance <br> rounded to <br> $\ldots$ |
| :---: | :---: | :---: |

$$
2,50
$$

The information on the clipboard below shows approximately how many people of different ages attended the parade in 2019. Use the data to create a pictograph by drawing shapes in the pictograph. Fill in the title and data category labels.

## PARADE ATTENDANCE



## Promotes critical thinking and problem solving.

## PARADE ROUTE

Answer the questions about the parade routes below.
5. Compare the lengths of the different parade routes. Fill in the blanks with the correct symbol $<,>,=$.


Route C


Route $A$
6. You want to examen +L- -

## PARADE ROUTE

sk is to determine the ideal route for the parade through the streets of Mapleton. Three proposed nown on the maps below. Answer the questions.

trade route.

he length into feet. ur chosen parade


## SELF-REFLECTION

Write a reflection of your experience with this project. How did you feel about the math problems and activities? Explain what you found easy to do and any difficulties you had whi $\quad$.'.....inat Did you enjoy this activity? Why or why not?

## SELF EVALUATION

Circle or shade one box per row on the rubric that expresses how you rate yourself on this Project Based Learning
Activity. Activity.


## KEEPING TIME

I am rec
In addition to the parade, there are other events throughout the day. The shapes below show each event and the time it takes place. Read the times on the clocks. Each time shown is during the PM. Drag and drop the shapes so they are in chronological order.
 artici

Self Evaluation Reflection \& Rubric

Digital Version in Google Slides

## KEEPING TIME

Each group marching in the parade takes a different amount of time to complete the parade route. It's important to for you to keep track so that groups don't collide mid-parade! Answer the questions below.

| Group | Fire Engine <br> $\# 750$ |  <br> Scouts | Mapleton HS <br> Cheerleaders | Marching Band | Mapleton Police <br> Department |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | $11: 50 \mathrm{am}$ | $11: 54 \mathrm{am}$ | $12: 02 \mathrm{pm}$ |  | $12: 19 \mathrm{pm}$ |
| End Time | $12: 26 \mathrm{pam}$ | $12: 32 \mathrm{pm}$ |  | $12: 46 \mathrm{pm}$ |  |
| Elapsed Time |  |  | 39 minutes | 41 minutes |  |

I. Use the number line below to calculate how long it takes Fire Engine \#750 to complete the parade route. Drag the vertical lines to create partitions, the textboxes to label, and the hops to show elapsed time. Write your answer in the table. |


# Aligned to CCSS Math Standards 

- 3.OA.A.I Interpret products of whole numbers
- 3.0A.A. 3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities
- 3.OA.D. 8 Solve two-step word problems using the four operations
- 3.NBT.A.I Use place value understanding to round whole numbers to the nearest 10 or 100
- 3.NBT.A. 2 Fluently add and subtract within 1000
- 3.NF.A. 3 Explain equivalence of fractions in special cases and compare fractions by reasoning about their size
- 3.MD.A.I Solve word problems involving addition and subtraction of time intervals in minutes

7- 3.MD.B. 3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve problems using information presented in scaled bar graphs

- 3.MD.D. 8 Solve real world and mathematical problems involving perimeters of polygons


## PARADE ATTENDANCE

You want to determine approximately how many people you can expect to attend the parade. Knowing this will help you organize the parade accordingly and ensure you have enough security and space for everyone to enjoy the parade safely. The table below shows the parade attendance by year. First, round the attendance for each year to the nearest hundred. Then, plot the rounded attendance on the table on the bar graph by clicking on each colored bar and dragging to resize.

| Year | Attendance | Attendance <br> rounded to <br> nearest 100 |
| :---: | :---: | :---: |
| 2015 | 1,895 | $\square$ |
| 2016 | 2,022 | $\square$ |
| 2017 | 2,170 | $\square$ |
| 2018 | 2,339 | $\square$ |
| 2019 | 2,454 |  |

MAPLETON PATRIOTIC PARADE ATTENDANCE BY YEAR


## FOR THE TEACHER

RED, WHITE, AND BLUE: PLANNING A PATRIOTIC PARADE is a project-based learning task that involves using third grade math standards to plan a patriotic holiday parade. It was created for students in third grade. The following standards are addressed;

