ICECREAM TRUCK MANIA

Project Based Learning

1st Grade Print & Google Slides

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

| Highland Street | (ice cream cones) |
| Poplar Drive | (ice cream cones) |

1. How many customers purchased ice cream at the James Avenue stop?

5 customers

2. How many more people purchased ice cream at Poplar Drive than Highland Street?

3 Customers

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 ... by shading each bar. Then, use the bar graph to answer the questions on the ...

HUNGRY CUSTOMERS

Use the bar graph you made on the previous page to answer the questions below.

1. Which stops had more customers than the stop at Lake Court?

Elmwood Drive and Arbor Way

2. How many more people bought ice cream at Arbor Way than at Elmwood Drive?

2 more people

STOP

... cones. The other
... triotic pops at the

• Realistic learning situations
• Print & Go, Low Prep

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.

5 + = 8

2 + = 8

ICE CREAM SUPPLY

You want to feature more flavors and types of treats in your menu. Below are new types of ice cream you can order to stock your truck. You want to order exactly 100 new treats. Determine how many of each type you would like, and fill in the space in the table. Keep track of how many you have ordered to be sure you reach exactly 100.

Ice Cream Type	Number Ordered	Running Total of Treats Ordered
Green apple popsicle		
Rainbow scoop stack		
Very berry soft serve swirl		

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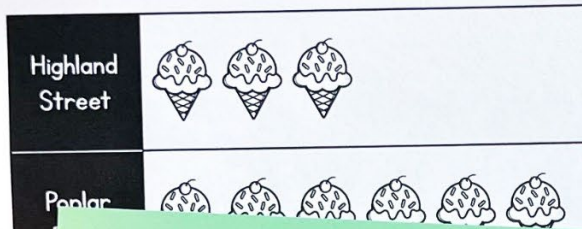
Ice Cream Type	Chocolate sprinkle cone	Blue raspberry popsicle	Soft serve swirl cone	Pistachio cone	Patriotic pop
Number in Truck	25	30	36	40	

receive an additional shipment of 18 blue raspberry popsicles. How many blue

Meaningful practice of first grade 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
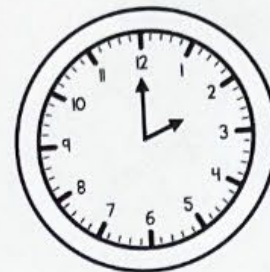
Poplar Drive

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?
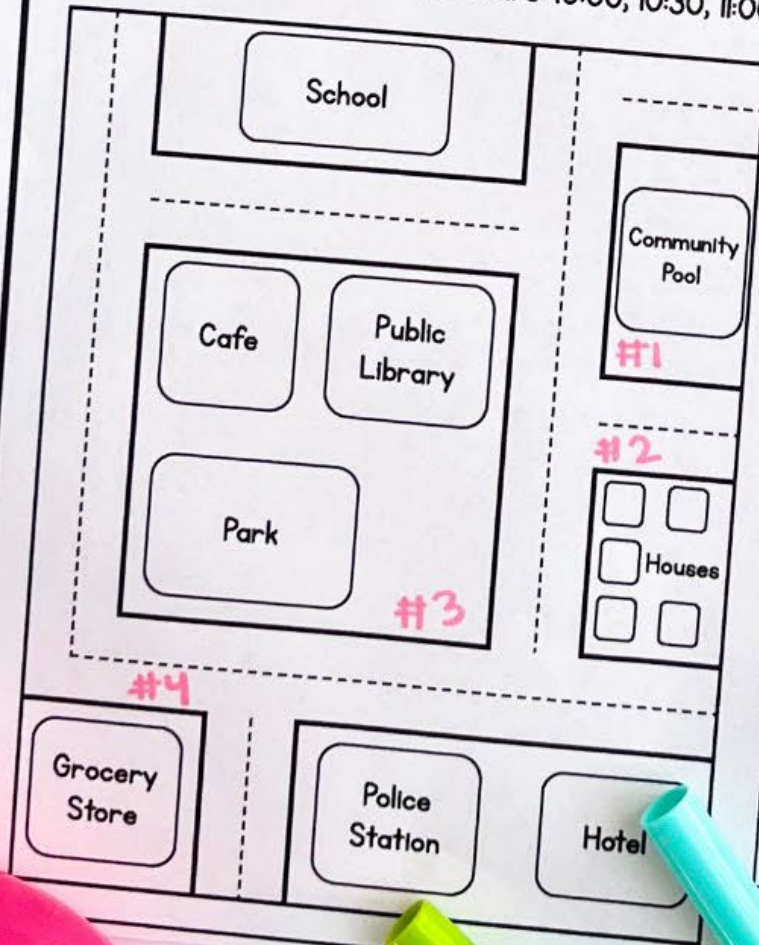
the earliest stop (1) to the latest stop (3).

