

# MATH BUNDLE #3

## Project Based Learning

3<sup>rd</sup> Grade  
Print & Digital

### Pizza Fractions

#### Project Based Learning

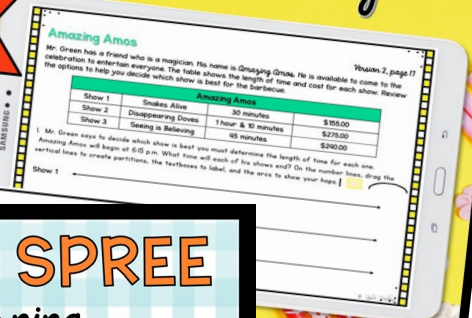
3<sup>rd</sup> Grade Math  
Print & Digital



### Perfect Party Planners

#### Project Based Learning

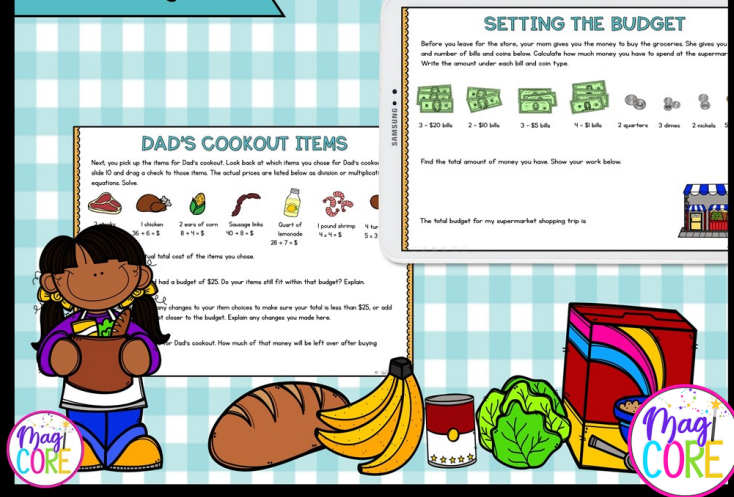
3<sup>rd</sup> Grade Math  
Print & Digital



