Grade 8 Math Program Ideas

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January 15, 2014
Purpose

1. Share Ideas
2. Elicit Feedback
3. Answer Questions
Math (K-12)

Provide a rigorous, meaningful, coordinated, standards-based and engaging mathematics curriculum for all students. Have as many students as possible prepared to take and succeed in advanced HS math and science courses.

What might this look like?

• Strengthen K-12 math program and devote resources to maximizing the number of students succeeding in advanced math courses including Calculus.

• Develop a strong school and district culture about the importance of developing strong math skills and succeeding in all math courses.
Model for Supporting High Math Achievement

- Extended **window of opportunity** for movement between courses.
- **Aligned** and interrelated **courses**
- **Intervention** aligned with core program
Proposal for Consideration

Two Eighth Grade Math Courses

• Algebra 8
• Algebra 8+

Algebra 8+ moves at a faster pace such that additional math content will be taught:

- Exponential Equations and Factors
- Polynomial Equations and Factoring
- Graphing Quadratic Functions
- Solving Quadratic Equations

Successful completion of Algebra 8+ positions students to be able to take high school math courses that lead to the option of taking Calculus in high school.
MS/HS Course Sequence

*One of these sequences will be available to incoming 9th graders in fall 2015 (Anticipated decision by fall 2014)

Algebra 8, 8+
  ↓
Geometry CP/H
  ↓
Algebra 2 CP/H
  ↓
Pre-Calculus or Trig
  ↓
Calculus AB/BC or Stats

Algebra 8, 8+
  ↓
Course 2 CP/H
  ↓
Course 3 CP/H
  ↓
Course 4 CP/H
  ↓
Calculus AB/BC or Stats
What Options Do Algebra 8 Students Have for Being Prepared to Take a 9th Grade Honors Math?

Option 1: Grade 8 Math Elective

Option 2: Four Week Summer Program (2 hours/day)

Option 3: Grade 9 Math Elective

The goal of these options is to give students more time to learn the required course content such that students are positioned to succeed in a more advanced math course.

We plan to survey students and families about these options as part of the (March) elective course registration process.
Course Placement Decisions

Course placement decisions will be based on

- 7th grade student performance data (grades, assessments)
- Teacher recommendation
- Student input
- Parent/Guardian input

Top priority: Informed parent/guardian/student decision making
Planning Considerations

Schedule and Staffing
Math Elective: Grade 8 (# sessions?)
Summer Program (4 weeks, 2 hours day)
Math Elective: Grade 9
After School Math Support
Parent/Family Outreach
Calculus in 11th Grade Option

Amherst Regional High School (current)
• “Doubling Up:” Four trimesters math in one school year
• Self-Study Option
  – 95% test average from current course
  – Portfolio to represent understanding of concepts and skills
  – 85% on final exam
  – Working with teacher, tutor, or parent/guardian with strong math background to engage in mathematical discourse

Amherst Regional Middle School (beginning Feb 2014)
• Offer a student portfolio option for 9th grade math course content. MS students complete a Carnegie Learning self-study course and assessments, submit portfolio problems, and participate in an afterschool program and/or engage in ongoing electronic communication with portfolio teacher.
Math Program Goals (6-8) Update

1. Establish clear content goals for 6\textsuperscript{th}, 7\textsuperscript{th}, and 8\textsuperscript{th} grades based on \textbf{Common Core State Standards}.

2. Identify a \textbf{core math text} for 8\textsuperscript{th} grade

3. Create a sustainable and \textbf{transparent math course pathway} for 7\textsuperscript{th}, 8\textsuperscript{th}, and HS program.

4. Develop \textbf{targeted intervention program} to support the core math program and the Common Core State Standards
Next Steps

Math 7 and Math 7 Flex
- Communication plan for informed decision making for eighth grade
- Consider individual student goals and preferences
- Students/Parents/Guardians need to be in contact with classroom teacher about cases in which students are not feeling challenged.

Professional Development Plan
- Professional Development (grades 6-8)

School Committee and Parent Feedback
- Algebra 8
- Algebra 8+
Thank You