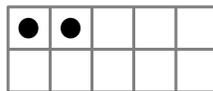
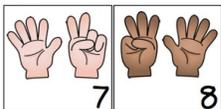


What is this “New” Math?

The “old” math that many of us parents and teachers learned when we were in school involved a lot of memorization. We memorized our numbers in sequence; we memorized what the numbers look like. We memorized addition, subtraction, multiplication and division facts. We memorized the process for completing standard algorithms (process), how to carry numbers, how to “borrow,” how to hold a place when multiplying multiple digits. Many of us never learned or really felt a “connection” with numbers, we just learned how to get the answer we needed.

The “new” math that is being taught to current elementary students involves building a feel or a sense for the numbers and quantities. As students move into upper elementary grades and begin doing more with multiplication, division, fractions and algebra, having this number sense is a foundation for using various strategies they are taught to help them solve their math equations. Instead of just memorizing an algorithm, students have options for solving the equation and making sense of the math in real world situations.

Kids start by learning spatial relationships – recognizing ‘how many’ without counting by seeing visual patterns. We call this “subitizing.” Students learn to recognize the pattern as meaning a set quantity.



The next relationship that needs to be developed is one and two more and one and two less. This is not the counting on of one or two more or one or two less, but knowing which numbers are one

or two more/less than any given number. When we focus on how numbers are connected it helps us become flexible thinkers and makes mental computation easier.

$$8 + 5 \Rightarrow 10 + 5 = 15 \Rightarrow 15 - 2 = 13$$

The third relationship that kids need to develop is the relationship to the benchmark numbers of 5 and 10. Our number system uses a Base 10 and two 5's make a ten. Knowing how a number relates to 5 and 10 can help kids as they compute numbers and learn place value.

$$16 = 10 + 6 \quad 20 = 10 + 10 \quad 15 + 5 = 10 + (5 + 5)$$

The fourth number relationship that needs to be developed to gain number sense is Part-Part-Whole. This is the idea that a number can be pulled apart into different parts that make the whole.

8	8	8	8
∧	∧	∧	∧
1 + 7	2 + 6	3 + 5	4 + 4

Knowing how a number can be broken down (decomposed) can help kids utilize other number relationships when computing a problem.

Example: using 8 from above, one way a child could compute $8 + 9$ would be to break 8 into $7 + 1$ then knowing 9 is 1 less than 10, the child could add $9 + 1 = 10$ then add the 7 to make 17. This could then be generalized to something like $48 + 19$ ($48 = 47 + 1$ then $19 + 1 = 20$ so $47 + 20 = (40 + 20) + 7 = 60 + 7 = 67$)

Knowing how numbers relate encourages thinking instead of just computing. When you compute without thinking, you don't notice

when a mistake has been made or notice that your answer is unreasonable. Just memorizing facts and algorithms makes math more challenging as you begin algebra, geometry, fractions, calculus etc. Older students and even adults that still count on their fingers and never developed a full understanding of how numbers relate can go back and practice each of these number relationships to expand their number sense.

There are a number of good resources You may want to check out the video on the Department of Public Instruction website that talks about the “new” math. Please check the Parkview School District website for more resources. Click on Schools - Parkview Elementary School - Math.

<https://dpi.wi.gov/math/family-resources>

Please talk to your child’s teacher about any questions or concerns you may have regarding your child’s number sense and any ways you can provide additional practice at home.