### SUPERMARKET SPREE

#### Project Based Learning

3<sup>rd</sup> Grade  
Print & Digital



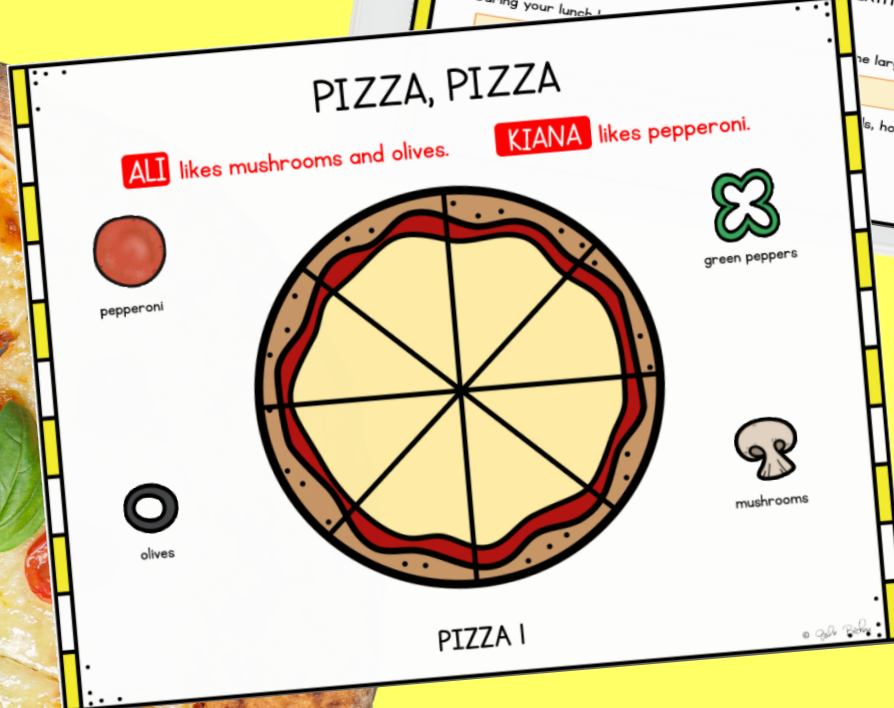
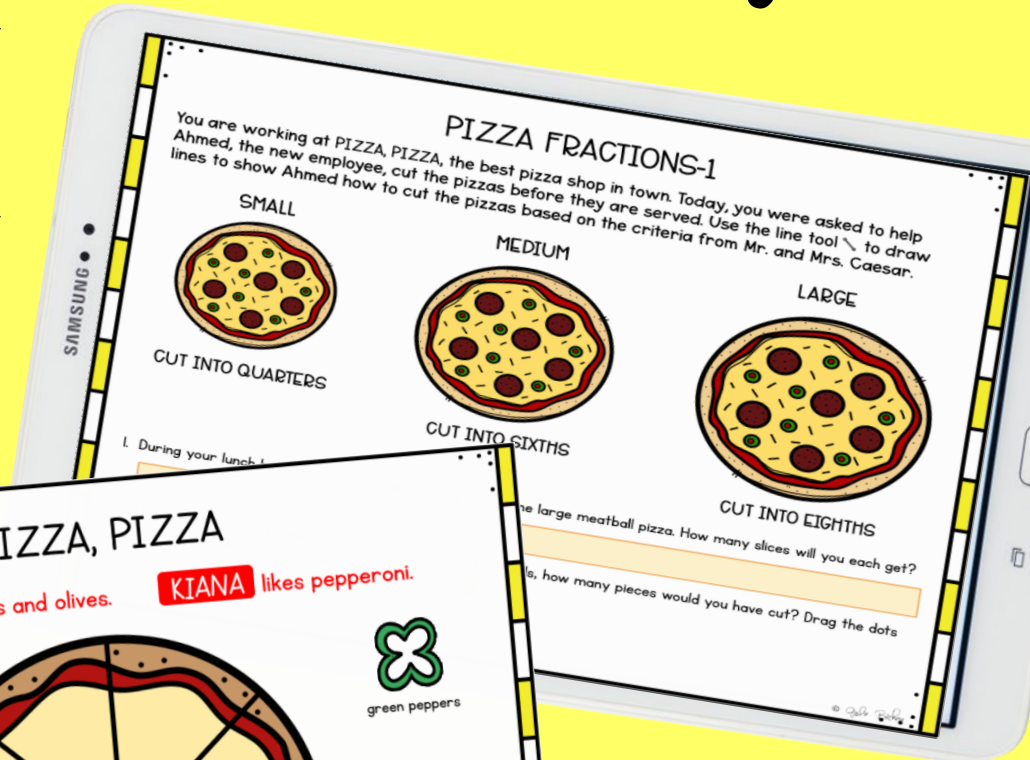
Magi  
CORE

Magi  
CORE

# Pizza Fractions

## Project Based Learning

3<sup>rd</sup> Grade Math  
Print & Digital



# Standards Addressed:

- 3.OA.A.1 Interpret products of whole numbers.
- 3.OA.A.2 Interpret whole-number quotients of whole numbers.
- 3.OA.A.3 Use mult/div within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
- 3.OA.B.6 Understand division as an unknown-factor problem.
- 3.NBT.A.1 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.1 Understand a fraction  $\frac{1}{b}$  as the quantity formed by 1 part when a whole is partitioned into  $b$  equal parts.
- 3.NF.A.2 Understand a fraction as a number on the number line; represent fractions on a number line diagram.
- 3.NF.A.3.B Recognize and generate simple equivalent fractions.
- 3.MD.A.1 Tell and write time to the nearest minute and measure time intervals in minutes.
- 3.MD.B.3 Draw a scaled picture graph and a scaled bar graph to represent a data set. Solve two-step problems using information presented in scaled bar graphs.

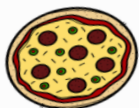
# Print & Digital Versions

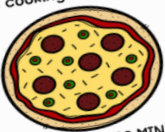


**COOKING PIZZA-1**

On Saturday afternoon, it is your job to keep track of the cooking times when pizzas go in the oven. There are two ovens that can hold up to five pizzas each. Use the cooking times below to answer the questions.

**SMALL PIZZAS-20 MINUTES**

**MEDIUM PIZZAS-25 MINUTES**

**LARGE PIZZAS-30 MINUTES**

1. A family of 4 people orders one small and one large pizza for dinner. You know that the pizzas must come out of the oven at the same time so that they will be hot when they are served. How long will the large pizza be in the oven when you put the small pizza in to cook? Explain how you know.

