

# MeTEOR Performance Task

## Third Grade

Mathematics  
Birthday Celebration



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**MeTEOR**  
CONNECTING THE DOTS



## **Performance Task Item: Birthday Celebration**

*Grade Level: Third Grade*

**Focus Area:** Operations and Algebraic Thinking and Base Ten

**Essential Question:** Is estimation more appropriate than finding an exact answer?

**Core Idea:**

- Understands that numbers enable us to use the four operations to combine and separate quantities.

**Learning Targets:**

- Students will use addition, subtraction, multiplication and division to solve problems.
- Students will create visual representations.
- Students will write equations.
- Students will develop logical arguments.
- Students will collaborate with others.

## **STANDARDS**

### **Domain: Operations and Algebraic Thinking**

**Content Standards:**

- Interpret whole-number quotients of whole numbers.
- 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.
- Determine the unknown whole number in a multiplication or division equation relating three whole numbers.
- Understand division as an unknown-factor problem.
- Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that  $8 \times 5 = 40$ , one knows  $40 \div 5 = 8$ ) or properties of operations.
- Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

### **Domain: Number and Operations in Base Ten**

**Content Standard:**

- Use place value understanding to round whole numbers to the nearest 10 or 100.
- Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

**Supporting Standards:**

**Writing:**

- Write informatively/explanatory texts to examine a topic and convey ideas and information clearly.

- With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.

### **Speaking and Listening:**

- Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly.

### **Math Practice Standards:**

MP 1: Make sense of problems and persevere in solving them.

MP 2: Reason abstractly and quantitatively.

MP 4: Model with mathematics.

MP 6: Attend to precision.

MP 7: Look for and make use of structure.

### **Materials:**

- Performance Task
- Pencil
- Paper
- Math Journal
- Tens frame support page

**Scenario:** Tomorrow is your 9<sup>th</sup> birthday and your mom is planning a birthday celebration with snacks for each student in your class and the teacher. Your mom needs your help to plan out how many snacks she needs to buy. Your Mom thinks you should bring cupcakes, juice boxes and bubble gum for the birthday celebration.

***Task/Question 1:***

**DOK Level 2:** Basic Application of Skills and Concepts

**Math Practice Standards:**

- MP 1: Make sense of problems and persevere in solving them.
  - MP 2: Reason abstractly and quantitatively.
  - MP 4: Model with mathematics.
- A.** You want each student and your teacher to get a decorated cupcake. You have 21 students including yourself in your class. Cupcakes are sold by the dozen. How many dozens of cupcakes will your mom have to buy to have enough for each person in the class?
- B.** Draw a visual representation using the tens frames to represent the total number of cupcakes purchased and the amount needed for your class.

**Task/Question 2:**

**DOK Level 2:** Basic Application of Skills and Concepts

**Math Practice Standards:**

- MP 1: Make sense of problems and persevere in solving them.
  - MP 2: Reason abstractly and quantitatively.
  - MP 4: Model with mathematics.
- A.** You want each student *and* your teacher to get a juice box for your birthday celebration. Juice boxes are packaged and sold with ten individual juice boxes in each package. How many packages of juice boxes will your mom need to buy to have enough for each person?
- B.** Draw a visual representation using the tens frames to represent the amount of juice boxes purchased and the number of juice boxes needed for your class.
- C.** Write an equation using multiplication to show the amount of juice boxes purchased for your class.

**Task/Question 3:**

**DOK Level 2:** Basic Application of Skills and Concepts

**Math Practice Standards:**

- MP 2: Reason abstractly and quantitatively.
- MP 4: Model with mathematics.
- MP 7: Look for and make use of structure.

- A.** Bubble gum for everyone is a perfect idea, however your favorite gum is sold in a big tub with 100 pieces. How many pieces of gum will each person get if you distribute it all out to your class, including your teacher?
- B.** Write an equation using division to show how many pieces of gum each person will get. Check your work.
- C.** Is estimation more appropriate than finding an exact answer? Write your response in your math journal.

**Task/Question 4:**

**DOK Level 3:** Strategic Thinking and Complex Reasoning

**Math Practice Standards:**

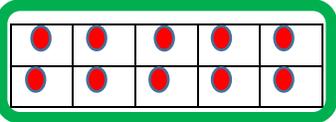
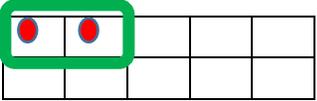
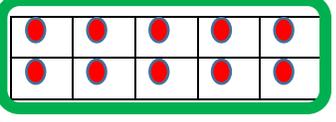
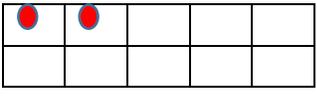
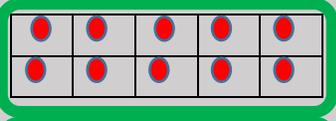
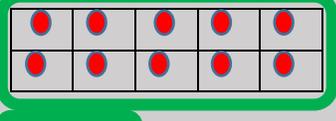
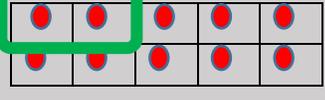
- MP 1: Make sense of problems and persevere in solving them.
  - MP 3: Construct viable arguments and critique the reasoning of others.
  - MP 4: Model with mathematics.
  - MP 7: Look for and make use of structure.
- A.** Develop a logical argument to buy one more item for your birthday celebration. It could be candy, cookies, a pencil, playdoh or another item of your choice. Write a note to your mom explaining what item you would like to add to your birthday celebration and why this extra item is needed. Provide all the details for buying this extra item so you have enough for everyone in your class.

**B.** Share your logical argument with your triangle group (three students). Provide feedback to each person in the group to help strengthen their argument for one more item.

**C.** Using the feedback from your triangle group make any changes to your note to Mom.

## Complete Performance Task Scoring Rubric Birthday Celebration

33-40 Proficient 25-32 Good 26-18 Satisfactory 17-9 Poor 0-8 Unsatisfactory

	Depth of Knowledge Level	Points	Total Possible Points for Task	Total Points Earned by Student
<b>Task 1:</b> A. 2 Dozen  B.    	<p style="text-align: center;"><b>1</b></p> <p style="text-align: center;"><b>2</b></p>	<p style="text-align: center;"><b>3</b></p> <p style="text-align: center;"><b>3</b></p>	<b>6</b>	
<b>Task 2:</b> A. 3 packages of juice boxes  B.   	<p style="text-align: center;"><b>1</b></p> <p style="text-align: center;"><b>2</b></p>	<p style="text-align: center;"><b>3</b></p> <p style="text-align: center;"><b>3</b></p>	<b>9</b>	

C. $3 \times 10 = 30$ or $3 \times 10 = 30$ juice boxes 22 in the class (21 Students + 1 Teacher) = 8 extra juice boxes $3 \times 10 = 30 - 22 = 8$	<b>2</b>	<b>3</b>		
<b>Task 3:</b> A. Each person will get 4 pieces of gum B. $100 \div 22 = 4 \text{ r}12$ ; $4 \times 22 = 88 + 12 = 100$ C. Journal responses will vary.	<b>1</b>	<b>3</b>	<b>11</b>	
<b>Task 4:</b> A. Logical argument notes to mom will vary. B. Participated (yes / no) C. Participation - check draft of finished letter.	<b>3</b>	<b>6</b>	<b>14</b>	
<b>TOTAL POINTS:</b>				

## Tens Frames







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