ICE CREAM TRUCK STOP SCHEDULE

You decide to bring your ice cream truck to the neighbo
Below is

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. Label each stop on the map. On the table, create a schedule for the Mapledale stops. Pick locations that you think will attract many customers. Label each stop on the map. 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.

School

Community Pool
#1

Cafe

Public Library

#2
Houses

Park
#3

#4

Grocery Store

Police Station

Hotel

Stop	Time	Show on Clock
#1	10:00	AM/PM 10:00
#2	10:30	AM/PM 10:30
#3	11:00	AM/PM 11:00
#4	11:30	AM/PM 11:30

...producing 14 flavors of ice cream. Two flavors d...
...ed to make a batch of ch...
...3 gallons of

16 flavors

4. In one week, you sell
contain...

...en, you introduce 4 new flavors. How many flavo...

CHALLENGE #1: ICE CREAM SIZES

F... customers order ice cream cones from the truck. However, instead of ordering them as usual, they ask ...
make ice cream cones that are a certain height! Draw any number of scoops on top of each cone to reach th...
desired height. Use the base 10 blocks to ensure that each cone is the correct height. Color your ice cream s...
cones.
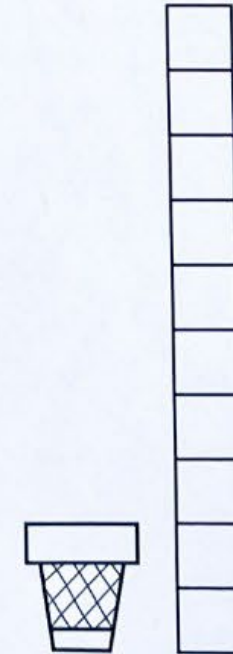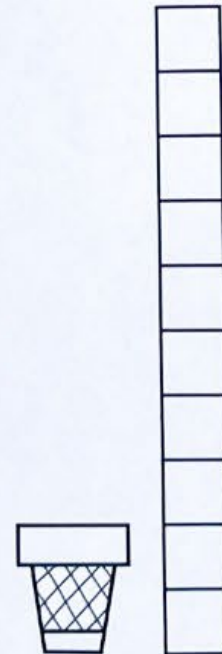
...da wants an
...ream that is
...se 10 blocks
tall.

Juan wants an ice
cream that is 9
base 10 blocks tall.

Peyton w...
ice cream...
6 base 10...
tall.

Challenge activities push students who are ready for a challenge.

CHALLENGE #2: ICE CREAM FLAVORS

The table below shows how many containers of each ice cream flavor you sold in one week, but some information is missing. Use the clues to determine the missing numbers from the table and fill them in.

Ice Cream Flavor	Raspberry Dragon Fruit		Brownie	Rainbow Sherbet	Mango Vanilla Swirl	Almond Coconut Crunch	Strawberry Cheesecake Delight
Number of Containers Sold	15						17

Clues:

1. You sold 9 more co[ntainers]
   Brownie Batter E[...]

2. You sold 4 conta[iners...]
   Crunch.

3. You sold 2 co[ntainers...]
   Strawberry [...]

4. The number[...]

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?

