



Math FAQ's

Fairbanks North Star Borough School District

1. What kind of math do we teach in the District?

All of our math curriculum is based upon the Alaska State Standards for Mathematics. More information can be found at <http://www.k12northstar.org/Page/3022>. These standards are based around 4-6 focused concepts which are distinct at each grade level. At the high school level, we teach traditional courses like Algebra and Geometry, which are again, based upon the Alaska State Standards. At the high school level, the difference is that the Standards are grouped by topic instead of grade level.

2. How is this math different than what I learned?

The concepts and topics are still the same. However, there have been changes:

- **When** students are introduced to different skills has changed.
- Additionally, the new standards **emphasize fewer topics, but delve more deeply**.
- **How** students are asked to solve and demonstrate problems may look quite different

Then	Now
<i>Focus on math facts</i>	<i>Focus on conceptual understanding</i>
<i>Students asked to show the right answer.</i>	<i>Students asked to critique a solution to find the errors.</i>
<i>Problems that practice the same skill repeatedly.</i>	<i>Problems that ask students to apply math to real world problems or new situations.</i>
<i>Distinct units and problems with few connections between concepts</i>	<i>Units include connections within math concepts, and connect math to real world</i>

3. Why did this change happen?

Research has shown a lot about how students learn best. Students today don't learn in the same ways students did 20 years ago. In response, schools have changed when students are introduced to certain concepts, and teachers have changed how they teach to better reach all students. Also, our society and employers want people who can apply math to real world problems and use math to solve problems. The changes in curriculum support our students to think mathematically and be prepared for lots of options after high school.

3. But I thought we taught *EnVision* Math in the elementary grades?

EnVision is the name of the textbook program our district adopted. Teachers use this text to teach the standards for each grade level. The types of problems you see may look different, as they often have several steps, and ask students to construct meaning and apply math in new ways.

4. I've been told that if my student isn't in advanced math by 6th grade, that they can't get to high levels of math in high school. Is this true?

No. There are two ways to think about this issue. The first is that the current 8th grade math has many of the standards from traditional Algebra embedded in the curriculum, so our current 8th graders are leaving middle school with a more rigorous math experience than students did prior to the adoption of the Standards. This means that students on grade level math are already learning a higher level of math than in previous curriculum.

Another consideration is that in high school. Students begin to choose classes that align to their post-secondary goals, such as AP Statistics instead of two years of AP Calculus, for example. As in every subject area, students who want to take more of the advanced math courses or all of the AP classes offered in high school will likely have to double up and take two math classes, or take math over the summer.

So while students who take Advanced Math in 6th grade have a jump start on these higher level courses, taking on-grade level math does NOT keep a student from taking challenging math classes during high school.

5. What if my student takes regular 6th grade math but then wants to take advanced math in 7th grade?

As a District, we want to allow students and families access to math courses that are appropriately challenging. The sample math pathways attached to these FAQ's allow for multiple entrance and exits for students. So students MAY take Advanced 7th Grade Math without having taken Advanced 6th Grade Math. Schools and teachers have been provided readiness assessments to help place students in the most appropriate classes. If your student wants a specific class, talk to the teacher, principal or counselor at your school.

6. How do I know what the best class for my student is?

Talk to your student's teacher. Ask questions about his/her current level of math achievement, as well as work habits and motivation. Share your hopes and goals for your student as they progress towards graduation and beyond. Placing students in the best fit class might even involve factors like how much time your child has for homework in the evenings, or how much they love math.

7. My student struggles in math. Are there supports and special classes available for her as well?

Yes. At the elementary level, each school operates a little differently, but provides supports such as small group instruction, differentiated assignments or additional math time. In secondary schools, students may choose from classes that move at a different pace or take a specific support class.

8. How important is math anyway? Does my student really need to take all those math classes?

Math is very important! Alaska's high demand, high wage jobs require students to know math, and to be able to apply mathematical thinking to new situations. The Alaska State Standards lay out expectations that ALL students successfully make it through Algebra II, and many of our local trade unions have this requirement as well. Although only 3 years of high school math are required for graduation, we recommend students take math all four years of high school.

As a District, we are continually working to improve our math program. Teachers review data around math achievement and participate in professional development to improve their teaching. This year, the District is using an assessment called the Measure of Academic Progress (MAP) in grades 3 – 10. This online assessment gives teachers immediate feedback about the learning of each student compared to the standards at each grade level. As our students and teachers become familiar with this tool, it can help teachers better target the needs of students.