MATH MATTERS

Resources and Ideas for Families

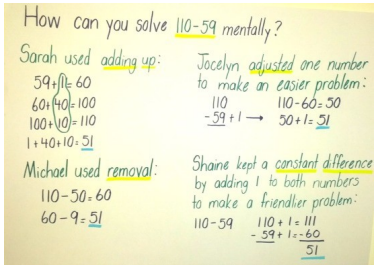
WELCOME!

This newsletter is sent home to families every nine weeks. It provides information on what your child is learning in math, activities you can do at home to reinforce the content, and suggestions for books and resources you can use to help your child learn math.

BUILDING A MATHEMATICAL COMMUNITY

NUMBER TALKS

During math class, students should experience a Number Talk, a structured classroom conversation around a purposefully crafted computation problem that is solved mentally.



Sharing and discussing computation strategies provide students with the opportunity to:

- Clarify thinking.
- Investigate and apply mathematical relationships.
- Build a repertoire of efficient strategies.
- Make decisions about choosing efficient strategies for specific problems.
- Consider and test other strategies to see if they are mathematically logical.

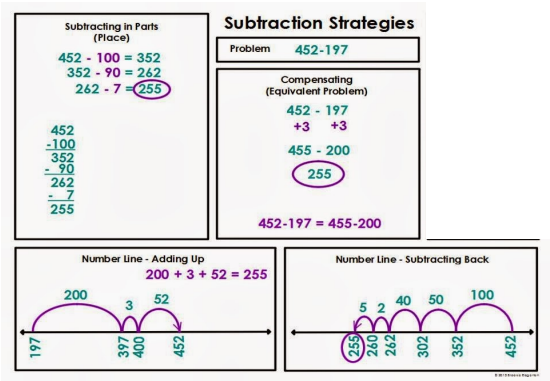
Number Talks: Helping Children Build Mental Math and Computation Strategies, by: Sherry Parrish.

STUDENT INVENTED STRATEGIES

During Number Talks, students are encouraged to use student invented strategies, flexible methods of computing that vary with the numbers and the situation. Successful use of the strategies requires that they be understood by the one who is using them --- hence the term invented.

Flexible methods of computation involve decomposing and composing numbers in a wide variety of ways.

Elementary and Middle School Mathematics Teaching Developmentally, by: Van de Walle, Karp, Bay-Williams



MATH IS FUN!

Check out the MATH IS FUN website which contains resources to help children learn math. Here you will find "How to Videos", Online Games, Vocabulary, and APPs related to the content your child is learning.

www.jcpsmath.weebly.com

During the 2nd nine weeks, first graders learn to:

- **Start with any number and count to 120.** Students were expected to master counting to 100 by the end of kindergarten. It is important that students are able to start with a number besides 1 and count to 120. For example, start at 65 and count to 120.
- **Read and write numbers up to 120.**
- **Explain the value of each digit in a two-digit number (place value).** For example, 23 is made up of two tens and three ones.
- **Add and subtract within 20 using my strategies.** By the end of first grade, children are expected to be fluent in addition and subtraction combinations through 10.
- **Change the order of addends to make equal equations.** Children understand that if 5+3=8, 3+5 will also equal 8.
- **Compare two two-digit numbers using <, >, =.** A student would recognize that 64 > 34 or that 43 < 46.
- **Understand the meaning of the equal sign.** Students need to realize that an equal sign means that both sides of the equation are balanced such as 4+5 = 2+7. An equal sign is not simply the place where an answer goes.
- **Solve subtraction problems by finding the missing addend.** If presented with the problem 9 - ___=3 (nine minus what equals three) a student could solve by thinking of the problem as 3 + ___=9 (three plus what equals nine).

Resources and Ideas for Families

Activities to Try at Home:

- Provide opportunities for your child to practice telling time with an analog clock. An analog clock has the hour and minute hands. By the end of first grade, students are expected to be able to tell time to the hour and half-hour.
- By the end of first grade, children are expected to be fluent in addition and subtraction combinations through 10. Children who are fluent are able to quickly and correctly recall the answer to a math fact without having to draw a picture or use objects/fingers to solve. Flashcards can be useful in helping children become fluent. They can be bought inexpensively from stores such as The Dollar Tree or Wal-Mart or can be easily made with index cards.
- Have your child practice partitioning objects into halves and fourths. For example, your child could cut paper plates, construction paper, or food items into halves and fourths. Be sure to stress the importance of equal parts.
- Provide your child with a small group of objects (5-12). Have them count the objects and then put a few (1-4) in your hand. See if your child can figure out how many you took away.

Addition and Subtraction

During the year, first graders will learn a variety of strategies to solve addition and subtraction problems within 20. Notice that the standard algorithm, the borrowing/carrying strategy most of us were taught in school, is NOT a strategy listed below because it is not appropriate for first graders.

Making Ten — This strategy has students look for combinations of ten to solve a problem. If solving 8+6, students would add 8+2, then add on 4 more to come up with 14.

Counting On — To count on, students start with a number and then count on the other number. If solving 8+5, students start with 8 and then count on five more 9, 10, 11, 12, 13.

Using the relationship between addition and subtraction — This strategy involves fact families. If a child knows 9+3=12, then he can find 12-3=9.

Counting Back — To count back, students start with a number, then count backwards to find the difference. If solving 14-7, students start with 14, then count back seven 13, 12, 11, 10, 9, 8, 7.

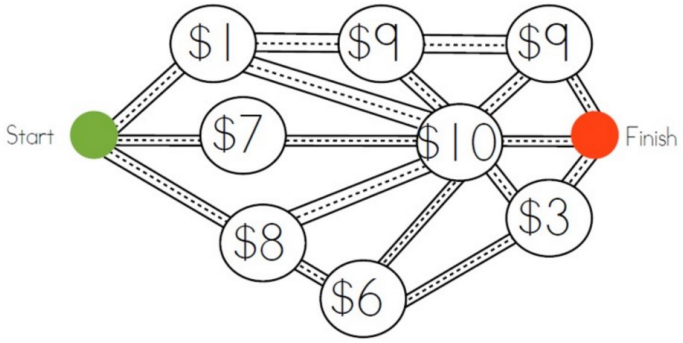
Decomposing a number leading to an easier sum — Students break apart a number to an easier sum they know. For example, 8+7 could be broken to the double 7+7, then add 1 to equal 15.

MATH TASK

$20 Dot Map

From: *Illustrative Mathematics*

If you have $20, can you get from start to finish and visit three dots?



Solution: Various answers possible. Possible solutions: $1 + $9 + $9 = 19; $1 + $9 + $10 = $20