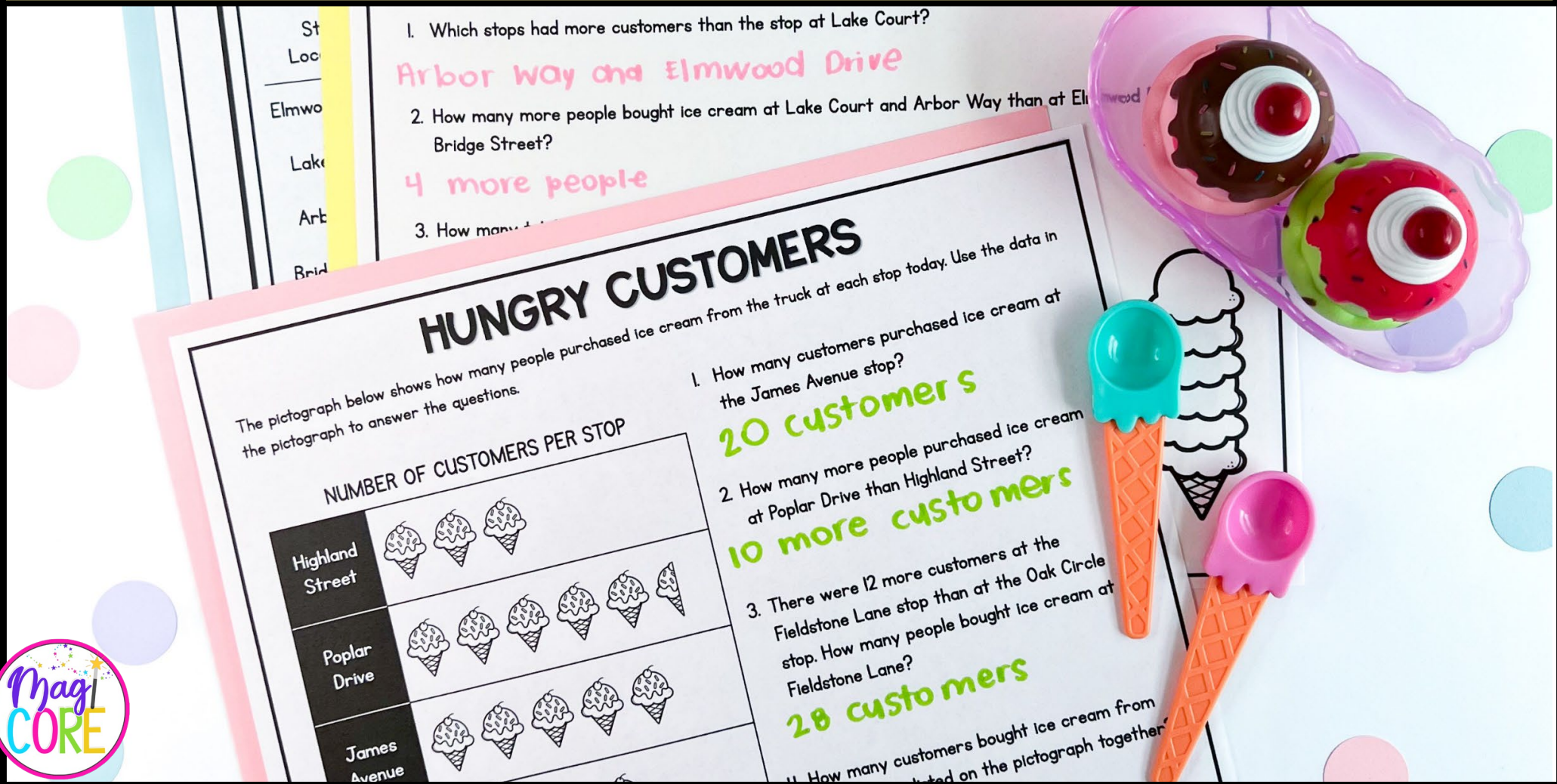
ICECREAM TRUCK MANIA

Project Based Learning

3rd Grade Print & Google Slides



CHALLENGE #1: ICE CREAM SIZES

Five customers order ice cream cones from the truck. However, instead of ordering them as usual, they ask you
make ice cream cones that are a certain height! Draw any number of scoops on top of each cone to reach the
desired height. Use the ruler to ensure that each cone is the correct height. Color your ice cream scoops and con

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 the ruler and use it to measure the height of each ice cream. Fill in the table with the data.

