

# Elements of Mathematics Foundations

## Responses from an anonymous survey given to EMF parents & students in Broward County Public Schools, Florida, Spring 2016

### Parent Quotes and Findings

#### EMF OR GEM\*?

“EMF is a way more challenging and useful compared to GEM. It provides excellent foundation not only for college but future career in math, programming, engineering.”

“[EMF is a] completely different approach to mathematics and will prepare them better for the future.”

“My son [took GEM] last year and found the pacing slow with a lot of unnecessary practice work. The EMF program is a much better fit for his mathematical abilities and curiosity while at the same time remaining fresh & challenging through the course.”

“GEM is easy & enjoyable but he does not learn as much mathematics. EMF is the challenge he has needed since 3rd grade.”

“EMF works much better for mathematically gifted students than GEM ... EMF improves kids' mathematical skills much more than GEM.”

“EMF is the only challenging mathematics my child has ever attempted. She had already completed the GEM curriculum in 5th grade. “

#### WHAT I'D TELL A FRIEND ABOUT EMF...

“I would highly recommend EMF. In a few words I would say: it's the best possible way to prepare your child for a career in math/physics/chemistry/software engineering and the like.”

“The program is terrific because it is not just computation & rote memory of formulas, but how to approach, analyze, and solve real world mathematical problems.”

“I believe that my son has improved in mathematics a lot and the program is very good.”

“My son loves EMF and can't have enough of it. EMF is by far his favorite course this year.”

“The level of challenge is, however, what is propelling us to choose EMF again next year. What would my daughter do in regular Algebra I? She'd be bored to tears.”

*\* Broward County, Florida's GEM Program is designed accelerate students two years in mathematics using standard curriculum.*

“EMF has done a nice job of helping the kids without giving them the answer.”

“EMF ... worked beautifully for our son. Thank God he got in!”

### **ADVICE FOR NEW EMF PARENTS**

“The student needs to be tenacious, self-motivated and willing to READ and re-READ material. I would caution parents to make sure their child stays on pace ... they need to TRULY UNDERSTAND why they got a problem incorrect before moving ahead.”

“EMF has provided transparency so that I can see whether my child is on pace, how much time she's logging in and whether she is asking enough (and well thought-out) questions.”

“I would recommend all parents to help their student with time management, to be engaged by asking questions, and encouraging their student to be patient and not be afraid to ask for help (in the forum).”

“Enjoy the ride as long as it lasts. Do not be upset if you didn't break the code as fast as your child on day 1.”

### **PARENT FINDINGS**

100% of parents reported that their child's ability to analyze complex problems, self-study skills, and ability to focus for extended periods of time had improved since beginning EMF.

92% of parents report that their child enjoys doing EMF and finds EMF challenging.

92% of parents think that EMF has made their child more ready for high school and college mathematics than they would have been without it.

80% of parents report that their child's confidence in their mathematical abilities has improved since beginning EMF.

## **Student Quotes and Findings**

### **EMF OR GEM?**

“EMF teaches a lot of things that GEM students do not learn.”

“EMF really cultivates the mind and prepares students for even harder courses in the future, while other programs are only concerned about the present.”

“EMF can make you think and understand problems, formulas and rules more critically than GEM class can! Most GEM classes teach you material using rules even though you can't explain how these rules work. But EMF never does that, and gives explanations (or makes you explain them) for everything you learn.”

“With EMF you almost never return to something you already knew, and when you do, it's to further build up your learning. Think of it like building a LEGO set, then making your own creation using the old bricks and mixing in some new. That's what EMF is all about.”

“[EMF is] way more exciting, It keeps you on your toes, and it's a closely knit ... EMF society.”

“[EMF] allows you to use your intelligent brain more than you ever have before. In the normal classes I would be bored when the teacher would go over the lesson over and over and over.”

“[EMF] looks at math in the long term. It teaches math how it's supposed to be taught. It will prepare for the standardize tests, but it reaches concepts beyond that.”

“GEM teaches ideas, and the entire class takes it for granted for the rest of the year. EMF teaches ideas, then proves them, giving you a better idea of what it is and how it works.”

“GEM is average math, which is available in many other courses. EMF is a unique math course that makes you think and gives you a head start for high school, college, and even life!”

“EMF is much more useful in real world situations and had a much more out of the box feel than standard "school math" like GEM.”

“[EMF beats] GEM by a long shot!”

#### **WHAT I'D TELL A FRIEND ABOUT EMF...**

“It may be slightly time-consuming, but when you're done with EMF for the day you feel re-invigorated.”

“There is a tough schedule, but if you can make it through...your math skills will be improved greatly.”

“You're working hard, improving your mind, and still having fun!”

“It is challenging but very rewarding if you stick to it.”

“[Reap] the rewards of knowing such advanced mathematics!”

“This program is amazing and it [taught] me more than anything that I have been through.”

“EMF is challenging and fun, improves your work ethic and concentration skills, and even helps you in daily life!”

“EMF is a way of looking at everything that you took for granted in earlier years, and proving them to make them more detailed and complete. It is also a way of looking at new concepts that you previously learned in a different way.”

#### **STUDENT FINDINGS**

Roughly two-thirds of the EMF students reported that they strongly agreed with this statement: “I enjoy doing the EMF program.”, while less than one-third of the students reported that they strongly agree with this statement: “I enjoy doing other mathematics programs like GEM.”

94% of the EMF students think that EMF has made them more ready for high school and college mathematics than they would have been without it.

80% of the EMF students reported that their confidence in their mathematics abilities has improved since doing EMF.

97% of the EMF students report that their ability to analyze complex problems has improved since beginning EMF.

## **ADVICE FOR NEW BCPS/EMF STUDENTS**

“Work hard, stay ahead of the game, and you'll pull through.”

“Always have confidence. It is hard, not gonna lie, but as long as you put great effort into this program I bet you'll be fine!”

“Read the information well, try to understand how to do it, and to check over your work.”

“Don't give up when it gets hard, ask questions, take your time, possibly work at home, and you will be rewarded in the long run.”

“Learn how to concentrate and have time set aside for EMF.”

“Don't fall behind and take your time on each problem.”

“Check your answers. Read the text carefully and make sure you understand it. If you can't understand it, then ask the help forum.”

“Don't get behind schedule ... R E A D.”

“Read everything carefully and completely, especially before an exercise.”

“When you do EMF, tune out everything around you.”

“Always try to stay ahead of schedule.”