# RED, WMIITEE \& BLUE: PLANNING A PATRIOTIC PARADE Project Based Learning 

$2^{\text {na }}$ Grade Print \& Google Slides

## 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 | 7 | 4 | 6 | 3 |

## CHALLENGE \#2: PARADE FLOAT <br> You are building a patriotic parade float that will be the grand finale of the parade. The float is made up of many different pleces. Answer the questions below about the parade float's construction.



## KEEPING TIME

It's important to keep track of when each group starts and finishes marching the parade route. If you don't, two groups might collide mid-paradel Use the clocks in the table below to answer the questions.


Mapleton citizens of all ages are welcome to be parade volunteers. The data on the clipboard shows $\dagger$ volunteers this year. Use the data to create a pictograph by drawing shapes in the pictograph. Fill in th category labels.

## End Time



## PARADE VOLUNTEERS

In order to keep the festivities organized, there are volunteers stationed in ferent areas to help manage the crowd. The table below shows how many volunteers are in each area. Plot the data the bar graph by drawing and shading colored bars.

Number of


| 2-13 |  |
| :---: | :---: |
| 9-30 | * $\star *$ |
| 1. 45 |  |
| 6-65 | A A A A A A A |

- Realistic learning situations
- Print \& Go, Low Prep



## Meaningful practice of $2^{\text {nd }}$ grade math skills.

## 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.

3. Write the length of each parade route in yards using words.

ROUTE A: $\qquad$ ROUTE B: $\qquad$
ROUTE C: 4. Compare the lengths of the different parade routes. Fill in the blanks with the corre Route $A>$ Route $B$


1. You want to determine the length of each possible parade blocks long each route is. Write the length of each route

ROUTE $A:=$ $\qquad$ blocks ROUTE B: $=$ $\qquad$

## PARADE ARRAYS

You have several different groups marching in the parade. In the arrays below, each circle represents herson. The arrays show how the groups will arrange their members to march in the parade. Use the arrays to a ar the questions.


Route B
 Route C

## Promotes critical thinking and problem solving.

## PATRIOTIC FESTIVITIES

## PIE EATING CONTEST

I. The people of Mapleton are invited to participate in the annual pie eating contest! First, you need to check that all the pies are an equal size to make sure the competition is fair. Check the tool you would use to measure the width (also known as the diameter) of the pies.
$\square$
Ruler $\square$ Yardstick
2. The pies below need to be measured to ensure each one has a diameter of widest part of the top. Cut out the ruler to measure each pie. If it's the on the pie. If it's the wrong size, draw an $X$ on the pie.


## 12345678910112

3. Each apple pie filling contains five apples. How many apples are in 12 p answer. Write the skip counts.

## FIREWORKS

## PATRIOTIC FESTIVI

I. There will be a fireworks show after sunset hiring Fernando's Fireworks Emporium or Fir as a grand finale to the day charges $\$ 855.00$ for his services. Fire-Tastic Firewic Fireworks to put on by completing the comparison below with the symbol charges $\$ 910.00$. the symbol <, >, or $=$.
2. During the 15 -minute grand finale $\$ 855.00<\$ 910.00$ color of fireworks is shown. Use show, there will hundreds of fireworks number.

## 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


## 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 why ........nnt 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.



## 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.

$\qquad$
-

Self Evaluation Reflection \& Rubric


## Digital Version in Google Slides

## PARADE ARRAYS

You have several different groups marching in the parade. In the arrays below, each red and blue circle represents a person. The arrays show how the groups will arrange their members to march in the parade. Use the arrays to answer the questions.


Legion of Local Veterans


Scout Troup
\#45


Mapleton HS Cheerleaders


Marching Band


Mapleton Police Department

| Group | Legion of Local <br> Veterans | Scout Troop \#45 | Mapleton HS <br> Cheerleaders | Marching Band | Mapleton Police <br> Department |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Addition Equation |  |  |  |  | $\square$ |
| Number of Members |  |  |  |  |  |

I. Look at each array. In the table, write an addition equation to determine how many members are in each group.
2. Solve each addition equation to find out the number of members marching in each group. Fill your answers in the table.

# Aligned to CCSS Math Standards 

- 2.0A.A.I Use addition and subtraction within 100 to solve one- and two-step word problems
- 2.0A.C. 4 Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends
- 2.NBT.A. 2 Count within 1000; skip-count by $5 \mathrm{~s}, 10 \mathrm{~s}$, and IOOs
- 2.NBT.A. 4 Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits
- 2.NBT.B.7 Add and subtract within 1000
- 2.MD.A.I Measure the length of an object by selecting and using appropriate tools
- 2.MD.C. 7 Tell and write time from analog and digital clocks to the nearest five minutes
- 2.MD.C. 8 Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies
- 2.MD.D.IO Draw a picture graph and a bar graph (with single-unit scale) to represent a data set


## PARADE VOLUNTEERS

In order to keep the festivities organized, there are volunteers stationed in different areas to help manage the crowd. The table below shows how many volunteers are in each area. Plot the data on the bar graph by clicking on each colored bar and dragging to resize.

| Location | Number of <br> Volunteers |
| :---: | :---: |
| Starting <br> Line | 7 |
| Finish <br> Line | 8 |
| Dining <br> Tent | 3 |
| Pienic <br> Area | 6 |
| Kiddie <br> Zone | 9 |



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THANK YOU FOR PURCHASING THIS COMMON CORE KINGDOM DIGITAL RESOURCE!