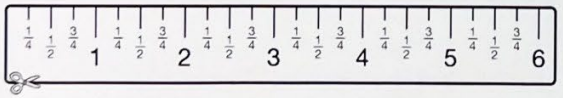
Strawberry soft serve

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
			4 in.	1½ in.	5 in.

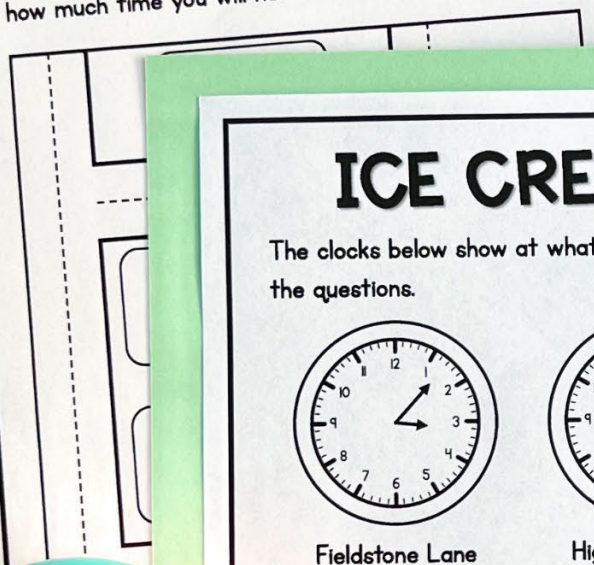
© Julie Bacher

- Realistic learning situations
- Print & Go, Low Prep

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 that you think will attract many customers. Label each stop on the map. On the table, create a schedule for the Mapledale stops. Keep in mind how much time you will need to spend at each stop and how long it will take you to travel from one stop to the next.

	Time Elapsed Since



ICE CREAM TRUCK STOP SCHEDULE

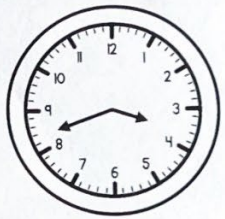
The clocks below show at what times the truck stops on different streets each afternoon. Use the clocks to answer the questions.

Fieldstone Lane

Highland Street

Poplar Drive

James Avenue



Oak Circle

1. At what time does the truck stop on Poplar Drive?

   1:53 pm

2. How much time passes between the Fieldstone Lane stop and the Oak Circle stop?

   35 minutes

3. Due to traffic one day, the ice cream truck arrives 18 minutes late to James Avenue. What time does the truck arrive?

   2:36 pm

4. You add a new stop on Valley View Way, 36 minutes before the Highland Street stop. At what time do you stop on Valley View Way?

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Meaningful practice of third grade math skills.

Promotes critical thinking and problem solving.

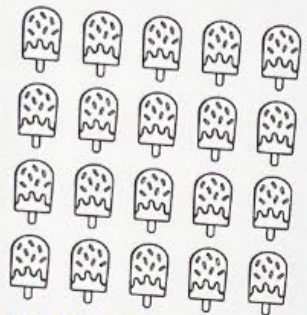
ICE CREAM SUPPLY

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 1,000 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 1,000.

Ice Cream Type	Number Ordered	Running Total of Treats Ordered
Green apple popsicle		
Rainbow scoop stack		
Very b… serv…		
O… cr…		
Le… spri…		
Me…		

ICE CREAM SUPPLY

Your first step is to determine how many of each menu item you have in the freezer of your ice cream truck. Each frozen treat is shown in an array. Write a multiplication equation about the array. Solve to find how many of each treat there are.



4X5=20

3X7=21

5X6=30

Challenge activities push students who are ready for a challenge.

CHALLENGE #1: ICE CREAM SIZES

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desired height. Use the ruler to ensure that each cone is the correct height. Color your ice cream scoops and con

Juliana
crea
in

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 the ruler and use it to measure the height of each ice cream. Fill in the table with the data.

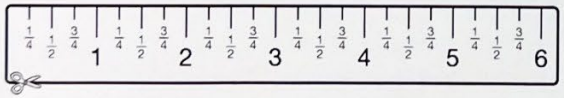
Strawberry soft serve

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

Makes differentiation a breeze!

