

ICE CREAM TRUCK MANIA

Project Based Learning

1st Grade
Print & Digital

HUNGRY CUSTOMERS

It's Saturday, so you take your ice cream truck to the park. Many customers purchase ice cream. Then, you...

CHALLENGE #1: ICE CREAM SIZES

Sometimes, customers are very hungry and want a large ice cream. Other customers aren't very hungry and only want a small ice cream. Use a ruler to measure the height of each ice cream to the nearest inch. Fill in the...

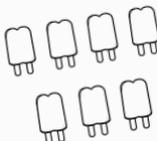
ICE CREAM SUPPLY

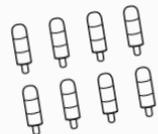
First, determine how many of each ice cream you have in the freezer of your truck. Each frozen treat is shown as a counting on problem. Find the sum. This will tell you how many of each ice cream you have.

1
5 +  = _____

2
2 +  = _____

3
8 +  = _____

4
4 +  = _____

5
12 +  = _____

6
15 +  = _____

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Standards Addressed:



- 1.OA.A.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20.
- 1.OA.B.4 Understand subtraction as an unknown-addend problem.
- 1.OA.C.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10.
- 1.NBT.B.2 Understand that the two digits of a two-digit number represent amounts of tens and ones.
- 1.NBT.C.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10.
- 1.NBT.C.6 Subtract multiples of 10 in the range 10–90 from multiples of 10 in the range 10–90.
- 1.MD.A.2 Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end.
- 1.MD.B.3 Tell and write time in hours and half-hours using analog and digital clocks.

Print & Digital Versions

ICE CREAM SUPPLY

First, determine how many of each ice cream you have in the freezer of your truck. Each frozen treat is shown as a counting on problem. Find the sum. This will tell you how many of each ice cream you have.

1

$$5 + \begin{array}{c} \text{ice cream} \\ \text{ice cream} \end{array} = \underline{\quad}$$

3

$$8 + \begin{array}{c} \text{ice cream} \\ \text{ice cream} \end{array} = \underline{\quad}$$

5

$$12 + \begin{array}{c} \text{ice cream} \\ \text{ice cream} \\ \text{ice cream} \\ \text{ice cream} \end{array} = \underline{\quad}$$

2

$$2 + \begin{array}{c} \text{ice cream} \\ \text{ice cream} \\ \text{ice cream} \\ \text{ice cream} \end{array} = \underline{\quad}$$

4

$$\begin{array}{c} \text{ice cream} \\ \text{ice cream} \\ \text{ice cream} \\ \text{ice cream} \end{array} = \underline{\quad}$$

ICE CREAM SUPPLY

First, determine how many of each ice cream you have in the freezer of your truck. Each frozen treat is shown as a counting on problem. Find the sum. This will tell you how many of each ice cream you have.

1

$$5 + \begin{array}{c} \text{ice cream} \\ \text{ice cream} \end{array} = \boxed{\quad}$$

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$$8 + \begin{array}{c} \text{ice cream} \\ \text{ice cream} \end{array} = \boxed{\quad}$$

4

$$4 + \begin{array}{c} \text{ice cream} \\ \text{ice cream} \\ \text{ice cream} \\ \text{ice cream} \end{array} = \boxed{\quad}$$

5

$$12 + \begin{array}{c} \text{ice cream} \\ \text{ice cream} \\ \text{ice cream} \\ \text{ice cream} \end{array} = \boxed{\quad}$$

6

$$15 + \begin{array}{c} \text{ice cream} \\ \text{ice cream} \\ \text{ice cream} \\ \text{ice cream} \end{array} = \boxed{\quad}$$

