

Math Expressions Program- Parent Overview

1. Mathematics instruction has changed in the past 15-20 years due to
 - a. Research in mathematics instruction
 - b. The needs of people using mathematics
 - c. Brain research on how students learn mathematics

2. National Science Foundation developed program
 - a. 10 year research and materials grant
 - b. Focus was to develop strategies and materials that develop both **deep mathematical understanding and fluency**

3. Approach to instruction
 - a. You will see new approaches as well as some familiar
 - b. Most notable change- mathematics is taught with **understanding and application**
 - c. We learned/memorized procedures -> now we know it is vital to know the procedure THEN connect it to understanding.
 - d. Understanding and connections are vital to higher level math
 - e. Students have more success if they begin that in the early stages of mathematics development
 - f. Primary levels- students learn that quantity is the priority vs. learning the digit in order to promote number sense.
(For example, 8 is * * * * * * * * dots, and it would take two more to make 10.)

4. How to help your child at home:
 - a. Homework is the student responsibility—if they do not understand it—bring it back and it will be explained to them. If you try traditional method without understanding, it may confuse children
 - b. Students have been told if they do not understand something, to try parts of the problem and then leave it for assistance

- c. If teachers do not know what the students struggled with, they do not know what needs to be further explained
- d. Best thing parents can do is watch and ask the child to explain their thinking and procedure
- e. The link to assistance is www.eduplace.com click on WI, Math, Math Expressions, families, grade level. You will find a glossary, Unit overview, Family letters, and math background. (Of course, you can always contact your child's teacher too ☺)
- f. The main related concepts at all grade levels are number concepts and an algebraic approach to word problems.
- g. Breaking apart numbers, or finding the embedded numbers, is a key concept running through the number concept units. For example, $10 = 8 + 2$, $10 = 4 + 6$
- h. Numbers are drawn in place value notation.

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- Parents can give students numbers and see if they can draw math pictures of them.
- Grade 1 Numbers to 20
- Grades 2 Numbers to 100
- Grades 3 and 4 Numbers to 1,000