   19 containers

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?

   11 gallons

3. You start by producing 14 flavors of ice cream. Then, you introduce 4 new flavors. Two flavors don't sell well so you stop making them. How many flavors of ice cream are you making now?

   16 flavors

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 y[...]

   43 contain[ers]

Makes differentiation a breeze!

CHALLENGE #3: TOPPINGS GALORE

You want to offer some new ice cream toppings on your ice cream truck. You ask your toppings supplier which toppings are available. The table below shows how much you can purchase each topping for and how much you can sell each topping for.

Topping	Price to Purchase from Supplier	Price to Sell to Customers	Profit (How much you earn from every topping sold)
	10¢	20¢	10¢
	30¢	50¢	20¢
Marshmallows	40¢	70¢	30¢
Chocolate chips	40¢	60¢	20¢
Peanut butter sauce	50¢	90¢	40¢

...fit is how much you earn from selling each topping after ...supplier.

Digital Version in Google Slides

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.
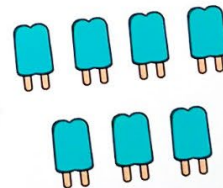
1. 5 + [ice cream images] = [ ]

2. 2 + [ice cream images] = [ ]

3. 8 + [ice cream images] = [ ]

4. 4 + [ice cream images] = [ ]
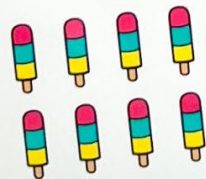
5. 12 + [ice cream images] = [ ]

6. 15 + [ice cream images] = [ ]

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.

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.
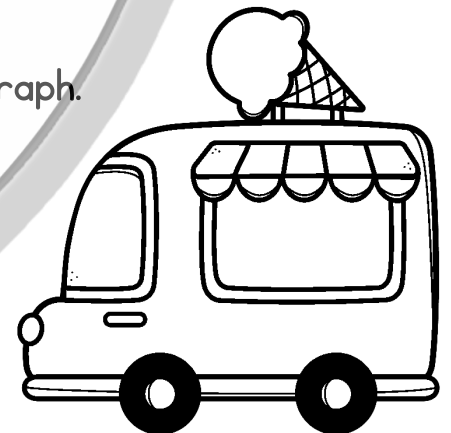
ICE CREAM TRUCK MANIA

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.

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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.
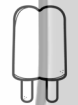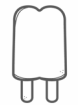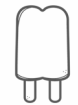
1

$5 +$ [image of popsicles] $=$ _____

2

$2 +$ [image of ice cream cones] $=$ _____

3

$8 +$ [image of ice cream cones] $=$ _____

4

$4 +$ [image of popsicles] $=$ _____

5

$12 +$ [image of popsicles] $=$ _____

6

$15 +$ [image of ice cream cones] $=$ _____

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

7. You receive an additional shipment of 18 blue raspberry popsicles. How many blue raspberry popsicles do you have now?

8. How many chocolate sprinkle cones and soft serve swirl cones do you have in all?

9. You sell 20 pistachio cones. How many pistachio cones do you have left? Draw a diagram to show your thinking.

10. 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.
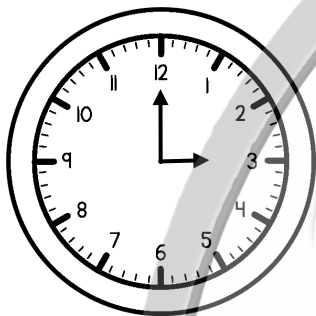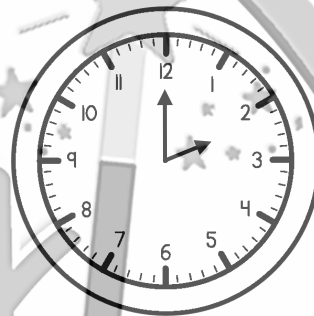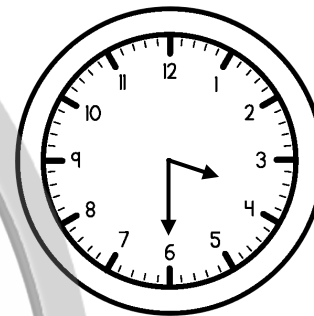
| Fieldstone Lane | Highland Street | Poplar Drive | James Avenue | Oak Circle |