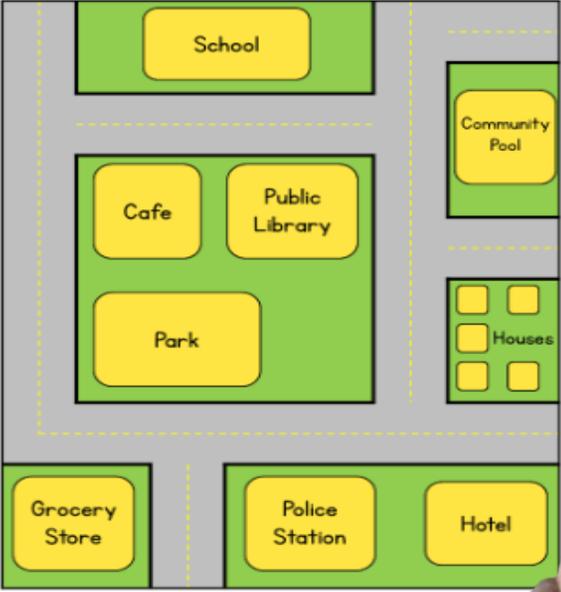


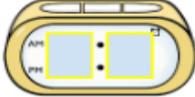
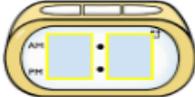
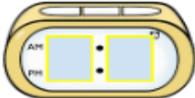
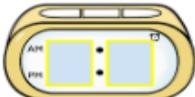
Digital Version Includes Interactive Movable Pieces

ICE CREAM TRUCK STOP SCHEDULE

You decide to bring your ice cream truck to the neighboring town, Mapledale, on Saturdays between 10 am and 12 pm. Below is a map of Mapledale. Choose 4 new stops for your ice cream truck in Mapledale. Pick locations that you think will attract many customers. Drag to label. On the table, create a schedule for the Mapledale stops. The stop times you can choose from are: 10:00, 10:30, 11:00, 11:30, and 12:00.

Drag me 



Stop	Time	Show on Clock
#1		
#2		
#3		
#4		

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Explores Various Standards-Based Skills

HUNGRY CUSTOMERS

It's Saturday, so you take your ice cream truck to the neighboring town of Mapledale. The clipboard below shows how many customers purchased ice cream at four different stops. Plot the data on the bar graph by shading each bar.



COUNTING MONEY

An important part of running the ice cream truck is keeping track of the money. The prices of some treats are in the table. Use the information to answer the questions below.

Ice Cream Type	Chocolate sprinkle cone	Blue raspberry popsicle	Soft serve swirl cone	Pistachio cone	Patriotic pop
Price	\$4	\$2	\$3	\$3	\$2

- Jeannette buys a soft serve swirl cone, a patriotic pop, and a blue raspberry popsicle. How much does Jeannette need to pay? Use the shape tool to draw a diagram to show your thinking.
- Emilio buys a pistachio cone and one other ice cream. He spends \$7. What other ice cream did Emilio buy? Explain how you know.
- Mr. Petrakis is buying ice cream for his family. He has \$8 to spend. He needs to buy an ice cream for himself and his two children. What combination of ice creams can Mr. Petrakis buy?
- You have an ice cream sale. Each type of ice cream is one dollar off. How much does each ice cream cost now?



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Challenge Activities for Enrichment & Differentiation

CHALLENGE #2: ICE CREAM

Your ice cream truck is such a success that you decide to create your own line of problems.

1. You made butter ice cream. How many scoops did you make?

2. To produce cream that is 10 scoops tall, you need 5 scoops of vanilla and 5 scoops of chocolate. How many scoops of vanilla do you need?

3. You started with 10 scoops. Then, you sold 3 scoops. How many scoops do you have left?

4. In one week, you sold 10 scoops. In another week, you sold 15 scoops. How many scoops did you sell in total?

CHALLENGE #2: ICE CREAM

The table below shows how many containers of each ice cream flavor you sold. Use the clues to determine the missing numbers.