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 of the stops. Plot the data on the bar graph below and label all necessary parts. Color each bar so it is the correct size. Then use the bar graph to answer the questions on the following page.

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?

Arbor Way and Elmwood Drive

2. How many more people bought ice cream at Lake Court and Arbor Way than at El... Bridge Street?

4 more people

3. How many...

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	

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

20 customers

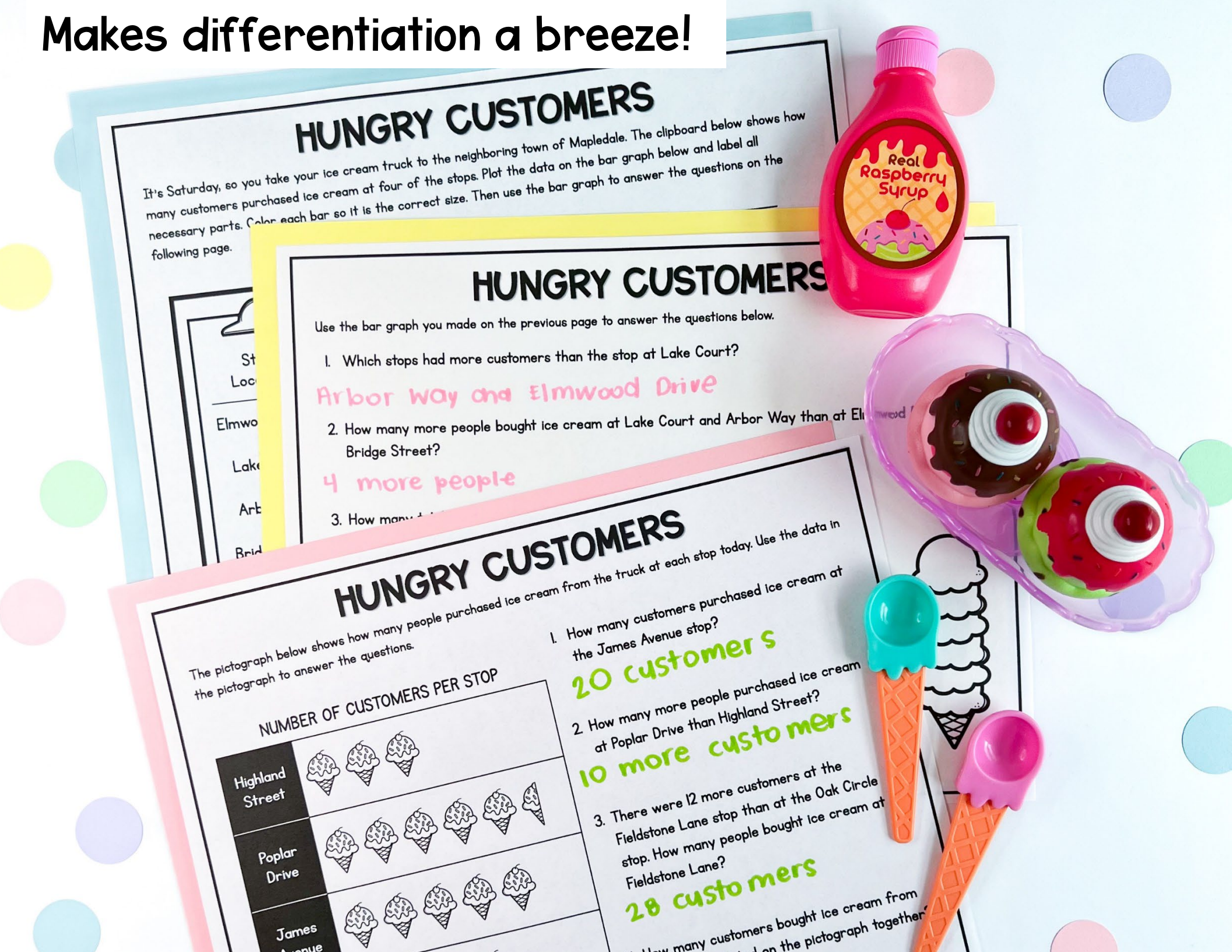
2. How many more people purchased ice cream at Poplar Drive than Highland Street?

10 more customers

3. There were 12 more customers at the Fieldstone Lane stop than at the Oak Circle stop. How many people bought ice cream at Fieldstone Lane?