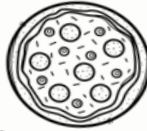
2. Twelve students from your school come to celebrate a birthday. The group orders 2 large pizzas, 3 medium pizzas, and 2 small pizzas. Describe a plan for how you will cook the pizzas so they will all come out of the ovens at the same time. You can use both ovens.

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# Explores Fractions & Partitioning

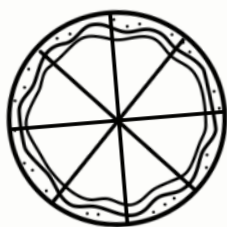


## PIZZA FRACTIONS-3

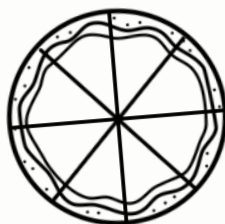
Ali likes mushrooms and olives.  
Kiana likes pepperoni.

Nikki likes mushrooms and peppers.  
Dad likes peppers and olives.

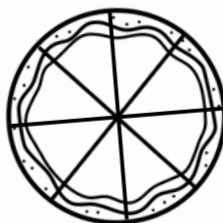
Jojo likes cheese.  
Mom likes mushrooms.



PIZZA 1



PIZZA 2



PIZZA 3

2. How many slices will the Barone family take home? Explain what toppings are on the left-over slices.

## BE A PIZZA MAKER!

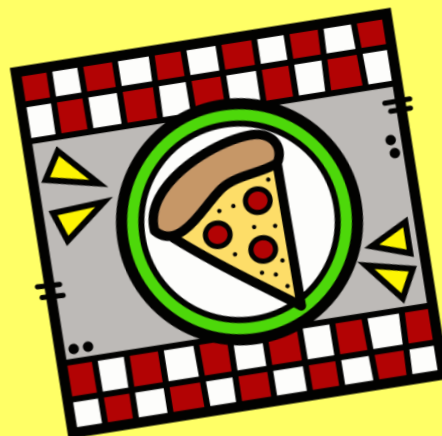
Complete the table and answer the questions below.

| TOPPING KEY  | Is on <input type="text"/> out of 8 slices | Written as a fraction |
|--------------|--------------------------------------------|-----------------------|
| Green Pepper | <input type="text"/>                       | <input type="text"/>  |
| Pepperoni    | <input type="text"/>                       | <input type="text"/>  |
| Black Olive  | <input type="text"/>                       | <input type="text"/>  |
| Mushroom     | <input type="text"/>                       | <input type="text"/>  |

- How many slices have pepperoni?
- How many slices have 2 toppings?
- Write the fraction that shows the number of slices with 2 toppings.
- How many of your slices have 3 toppings?
- Write the fraction that shows the number of slices with 3 toppings.



# Challenge Activities



## \*CHALLENGE 1\*

Mrs. Caesar asks for your help to price the weekly specials. She wants to make a profit while offering fair prices. It costs \$8.00 to make a large pizza with mozzarella before adding additional toppings. Use the menu and topping price chart to help her determine the difference between what it will cost her to make each special and the amount she is selling each special for. This will be her profit.

### TOPPING PRICE CHART

|                    |                    |
|--------------------|--------------------|
| Bacon * \$1.50     | Garlic * 50 cents  |
| Pepperoni * \$2.75 | Peppers * 50 cents |
| Chicken * \$2.75   | Olives * \$1.00    |
| Meatballs * \$3.25 | Mushrooms * \$1.25 |

### TODAY'S SPECIALS

|                                                                         |           |
|-------------------------------------------------------------------------|-----------|
| Nana's Favorite * Mozzarella, Chicken, Bacon, and Garlic                | * \$15.50 |
| Meat Lover's * Mozzarella, Meatballs, Bacon, and Pepperoni              | * \$18.75 |
| Lulu's Veggie * Mozzarella, Garlic, Peppers, Olives, and Mushrooms      | * \$14.00 |
| The Bomb * Mozzarella, Meatballs, Bacon, Pepperoni, Peppers, and Olives | * \$19.50 |

1. Determine the cost to make each pizza. Write an equation that shows how you solved each problem.

 Nana's Favorite

 Meat Lover's

 Lulu's Veggie

 The Bomb

2. If Mrs. Caesar sells 5 of The Bomb pizzas, how much money will she earn as profit? Use the shape tool  to draw a model to show how you solved the problem.

