

**Math Trailblazers Parent University at Waters Elementary School**  
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*Presented by:*

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Waters has used Math Trailblazers (MTB) for the last 9-10 years and recently upgraded to the new common core aligned 4<sup>th</sup> edition. Many teachers focus on MTB in their classroom, while assigning supplementary math materials for homework (due to parent frustration with modern math curricula). The purpose of this workshop was to help parents better understand the MTB curriculum, as one of the goals established in our 2014-16 Continuous Improvement Work Plan (CIWP).

*About Math Trailblazers:* MTB Math is about thinking, doing, and problem solving. MTB Math is not about a set of facts. It is an evidence-based curriculum, representing a cultural shift in thinking about math. MTB Math is designed with college and career-readiness in mind. It is supported by research into applied mathematics and was written by a mix of mathematicians, scientists, and engineers who use math as a tool to arrive at solutions within their fields. It also aligns to Common Core's emphasis on integrating learning across subject areas, thus it incorporates more word problems and writing to relate it to reading and writing skills as well. It may therefore seem a little different than how we (as parents) were taught math, but it aligns with how most people use math in their careers.

MTB engages kids in real problems that do not have known answers. They collect data and use it to make predictions. Games are a natural context for helping kids to solve problems. MTB uses this strategy to help kids to develop a conceptual understanding and practice (and it makes practice more fun). Multiple strategies for problem-solving is encouraged. It helps develop efficiency—to find a strategy that best suits the problem (for example: when is it best to estimate? when is accuracy important?)

*Key shifts in the new 4<sup>th</sup> edition are:*

- Focus: narrowing in on fewer topics, with more depth
- Coherence: linking topics and thinking across grades
- Rigor: pursuing—with equal intensity—conceptual understanding, procedural skills and fluency, and applications.

*Tips for Parents:*

- The most powerful thing you can do to support your child's math education is to encourage your child(ren) that they can do math! Don't say things like 'I don't like math' or 'I'm not good with numbers' because it makes them believe they will not be able to do it either.
- Let them make mistakes—a growth mindset is really important in learning math. (Learn more about the growth mindset from math education specialist Jo Boaler at [www.youcubed.org/parents/](http://www.youcubed.org/parents/) and from psychologist Carol Dweck at

[www.ted.com/talks/carol\\_dweck\\_the\\_power\\_of\\_believing\\_that\\_you\\_can\\_improve?language=en](http://www.ted.com/talks/carol_dweck_the_power_of_believing_that_you_can_improve?language=en)).

- Encourage them to try more than one strategy, even if they got the problem correct.
- Don't worry about speed, if answers aren't coming fast it could be they are being thoughtful about strategy.
- Listen. They might have a really cool way to think about the problem that isn't the way we (as parents) were taught to arrive at solutions.
- Gather counters (beans, pennies, cereal, etc) to assist students as they develop a sense of quantity. (You may also hear the term "manipulatives" used to describe the use of material objects like beans, pennies, etc to allow kids to focus on otherwise abstract numerical concepts).
- With smaller kids, if you are confused with helping them work through problems, have them show you what they know.
- 'Kitchen table effect'—beware of introducing strategies that they haven't yet learned at school because the children will stick with it even if they're using it incorrectly
- Ask them to act out the problem
- Play a game (many games available on the website and through teachers)
- Use online family resources:  
<http://www.mathtrailblazers.com/Family#>  
<http://mathtrailblazers.uic.edu/families/>  
(Digital content from the textbook is available online, ask your child's teacher for the access code).