

CUPCAKES GALORE

Math Project Based Learning

2nd Grade Print & Google Slides

INGREDIENTS - 1

1. Read the four recipe cards and pick your favorite recipe.
2. Write the name of the recipe on the line.
3. Write the amounts of each ingredient listed in the table.
4. Add the amounts and write the total needed in the table.

My favorite recipe: _____

Ingredients	Amount in cupcake
flour	
baking powder	
baking soda	
sugar	
butter	
vanilla	
eggs	
oil	
milk	
confectioners' sugar	

CUPCAKES GALORE - RECIPE CARDS

Vanilla Dream

Cake Ingredients

- 2 cups of flour
- 1 teaspoon of baking powder
- 1/2 teaspoon of baking soda
- 1 cup of white sugar
- 1/2 cup of butter
- 1/2 cup of vanilla
- 1/2 cup of milk
- 1/2 cup of vanilla yogurt

Gurt Icing Ingredients

- 1/2 cup of confectioners' sugar
- 1/2 cup of vanilla yogurt
- 1/2 cup of vanilla
- 1/2 cup of milk

Bake for 25 minutes.



YOUR CLASS - 2

Baker: _____

Your teacher made a list of the cupcakes and students who are bringing them to the bake sale. Use the information in the list to answer the questions.

Cupcakes	Students baking for the bake sale
Berry Bonanza	Annika, Miguel, Rory, Sheldon
Vanilla Dream	Benson, Nico, Zac, Evan, Phoebe
Chocolate Walnut Delight	Charlie, Yazmin, Ty, Piper, Syndi, Petra
Cinnamon Sensation	Kenisha, Lori, Mandy, Leo, June

1. Add your name to the list to show the type of cupcake you will be baking. Add the total number of cupcakes that will be made for the type of cupcake you selected to bake. How many batches of cupcakes will be made by your class in all?

_____ batches of cupcakes will be made by your class in all?

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Realistic Recipes

CUPCAKES GALORE - RECIPE CARDS

Berry Bonanza

Cupcake Ingredients

- 3 cups of flour
- 1 teaspoon of baking powder
- 1 teaspoon of baking soda
- 1 cup of brown sugar
- 8 tablespoons of butter
- 1 teaspoon of vanilla
- 2 eggs
- $\frac{1}{4}$ cup of cooking oil
- $\frac{1}{2}$ cup of milk
- $\frac{1}{2}$ cup of your favorite jam

Buttercream Icing Ingredients

- 1 cup of confectioners' sugar
- 4 tablespoons of butter
- 1 teaspoon of vanilla
- 1 cup of milk

Bake at 350°F for 30 minutes.

Makes 18 cupcakes.

Vanilla Dream

Cupcake Ingredients

- 2 cups of flour
- 1 teaspoon of baking powder
- 1 teaspoon of baking soda
- 1 cup of white sugar
- 6 tablespoons of butter
- 2 teaspoons of vanilla
- 1 egg
- $\frac{1}{4}$ cup of milk
- $\frac{1}{2}$ cup of vanilla yogurt

Vanilla Yogurt Icing Ingredients

- 1 cup of confectioners' sugar
- $\frac{1}{2}$ cup of vanilla yogurt
- 2 teaspoons of vanilla
- 1 cup of milk

Bake at 325°F for 25 minutes.

Makes 12 cupcakes.



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Applicable to Real Life & Fun!

YOUR CLASS - 2

Baker: _____

Your teacher made a list of the cupcakes and students who are bringing them to the bake sale. Use the information in the list to answer the questions.

Cupcakes

Berry Bonanza
Vanilla Dream
Chocolate Walnut Delight
Cinnamon Sensation

Students baking for the bake sale

Annika, Miguel, Rory, Sheldon
Benson, Nico, Zac, Evan, Phoebe
Charlie, Yazmin, Ty, Piper, Syndi, Petra
Kenisha, Lori, Mandy, Leo, June

1. Add your name to the list to show the type of cupcake you will be baking. Add the total number of cupcakes that will be made for the type of cupcake you selected to bake. How many batches of cupcakes will be made by your class in all?
2. How many batches of cupcakes will be made by your class in all?



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Number of boxes
I need

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Challenge Activities

CHALLENGE 2

Baker: _____

Your teacher made this list to show how much money was earned selling each type of cupcake. Use her information to answer the following questions.

