

## **CONSTRUCTING TASK: FIELD DAY FUN**

### **STANDARDS FOR MATHEMATICAL CONTENT**

**MCC.3.NBT.2** 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.



### **STANDARDS FOR MATHEMATICAL PRACTICE**

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
6. Attend to precision.
8. Look for and express regularity in repeated reasoning.

### **ESSENTIAL QUESTIONS**

- How can I use what I understand about addition and subtraction in word problems?
- What is a number sentence and how can I use it to solve word problems?
- How can I use what I understand about money to solve word problems?

### **MATERIALS**

- Chart paper, overhead projector, or interactive white board for whole group instruction
- “Field Day Fun” Student Task Sheets

### **GROUPING**

Whole/Small Group/Partner Task

### **BACKGROUND KNOWLEDGE**

Using contextual problems that students can identify with is significant in the development in students’ operation sense. However, teachers need to think about it as more than just giving word problems. We need to give them opportunities to connect these operations to real world settings. Furthermore, Van De Walle cautions us against the use of key words to problem solve. Research states that key words often suggest operations that are incorrect, many problems do not contain key words, and the key word strategy sends the wrong message about mathematics. Van De Walle states, “A student who has been taught to rely on key words is left with no strategy.” (Van De Walle, p. 70)

## **TASK DESCRIPTION, DEVELOPMENT AND DISCUSSION**

### **Part I**

The teacher will begin with a discussion about a Field Day. The students will talk about the math that they might see through guiding questions such as:

- How do you determine the grade level winners?
- How do you determine who wins a race?
- What do you consider when putting together a relay team?
- How does the egg toss use measurement?

This discussion might lead to other sports and how math is incorporated into them as well. Have students provide examples. This conversation will allow students to think about math outside of “math class”.

### **Part II**

After the discussion about the use of math on field day, introduce students to the “Field Day Fun” task sheet. Students may complete this task with a partner/small group/or individually. Students should use words, pictures, and numbers to justify their results and thinking. When they have completed all four field day mathematical situations, have students create one of their own field day stories. It may be helpful for students to base their stories on the classroom discussion in Part I. Students may exchange stories and solve.

## **FORMATIVE ASSESSMENT QUESTIONS**

- How did you determine the amount of students who were not in the 3<sup>rd</sup> grade? Could you have done it another way?
- How did you know that #3 and # 4 still need to run in the relay?
- How did you determine the amount of meters that the relay team still needed to run? Could you have solved it a different way?
- How did you know the amount of money that you needed to borrow from your friend? Can you draw a picture explaining your thinking?

## **DIFFERENTIATION**

### **Extension**

- Students could use their knowledge of other sports to create additional math stories.

### **Intervention**

- Allow students to use number lines or other tools to help them to conceptualize and act out the field day situations.

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**TECHNOLOGY CONNECTION**

[http://www.cdli.ca/CITE/math\\_problems.htm](http://www.cdli.ca/CITE/math_problems.htm) provides teachers with resources for a variety of word problems.

Name \_\_\_\_\_ Date \_\_\_\_\_



### Field Day Fun

1. 678 students are participating in field day. There are 98 third graders. How many of them are not third graders?

Show how you know your answer is correct.

2. Each person in the relay race is going to run 200 meters. If there are 4 runners on a team and the third grade team has already run 300 meters, how many meters do they have left to run? Are they on runner #1, #2, #3, or # 4?

Show how you know your answer is correct.

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3. Molly wants to buy some cotton candy from the concession stand. She has 27¢, but the cotton candy costs 95¢. How much money does she need to borrow from her friend?

Show how you know your answer is correct.

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4. Time for the award ceremony! There are 476 people there. How many students are they waiting for?

Show how you know your answer is correct.

\_\_\_\_\_ students