

Mathematical Emphasis

Investigation 1 - Combining and Separating

- Developing models of addition and subtraction situations
- Solving problems using numerical reasoning
- Recording solution strategies
- Understanding horizontal and vertical notation for addition and subtraction

Investigation 2 - Working with 100

- Becoming familiar with the structure and patterns of the number system from 1 to 100.
- Using coins as a model for adding and subtracting multiples of 5 and 10.
- Using the 100 chart as a tool for combining and comparing numbers
- Developing strategies for addition and subtraction

Investigation 3 - Finding the Missing Part

- Developing ways to approach different sorts of addition and subtraction situations
- Recognizing and solving problem structures with a variety of givens and unknowns
- Solving problems using numerical reasoning
- Creating situations for equations

Investigation 4 - Adding Up to 100

- Working with 100 and combinations of numbers that equal 100
- Adding strings of numbers by “chunking” or grouping numbers that go together
- Writing a story that reflects an addition equation

Investigation 5 - Addition and Subtraction Strategies

- Developing strategies for comparing two quantities
- Calculating the distance between two numbers using the 100 chart
- Developing ways to approach different types of addition and subtraction situations

Tips for Helping at Home

- Questions to ask:
 - What is it that you don't understand (have the student be specific)?
 - What information do you need?
 - What strategies are you going to use?
 - Can you guess and check?
 - Does this make sense?
 - What can you do to explain your answer to show others what you are thinking?
 - Does your answer seem reasonable?
- Encourage your child to use his or her own strategies for addition and subtraction. We will use many in class.
- For homework, your child will be writing various types of story problems. Ask your child to tell you about strategies he or she uses to solve these problems. Encourage your child to use words, pictures and numbers in any explanation.
- Your child will also bring home some of the games that we are playing during math class. Take some time to play these games with your child.
- Children will be working with problems involving money. Use some change to investigate ways to make \$1 or \$2 with your child.



GAME Get to 100

•**Materials:** Paper, Multiples-of-5 number cubes (2) or a set of Multiples-of-5 Cards, *Multiples of 5: 5, 10, 15, 20, 25, 30 (need to two sets)*, 100 chart and game piece (for each player)

•**Players:** 2 to 3

•**How to play:**

The object of the game is to reach 100 on the 100 chart.

1. Each player puts a game piece to the left of number 1 on their 100 chart.
2. Take turns. Roll the number cubes or draw two number cards and move that many spaces on the 100 chart.
3. Record your move on paper. For example, if your first roll is 5 and 15, write $5 + 15$. If your net roll is $10 + 5$, move that many spaces and add these numbers to your recording so that you have $5 + 15 + 10 + 5$. Your game piece should be at 35.
4. Continue play, recording your moves each time.
5. You can use just one of the amounts on the number cubes or cards to land directly on 100.
6. When you reach 100, check your moves by adding all the numbers on your paper. If the sum does not equal 100, move your game piece back to the total number and continue play.
7. If the numbers do add to 100, move your game piece back and play again.

Vocabulary for Parents

Equation - a mathematical sentence where the right side of the equals sign has the same value as the left

example: $3 = 2 + 1$

Expression - one or more numbers and/or operation symbols

example: $5 + 8$

Multiple - numbers landed on when skip counting by a specific number

example: Some multiples of 5 are 10, 15, 20, 25

Number string - addition problem with more than two addends.

examples: $2 + 9 + 1 + 2 =$

$$5 + 6 + 4 + 10 + 5 =$$

$$10 + 10 + 10 = 30$$

Web Sites

<http://www.investigations.scottforesman.com/pdfs/parentpage.pdf>

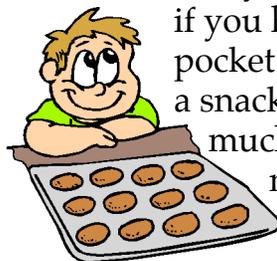
<http://www.everett.k12.wa.us/math/Second%20Grade>

<http://www.amathsdictionaryforkids.com/>

About the Mathematics In This Unit

In this unit, we will be working on addition and subtraction. We will be working with 5's, 10's, 20's, and 25's and on ways to make 100. We will also work on solving story problems and deciding what operation to use to solve a problem.

Look for addition and subtraction situations at home and share them with your child. For example, if you bake a batch of cookies and you set some aside for school lunches, how many cookies will be left for the family to eat? You and your child might compare the ages of the people in your family: How much older are you than your child? Or



if you have 26¢ in your pocket and you want to buy a snack that costs 55¢, how much more money do you need?

One thing to keep in mind with these problems is the size of the numbers. Numbers under 100 are about the right size for most second graders. Some children may be comfortable using counters to solve problems, while others might want to write their thinking on paper or solve problems mentally.

Economopoulos, K. Investigations in Number, Data and Space: Coins, Coupons, and Combinations.

Dale Seymour Publications, 1998



Putting Together and Taking Apart

Grade 2

Addition and Subtraction



State College Area School District