UNIT TWO CULMINATING TASK

PERFORMANCE TASK: ICE CREAM SCOOPS

STANDARDS ADDRESSED

MCC.3.OA.1 Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each.

MCC.3.OA.2 Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each.

MCC.3.OA.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

MCC.3.OA.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers.

MCC.3.MD.3. Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*
MCC.3.MD.4. Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.

BACKGROUND KNOWLEDGE

As students begin to work on this task, they need to understand the meaning of the terms single, double, triple and double-double scoops of ice cream. The term "double-double" is another way of saying "quadruple" and you may want to ask students to explain why this is true.

ESSENTIAL QUESTION

- How do estimation, multiplication, and division help us solve problems in everyday life?

MATERIALS

- "Ice Cream Scoops" recording sheet

GROUPING

Independent Task

TASK DESCRIPTION, DEVELOPMENT AND DISCUSSION

In this culminating task, students will use multiplication and division to show different ways they can spend $3.00 on different flavors of ice cream. In the process, they will double, triple, or quadruple the price for a single scoop of ice cream.

Task Directions

Have students follow the directions on the "Ice Cream Scoops" Recording Sheet.

Part I. Picture Graph

Using the flavors in the table able, survey your classroom to see which flavor is the most liked in your class. Display your data in a picture graph. Be sure to add all elements of a picture graph.

Part II. Multiplication and Division

The Super Delicious Ice Cream Shop has the very best ice cream in town. They sell their ice cream in double scoops, triple scoops, or double-double (that's four) scoops. The top selling ice creams are listed on the sign below. You have $3.00 to spend. Don't worry about tax.

Use words, pictures, and numbers to show all your work as you answer the questions below. Think about using estimation to help you consider your choices. Be sure to show your estimation work.

Ice Cream Flavors and Prices for a Single Scoop	
Varoom Vanilla	$0.67
Cha-cha Chocolate	$1.33
Cheery Cherry	$1.04
Rockin' Rocky Road	$1.12
Striped Strawberry	$0.89
Kid's Delight	$0.98

1. With $3.00, which flavor can you buy, triple Varoom Vanilla, or triple Cheery Cherry? Would you have any money left?
2. To spend most of your money, should you buy a double, triple, or double-double scoop of Rockin' Rocky Road? How much money would you have left?
3. Which ice cream flavor can you buy if you order a double-double scoop?
4. On a different day, you and 5 of your friends decide to combine your money. You have $11.76 total. You all want to order the same ice cream in a double scoop. Which flavors are you able to buy?
5. You have been saving pennies for a whole year! You have saved 425 pennies. If you and two of your friends share the pennies fairly, how many pennies will each of you have to buy ice cream?

FORMATIVE ASSESSMENT QUESTIONS

- How are you using estimation to help you solve this task?
- What math facts would help you solve this problem?
- Can you use an inverse operation to be sure your solution is correct?

DIFFERENTIATION

Extension

Have students make up their own flavors and prices, use different amounts of money, and write their own Ice Cream Scoops stories to share with their classmates.

Remediation

While fluency with multiplication facts is required of third graders, it is not required that all facts will be acquired in the first marking period of the school year. You may want to allow students to use cueing devices like a times table chart during this performance assessment as needed.

Name _____ Date _____

Ice Cream Scoops

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3rd Grade Unit 2 Performance Assessment Rubric

Standard ↓	Exceeding	Meeting	Not Yet Meeting
CCGPS.3.OA.1 Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each	– Multiplication work shows use of diagrams, words, and/or other suitable representations for demonstrating mastery – Evidence of estimation is shown with explanations	– Multiplication calculations are correct – Evidence of estimation is shown	– Multiplication calculations are – incorrect or omitted – No evidence of estimation
CCGPS.3.OA.2 Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each.	– Work shows all division sentences correctly – Thorough explanation of remainders is given – Explanation of all the possible solutions is given with reasons for which solution is the best	– Division number sentence corresponds to the question asked in word problem. – Response indicates the presence or lack of a remainder and what this indicates – Solution to division problem is correct	– Division number sentence does not correspond to question – No mention is made of remainder – Solution to division problem is incorrect
CCGPS.3.OA.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.	–Explanations are thorough and detailed and include reasoning as well as multiple representations to support conclusions	– Explanations are logical and use specific math vocabulary to describe multiplication or division process	– Explanations are omitted or illogical – Explanations do not describe the process used to derive an answer to the question asked
CCGPS.3.MD.3. Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*	– All data relevant to the solutions of both multiplication and division problems are accurately recorded in an organized fashion	– Work shown is organized and logically presented – Work shown supports conclusions about which ice cream to buy	– Work is not shown – Work shown is disorganized, inaccurate, or fails to communicate mathematical ideas