Georgia Department of Education Common Core Georgia Performance Standards Framework Kindergarten Mathematics • Unit 6

Constructing Task: Field Trip for Fives

Approximately 1 day

STANDARDS FOR MATHEMATICAL CONTENT



MCCK.OA.1 Represent addition and subtraction with objects, fingers, mental images, drawings¹, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.

MCCK.OA.2 Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.

MCCK.OA.3 Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).

MCCK.OA.4 For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.

MCCK.OA.5 Fluently add and subtract within 5

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.
- 5. Use appropriate tools strategically.
- 6. Attend to precision.
- 7. Look for and make use of structure.
- 8. Look for and express regularity in repeated reasoning.

BACKGROUND KNOWLEDGE

Numbers are related to each other through a variety of number relationships. The number 7, for example, is 3 more than 4, two less than 9, composed of 3 and 4 as well as 2 and 5, is three away from 10, and can be quickly recognized in several patterned arrangements of dots. These ideas further extend to an understanding of 17, 99, and beyond. Number concepts are intimately tied to the world around us. Application of number relationships to the real world marks the beginning of making sense of the world in a mathematical manner (Van de Walle, 2010).

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ESSENTIAL QUESTIONS

- How can I prove that groups are equal?
- How can you model a math problem?
- How can I use different combinations of numbers to represent the same quantity?
- What is a number relationship? How can number relationships help me?
- What is a strategy?
- Why do we use mathematical symbols?

MATERIALS

- Field Trip for Fives Recording Sheet
- Field Trip for Fives work mat
- Colored counters or linking cubes to match the teams

GROUPING

Whole group and partner task

TASK DESCRIPTION, DEVELOPMENT, AND DISCUSSION

Part I

Bring the students to a meeting place. Ask the students to get themselves into groups of 3. Do not interfere with the process. After students have successfully arranged themselves into groups of 3, ask them how many full groups of just boys and just girls could be made. How many boys/girls are in a mixed group of boys and girls? Ask students for number sentences and record suggestions to on the board. (Example: a group of all girls would be 3 girls plus 0 boys is 3 students, 3+0=3, or 2 girls and 1 boy would be represented as 2+1=3). From groups of 3, ask the students to get into groups of 4 and repeat the same questions.

After students have acted out the problem, they can use colored cubes to represent the boys and girls in the classroom and have them represent the groups with cubes. For example, if there are 21 students (8 boys and 13 girls), have 8 blue cubes for boys and 13 yellow cubes for girls.

Part II

In partners, have students solve the Field Trip for Fives story problem. Ms. Redstone's kindergarten class was going on a field trip. She divided her students up into teams for the parent volunteers. Each parent can take no more than 5 students in their car, so Ms. Redstone needs to rearrange the students into groups of 5. Give each student the *Field Trip for Fives* recording sheet. Discuss the table and allow students to make observations and compare teams. Have students identify the correct number of students on each team and have them collect the corresponding number of counters. Using the work mat, students can manipulate their colored counters to solve the story problem. The recording sheet explains how many students are in each group.

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FORMATIVE ASSESSMENT QUESTIONS

- How many from students from each team rode in each van?
- What strategy did you use to solve the problem?
- Were there any teams that didn't need to be split up?
- How many vans did you use? Could you have used less?
- How do you know that you counted correctly?

DIFFERENTIATION

Extension

• Have the students solve a new story problem with a different amount of students in each van. Example: The class has 24 students. How many vans would Ms. Redstone need if six students can fit on each van?

Intervention

• Have the students solve the problem using fewer teams, students and vans. Example: Ms. Redstone has 15 students, three vans and 4 teams. How many students can fit on each van? The blue team has 5 students, the red team has 3 students, the green team has 3 students, and the yellow team has 4 students.

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Field Trip for Fives

| Ms. Redstone's Class Teams | | | | | | | | | | | |
|----------------------------|--|--|--|--|--|--|--|--|--|--|--|
| Blue Team | | | | | | | | | | | |
| Red Team | | | | | | | | | | | |
| Green Team | | | | | | | | | | | |
| Yellow Team | | | | | | | | | | | |
| Purple Team | | | | | | | | | | | |

If no more than 5 students can ride in a van, how could Ms. Redstone arrange her teams into groups of 5 for the van ride?

Option 2

| | Blue | Red | Green | Yellow | Purple | Total |
|--------|------|-----|-------|--------|--------|-------|
| Van #1 | | | | | | |
| Van #2 | | | | | | |
| Van #3 | | | | | | |
| Van #4 | | | | | | |
| Van #5 | | | | | | |

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Option 1

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Field Trip for Fives Work Mat



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