Ice Cream Flavor	Raspberry Dragon Fruit	Cinnamon Apple Cobbler	Brownie Batter Explosion
Number of Containers Sold			8

Clues:

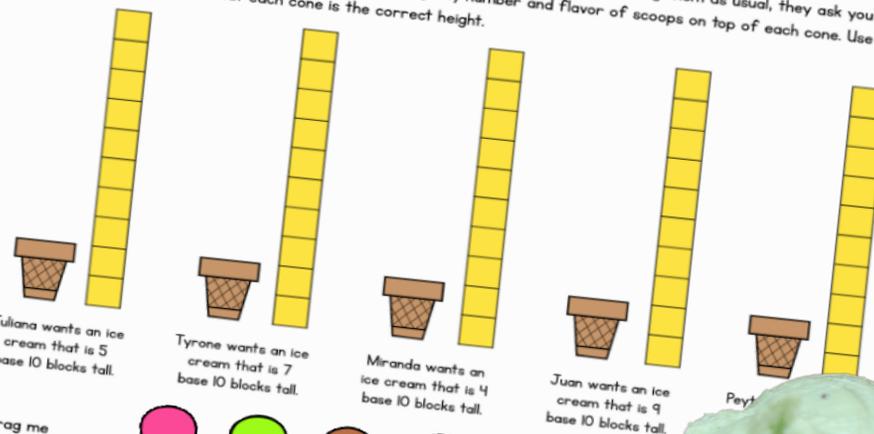
- You sold 9 more containers of Strawberry Cheesecake Delight than Brownie Batter Explosion.
- You sold 4 containers less of Rainbow Sherbet than Almond Coconut Crunch.
- You sold 2 containers less of Raspberry Dragon Fruit than Strawberry Cheesecake Delight.
- The number of containers of Mango Vanilla Swirl you sold is equal to the sum of Rainbow Sherbet and Strawberry Cheesecake Delight.
- The number of Cinnamon Apple Cobbler containers sold minus Brownie Batter Explosion containers sold.

Use this area to show your work

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CHALLENGE #1: ICE CREAM SIZES

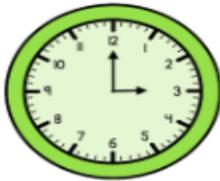
Five customers order ice cream cones from the truck. However, instead of ordering them as usual, they ask you to make ice cream cones that are a certain height! Drag any number and flavor of scoops on top of each cone. Use the base 10 blocks to ensure that each cone is the correct height.



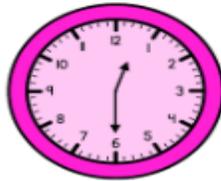
Real-Life Math Skills

ICE CREAM TRUCK STOP SCHEDULE

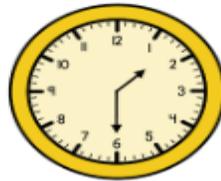
The clocks below show at what time the truck makes stops on different streets each afternoon. Use the clocks to answer the questions.



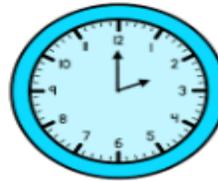
Fieldstone Lane



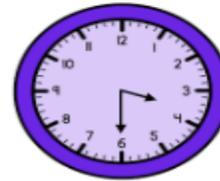
Highland Street



Poplar Drive



James Avenue



Oak Circle

1. Do the clocks show time in AM or PM? How do you know?

2. At what time does the ice cream truck stop on Poplar Drive?

3. Due to traffic, the ice cream truck arrives a half hour late to Oak Circle. What time does the truck arrive?

4. Drag the streets to place them in order from the earliest stop to the latest stop.

Fieldstone Lane

James Avenue

Highland Street



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Student Self-Assessment



SELF EVALUATION

Circle 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 problems.	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

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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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FOR THE TEACHER

ICE CREAM TRUCK MANIA is a project-based learning task that involves using first grade math standards to solve problems related to running an ice cream truck. It was created for students in first grade. The following standards are addressed:

- 1.OA.A.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20.
- 1.OA.B.4 Understand subtraction as an unknown-addend problem.
- 1.OA.C.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10.
- 1.NBT.B.2 Understand that the two digits of a two-digit number represent amounts of tens and ones.
- 1.NBT.C.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10.
- 1.NBT.C.6 Subtract multiples of 10 in the range 10–90 from multiples of 10 in the range 10–90.
- 1.MD.A.2 Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end.
- 1.MD.B.3 Tell and write time in hours and half-hours using analog and digital clocks.

