SUPERMARKET SPREE
Project Based Learning

GRANDMA'S RECIPE

Your grandmother needs the ingredients to make 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
⅔ cup sugar
1 egg
¼ cup melted butter
1 ½ cups flour
1 tsp salt

Directions
• Preheat oven to 325 degrees.
• Mix ingredients into a large
  ...
• ... loaf

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

Item
Banana
Egg
Suga
butt
flo
S

GRANDMA'S RECIPE

1. Grandma intends to make 3 loaves of banana bread. The ingredients listed in the recipe are enough to make just one loaf. Find how much of each ingredient below she will need to make 3 loaves.

$\frac{2}{3}$ cup — **2**
Sugar in 1 loaf — Sugar in 3 loaves

$\frac{1}{4}$ cup — **$\frac{3}{4}$**
Butter in 1 loaf — Butter in 3 loaves

$1\frac{1}{2}$ cups — **$4\frac{1}{2}$**
Flour in 1 loaf — Flour in 3 loaves

2. There are 3 teaspoons in a tablespoon. There are 16 tablespoons in a cup. Express 1 teaspoon of salt as a fraction of a cup.

$\frac{1}{48}$

3. A medium-sized banana weighs about 118 grams. Assuming you need medium-sized bananas for Grandma's recipe, and Grandma wants to make 3 loaves of banana bread, how many grams of bananas will you need to buy? How many kilograms is that?

1,062 grams or 1.062 kilograms

BUDGET CHECK #4

Answer the following questions based on the table on the previous page.

1. Based on your estim... Explain.

2. Compare the estima... cost from the budge...

Mom's estimated cost

Grandma's estimated cost

3. Which person's shop... expensive?

SUPERMARKET SPREE

Your parents have given you the responsibility of going to the supermarket and purchasing all the food and necessary items your family will need for the week. It is your job to budget for all the items, compare costs of similar items, analyze sales prices, and make other decisions about your family's grocery purchase.

Here are your tasks:

- Read through the entire packet before beginning.
- Count money to determine your shopping budget.
- Estimate the cost of the items your family members want you to purchase.
- Help your sister calculate how much money she has in her piggy bank.
- Determine the price of items at the supermarket by solving problems and calculating coupons and sales.
- Solve one- and two-step word problems about item prices.
- Keep track of how much money you are spending to ensure you don't go over budget.
- Complete the challenge pages. (Optional)
- Complete the self-reflection and evaluation rubric.
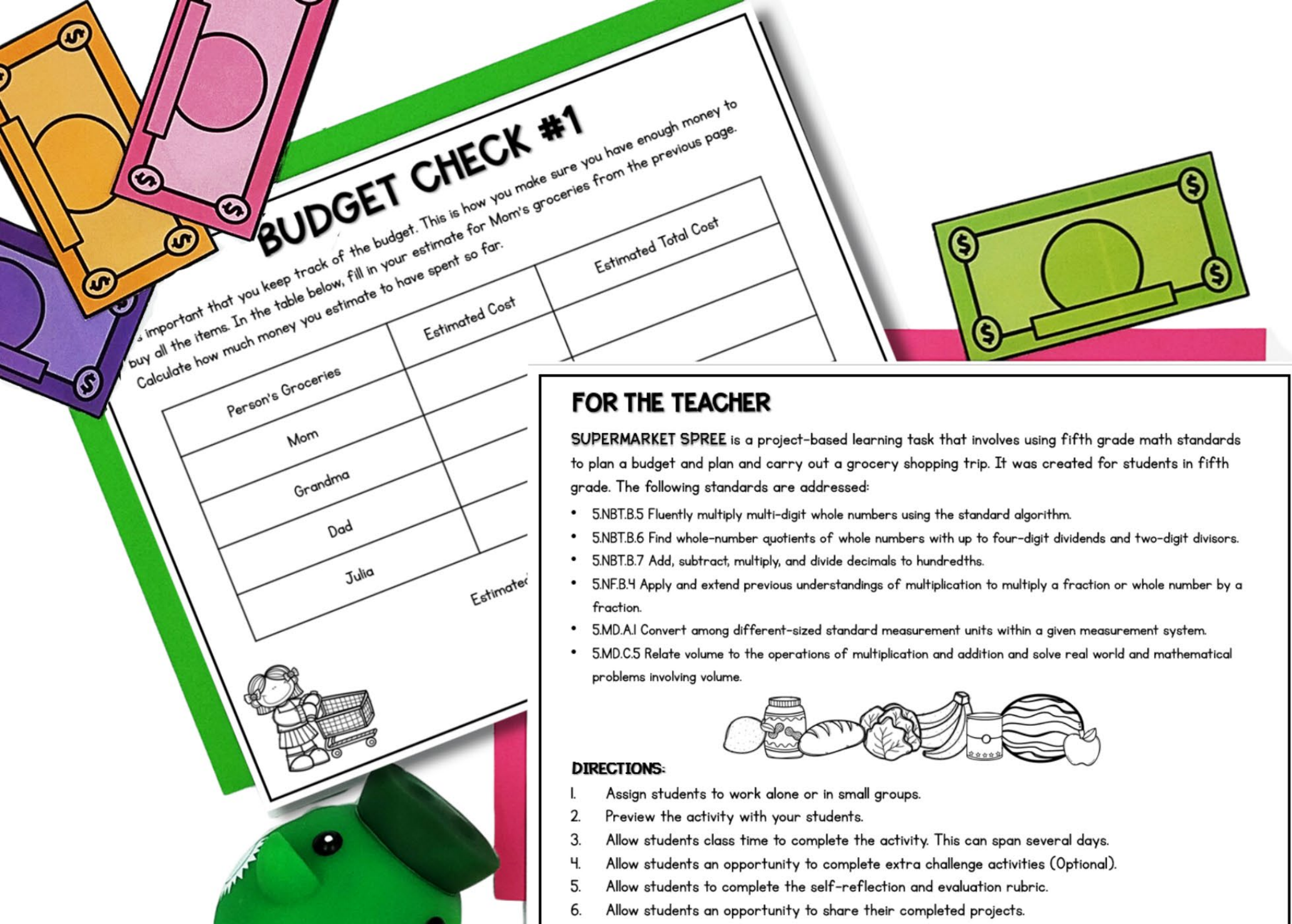
BUDGET CHECK #1

It's important that you keep track of the budget. This is how you make sure you have enough money to buy all the items. In the table below, fill in your estimate for Mom's groceries from the previous page. Calculate how much money you estimate to have spent so far.

Person's Groceries	Estimated Cost	Estimated Total Cost
Mom		
Grandma		
Dad		
Julia		
	Estimated	

FOR THE TEACHER

SUPERMARKET SPREE is a project-based learning task that involves using fifth grade math standards to plan a budget and plan and carry out a grocery shopping trip. It was created for students in fifth grade. The following standards are addressed:

- 5.NBT.B.5 Fluently multiply multi-digit whole numbers using the standard algorithm.
- 5.NBT.B.6 Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors.
- 5.NBT.B.7 Add, subtract, multiply, and divide decimals to hundredths.
- 5.NF.B.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.
- 5.MD.A.1 Convert among different-sized standard measurement units within a given measurement system.
- 5.MD.C.5 Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.

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 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.