28 customers

...How many customers bought ice cream from ... on the pictograph together?



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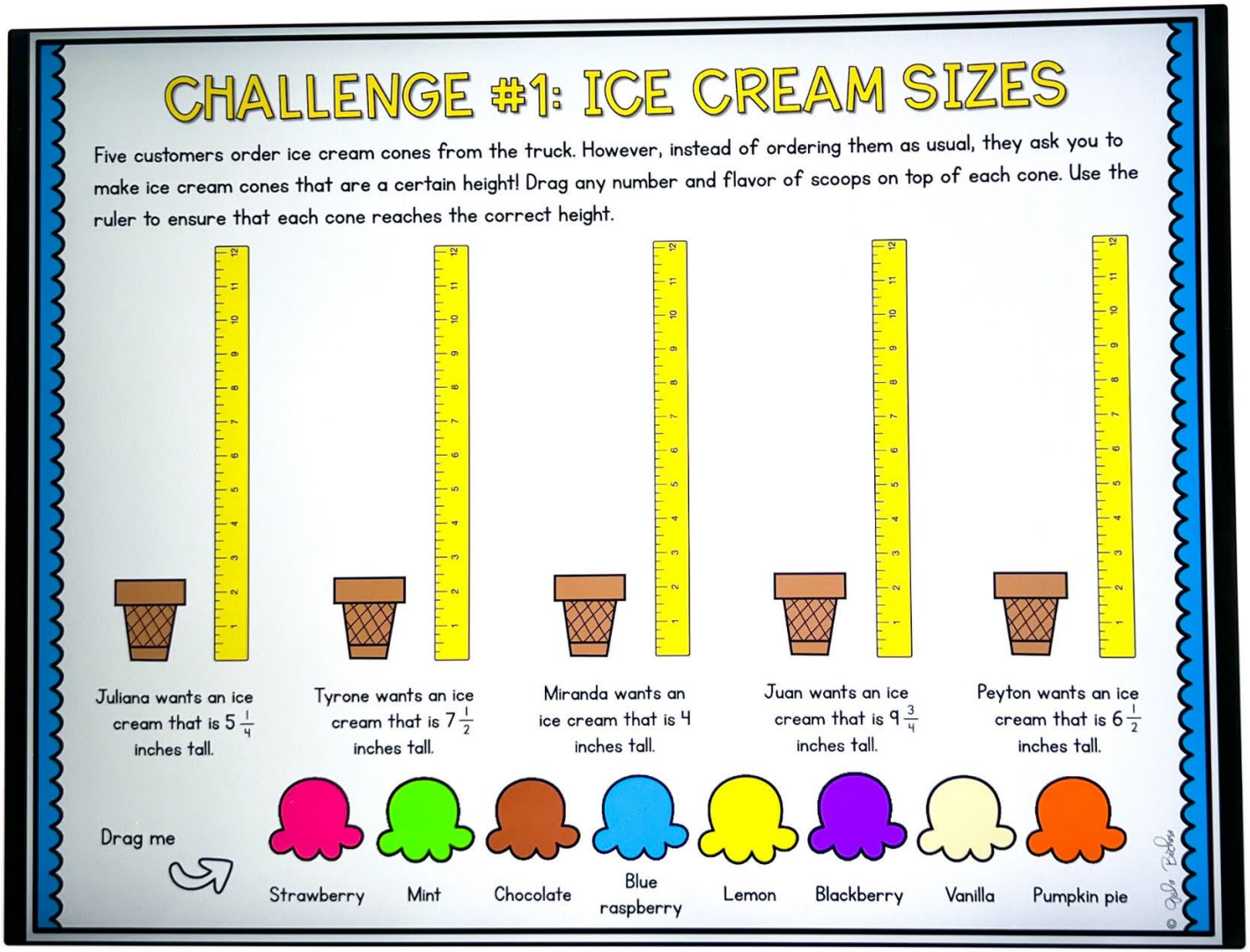

Standards Addressed:

- 3.OA.A.1 Interpret products of whole numbers
- 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.D.8 Solve two-step word problems using the four operations
- 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
- 3.MD.A.1 Tell and write time to the nearest minute and measure time intervals in minutes
- 3.MD.A.2 Measure and estimate liquid volumes and masses of objects using standard units
- 3.MD.B.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories
- 3.MD.B.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch
- 3.NF.A.3 Explain equivalence of fractions in special cases and compare fractions by reasoning about their size.