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.

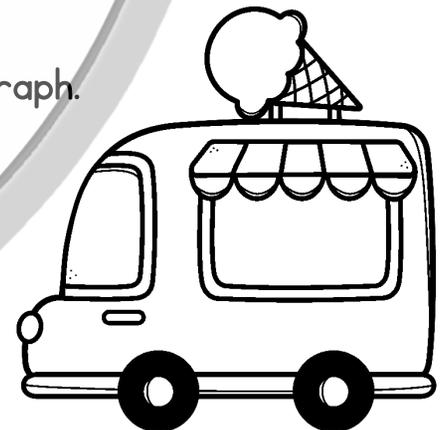


ICE CREAM TRUCK MANIA

You have been hired to run an ice cream truck! It is your job to stock the ice cream truck with tasty treats, keep track of the money you earned, and serve delicious ice cream to the community in a timely manner!

Here are your tasks:

- Read through the entire packet before beginning.
- Determine how many of each ice cream treat you have in your truck.
- Keep track of your ice cream inventory as you make sales and receive new shipments.
- Place orders for new ice cream treats.
- Answer questions about the ice cream truck's stop schedule.
- Determine a new schedule for the ice cream truck.
- Keep track of the money earned by the ice cream truck.
- Analyze data about the daily profits of the ice cream truck.
- Interpret data about ice cream truck customers from a picture and bar graph.
- Plot data about ice cream truck customers on a bar graph.
- (Optional) Complete the challenge pages.
- Complete the self-reflection and evaluation rubric.

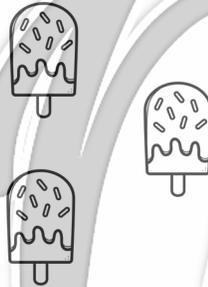


ICE CREAM SUPPLY

First, determine how many of each ice cream you have in the freezer of your truck. Each frozen treat is shown as a counting on problem. Find the sum. This will tell you how many of each ice cream you have.

1

5 +



=

2

2 +



=

3

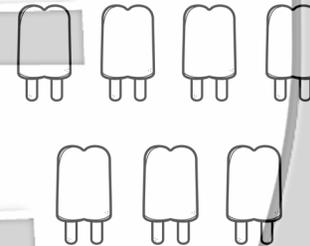
8 +



=

4

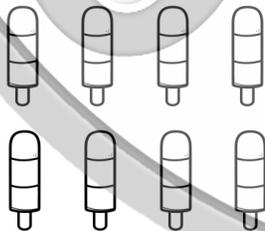
4 +



=

5

12 +



=

6

15 +



=

ICE CREAM SUPPLY

You receive an order from your ice cream supplier to stock your truck. The table below shows how many of each ice cream type you have. Use the information in the table to answer the questions.

Ice Cream Type	 Chocolate sprinkle cone	 Blue raspberry popsicle	 Soft serve swirl cone	 Pistachio cone	 Patriotic pop
Number in Truck	25	30	36	40	60

- You receive an additional shipment of 18 blue raspberry popsicles. How many blue raspberry popsicles do you have now?
- How many chocolate sprinkle cones and soft serve swirl cones do you have in all?
- You sell 20 pistachio cones. How many pistachio cones do you have left? Draw a diagram to show your thinking.
- Your freezer breaks, and 30 patriotic pops melt. You throw away the melted pops. How many patriotic pops do you have left?