Covers a range of 5th-grade math standards including Adding, subtracting, multiplying, and dividing decimals to hundredths.
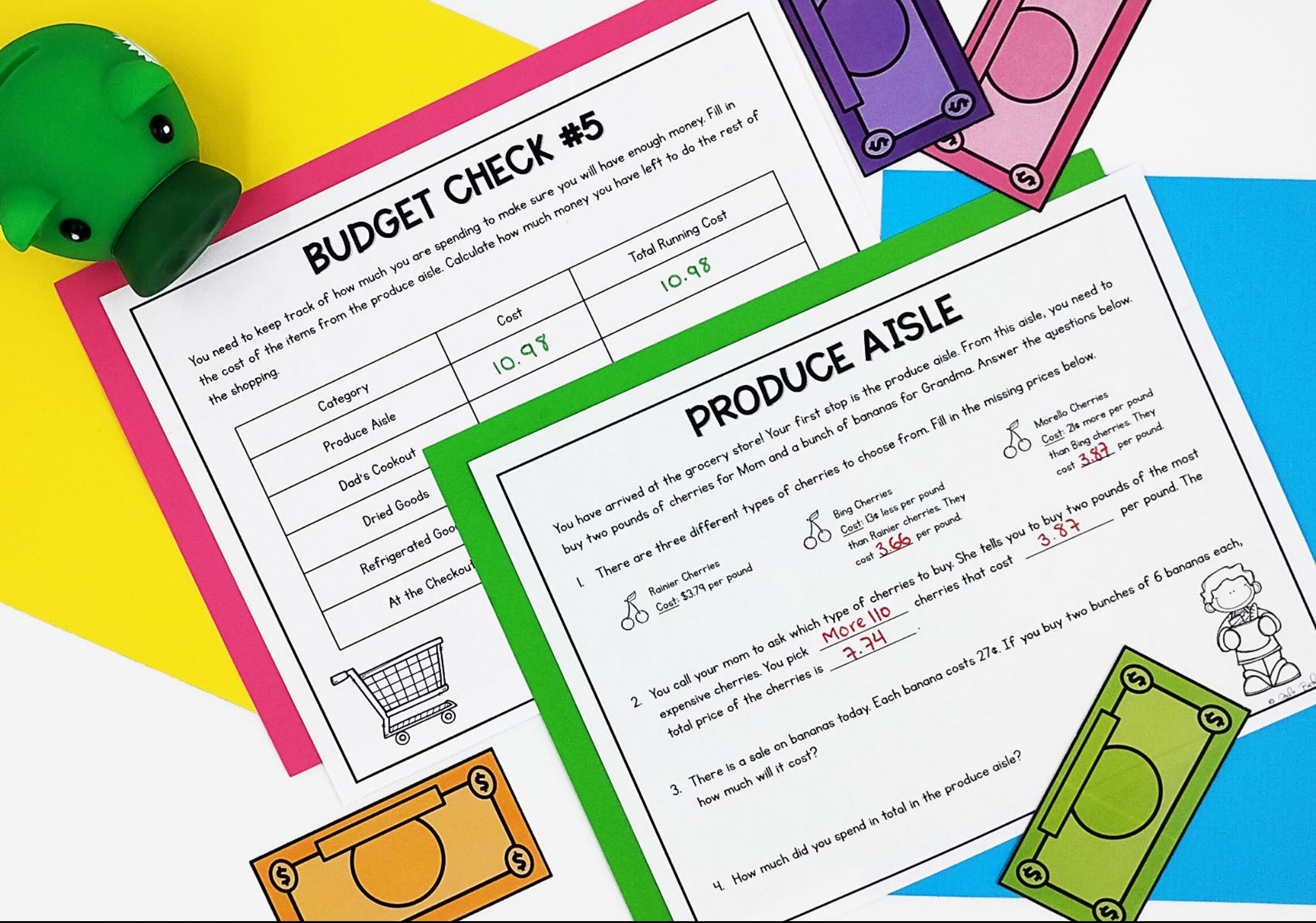
BUDGET CHECK #5

You need to keep track of how much you are spending to make sure you will have enough money. Fill in the cost of the items from the produce aisle. Calculate how much money you have left to do the rest of the shopping.

Category	Cost	Total Running Cost
		10.98
Produce Aisle	10.98	
Dad's Cookout		
Dried Goods		
Refrigerated Goo		
At the Checkout		

PRODUCE AISLE

You have arrived at the grocery store! Your first stop is the produce aisle. From this aisle, you need to buy two pounds of cherries for Mom and a bunch of bananas for Grandma. Answer the questions below.

