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Georgia Tech

CSI: MATHEMATICS
Curriculum Support Information
A mathematics resource for parents, teachers, and students

GEORGIA DEPARTMENT OF EDUCATION
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Further investigations:

Practice skip-counting with your child by allowing him to help set the table. As each item is placed on the table, your child should count by 2's or 3's or 5's. For an extra challenge, you skip count the numbers and let your child determine what the next number will be and what the number pattern is (the number you are using to skip-count by). For a great summer challenge, try skip counting backwards.

Repeated addition practice (which is the basis of multiplication) can be represented naturally at the grocery store or in your own home. Have your child tell you how many cookies are in the package based on how they are sorted (such as four rows with four cookies in each row), how many graham crackers are in the box (four packs of 10 graham crackers each) and how many popsicles are in the box (6 packs of 2 popsicles each).

The same items mentioned above for repeated addition can also be used to show how to divide items up equally among friends. The same cookie pack of four rows with fours cookies for a total of 16 cookies could be equally divided among 2, 4, or 8 people. Practice with your child telling stories that use different amounts and scenarios that can be equally divided.

Terminology:

Combine: Put together sets, add

Separate: Take away, remove, subtract

Compare: Describe how sets relate to each other using terms like "more", "less", or "equal", "lighter/heavier"

Recalling facts: Using a known fact to solve the problem. For example, to solve a problem by adding 6 and 7, a child might say, "I know that 6 and 7 is 13."

Doubles plus one: Using a known fact that is close to what is needed to determine the exact fact that is needed. For example, to solve a problem by adding 6 and 7 without remember the fact for 6+7, a child might say, "The answer is 13 because 6 and 6 is 12, and 7 is one more than 6, so I need to add one more to 12."

Estimating: Determining an approximate amount

Fact family: Three numbers, two of which add up to the third

Quantity: The amount of objects

Revisiting Operations

Students will:
- Cultivate an understanding of how addition and subtraction affect quantities and are related to each other
- Understand and use addition and subtraction in everyday situations
- Be introduced to multiplication and division situations and operations
- Relate the ideas of multiplication and division to the ideas of repeated addition and repeated subtraction in various situations
- Develop and use informal strategies for sharing quantities fairly between two to five people

Classroom Cases:

1. Hector went to the store to buy some cookies for his class. He has 28 students in his class. He looked at three different packs of cookies trying to decide which pack he should purchase. Pack A had six rows of four cookies, Pack B had five rows of five cookies and Pack C had four rows of ten cookies. Which pack should Hector buy for his class and why?

Case Closed - Evidence:
Pack C because Hector has 28 students in his class and Pack C contained four rows of ten cookies, which make 40 cookies. Pack A had six rows of four cookies which is 24, and Pack B had five rows of five cookies which is 25. Both Pack A and Pack B would not contain enough cookies for Hector's class.

2. Monica was asked to make a fact family for the numbers 12, 9, and 3. Which of the four members listed below does not belong?

A. 9+3   B. 12-3   C. 3+9   D. 3-12

Case Closed - Evidence:
D. Because subtracting 12 from 3 does not give you 9.

3. Juan has 12 pieces of gum. How many different ways can Juan share his gum? With how many of his friends will he share?

Case Closed - Evidence:
Two friends can have six pieces each, three friends can have four pieces each, four friends can have three pieces each, six friends can each have two pieces each, and 12 friends can each have one piece or Juan could decide to keep all 12 pieces for himself.

4. Mohammed is thinking of a number greater than 50 and less than 100. His number is an even number that you would say if you count by fives. How many possible numbers could Mohammed be thinking of and what are they?

Case Closed - Evidence:
Mohammed could be thinking of four possible numbers.
The numbers could be 60, 70, 80, or 90.

Clues:
This unit emphasizes key standards and big ideas taught from specific units throughout the year. While key concepts and ideas may have been covered in previous units, practice and repetition of these new concepts should be done on a continuous basis. It is important that students continue to work on and have ample opportunities to practice topics such as counting, time, money, positional words, patterns and tallying throughout the year.

Book 'em:
The Doorbell Rang by Pat Hutchins
Two of Everything: A Chinese Folktale by Lily Toy Hong
Ready or Not, Here I Come by Teddy Slater
Stay in Line by Teddy Slater
Each Orange Had 8 Slices by Paul Giganti
One Hundred Hungry Ants by Elinor J Pinczes

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