ICE CREAM TRUCK STOP SCHEDULE

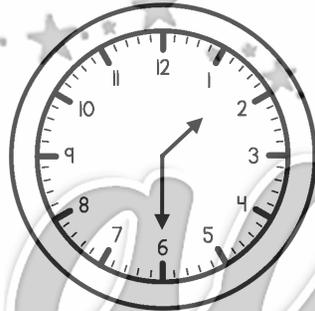
The clocks below show at what time the truck makes stops on different streets each afternoon. Use the clocks to answer the questions.



Fieldstone Lane



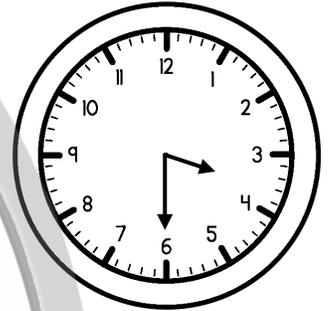
Highland Street



Poplar Drive



James Avenue



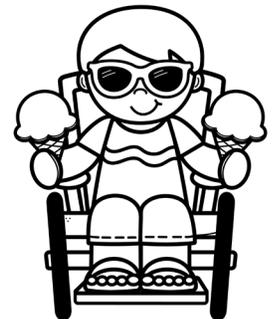
Oak Circle

1. Do the clocks show time in AM or PM? How do you know?
2. At what time does the ice cream truck stop on Poplar Drive?
3. Due to traffic, the ice cream truck arrives a half hour late to Oak Circle. What time does the truck arrive?
4. Number the streets to order them from the earliest stop (1) to the latest stop (3).

James Avenue

Highland Street

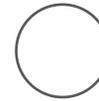
Fieldstone Lane



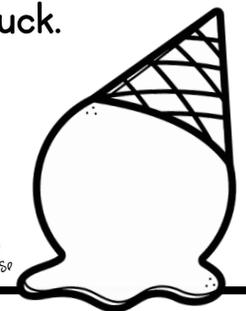
COUNTING MONEY

You are counting your profits after a busy summer day. Answer the questions about the money you earned.

5. Below you can see how much money you earned from selling each type of ice cream. Complete the number comparisons. Fill in the blank with the correct symbol $<$, $>$, or $=$.



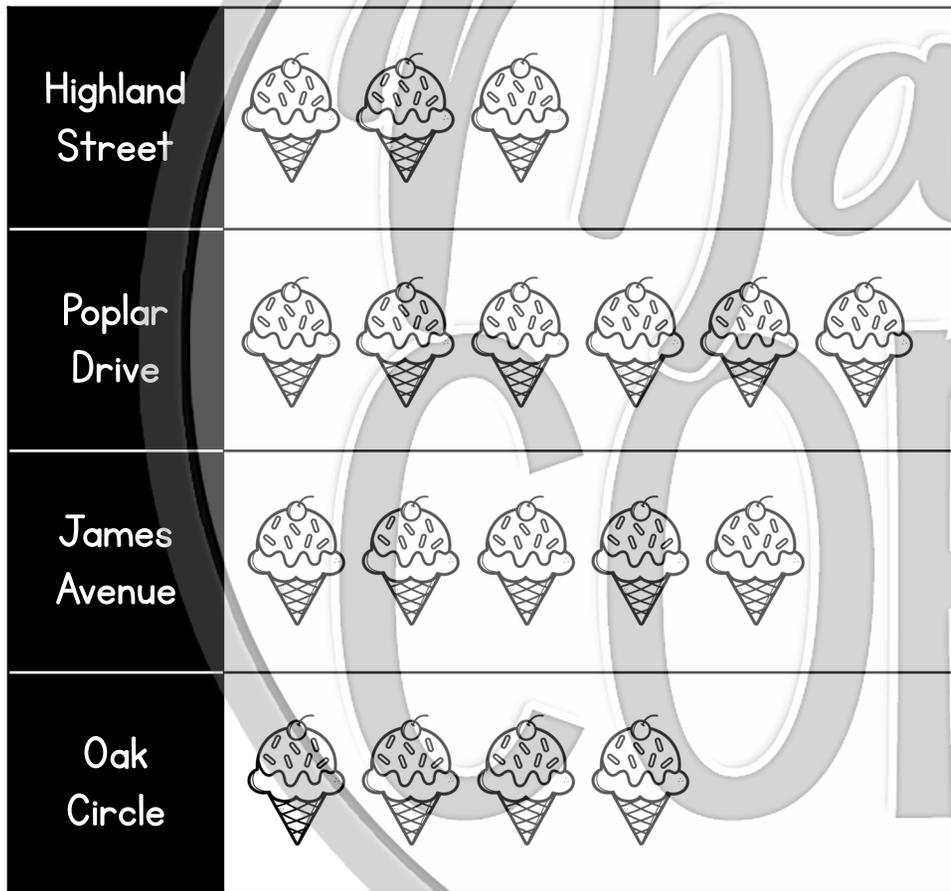
6. Yesterday, you earned \$30 more selling pistachio cones than you did today. How much did you earn yesterday on pistachio cones?
7. You take \$50 of your profits from selling chocolate sprinkle cones to pay for gas for the truck. How much money from chocolate sprinkle cones do you have left?