1. There are three different types of cherries to choose from. Fill in the missing prices below.

   Rainier Cherries
   Cost: $3.79 per pound

   Bing Cherries
   Cost: 13¢ less per pound than Rainier cherries. They cost 3.66 per pound.

   Morello Cherries
   Cost: 21¢ more per pound than Bing cherries. They cost 3.87 per pound.

2. You call your mom to ask which type of cherries to buy. She tells you to buy two pounds of the most expensive cherries. You pick More llo cherries that cost 3.87 per pound. The total price of the cherries is 7.74

3. There is a sale on bananas today. Each banana costs 27¢. If you buy two bunches of 6 bananas each, how much will it cost?

4. How much did you spend in total in the produce aisle?

Meaningful and realistic word problems.

GRANDMA'S RECIPE

Your grandmother needs the ingredients to make 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

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2/3 cup sugar
1 egg
1/4 cup melted butter
1 1/2 cups flour
1 tsp salt

Directions
• Preheat oven to 325 degrees.
• ... ingredients into a large
...
... loaf

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

Item

Banana
Egg
Suga
butt
flo
S

GRANDMA'S RECIPE

1. Grandma intends to make 3 loaves of banana bread. The ingredients listed in the recipe are enough to make just one loaf. Find how much of each ingredient below she will need to make 3 loaves.

$\frac{2}{3}$ cup → 2
Sugar in 1 loaf | Sugar in 3 loaves

$\frac{1}{4}$ cup → $\frac{3}{4}$
Butter in 1 loaf | Butter in 3 loaves

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$\frac{1}{48}$

3. A medium-sized banana weighs about 118 grams. Assuming you need medium-sized bananas for Grandma's recipe, and Grandma wants to make 3 loaves of banana bread, how many grams of bananas will you need to buy? How many kilograms is that?

1.062 grams or 1.062 kilograms

4. Three loaves of Grandma's banana bread weigh approximately 1,968 grams. If Grandma slices all the loaves and ends up with 24 equal slices, how much does each slice weigh?

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CHALLENGE #3: BAGGING ITEMS

4. The weight of each of your filled grocery bags is shown below. Write each weight in standard notation in the first space under each bag.

5.443×10^3 g. 8.906×10^3 g. 4.025×10^3 g. 3.739×10^3 g. 4.648×10^3 g.

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

1. If you bought gummy bears and a candy bar, how much would it cost? Express this amount as a mixed number. $3 \frac{35}{100}$

...ould you purchase that would cost exactly $5 all together?

...y as many or as few as you would like, but your total

...reats cost? Express as a decimal

...ing for your treats with a $5 bill?

CHALLENGE #3: BAGGING ITEMS

4. The weight of each of your filled grocery bags is shown below. Write each weight in standard notation in the first space under each bag.

5.443×10^3 g. 8.906×10^3 g. 4.025×10^3 g. 3.739×10^3 g. 4.648×10^3 g.

5. Convert the weight of each bag into ki...
bag.

6. I...

Three challenge activities: Adding, subtracting, multiplying, and dividing fractions and decimals and volume.

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 comp... math in this...	... of the math in...
I understood all of the math and did not need help to complete the problems.	I understood m... but needed a li... some of...	...
I easily used many strategies to solve the math problems efficiently.	I needed... the be... solving...	...
I feel I am ready for a ...rder math project.	I feel... m... si...	...

I am ready for something h...

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?

_____

_____

_____

_____

_____

_____

_____

_____

PRODUCE AISLE

You have arrived at the grocery store! Your first stop is the produce aisle. From this aisle, you need to buy two pounds of cherries for Mom and a bunch of bananas for Grandma. Answer the questions below.

