

## Tips for Helping at Home

- Questions to ask:

What is it that you don't understand (have the student be specific)?

What about putting things in order?

Could you try it with simpler numbers?

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?

- When your child has an assignment to do at home - such as collecting data about the ages of pets and oldest relatives - offer your help, and ask your child about what he or she is doing in class.

- Ask your child to describe any of the homework problems and tell you about the strategy used to solve it. Communication is an important part of mathematics, and students need to describe their strategies through talking, writing, drawing, or using concrete objects. You can be an important audience.

- You can also share your own ideas. At one point, we will work on the mathematics of "party planning." You might explain how you would figure out how to fit a number of different

## Web Resources

You will find web resources at:

<http://www.dreamsbeginhere.org/static/aboutdcps/departments/acadprog/mathematics/index.asp>

## Mathematical Emphasis

### Investigation 1: Comparisons with Record Numbers

- Comparing two numbers and developing strategies for determining their difference
- Developing ways of getting close to 100 by combining numbers
- Using landmark numbers (multiples of 10 and 100) to compare two quantities

### Investigation 2: How Much Heavier or Lighter?

- Developing conjectures about and making comparisons of how things change over time
- Comparing weights with a pan balance
- Finding how far a number is from the next multiple of 10 or multiple of 100

### Investigation 3: Adding with Money, Inches, and Time

- Solving addition problems with multiple addends and keeping track of the steps
- Developing a repertoire of addition strategies that rely on students' number sense and understanding of number relationships
- Recognizing and using standard addition notation while using approaches based on sound number operation sense.
- Exploring number relationships and using important equivalencies in time, money and linear measure
- Using estimation to make good approximations

### Investigation 4: Working with Hundreds

- Developing and communicating strategies for combining and comparing quantities in the hundreds and thousands
- Using standard notation to record
- Using multiples of 100 as landmarks
- Collecting, recording and graphing data

### Investigation 5: Calendar Comparisons

- Exploring the mathematical characteristics of the calendar and using them to solve problems

## Duval County Public Schools



Duval County Public Schools

## Investigations in Number, Data, and Space

+	0	1	2	3	4	5	6	7	8	9
0	0	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9	10
2	2	3	4	5	6	7	8	9	10	11
3	3	4	5	6	7	8	9	10	11	12
4	4	5	6	7	8	9	10	11	12	13
5	5	6	7	8	9	10	11	12	13	14
6	6	7	8	9	10	11	12	13	14	15
7	7	8	9	10	11	12	13	14	15	16
8	8	9	10	11	12	13	14	15	16	17
9	9	10	11	12	13	14	15	16	17	18

### Combining and Comparing Grade 3

### Addition and Subtraction

#### Unit Goals:

- Students solve problems that involve comparison
- Students do problems in which they determine how amounts of time, money, and measurement are combined
- Students develop their own addition and subtraction strategies that make sense to them.
- Students play number games that build students' fluency with using hundreds as important landmarks in combining and comparing

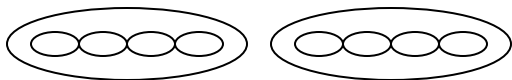
#### Proposed Time Frame:

4 weeks

## Vocabulary

**representation** - expressing mathematical problems in a variety of forms. pictures, numbers, words, or models

$$4 + 4 = 8$$



There were four birds on a wire. Four more joined them. Eight birds were now on the wire.



**standard notation** -

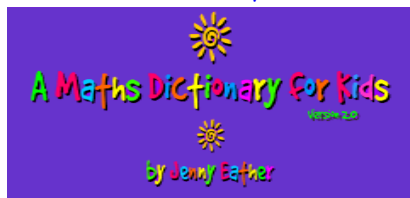
$$\text{addition } 48 + 18 = 66$$

$$\text{subtraction } 32 - 13 = 19$$



## Glossary

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



## About the Mathematics In This Unit

During the next few weeks in math, our class will be working on addition and subtraction. We'll be focusing on interesting and real problems that involve combining and comparing two or more amounts.

Students will be learning about many different ways to solve addition and subtraction problems. Students will be encouraged to develop more than one way to solve a problem and to use methods that are based on understanding numbers and their relationships.

Some of these methods may not be the ones you learned in school, but you may recognize some of them as methods you use in your daily life. We encourage students to develop strategies that make sense to them, that they can use easily and flexibly. For example, one of the first things we will do is compare the age of your family's oldest relative with the age of the oldest person on record (120 years old). Suppose your oldest relative is 83 years old. Your child might find the answer by seeing how many years you must add on to get from 83 to 120. Add 7 to get to 90, 10 more to get to 100, 20 more to get to 120. Another approach would be to subtract 80 from 120 to get 40 then subtract 3 more to get 37.

The point is for children to find useful and meaningful ways of putting together and taking apart numbers.

Mokros, J. Investigations in Number, Data, and Space: Combining and Comparing. Dale Seymour Publications, 1998.

## Game

Close to 100

**Materials:**

One deck of Numeral Cards  
Close to 100 Score Sheet per player

**Players:** 1, 2, or 3

How to Play:

1. Deal out six Numeral Cards to each player.
2. Use any four of your cards to make two numbers. For example: 6 and 5 could make 65 or 56. Wild cards can be used as any numeral. Try to make numbers that, when added, give you a total that is close to 100.
3. Write these two numbers and their total on the Close to 100 Score Sheet. For example:  $42 + 56 = 98$ .
4. Find your score. Your score is the difference between your total and 100. For example: If your total is 98, your score is 2. If your total is 105, your score is 5.
5. Put the cards you used in a discard pile. Keep two cards you didn't use for the next round.
6. For the next round, deal four new cards to each player. Make more numbers that come close to 100. When you run out of cards, mix up the discard pile and use those cards again.
7. Five rounds make one game. Total your scores for the five rounds. **LOWEST** score wins!

**Score Sheet example:** Score

Round 1: \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

Round 2: \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

Round 3: \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

Round 4: \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

Round 5: \_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

Total Score \_\_\_\_\_