Money earned at the bake sale	
Berry Bonanza	\$18.00
Vanilla Dream	\$15.00
Chocolate Walnut Delight	\$32.00
Cinnamon Sensation	\$52.00

1. What is the total amount of money earned at the bake sale? Show how you know.
2. Last year's class spent \$179.00 for their pizza and popsicle party. If it will cost the same amount this year, how much more money does your class need to earn?



3. What is the difference earned between the Cinnamon Sensation Cupcake and the Vanilla Dream Cupcake?

FOR THE TEACHER

Cupcakes Galore is a project-based learning task that provides students with real-world math problems using the following CCSS math standards:

- 2.OA.A.1 Use addition and subtraction within 100 to solve word problems.
- 2.OA.B.2 Fluently add and subtract within 20 using mental images.
- 2.OA.C.4 Use addition to find the total number of objects arranged in arrays with up to 5 rows and 5 columns, write an equation to express the total as a sum of equal addends.
- 2.NBT.A.1 Understand that the 3 digits in a 3-digit number represent amounts of hundreds, tens, and ones.
- 2.NBT.A.3 Read and write numbers to 1000 using base-ten numerals, names, and expanded form.
- 2.NBT.B.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and the relationship between addition and subtraction.
- 2.NBT.B.6 Add up to four two-digit numbers using strategies based on place value and properties of operations.
- 2.NBT.B.7 Add and subtract within 1000, using concrete models or drawings and strategies.
- 2.MD.C.7 Tell and write time from analog and digital clocks to the nearest five minutes, using am and pm.
- 2.MD.C.8 Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies.

Directions:

1. 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 over several days.
4. Students will prepare to bake cupcakes for a school bake sale.
5. Challenge activities are available and optional.
6. Students will complete the self-evaluation reflection and evaluation rubric.
7. Allow students an opportunity to share their completed projects.



CUPCAKES GALORE

Your teacher announced that your class is having a bake sale in the school cafeteria next Friday. Each student will participate by baking their favorite cupcake to sell. You can choose from four different recipes that your teacher provided. Pick the one that looks the yummiest to you. On the day of the sale, you and your classmates will help to sell the cupcakes. The money that is earned will be used toward a pizza and popsicle party on the last day of school. Happy Baking!

Here are your tasks:

- Read through the whole packet before starting.
- Read the recipe cards. Review ingredients and measurements.
- Choose one recipe that you like and want to make for the bake sale.
- Follow the directions for each step of the activity.
- Use scrap paper for your calculations.
- Attach your scrap paper to your final project.
- Use models and drawings that illustrate the math when directed.
- Complete the self-reflection and evaluation rubric.



CUPCAKES GALORE - RECIPE CARDS

Berry Bonanza

Cupcake Ingredients

- 3 cups of flour
- 1 teaspoon of baking powder
- 1 teaspoon of baking soda
- 1 cup of brown sugar
- 8 tablespoons of butter
- 1 teaspoon of vanilla
- 2 eggs
- $\frac{1}{4}$ cup of cooking oil
- $\frac{1}{2}$ cup of milk
- $\frac{1}{2}$ cup of your favorite jam

Buttercream Icing Ingredients

- 1 cup of confectioners' sugar
- 4 tablespoons of butter
- 1 teaspoon of vanilla
- 1 cup of milk

Bake at 350°F for 30 minutes.

Makes 18 cupcakes.

Vanilla Dream

Cupcake Ingredients

- 2 cups of flour
- 1 teaspoon of baking powder
- 1 teaspoon of baking soda
- 1 cup of white sugar
- 6 tablespoons of butter
- 2 teaspoons of vanilla
- 1 egg
- $\frac{1}{4}$ cup of milk
- $\frac{1}{2}$ cup of vanilla yogurt

Vanilla Yogurt Icing Ingredients

- 1 cup of confectioners' sugar
- $\frac{1}{2}$ cup of vanilla yogurt
- 2 teaspoons of vanilla
- 1 cup of milk

Bake at 325°F for 25 minutes.

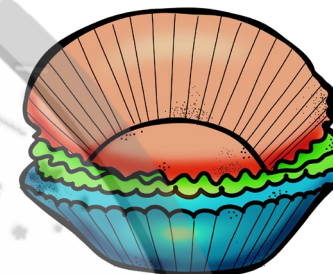
Makes 12 cupcakes.