1. There are three different types of cherries to choose from. Fill in the missing prices below.

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   Cost: $3.79 per pound

   🍒 Bing Cherries
   Cost: 13¢ less per pound than Rainier cherries. They cost **3.66** per pound.
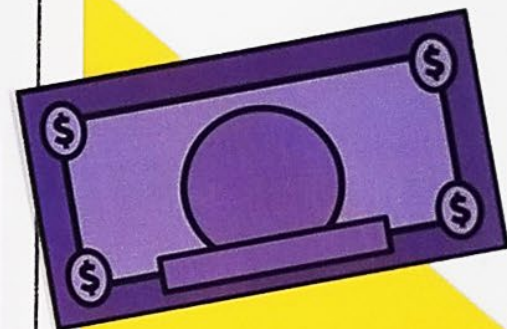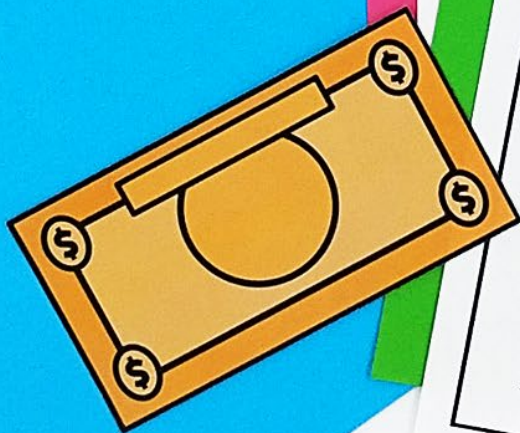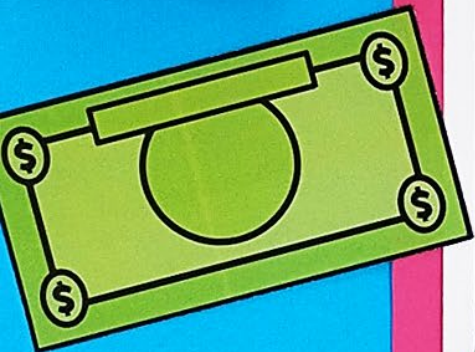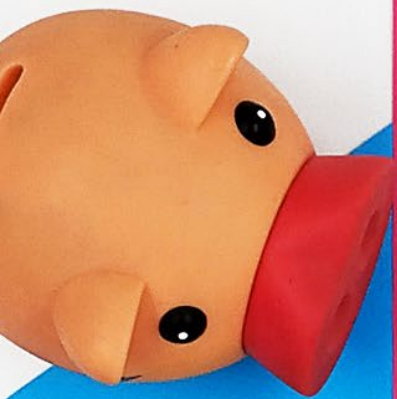
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   ...ana costs 27¢. If you buy two bunches of 6 bananas...

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

➕	✔	➖
	...etty good about my	I felt a lot of the math in this project was too hard ...ne to do alone.

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
Circle the statement you most agree with.

I am ready for something harder.

This was just right.

I found this very ...

Rubric and Reflection Self-Evaluation.

TABLE OF CONTENTS

THANK YOU FOR PURCHASING THIS COMMON CORE KINGDOM DIGITAL RESOURCE!

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FOR THE TEACHER

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SUPERMARKET SPREE

Your parents have given you the responsibility of going to the supermarket and purchasing all the food and necessary items your family will need for the week. It is your job to budget for all the items, compare costs of similar items, analyze sales prices, and make other decisions about your family's grocery purchase.

Here are your tasks:

- Read through the entire packet before beginning.

- Count money to determine your shopping budget.

- Estimate the cost of the items your family members want you to purchase.

- Help your sister calculate how much money she has in her piggy bank.

- Determine the price of items at the supermarket by counting coins and calculating coupons and sales.

- Solve one- and two-step word problems about item prices.

- Keep track of how much money you are spending to ensure you don't go over budget.

- Complete the challenge pages. (Optional)

- Complete the self-reflection and evaluation rubric.

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.