SAMSUNG



# Student Self-Assessment



## Pizza, Pizza

**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?

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### RATE THIS PROJECT

Color the pizza of the statement you most agree with.

I am ready for something harder.



It was just right.



I like



## PIZZA, PIZZA

**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?

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### RATE THIS PROJECT

Drag the checkmark to the pizza of the statement you most agree with.

I am ready for something harder.



It was just right.



I found this very challenging.



# Perfect Party Planners

## Project Based Learning

3<sup>rd</sup> Grade Math  
Print & Digital

### Amazing Amos

Version 2, page 17

Mr. Green has a friend who is a magician. His name is *Amazing Amos*. He is available to come to the celebration to entertain everyone. The table shows the length of time and cost for each show. Review the options to help you decide which show is best for the barbecue.

| Amazing Amos |                     |                     |          |
|--------------|---------------------|---------------------|----------|
| Show 1       | Snakes Alive        | 30 minutes          | \$155.00 |
| Show 2       | Disappearing Doves  | 1 hour & 10 minutes | \$275.00 |
| Show 3       | Seeing is Believing | 45 minutes          | \$240.00 |

1. Mr. Green says to decide which show is best you must determine the length of time for each one. Amazing Amos will begin at 6:15 p.m. What time will each of his shows end? On the number lines, drag the vertical lines to create partitions, the textboxes to label, and the arcs to show your hops. |

Show 1

### Budget Break #1

Version 1, page 8

Periodically, you must return to the budget sheet and do your calculations. It is time to enter the cost for meat and rolls.

| Purchases     | Budgeted cost | Actual cost          |
|---------------|---------------|----------------------|
| Meat          | \$200.00      | <input type="text"/> |
| Rolls         | \$100.00      | <input type="text"/> |
| Water         | \$50.00       | <input type="text"/> |
| Paper Goods   | \$50.00       | <input type="text"/> |
| Rented Chairs | \$350.00      | <input type="text"/> |
| Activities    | \$250.00      | <input type="text"/> |
| Total         | \$1,000.00    | <input type="text"/> |



# Standards Addressed:

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- 3.OA.A.3 Use mult/div within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
- 3.NBT.A.2 Fluently add and subtract within 1000.
- 3.NBT.A.3 Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g.,  $9 \times 80$ ,  $5 \times 60$ ) using strategies based on place value and properties of operations.
- 3.NF.A.3d Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols  $>$ ,  $=$ , or  $<$ , and justify the conclusions, e.g., by using a visual fraction model.
- 3.MD.A.1 Tell and write time to the nearest minute and measure time intervals in minutes.
- 3.MD.C.5 Recognize area as an attribute of plane figures and understand concepts of area measurement.3.MD.C.5a
- 3.MD.C.6 Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).
- 3.MD.C.7 Relate area to the operations of multiplication and addition.
- 3.MD.D.8 Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

# Print & Digital Versions

**Perfect Party Planners**

Complete the table using the data from the previous page. Then answer the questions.

Version 1, page 2

|                       | Votes for<br>Campfire Fun | Votes for<br>I Scream for<br>Ice Cream | Votes for<br>Lazy Luau | Total<br>Students |
|-----------------------|---------------------------|----------------------------------------|------------------------|-------------------|
| Mr. Green's class     |                           |                                        |                        |                   |
| Ms. Butler's class    |                           |                                        |                        |                   |
| Mrs. Bradford's class |                           |                                        |                        |                   |
| Ms. Clifford's class  |                           |                                        |                        |                   |
| Miss Gardner's class  |                           |                                        |                        |                   |
| Total                 |                           |                                        |                        |                   |

1. What is the difference in number between the theme with the most votes and the one with the fewest votes?

2. What will be the theme for the end of year celebration?

How you know.



**Perfect Party Planners**

Complete the table using the data from the previous page. Then answer the questions.