- 3.0A.A.I Interpret products of whole numbers
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- 3.OA.D. 8 Solve two-step word problems using the four operations
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Solve problems using information presented in scaled bar graphs

- 3.MD.D. 8 Solve real world and mathematical problems involving perimeters of polygons


## DIRECTIONS:

I. Assign students to work alone or in small groups.
2. Preview the activity with your students.
3. Allow students class time to complete the activity. This can span several days.
4. Allow students an opportunity to complete extra challenge activities (optional).
5. Allow students to complete the self-reflection and evaluation rubric.
6. Allow students an opportunity to share their completed projects.

## RED, WHITE, AND BLUE: PLANNING A PATRIOTIG PARADE

You have been hired plan a festive, patriotic parade in your hometown of Mapleton, USA! It is your job to organize the groups marching in the parade, set the course of the parade, analyze parade attendance, plan fun patriotic festivities like a bake sale, dunk tank, and fireworks, and assure everything is timed to perfection!

Here are your tasks:


- Read through the entire packet before beginning.
- Calculate and compare the lengths of possible parade routes.
- Use arrays to organize the groups marching in the parade.
- Answer questions about the schedule and timing of groups marching in the parade.
- Analyze data about how many people attend the parade.
- Solve one- and two-step word problems about patriotic festivities.
- (Optional) Complete the challenge pages.
- Complete the self-reflection and evaluation rubric.



## PARADE ROUTE

Your first task is to determine the ideal route for the parade through the streets of Mapleton. Three proposed routes are shown on the maps below. Answer the questions.


ROUTE A


ROUTE B


ROUTE C
I. You want to determine the length of each possible parade route. To do so, will you find the area or the perimeter of the shapes in the maps? Explain.

## PARADE ROUTE

Answer the questions about the parade routes below.
5. Compare the lengths of the different parade routes. Fill in the blanks with the correct symbol $<,>,=$.
Route A
 Route B Route B $\square$ Route C ${ }^{*}$ Route C $\square$ Route A
6. You want to choose the longest parade route. Which parade route do you choose?
7. Find the difference in length between your chosen parade route and the shortest parade route.
8. You know the length of your chosen parade route in yards, but you want to convert the length into feet. There are 3 feet in each yard. Use repeated addition to find how many feet are in your chosen parade route. Write the equation.


## PARADE ARRAYS

You have several different groups marching in the parade. The table below shows the different groups who will march in the parade and how many people are in each group. Use the information in the table to answer the questions.

| Group | Legion of Local <br> Veterans | Scout Troop * <br> $\# 45$ | Mapleton HS <br> Cheerleaders | Marching Band | Mapleton Police <br> Department |
| :---: | :---: | :---: | :---: | :---: | :---: |
| \# of People Marching | 24 | 24 | 20 | 54 | 36 |

I. The marching band needs to march in 6 equal rows. Draw an array to show how the marching band members should march in the parade.
2. Draw two different arrays to show how the Mapleton High School Cheerleading Squad can march in the parade.

## KEEPING TIME

Use the table from the previous page to answer the questions below.

2. Use the T-chart below to determine how long it takes the local veteran group and scout. troop to complete the parade route. Write your answer in the table on the previous page.


## PARADE ATTENDANCE

You want to determine approximately how many people you can expect to attend the parade. Knowing this will help you organize the parade accordingly and ensure you have enough security and space for everyone to enjoy the parade safely. The table below shows the parade attendance by year. First, round the attendance for each year to the nearest hundred. Then, plot the rounded attendance on the table on the bar graph by drawing and shading colored bars.

| Year | Attendance | Attendance <br> rounded to <br> nearest to0 |
| :---: | :---: | :---: |
| 2015 | 1,895 |  |
| 2016 | 2,022 |  |
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| 2018 | 2,339 |  |
| 2019 | 2,454 |  |



## PARADE ATTENDANCE

I. What observation can you make about the attendance of the Mapleton Patriotic Parade over the five years shown on the bar graph?
2. Estimate what you expect attendance to be at the parade this year. Explain your answer.
3. Using the information in the bar graph, approximately how many more people attended the parade in 2019 than in 2017?
4. Estimate how many people attended the parade altogether between 2015 and 2019 using the rounded numbers. Show your work.


