

## Fluency equals Mastery

### WHAT IS MATH FLUENCY?

“Mathematical fluency refers to the ability to perform mathematical calculations using well-rehearsed procedures quickly and accurately and includes the ability to recall facts to the point of automaticity, answering immediately (2-3 seconds) from memory.” This is Gideon’s definition of math mastery and the aim of the Gideon Math program.

Source: Hatten-Roberts “The Need for Speed: Why Fluency Counts for Maths Learning”

### WHY IS MATH FLUENCY (MASTERY) IMPORTANT?

“Trying to problem solve in mathematics without basic fact fluency is like trying to read without being able to decode. Basic calculation fluency is the strongest correlate of success in mathematics in primary school and the most frequent symptom of difficulties in mathematics.”

“Without this ability to retrieve facts directly, students are likely to experience high cognitive loads and produce inaccurate work. As the complexity of math progresses past multiplication, calculations like finding common denominators when adding fractions become an extremely difficult task.”

“Fluency provides a foundation for higher-level math skills needed for problem-solving and critical thinking, while promoting efficiency and confidence.”

**Memorizing the basic facts is the strongest indicator of success.**

## Timing is required to determine fluency.

### HOW CAN YOU DETERMINE MATH FLUENCY (MASTERY)?

“Timed assessments serve as a means for students to demonstrate their ability to recall information rapidly and accurately, providing insights into their level of mastery.” Gideon Math drill booklets have time standards to help determine if fluency/mastery has been achieved. Without timing, there is no way to be sure fluency has been achieved.

### WILL TIMING MATH CREATE ANXIETY?

“What causes anxiety is a lack of skills, particularly a lack of basic math facts at an early age. That lack of skills and anxiety will have a reciprocal relationship and will likely spiral.” Gideon ensures students build confidence through solidifying and mastering their basic skills before moving on to harder concepts. This leads to better math performance which reduces math anxiety.

Source: Taber “The Science of Maths Fluency”

**Reduce anxiety by ensuring fluency.**