There are 8 Mathematical Practices in all. Every month the Math Moments newsletters will be highlighting one mathematical practice in order to provide you an opportunity to learn each one individually.

**There are 2 types of mathematical standards which are:**

- **Content standards**—these include the mathematical knowledge and skills students should learn.
- **Process standards**—these specify the mathematical ways of thinking students should develop while learning mathematics content or otherwise known as the 8 mathematical practices.

**Why do we need standards for Mathematical Practice?**

Being prepared to compete in an increasingly complicated and unpredictable world means developing the stamina and disposition to puzzle through totally unfamiliar problems.

When the real world throws us a problem, it never asks what chapter we’ve just studied! Competing in a knowledge-based economy requires great adaptability to unexpected challenges.

Preparation for this world requires learning to approach new and unfamiliar problems with the confident “I can puzzle this out” attitude. Students need to develop a disposition to tackle problems with only the knowledge they have (or can find on their own) without a pre-learned solution method.

### Mathematical Practices

are essential mathematical habits of mind and action!
Inside Mathematics website illuminates the mathematical practice standards with video excerpts of lessons. Just as with content standards, not every lesson reflects all elements of the individual standards for mathematical practice. By representing examples from different classrooms for each standard, they emphasize different ways teachers may enact these mathematical practices in their classrooms, with their particular learners.

How do the Mathematical Practices look like in a lesson?

As your child works through their math problems, they will be exposed to these practices. Below is an example of a math lesson where the bracketed MP.3 indicates math practice #3 (Construct Viable Arguments/Critique the Reasoning of Others). Although the practice is presented here individually, it’s important to keep in mind that many practices can, and should, be together in a lesson for they are interconnected.

### Relationships among the practices!

As seen in the diagram below;
Practices 1 and 6 serve as overarching habits of mind in mathematical thinking and are pertinent to all mathematical problem solving.

Practices 2 and 3 focus on reasoning and justifying for oneself as well as for others and are essential for establishing the validity of mathematical work.

Practices 4 and 5 are particularly relevant for preparing students to use mathematics in their work.

Practices 7 and 8 involve identifying and generalizing patterns and structure in calculations and mathematical objects. These practices are the primary means by which we separate abstract, big mathematical ideas from specific examples.

**“The Standards for Mathematical Practice describe varieties of expertise that mathematic educators at all levels should seek to develop in their students.”**

—COMMON CORE STATE STANDARDS

**“The level and kind of thinking in which students engage determines what they will learn.”**

—Hiebert, Carpenter, Fennema, Fuson, Wearne, Murray, Oliver, & Human