Version 1, page 2

|                       | Votes for<br>Campfire Fun | Votes for<br>I Scream for<br>Ice Cream | Votes for<br>Lazy Luau | Total<br>Students |
|-----------------------|---------------------------|----------------------------------------|------------------------|-------------------|
| Mr. Green's class     |                           |                                        |                        |                   |
| Ms. Butler's class    |                           |                                        |                        |                   |
| Mrs. Bradford's class |                           |                                        |                        |                   |
| Ms. Clifford's class  |                           |                                        |                        |                   |
| Miss Gardner's class  |                           |                                        |                        |                   |
| Total                 |                           |                                        |                        |                   |

1. What is the difference in number between the theme with the most votes and the one with the fewest votes?

2. What will be the theme for the end of year celebration?

3. How many students are in your grade? Show how you know.



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# Aligned to CCSS Math Standards

## Arranging Tables

Version 2, page 13

Your school has rectangular tables that will be set up in the gymnasium. The tables will seat 8 people with no more than 4 on each side. Your teacher has asked you to draw a diagram of the tables and chairs using the graph paper and the key below. You must have one seat for everyone attending the barbeque.

You can seat students on the long sides of each table only. Tables measure 4 squares long. Chairs measure the size of one square. As you arrange your tables, you must leave at least one row of empty spaces between chairs so that people can get in and out without bumping into each other.

Use the shape tool  to draw and move your shapes around the grid. Once you are happy with your design, shade the tables brown and the chairs purple.

How many tables do you need to set up?

KEY:

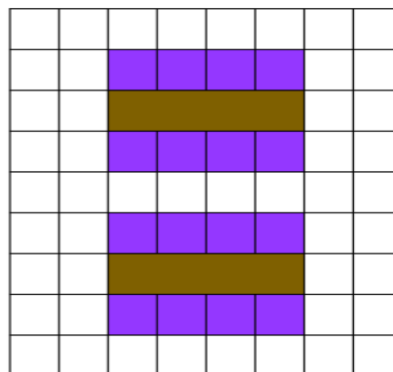


= table



= chair

### Example



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# Challenge Activities

## Challenge 2 – Outside Games-Part 1

In addition to the relay races, Mr. Green organized several outside games and activities for students. He painted lines on the field to divide the space into stations. Station 1 and Station 2 are the same size. Use the diagram to answer the questions about the field.

- Mr. Green asked for help to determine the perimeter of the field. Explain the steps you will take to determine the perimeter.



- What is the perimeter of the entire field?

- Kyle said that the perimeter of the combined space of Stations 1 and 2 is

the perimeter of the combined space of Stations 1 and 2. Is

© Julie Boches

## Challenge 1 – Relay Races

- On the night of the party, Mr. Green set up relay races for all students. Mr. Green, Miss Gardner and Miss Clifford each joined a team so that there were 4 people on every team. How many teams were there in all?

- Each team ran a relay around the soccer field. The top 5 teams and the runners' times are listed in the table below. Your task is to determine each teams' total time in seconds. Then, rank the teams in order from 1<sup>st</sup> through 5<sup>th</sup>. Calculate the team's total time in the box below the individual scores. Then write the team rank in the bottom box.

| The Razors      | We Got This     | The Cheetahs    | Go Dog Go        | Track Stars     |
|-----------------|-----------------|-----------------|------------------|-----------------|
| Elle 23 seconds | Eric 39 seconds | Amy 24 seconds  | Lenny 35 seconds | Lucy 46 seconds |
| Ray 59 seconds  | Jan 24 seconds  | Dan 56 seconds  | Meg 51 seconds   | Will 22 seconds |
| Mel 48 seconds  | Ron 45 seconds  | Bria 45 seconds | Jon 53 seconds   | Gara 34 seconds |
| Max 37 seconds  | Mia 32 seconds  | Nate 27 seconds | Barb 25 seconds  | Ken 58 seconds  |
|                 |                 |                 |                  |                 |
|                 |                 |                 |                  |                 |
|                 |                 |                 |                  |                 |

# Student Self- Reflection & Assessment

**Perfect Party Planners**

**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?

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

Drag the checkmark to the statement you most agree with.