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).
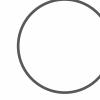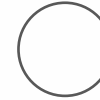
| James Avenue | Highland Street | Fieldstone Lane |
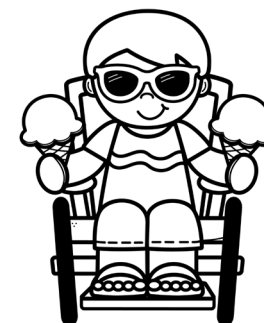
COUNTING MONEY

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 = .

$84	◯	$68		$57	◯	$54
$46	◯	$54		$46	◯	$84
$57	◯	$46		$57	◯	$68

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?
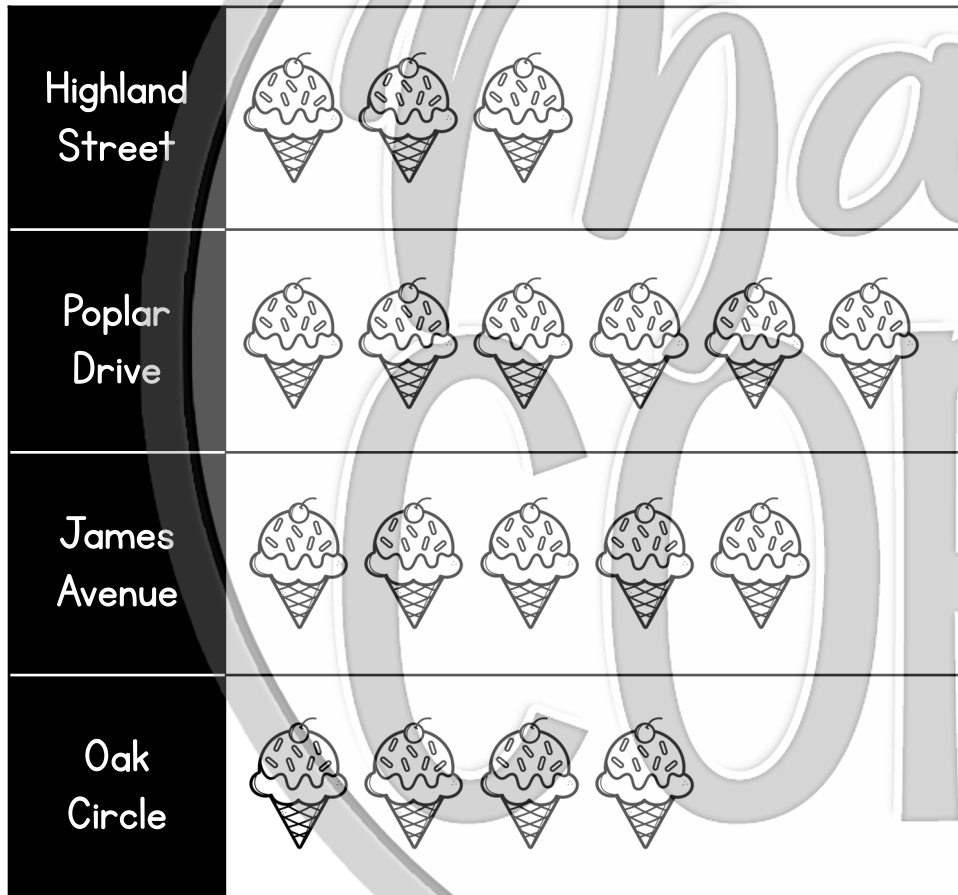
HUNGRY CUSTOMERS