INGREDIENTS - 1

Baker: _____

1. Read the four recipe cards and pick your favorite recipe.
2. Write the name of the recipe on the line.
3. Write the amounts of each ingredient listed in the table for your recipe.
4. Add the amounts and write the total needed in the last column.



My favorite recipe: _____

Ingredients	Amount in cupcake	Amount in icing	Total amount
flour			
baking powder			
baking soda			
sugar			
butter			
vanilla			
eggs			
oil			
milk			
confectioners' sugar			

BAKING - 1

Baker: _____

1. Your mom helps you make a double batch of cupcakes. The batches must be baked separately. Think about how many minutes each batch takes to bake and determine the total number of minutes two batches will take to bake. Draw a model to show your thinking.
2. Mom said the oven must be preheated for 15 minutes before the batter can be put into the oven. How many minutes will the oven be on altogether? Draw a model to show your thinking.



PACKING BOXES

Baker: _____

Your teacher has two different sized boxes for you to choose from to pack your cupcakes. You must pick the best sized box for the number of cupcakes you are baking **and** you must decide how many boxes you need. You can only use one size. Please plan for the fewest number of empty spaces. Complete the table below for each box option.



	Packing cupcakes in boxes	
<i>Box Options</i>	Box 1: 	Box 2: 
<i>Draw a sketch of how you will arrange your cupcakes in boxes.</i>		
<i>Number of boxes I need</i>		

YOUR CLASS - 1

Baker: _____

Your teacher made this table to help her see how many cupcakes will be brought to school by you and your classmates. Help her complete the table.

Type of Cupcake	1 batch	2 batches	3 batches	4 batches	5 batches
Berry Bonanza	18 cupcakes	$18 + 18 = 36$	$36 + 18 = 54$		
Vanilla Dream	12 cupcakes				
Chocolate Walnut Delight	24 cupcakes				
Cinnamon Sensation	36 cupcakes				



YOUR CLASS - 2

Baker: _____

Your teacher made a list of the cupcakes and students who are bringing them to the bake sale. Use the information in the list to answer the questions.

Cupcakes

Berry Bonanza

Vanilla Dream

Chocolate Walnut Delight

Cinnamon Sensation

Students baking for the bake sale

Annika, Miguel, Rory, Sheldon

Benson, Nico, Zac, Evan, Phoebe

Charlie, Yazmin, Ty, Piper, Syndi, Petra

Kenisha, Lori, Mandy, Leo, June

1. Add your name to the list to show the type of cupcake you will be baking. Add the total number of cupcakes that will be made for the type of cupcake you selected to bake. How many batches of cupcakes will be made by your class in all?
2. How many batches of cupcakes will be made by your class in all?



ADVERTISING

Baker: _____

Your teacher asks you to write a description of your cupcake that will be displayed on the sale table. The purpose of the description is to persuade buyers to purchase your cupcake. Be sure to include descriptive language and sensory details.

Cupcake Name _____



CHALLENGE 1

Baker: _____

Cupcakes will be sold for 25 cents each. Use this information to answer the following questions.

Cupcake I made: _____

Number of cupcakes I made =

Price for 1 cupcake =

Price for 2 cupcakes =

Price for 5 cupcakes =

Here's a model that shows the price for selling 10 cupcakes:

Here's a model that shows the price for selling all my cupcakes:



CUPCAKES GALORE BAKE SALE

Baker: _____

SELF-EVALUATION RUBRIC: Highlight or shade the parts of the rubric that express 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 understood 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 determine 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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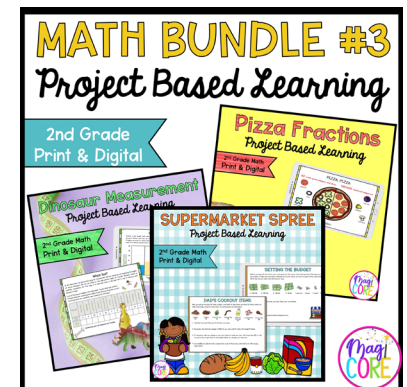
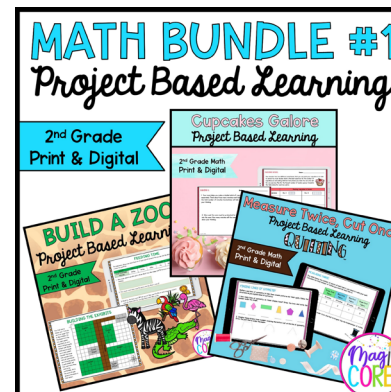


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