☒ I am ready for something harder

☐ It was just right

☐ I found this challenging

**Perfect Party Planners**

**Self Reflection Rubric:** Select the parts of the rubric that express how you rate yourself on this Project Based Learning Activity. Circle or shade your selections.

| <b>+</b>                                                                     | <b>✓</b>                                                                              | <b>-</b>                                                                        |
|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| 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.                      |

# SUPERMARKET SPREE

## Project Based Learning

3<sup>rd</sup> Grade Math  
Print & Digital

### DAD'S COOKOUT ITEMS

Next, you pick up the items for Dad's cookout. Look back at which items you chose for Dad's cookout slide 10 and drag a check to those items. The actual prices are listed below as division or multiplication equations. Solve.



2 steaks



1 chicken



2 ears of corn



Sausage links



Quart of lemonade



1 pound shrimp



4 turkeys

$$36 \div 6 = \$$$

$$8 + 4 = \$$$

$$40 \div 8 = \$$$

$$28 \div 7 = \$$$

$$4 \times 4 = \$$$

$$5 \times 3 = \$$$

What is the total cost of the items you chose.

If you had a budget of \$25. Do your items still fit within that budget? Explain.

Any changes to your item choices to make sure your total is less than \$25, or add items to get closer to the budget. Explain any changes you made here.

How much of that money will be left over after buying items for Dad's cookout.

### SETTING THE BUDGET

Before you leave for the store, your mom gives you the money to buy the groceries. She gives you the number of bills and coins below. Calculate how much money you have to spend at the supermarket. Write the amount under each bill and coin type.



3 - \$20 bills



2 - \$10 bills



3 - \$5 bills



4 - \$1 bills



2 quarters



3 dimes



2 nickels

Find the total amount of money you have. Show your work below.

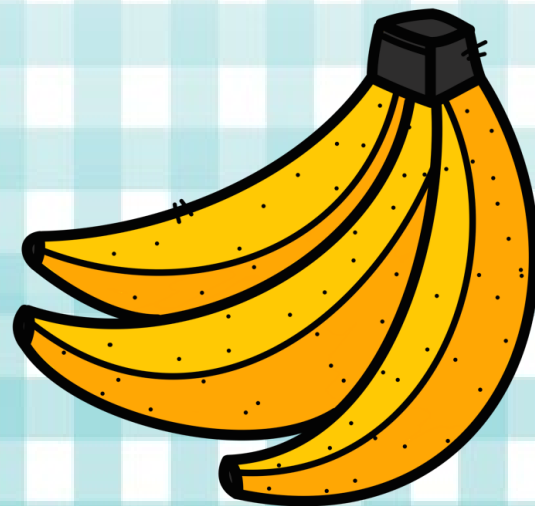
The total budget for my supermarket shopping trip is



# Standards Addressed:

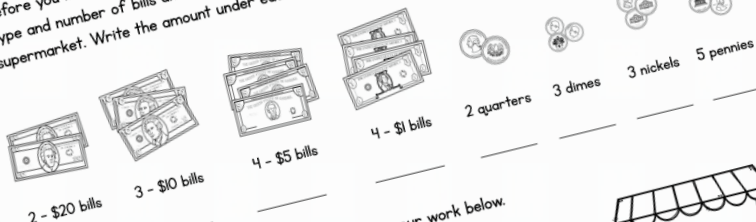
- 3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities.
- 3.OA.C.7 Fluently multiply and divide within 100.
- 3.OA.D.8 Solve two-step word problems using the four operations.
- 3.NBT.A.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
- 3.MD.A.1 Tell and write time to the nearest minute and measure time intervals in minutes.

# Print & Digital Versions



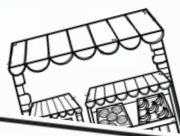
## SETTING THE BUDGET

Before you leave for the store, your mom gives you the money to buy the groceries. She shows you the type and number of bills and coins, below. Calculate how much money you have to spend at the supermarket. Write the amount under each bill and coin type.



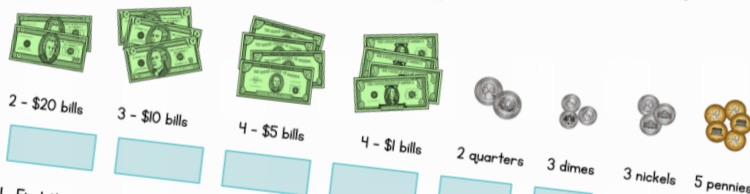
1. Find the total amount of money you have. Show your work below.

