

# MAD MINUTES

In third grade, we continue supplementing our math program with deliberate fact practice just like we did in second grade. Our focus this year will shift from an early review of addition and subtraction to a heavier emphasis on multiplication and division.

Building fact fluency is a year-long process that focuses on strategies and connectedness of the times tables. This sense of connectedness helps children multiply and divide numbers without looking at each fact as new and different, but how it relates to other facts. We consider mastery level of multiplication and division facts when students can recall/compute facts in five seconds or less.

We strengthen their fact power through connections to facts they know, game play, fact triangles (flashcards), and through explicit practice with **Mad Minutes**.

## The basics:

- Complete two practice tests a week (Practice sheets sent home on Monday). Aim for 2 minutes, but complete the practice even if it takes longer. (These do not need to come back to school)
- We will do a fact test at school on Friday. The goal is to have students complete the practice set earning a 90% or higher in 2 minutes.

## Want more information...

What's the difference between memorization and fluency?

- Fluency and automaticity are the recall of facts. This is a skill that builds gradually and comes *after* conceptual understanding of the computation process. We spend a huge amount of time in second and third grade strengthening number sense so that students are comfortable taking apart and putting numbers together. As students build fact fluency, accuracy is valued over speed. Memorization occurs as part of building fact fluency through understanding, exposure, and practice.
- Memorization can be used to commit unrelated things to memory. You can memorize without understanding and making connections. In fourth grade and beyond, the expectation is that through extensive work as described above, students will have memorized their facts and obtained fact fluency.

Why and how are we building fact fluency?

- Fluency is important for reducing cognitive load while solving more complex problems. With basic facts in long term memory, more of their brain power can be used for problem solving.

- Establishing a habit of practicing facts is helpful in and of itself. Practice, like in many things such as sports or playing an instrument, helps progress skills and keeps those parts of the mind sharp. The “use it or lose it” mentality.
- Students cut out fact triangles, which are like flash cards – only better! Being able to practice multiplication and division depending on what number is covered up helps establish the relationship between these opposite operations and makes the “fact family” more recognizable. Ie. 7, 6, and 42 appear on a triangle to practice the following facts:  $6 \times 7 = 42$ ,  $7 \times 6 = 42$ ,  $42 \div 7 = 6$ , and  $42 \div 6 = 7$ .
- Students practice subitizing (recognize a quantity of dots in a pattern without counting them) during “quick looks”. This helps them visualize and rearrange quantities when they are computing. For example, three groups of three dots help them to remember and “see” that  $3 \times 3 = 9$ .
- Playing games is also a way to encourage fact recall and build number sense. See the fact practice links in the third grade tab on [efsmath.org](http://efsmath.org) (password:efsmath). Additional mad minutes can also be printed from there.

### **One more thing..**

For many students, completing the fact tests in a given amount of time allows them to set goals and see progress over time. For some students this pressure prevents them from demonstrating what they know. We have discussions about their fact power being a personal journey and that progress is possible with practice. The more they practice, the more comfortable they will feel doing this low stake activity.

Alyssa Charles  
LS & US Math  
[acharles@elmwoodfranklin.org](mailto:acharles@elmwoodfranklin.org)

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