2 – $20 bills	3 – $10 bills	4 – $5 bills	4 – $1 bills	3 quarters	4 dimes	3 nickels	6 pennies
_____	_____	_____	_____	_____	_____	_____	_____

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

2. The total budget for my supermarket shopping trip is _____
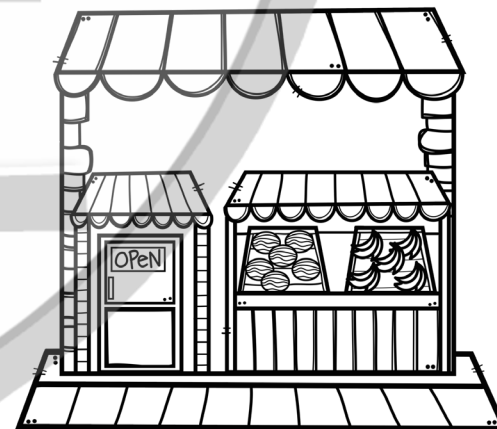
MOM'S GROCERY LIST

Different people in your family have given you lists of things they need from the store. Below is the list of items Mom wants. Estimate what you think the cost of each item may be. Then, find the total estimate.

Item	My Estimate
1 gallon of milk	$ _____ . _____
1 loaf of bread	$ _____ . _____
1 fish	$ _____ . _____
1 jar of peanut butter	$ _____ . _____
2 pounds of cherries	$ _____ . _____
TOTAL	$ _____ . _____

BUDGET CHECK #1

It's important that you keep track of the budget to make sure you have enough money to buy all the items. In the table below, fill in your estimate for Mom's groceries from the previous page. Calculate how much money you estimate you will have left after getting Mom's items.

Person's Groceries	Estimated Cost	Estimated Total Cost
Mom		
Grandma		
Dad		
Julia		

Final Amount Remaining $95.36 – ☐ = ☐

Starting Budget   Estimated Total Cost   Money Remaining

GRANDMA'S RECIPE

Your grandmother needs the ingredients to make 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.
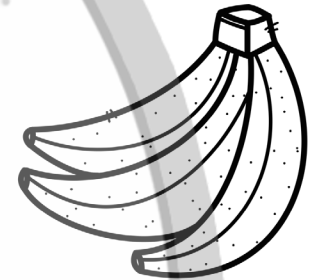
grandma's special banana bread

Ingredients
3 ripe bananas, mashed
⅔ cup sugar
1 egg
¼ cup melted butter
1 ½ 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. 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 is a list of some items Dad could use for his cookout and what you estimate they might cost. Circle 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.
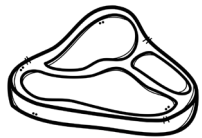
2 steaks
$18.45

1 chicken
$8.95

2 ears of corn
$3.10

Sausage links
$5.85

Quart of lemonade
$1.99

1 pound shrimp
$13.89

4 turkey legs
$16.15

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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JULIA'S PIGGY BANK

Your sister, Julia, has been doing odd jobs for the neighbors after school, and she has been saving up the money she has earned in her piggy bank. Answer the questions below.

1. Julia has walked your neighbor's dog every day for the past 3 days. Each day, she is paid $5.15. How much has Julia earned dog walking?

2. Julia earned $12 by weeding Mrs. Morrison's garden. She spent $6.26 on a new book and $3.47 on some snacks one day at the store. How much money from weeding does Julia have left?

3. Your parents give Julia a quarter each day she makes her bed. She has made her bed 7 times in the last two weeks. How much money does Julia have from making her bed? Write a multiplication equation and solve.

4. How much money does Julia have in total?

5. Julia gives you a shopping list that she estimates will cost $18.60. How much money will she have left over after?
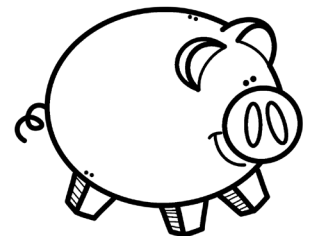
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PRODUCE AISLE

You have arrived at the grocery store! Your first stop is the produce aisle. From this aisle, you need to buy two pounds of cherries for Mom and a bunch of bananas for Grandma. Answer the questions below.