HUNGRY CUSTOMERS

The pictograph below shows how many people purchased ice cream from the truck at each stop today. Use the data in the pictograph to answer the questions.

NUMBER OF CUSTOMERS PER STOP



 = 1 customer

1. How many customers purchased ice cream at the James Avenue stop?
2. How many more people purchased ice cream at Poplar Drive than Highland Street?
3. There were 3 more customers at the Fieldstone Lane stop than at the Oak Circle stop. How many people bought ice cream at Fieldstone Lane?
4. How many customers bought ice cream from all the stops listed on the pictograph together?

CHALLENGE #1: ICE CREAM SIZES

Sometimes, customers are very hungry and want a large ice cream. Other customers aren't very hungry and only want a small treat. Cut out and stack the base 10 blocks to measure the height of each ice cream. Fill in the table with the data.



Strawberry soft serve



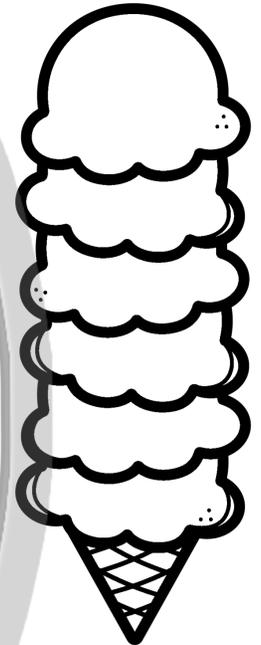
Tropical fruit popsicle



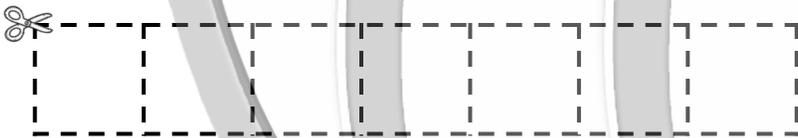
Blueberry popsicle



Chocolate mini cone



Rainbow scoop stack

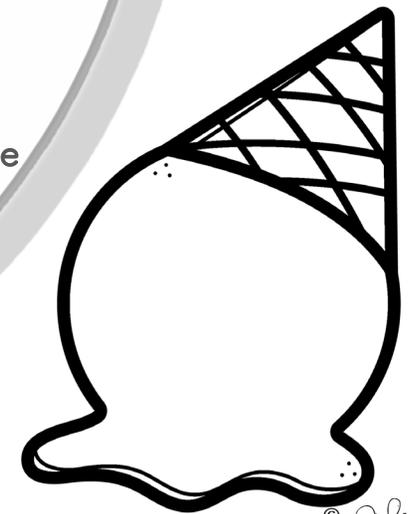


Ice Cream Type	Strawberry soft serve	Tropical fruit popsicle	Blueberry popsicle	Chocolate mini cone	Rainbow scoop stack
Height in Base 10 Blocks					

CHALLENGE #2: ICE CREAM FLAVORS

Your ice cream truck is such a success that you decide to create your own line of ice cream flavors. Answer the word problems.