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

Highland Street	🍦 🍦 🍦
Poplar Drive	🍦 🍦 🍦 🍦 🍦 🍦
James Avenue	🍦 🍦 🍦 🍦 🍦
Oak Circle	🍦 🍦 🍦 🍦

🍦 = 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.
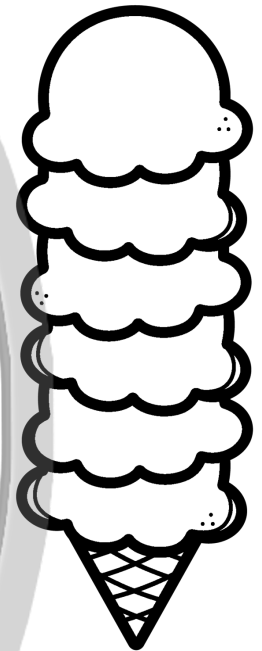
Strawberry soft serve

Tropical fruit popsicle

Blueberry popsicle
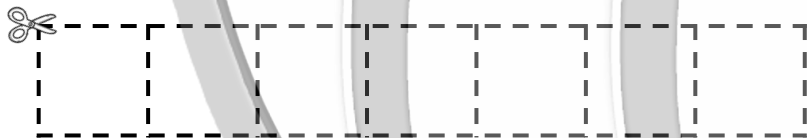
Chocolate mini cone

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?

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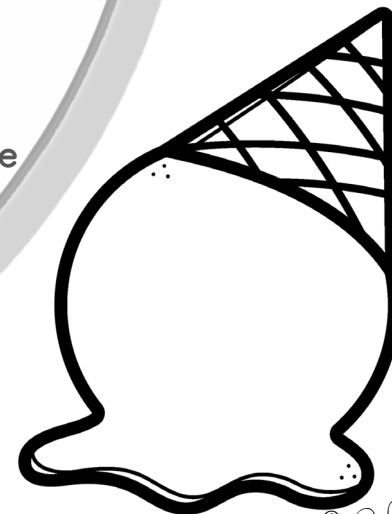
CHALLENGE #3: TOPPINGS GALORE

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¢.

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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

Circle the statement you most agree with.

I am ready for something harder.   This was just right.   I found this very challenging.

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 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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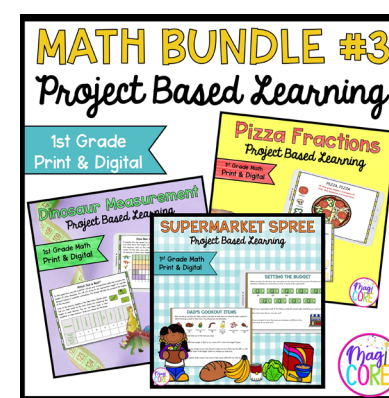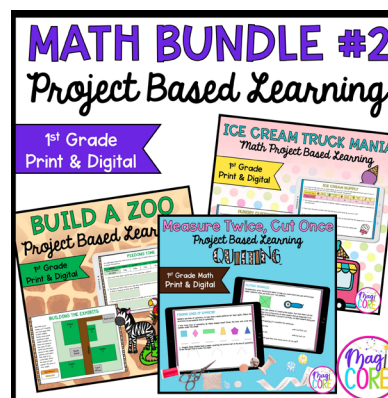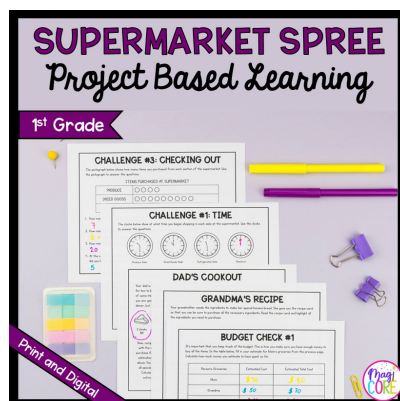
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