



Macdonald Middle School 1601 Burcham Dr. East Lansing, MI 48823

May 28, 2020

Dear Class of 2026 and 2027:

With the uncertainty of what school may look like in the coming year and the knowledge that all students and staff are returning from a wide variety of circumstances and experiences during this pandemic, it is our intention to refamiliarize students with MMS and to transition smoothly through any changes that are necessary because of this situation. It will be important that we continue to work together with grace and patience to provide the best possible foundation for positive social, emotional and academic growth in every student. We look forward to this cooperative effort between MMS faculty and staff, our students, families, and the East Lansing community.

To best ensure student success, math teachers and administration are placing students in courses subsequent to those they were enrolled in during the 2019-2020 school year. During the first marking period each math teacher will be working to ensure all student placements are appropriate. Any placement changes deemed necessary will occur after families have been notified and all agree with the suggested change. Accordingly, there will be no placement testing for the 2020-2021 school year.

MacDonald Middle School has long believed that 6th Grade Math best prepares students for 7th Grade Math; 7th Grade Math prepares students for 8th Grade Math; 8th Grade Math prepares students for Algebra I. We must ensure each student has a solid foundation and understanding of grade-level concepts before considering any advanced placements in math courses.

The ELPS Math Flowchart is included at the end of this letter to help you understand the progression of mathematics at East Lansing Public Schools.

When considering appropriate placements for students, the article below may be helpful in representing our beliefs.

Memorization versus Conceptual Engagement (Boaler, 2019)

Mathematics is a conceptual subject, and it is important for students to be thinking slowly, deeply, and conceptually about mathematical ideas, not racing through methods that they try to memorize. One reason that students need to think conceptually has to do with the ways the brain processes mathematics. When we learn new mathematical ideas, they take up a large space in our brain as the brain works out where they fit and what they connect with. But with time, as we move on with our understanding, the knowledge becomes compressed in the brain, taking up a very small space. For first graders, the idea of addition takes up a large space in their brains as they think about how it works and what it means, but for adults the idea of addition is compressed, and it takes up a small space. When adults are asked to add 2 and 3, for example, they can quickly and easily extract the compressed knowledge. William Thurston (1990), a mathematician who won the Field's Medal - the highest honor in mathematics -- explains compression like this:

Mathematics is amazingly compressible: you may struggle a long time, step by step, to work through the same process or idea from several approaches. But once you really understand it and have the mental perspective to see it as a whole, there is often a tremendous mental compression. You can file it away, recall it quickly and completely when you need it, and use it as just one step in some other mental process. The insight that goes with this compression is one of the real joys of mathematics.

You will probably agree with me that not many students think of mathematics as a “real joy,” and part of the reason is that they are not compressing mathematical ideas in their brain. This is because the brain only compresses concepts, not methods. So if students are thinking that mathematics is a set of methods to memorize, they are on the wrong pathway, and it is critical that we change that. It is very important that students think deeply and conceptually about ideas.

Sincerely,

East Lansing Administration and Math Department

East Lansing Public Schools Typical Math Course Flowchart