1. You made 8 containers of chocolate marshmallow ice cream. You made 11 more containers of peanut butter ice cream than chocolate marshmallow. How many containers of peanut butter ice cream did you make?
2. To produce one batch of cherry pie ice cream, you need 5 gallons of milk. You need 6 more gallons of cream than milk. How much cream do you need to make a batch of cherry pie ice cream?
3. You start by producing 14 flavors of ice cream. Two flavors don't sell well so you stop making them. Then, you introduce 4 new flavors. How many flavors of ice cream are you making now?
4. In one week, you sell 24 containers of birthday cake ice cream. You sell 13 more containers of Georgia peach ice cream than birthday cake. You sell 6 more containers of strawberry frozen yogurt than Georgia peach ice cream. How many containers of strawberry frozen yogurt do you sell in a week?



CHALLENGE #3: TOPPING GALORE

The menu board below shows the base price of each ice cream, plus how much extra each topping costs. Use the prices on the menu to answer the questions.

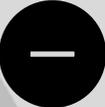
MENU	
Ice cream	90¢ per scoop
In a cup	No charge
In a cone	70¢
Cherry	30¢ each
Cookie bits	40¢
Sprinkles	50¢
Fresh fruit	60¢
Hot fudge	20¢
Caramel	30¢
Whipped cream	10¢

1. How much more do sprinkles cost than hot fudge?
2. Yusef wants caramel and whipped cream on his ice cream. How many cents will Yusef's toppings cost?
3. Daniela wants her ice cream with fresh fruit, cookie bits, and a cherry. She has a coupon for one free topping. She uses the coupon for the most expensive topping. How much do Daniela's toppings cost?
4. You have 90¢ that you want to spend on toppings for your ice cream. Name two combinations of toppings that cost exactly 90¢.



SELF EVALUATION

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

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

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Not O.K.

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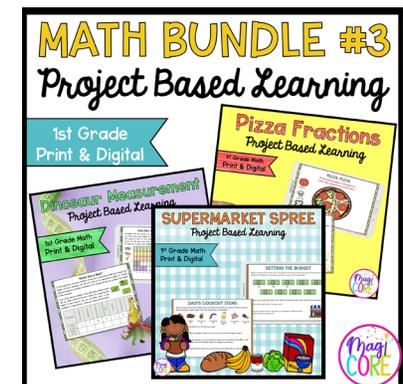
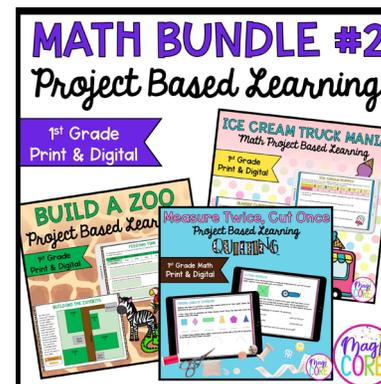
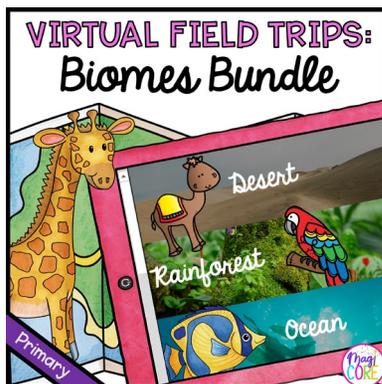


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