FOR THE TEACHER

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

- 3.OA.A.1 Interpret products of whole numbers
- 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.D.8 Solve two-step word problems using the four operations
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- 3.NF.A.3 Explain equivalence of fractions in special cases and compare fractions by reasoning about their size.

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.

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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 your ice cream truck running on-schedule, and serve delicious ice cream to the community!

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.
- Measure and weigh ice cream portions.
- Compare masses of ice cream portions in fractions of a kilogram.
- Calculate volumes of soft serve ice cream sold.
- Interpret data about ice cream truck customers from picture and bar graphs.
- 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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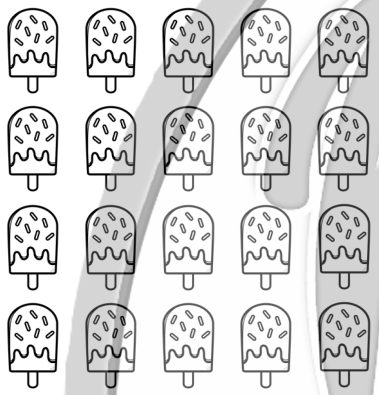
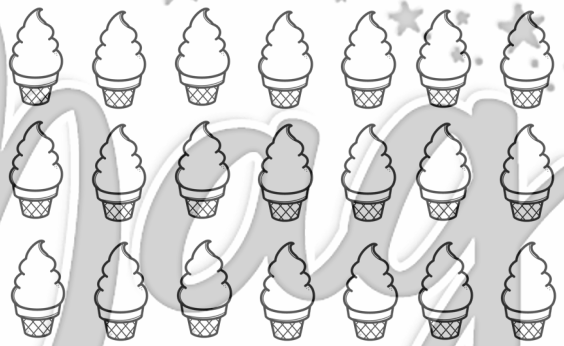
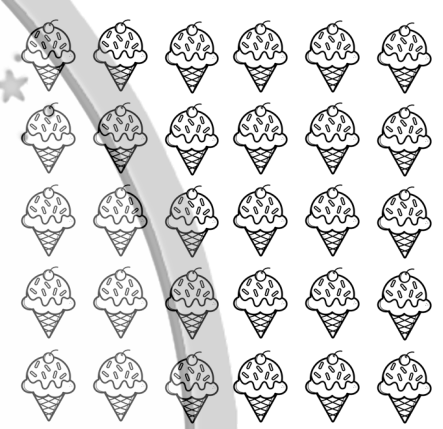
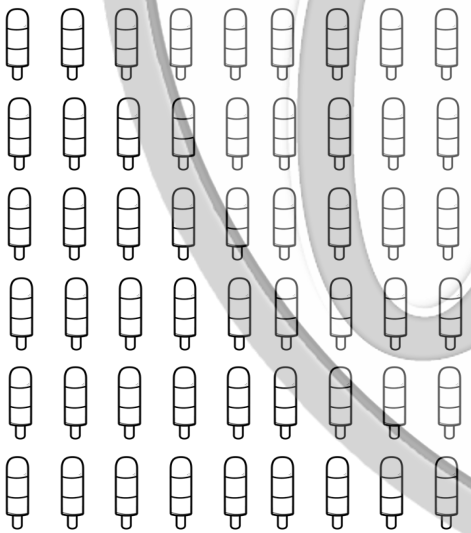
ICE CREAM SUPPLY

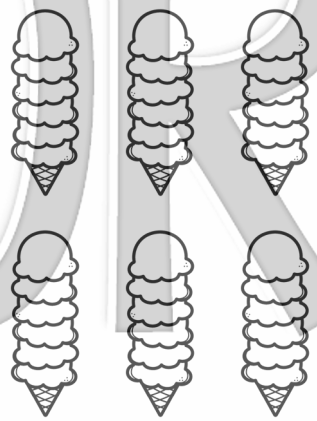
Your first step is to determine how many of each menu item you have in the freezer of your ice cream truck. Each frozen treat is shown in an array. Write a multiplication equation about the array. Solve to find how many of each treat there are.