## PARADE ATTENDANCE

The information on the clipboard below shows approximately how many people of different ages attended the parade in 2019. Use the data to create a pictograph by drawing shapes in the pictograph. Fill in the title and data category labels.


## PATRIOTIC FESTIVITIES

In addition to the parade, you want to include some other patriotic festivities the townspeople can partake in to celebrate. Answer the following word problems about the different patriotic festivities.

## BAKE SALE

I. The Mapleton Elementary School PTA sets up a bake sale. A plate of red, white, and blue cookies contains 5 cookies in total. If there are 9 plates of cookies for sale, how many cookies are there in total?
2. There are 46 patriotic cupcakes for sale at the bake sale. 16 are strawberry flavored, and the rest are divided equally between chocolate and vanilla. How many chocolate cupcakes are for sale?
3. After one hour, the PTA has earned $\$ 45.00$ at the bake sale. After two hours, they have earned $\$ 90.00$. After three hours, they have earned \$135.00. If the pattern continues, how much will the PTA have earned after 4 hours?
4. Jacob wants to buy a brownie from the bake sale. A brownie costs \$1.25. In his pocket, he has three quarters, four dimes, three nickels, and two pennies. Does Jacob have enough money to buy a brownie? Explain how you know.


## CHALLENGE \#1: MARCHING BAND

The marching band consists of several different instruments, and in some cases there are multiple musicians playing each type of instrument. The table below shows how many musicians play each type of instrument. Make a line plot of the data in the table.

| Instrument | Drum | Trumpet | Clarinet | Saxophone | Flute | Trombone | French <br> Horn | Cymbal | Tuba |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Number in <br> Band | 10 | 7 | 5 | 6 | 6 | 7 | 4 | 6 | 3 |

I. Finish adding numbers to the line plot. Then, add a title for the line plot below it.
2. Draw $X$ s on the line plot to plot the data in the table.
3. Of the drums in the marching band, 4 are snare drums. Of the remaining drums, half are bass drums, and half are tenor drums. How many tenor drums are there?

## CHALLENGE \#2: PARADE FLOAT

You are building a patriotic parade float that will be the grand finale of the parade. The float is made up of many different pieces. Answer the questions below about the parade float's construction.
I. You need to cut these shapes from foam to use on the parade float. Write the name of each shape in the space.

2. To fit in with the patriotic theme, you want to paint all the shapes below in red, white, and blue. Draw lines to partition the shapes in three equal parts so you can ensure there is an equal amount of each color on each shape.

3. When the shapes above are colored in, what fraction of each shape will be red? $\qquad$ What fraction of each shape will be white? $\qquad$ What fraction of each shape will be blue? $\qquad$

## SELF-REFLECTION

Write a reflection of your experience with this project."How did you feel about the math problems and activities? Explain what you found easy to do and any difficulties you had while working on this project. Did you enjoy this activity? Why or why not?

## RATE THIS PROJECT

Circle the statement you most agree with.
I am ready for something harder.
This was just right.
I found this very challenging.

## SELF EVALUATION

Circle or shade one box per row on the rubric that expresses how you rate yourself on this Project Based Learning Activity.

|  |  |  |
| :---: | :---: | :---: |
| I felt very confident about the math in this project. | I felt pretty good about my ability to complete the math in this project. | I felt a lot of the math in this project was too hard for me to do alone. |
| I understood all of the math and did not need help to complete the problems. | I understand most of the math but needed a little help to solve some of the problems. | I understood some of the math but needed help to complete most of the problems. |
| I easily used many strategies to solve the math problems efficiently. | I needed some help to use the best strategies for solving the math problems. | I had trouble understanding the best way to solve many of the math problems. |
| I feel I am ready for a harder math project. | I feel I would like to spend more time practicing similar math problems. | I feel I need assistance to work on similar math problems |

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