2. The total budget for my supermarket shopping trip is: \_\_\_\_\_



## SETTING THE BUDGET

Before you leave for the store, your mom gives you the money to buy the groceries. She shows you the type and number of bills and coins, below. Calculate how much money you have to spend at the supermarket. Write the amount under each bill and coin type.



1. Find the total amount of money you have. Show your work below.

2. The total budget for my supermarket shopping trip is: \_\_\_\_\_



# Explores Various Standards-Based Skills



## GRANDMA'S RECIPE

Your grandmother needs the ingredients to make a loaf of her special banana bread. She gave you the recipe card so that you can be sure to purchase all the necessary ingredients. Read the recipe card and highlight all the ingredients you need to purchase.

### Grandma's special banana bread

**Ingredients**  
 3 ripe bananas, mashed  
 1 cup sugar  
 1 egg  
 1/4 cup melted butter  
 1 1/2 cups flour  
 1 tsp. salt

**Directions**  
 • Preheat oven to 325 degrees.  
 • Put all ingredients into a large bowl. Mix well.  
 • Pour batter into greased loaf pan.  
 • Bake 1 hour.



Now, complete the table with the items you will need to purchase for Grandma. Estimate the price of each item to the nearest dollar. Then, find the total estimate.

| Item  | My Estimate |
|-------|-------------|
|       | \$          |
|       | \$          |
|       | \$          |
|       | \$          |
|       | \$          |
|       | \$          |
|       | \$          |
| TOTAL | \$          |

## DAD'S COOKOUT

Your dad is having your Uncle Ricky over tomorrow for a cookout. He needs you to pick up some items for him to barbecue, but he doesn't want to spend more than \$25 on all the ingredients. Below are a list of some items Dad could use for his cookout and what you estimate they might cost. Drag checkmarks to the items you are going to get for Dad. Remember: you need enough food for Dad and Uncle Ricky to have for dinner, but you can't spend more than \$25.



2 steaks  
\$18



1 chicken  
\$8



2 ears of corn  
\$3



Sausage links  
\$6



Quart of lemonade  
\$2



1 pound shrimp  
\$14



4 turkey legs  
\$16

Now, complete the table with the items you will purchase for Dad and the estimated prices from above. You might not use all spaces in the table. Calculate the total estimated cost.

| Item  | My Estimate |
|-------|-------------|
|       | \$          |
|       | \$          |
|       | \$          |
|       | \$          |
|       | \$          |
| TOTAL | \$          |

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# Challenge Activities

**CHALLENGE #3: CHECKING OUT**

Solve the problems about arrays below.

- The customer in front of you has placed all their groceries on the conveyor belt at the register. Their items are arranged in the array shown below. How many items are they purchasing? Solve with an addition equation.
- You have 25 total items in your cart. You want to place them onto the conveyor belt in 5 equal rows. Drag the dots to create an array that shows how you may arrange your items.
- After the cashier has scanned your items, you arrange them so you can place them in the bags. Each bag specifies how many items will fit inside. Drag the dots to create arrays of the items that will go inside each bag.

6 items      9 items      10 items

© Julie Parker

**CHALLENGE #2: PICKING TREATS**

In the checkout line, you find an extra \$5 bill in your pocket that you had forgotten about! You decide to use this money to buy yourself a treat for a job well done. The table below shows the prices of some goodies in the checkout aisle.

| Treat | Chips  | Candy Bar | Gummy Bears | Jerky | Mints  | Fruit Snacks |
|-------|--------|-----------|-------------|-------|--------|--------------|
| Price | \$1.45 | \$1.30    | \$2.05      | 95¢   | \$1.05 | \$1.55       |

- If you bought gummy bears and a candy bar, how much would it cost? How much change would you receive?
- What combination of treats could you purchase that would cost exactly \$5 all together?
- Which treats do you choose to buy? You can buy as many or as few as you would like, but your total must not be more than \$5. How much do your treats cost?
- How much change will you receive after paying for your treats with a \$5 bill?

© Julie Parker



# Student Self-Assessment



## 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 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.                             | I used many strategies to solve the math.                                             | I had trouble understanding the best way to solve many of the math problems.    |
|                                                                              |                                                                                       | I feel I need assistance to work on similar math problems.                      |

## 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

Drag the checkmark to 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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