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## FOR THE TEACHER

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

- 2.OA.A.I Use addition and subtraction within 100 to solve one- and two-step word problems
- 2.OA.C. 4 Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends
- 2.NBT.A. 2 Count within 1000; skip-count by $5 \mathrm{~s}, 10 \mathrm{~s}$, and 100 s
- 2.NBT.A. 4 Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits
- 2.NBT.B. 7 Add and subtract within 1000
- 2.MD.A.I Measure the length of an object by selecting and using appropriate tools
- 2.MD.C. 7 Tell and write time from analog and digital clocks to the nearest five minutes
- 2.MD.C.8 Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies
- 2.MD.D.IO Draw a picture graph and a bar graph (with single-unit scale) to represent a data set


## 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 PATRIOTIC 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 of groups marching in the parade.
- Analyze data about how many volunteers are needed on the day of the parade.
- Solve word problems about patriotic festivities involving money, measurement, and place value
- (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. Añswer the questions. "?

I. You want to determine the length of each possible parade route. To do so, you will count how many blocks long each route is. Write the length of each route in the spaces below.

ROUTE A: = $\qquad$ blocks

ROUTE B: = $\qquad$ b blo locks ROUTE $\mathrm{C}:=$ $\qquad$ blocks
2. Each block is 100 yards long. Skip count by 100 to see how many yards long each parade route is.

ROUTE A: = $\qquad$ yards ROUTE $B:=$ $\qquad$ yards ROUTE C = $\qquad$ yards

## PARADE ARRAYS

You have several different groups marching in the parade. In the arrays below, each circle represents a person. The arrays show how the groups will arrange their members to mairch in the parade. Use the arrays to answer the questions.

| Group | Legion of Local <br> Veterans | Scout Troop \#45 | Mapleton HS <br> Cheerleaders | Marching Band | Mapleton Police <br> Department |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Addition Equation |  |  |  |  |  |  |
| Number of Members |  |  |  |  |  |  |

I. Look at each array. In the table, write an addition equation to determine how many members are in each group.
2. Solve each addition equation to find out the number of members marching in each group. Fill your answers in the table.

## PARADE ARRAYS

3. Of the members of Scout Troop \#45, there are 3 Senior Scouts and the rest are Junior Scouts. How many Junior Scouts are in Troop \#45?
4. The Mapleton Fire Department is also marching in the parade. They march in 3 rows of 5 people each. Draw an array to show how the firefighters will march. Write and solve an addition problem about the array.
5. The Mapleton High School boys' basketball team won the state championship this year, and to celebrate all 9 players will be marching in the parade. Draw an array of equal rows and columns. Write and solve an addition problem about your array.

## PARADE VOLUNTEERS

In order to keep the festivities organized, there are volunteers stationed in different areas to help manage the crowd. The table below shows how many volunteers are in each area. Plot the data on the bar graph by drawing and shading colored bars.

| Location | Number of <br> Volunteers |
| :---: | :---: |
| Starting <br> Line | 7 |
| Finish <br> Line | 8 |
| Dining <br> Tent | 3 |
| Pisnic <br> Area | 6 |
| Kiddie <br> Zone | 9 |

NUMBER OF PARADE VOLUṄTEERS BY LOCATION


## PARADE VOLUNTEERS

I. How many volunteers are stationed at the parade starting line and the finishing line altogether?
2. What area has the most volunteers? What area has the least volunteers?
3. How many more volunteers are stationed at the area with the most volunteers than the area with the least?
५. How many volunteers are there in total?
5. Of the total volunteers, 14 of them volunteered at the parade last year. The rest of the volunteers have never volunteered at the parade before. How many of them are volunteering for the first time this year?


## 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 red, white, and blue cookie costs $85 థ$. Write two different ways you could pay for a cookie in coins using exact change.
2. There are 46 patriotic cupcakes for sale at the bake sale. 10 are strawberry flavored, 16 are vanilla, and the rest are chocolate. How many chocolate cupcakes are for sale?
3. 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.

4. Marisol buys a muffin and a slice of apple pie. The muffin costs $95 \$$ and the pie costs $\$ 1.50$. She pays with a $\$ 5$ bill. How much change will Marisol receive in return?


## 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.
l. You need to cyt these shapes from foam to use on the parade float. Write the name of each shape in the space.

2. Draw lines to partition this shape into two equal parts. Each part represents one $\qquad$ of the shape.
4. Draw lines to partition this shape into four equal parts. Each part represents one $\qquad$ of the shape.

5. Draw lines to partition this shape into 3 equal columns and 3 equal rows. How many small squares make up the shape? $\qquad$


## CHALLENGE \# 2: PARADE FLOAT

6. The shapes that are making "up the float are all different sizes. The table below shows the shape name and how tall it is. Choose which measüring tool is best for measuring that shape (ruler, yardstick, or measuring tape) and write in the table.

| Shape | Square | Rectangle | Triangle | Circle | Pentagon | Hexagon | Trapezoid |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Height <br> (in feet) | 2 | 4 | $61 / 2$ |  | 3 | 8 | 1 |
| Measuring <br> Tool |  |  |  |  |  |  |  |

7. How much taller is the triangle than the pentagon?
8. You want to stack 3 shapes on top of each other to create a tower that is exactly 13 feet high. Draw a diagram showing which three shapes you can use.


## 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 haid 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.

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