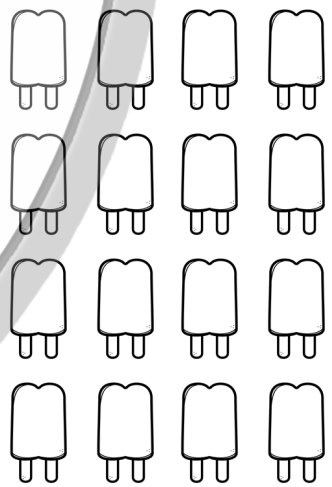












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ICE CREAM SUPPLY

You receive a large order from your ice cream supplier to stock your truck. The table below shows how many of each ice cream type you have right now. 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	585	490	320	258	164

1. During a hot week in the summer you sell 103 blue raspberry popsicles. How many blue raspberry popsicles do you have left? Write an equation to show your thinking.

2. You receive a new shipment of 98 Patriotic Pops. How many Patriotic Pops do you have now?

3. At the end of the week, you have 112 chocolate sprinkle cones left. How many chocolate sprinkle cones did you sell? Draw a picture to show your thinking.

4. You sell 68 pistachio cones. Then the freezer breaks, and 57 pistachio cones melt. You throw the melted cones away. How many pistachio cones do you have left?

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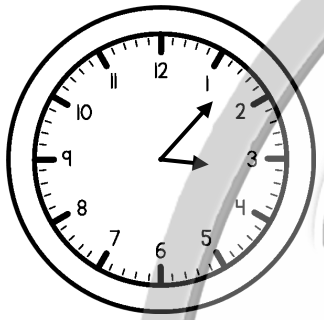
ICE CREAM TRUCK STOP SCHEDULE

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

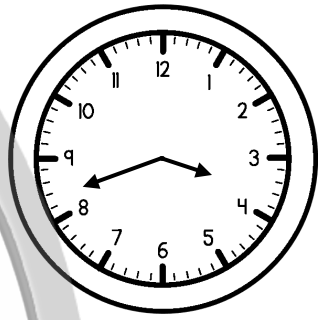


Fieldstone Lane

Highland Street

Poplar Drive

James Avenue



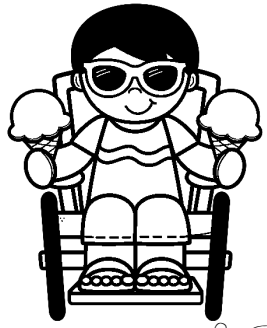
Oak Circle

1. At what time does the truck stop on Poplar Drive?

2. How much time passes between the Fieldstone Lane stop and the Oak Circle stop?

3. Due to traffic one day, the ice cream truck arrives 18 minutes late to James Avenue. What time does the truck arrive?

4. You add a new stop on Valley View Way, 36 minutes before the Highland Street stop. At what time do you stop on Valley View Way?



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MEASURING ICE CREAM

As a special promotion, you are selling mega-sized ice creams from your ice cream truck. Compare the masses of the mega ice creams by filling in the correct symbol (<, >, or =) in each comparison below.

Supersized Strawberry Sprinkle Pop

$\frac{5}{8}$ kilogram

Extra Large Lemon Cone

$\frac{5}{10}$ kilogram

Mega Mint Swirl

$\frac{3}{4}$ kilogram

Giant Cherry Popsicle

$\frac{2}{4}$ kilogram

Jumbo Double Lime Pop

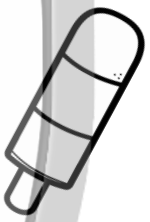
$\frac{4}{8}$ kilogram

Rainbow Mountain Stack

$\frac{1}{2}$ kilogram

Big Blueberry Pie Cone

$\frac{7}{9}$ kilogram



Towering Tropical Fruit Popsicle

$\frac{7}{8}$ kilogram

Super Sprinkle Vanilla Cone

$\frac{4}{6}$ kilogram

Colossal Chocolate Cone

$\frac{2}{3}$ kilogram

Blue Raspberry Ultra Pop

$\frac{3}{6}$ kilogram

Plentiful Pistachio Cone

$\frac{5}{6}$ kilogram

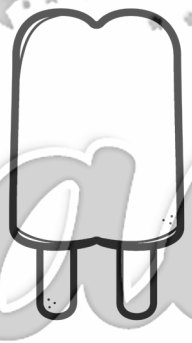
© Julie Bacheso

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 the ruler and use it to measure the height of each ice cream. Fill in the table with the data.

