What was your least favorite subject when you were in school?

When asked, many adults (not all) will tell you that their least favorite subject in school was math. When asked why, they will often tell you that math is about memorizing facts and procedures. If you weren't good at memorization, then you couldn't possibly be good at math. Many of the adults who feel they were good at math in school (but not all) will often tell you they were good at memorizing. If you are one of the people who believes you were never good at math, the good news is that you were NEVER bad at math. You just weren't taught the way you NEEDED to be taught in order to understand! There is evidence that students who developed number sense did it in spite of how they were taught. Much of their number sense came outside of school as they pursued hobbies that required them to have number smarts.

Try solving this question in your head without the use of paper and pencil. 297 + 348. Would you solve it the same way if you were allowed paper and pencil? In some cases, adults will "stack" the two numbers so they look more like the traditional format and solve 7+8, carry the "one", and keep solving by moving from right to left. However, more often than not, adults will find different strategies to help them solve this question. Some will add left to right. Some will turn 297 into 300 to make it easier to work with. There are many different strategies that will all work to get you the correct answer. Some of these strategies require understanding numbers and others require you to memorize a procedure without it being necessary to understand what you have done. Whichever strategy you used, you

- were probably able to do it in a reasonable amount of time
- probably got the right answer
- were probably able to explain what you did to someone else so that they could understand it.

This is what matters! It's about having a strategy that is efficient: gets you the right answer in a reasonable amount of time; effective: gets you the right answer every time; and explainable: you can explain your strategy to someone else.

What does this look like in a mathematics classroom?

"Students investigate a variety of strategies, including standard/traditional algorithms, to become proficient in at least one appropriate and efficient strategy that they understand." (Alberta Mathematics Kindergarten to Grade 9 Program of Studies, 2016 pg. 9) Can this be the standard/traditional algorithm? Absolutely! Does it have to be? No! Do they have to master all of the strategies that they see in the classroom? No! They have to master at least one.

What do teachers want you to know about their mathematics classroom?

- Their goal is for your child to love AND understand mathematics.
- The materials they are using in class, such as base ten blocks, fraction tiles, etc., enable exploration of mathematical concepts and build a deeper understanding.
- Children will be active participants in the learning process. They won't be "sitting and gitting".
- The math hasn't really changed over the years. How they are learning the math definitely has changed so the math classroom may look very different from the math classroom you experienced.

Our job is to help students build mathematical minds.

What do you need to stop doing?

NEVER tell your child that you were bad at math, especially if you are a woman talking to your daughter. Research shows that the moment a mother tells her daughter "I was bad at math", the daughter's achievement immediately declines. (Eccles, J., & Jacobs, J. (1986). Social forces shape math attitudes and performance. Signs, 11(2), 367–380.) If your child comes home and shares a strategy you don't understand, then tell your child, "I didn't learn math this way. Can you please explain this to me?" Both the parent and the child need to realize that just because different strategies are used, that's ok! The answer will still be the same in the end.

What can you do to help your child?

Be open to the idea that learning math today is first about deep understanding. Mastery is built through many activities and over time. Your child is still expected to master the outcome but the strategy they use might be different than yours and that's ok.

Play games! Dice games, board games and card games builds a variety of math skills such as basic fact fluency, probability, and strategies.

Ask your child to explain a strategy they are using, whether you understand it or not.

Look for opportunities to "do math" together at home. Bake together to build a sense of fractions. Share objects between two or more people. Don't give your child enough forks when setting the table and ask "how many more do you need?"

Talk to your school about organizing a Math Parent Night!

Check our local consortia's website (http://arpdc.ab.ca) to find out if they are offering Parent Night sessions.

Look for more "Math" newsletters throughout the year!