



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.

How can you solve $110-59$ mentally?

Sarah used adding up:
 $59 + 11 = 60$
 $60 + 40 = 100$
 $100 + 10 = 110$
 $1 + 40 + 10 = 51$

Jocelyn adjusted one number to make an easier problem:
 110 $110 - 60 = 50$
 $-59 + 1 \rightarrow 50 + 1 = 51$

Michael used removal:
 $110 - 50 = 60$
 $60 - 9 = 51$

Shane kept a constant difference by adding 1 to both numbers to make a friendlier problem:
 $110 - 59$ $110 + 1 = 111$
 $-59 + 1 = -60$
 $\underline{\quad\quad}$
 $\quad\quad 51$

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

Subtracting in Parts (Place)

 $452 - 100 = 352$
 $352 - 90 = 262$
 $262 - 7 = 255$

$$\begin{array}{r} 452 \\ -100 \\ \hline 352 \\ -90 \\ \hline 262 \\ -7 \\ \hline 255 \end{array}$$

Subtraction Strategies

Problem $452-197$

Compensating (Equivalent Problem)

 $452 - 197$
 $+3 \quad +3$
 $455 - 200$
 $\underline{\quad\quad}$
 $\quad\quad 255$

$452-197 = 455-200$

Number Line - Adding Up

 $200 + 3 + 52 = 255$

Number Line - Subtracting Back

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, Kindergarteners learn to:

- **Count to 50 by ones.**
- **Write a number 0-20 to show the number of objects.**
- **Understand that each successive number name refers to an amount that is one larger.** For example, a child has counted a group of 10 objects. Another object is added to the group. The child does not have to re-count the group and can say that the amount has changed to 11 objects.
- **Add and subtract within 5 using strategies such as drawings, objects, fingers, and acting out.** For example, a child might add 2 and 3 by using their fingers or drawing a picture to show the sum. A child could use pennies to solve $5 - 4$ by counting out five pennies and then taking away four to solve.
- **Solve addition and subtraction story problems within 5 by using my strategies.** Students are learning to solve one-step addition and subtraction story problems. An addition example would be, "Sam picked 4 flowers. Michelle picked 1 flower. How many flowers did they pick altogether?" A subtraction example would be, "There were 4 ladybugs on a leaf. 2 flew away. How many ladybugs are left?"
- **Decompose (break apart) numbers to 5 using objects or drawings.** For example, $3 + 2 = 5$ and $5 = 4 + 1$.



Activities to Try at Home:

- Provide opportunities for your child to count objects at home that are randomly arranged. Students are usually able to count when things are organized but have trouble when things are not. Once he has counted the objects, ask, "How many would you have if you added one more?"
- Have your child practice writing the numbers 1 to 20. Vary it so that the child is not always starting at 1 and counting to 20. For example, ask your child to write a 7 and then write a 15. Some students are able to follow the pattern to write the numbers 1 to 20 but have trouble when asked to write a number in isolation such as write the number 18.
- Practice adding and subtracting within 5. You can use small objects as counters. Ask your child to explain his/her addition (putting together and adding to) and subtraction (taking apart and taking from).
- Have your child break apart numbers to 5 using small objects or drawings. For example, 4 can be broken apart into $2 + 2$ and $1 + 3$.
- Practice counting to 20. Provide opportunities for your child to start at numbers other than one. For example, "Start at 7 and count to 20."

Check Out These Books:

Below are some suggested books which connect to math content students are learning this cycle.

- *Let's Count to 100* by Masayuki Sebe
- *Fish Eyes: A Book You Can Count On* by Lois Ehlert
- *Curious George Learns to Count 1 to 100* by H. A. Rey
- *Math for All Seasons: Mind-Stretching Math Riddles* by Greg Tang
- *Anno's Counting Book* by Mitsumasa Anno
- *What's New At The Zoo? An Animal Adding Adventure* by Suzanne Slade
- *Animals On Board (MathStart 2)* by Stuart J. Murphy
- *Elevator Magic Level 2 (MathStart Subtracting)* by Stuart J. Murphy



MATH TASK

Bobbie Bear's Buttons

By Illustrative Mathematics

Bobbie Bear has a box of red and blue buttons. She takes 4 buttons out of the box. How many of each color button might she have? Find at least three number sentences.



Possible equations: $0 + 4 = 4$; $4 = 0 + 4$; $4 = 4 + 0$; $4 + 0 = 4$; $1 + 3 = 4$; $4 = 3 + 1$;
 $3 + 1 = 4$; $4 = 1 + 3$; $4 = 2 + 2$; $2 + 2 = 4$