1. There are three different types of cherries to choose from. Fill in the missing prices below.

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    Cost: $3.79 per pound

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    Morello Cherries
    Cost: 21¢ more per pound than Bing cherries. They cost _____ per pound.

2. You call your mom to ask which type of cherries to buy. She tells you to buy two pounds of the most expensive cherries. You pick _____ cherries that cost _____ per pound. The total price of the cherries is _____ .

3. There is a sale on bananas today. Each banana costs 27¢. If you buy two bunches of 6 bananas each, how much will it cost?

4. How much did you spend in total in the produce aisle?

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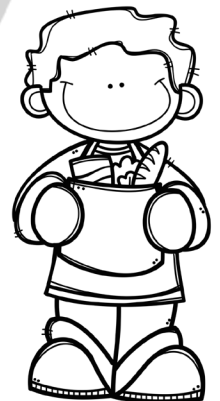
BUDGET CHECK #8

In the table below, copy the data for how much you spent so far from Budget Check #7. Next, fill in the cost of the items you purchased in the refrigerated section. Calculate how much money you have left to do the rest of the shopping.

Category	Cost	Total Running Cost
Produce Aisle		
Dad's Cookout		
Dried Goods		
Refrigerated Goods		
At the Checkout		

Final Amount Remaining

$95.36	−		=	
Starting Budget		Total Running Cost		Money Remaining

CHALLENGE #1: CHECKING OUT

You are waiting in the checkout line to pay for your groceries. Answer the questions.

1. The total of the customer in front of you is $34\frac{2}{5}$ dollars, plus $3\frac{17}{20}$ dollars in tax. The customer gives the cashier two $20 bills. How much change does the cashier owe the customer?

2. Four kids in the next line over are discussing how they can evenly split the price of their purchase. Their total was $27.52. They each want to pay an equal amount. How much should each kid pay?

3. Cash register 1 has $89.30 in its cash drawer. This is 10 times as much as in the cash drawer of register 2, and $\frac{1}{10}$ as much as in the cash drawer of register 3. How much cash is in registers 2 and 3 in all?

4. As a customer is leaving, he puts some change in a donation jar. When you look in the donation jar, you see the following coins. Calculate how much money is in the donation jar.

Type of Coin	Quarter	Dime	Nickel	Penny
Number in Jar	26	39	42	59

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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_____

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_____

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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Good to Go

Not O.K.

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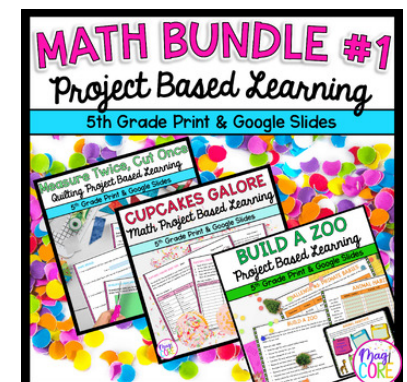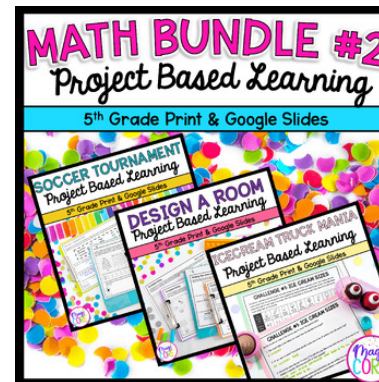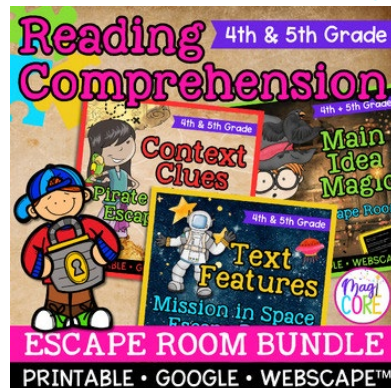
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