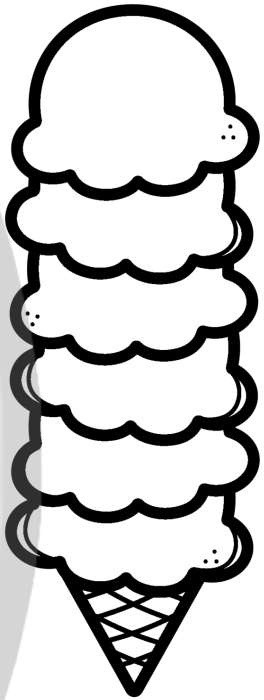
Strawberry soft serve

Tropical fruit popsicle

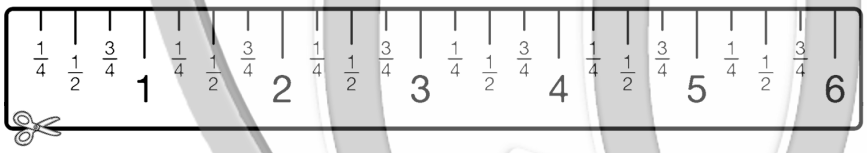


Blueberry popsicle

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 inches					

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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 two-step word problems.

1. To produce one batch of ice cream, you need 7 gallons of cream and 3 times as many gallons of milk as cream. How much milk and cream do you need altogether for one batch of ice cream?

2. In one week, you sell 45 containers of your most popular flavor, Georgia peach. You sold 5 times more containers of Georgia peach ice cream than birthday cake ice cream, and you sold 4 times more containers of strawberry frozen yogurt than birthday cake ice cream. How many containers of strawberry frozen yogurt did you sell?

3. You made 32 pints of chocolate marshmallow ice cream. Each container of ice cream you sell contains four pints. You sold half of the containers of chocolate marshmallow ice cream. How many containers are left?

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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 ....$1 per scoop

In a cup ..... No charge

In a cone .....80¢

Cherry ..... 50¢ each

Cookie bits ..... 75¢

Sprinkles ..... 60¢

Fresh fruit $1

Hot fudge .....20¢

Caramel ..... 30¢

Whipped cream ..... 15¢

1. Yusef orders two scoops of ice cream in a cone. He asks for hot fudge, whipped cream, and sprinkles. He pays for it with a $10 bill. How much change does Yusef get back?

2. Daniela wants three scoops of ice cream in a cup with fresh fruit, cookie bits, and a cherry. She has a coupon for one free topping. To which of her toppings should she apply the coupon to get the lowest price? How much will her ice cream cost after the coupon?

3. Paolo has $5. He knows he wants two scoops of ice cream in a cone. Name two different combinations of toppings Paolo can get so that he spends exactly $5.

4. What ice cream would you order? Calculate the cost of your ice cream.

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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.**

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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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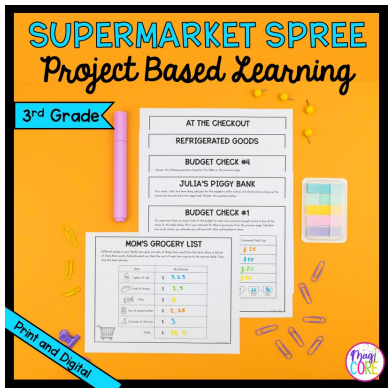

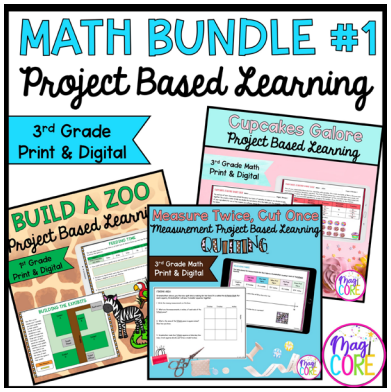

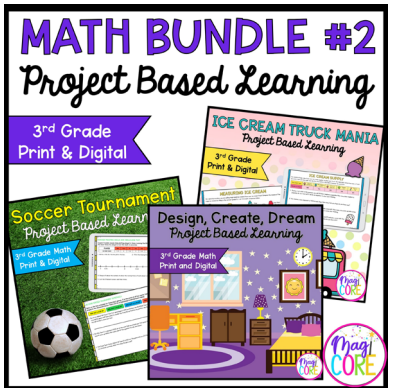

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