

# K-12 Math Report

Granby Board of Education  
May 5, 2021

# Purpose Statement

Tonight we will review where we are with math programming and discuss the direction we will be moving in as approved by the curriculum sub-committee.

# Where are we currently?

- Algebra for All, Common Core, & Eureka (16-17)
- 19-20 Program review was due
- Standards forward curriculum writing began Summer of 2020
- Eureka needs regular supplementing
- We have not seen the results we hoped for
- Gathering information and researching models & resources

# Math Proficiency Scores

	2016-17		2017-18		2018-19	
	Percentage Level 3 or 4 (Met or Exceeded)%	Average VSS	Percentage Level 3 or 4 (Met or Exceeded)%	Average VSS	Percentage Level 3 or 4 (Met or Exceeded)%	Average VSS
SBA 3	60.6	2456	60.7	2460	68.3	2473
SBA 4	62.3	2506	68.4	2507	65.8	2514
SBA 5	60.9	2543	55.7	2537	62.7	2547
SBA 6	64.8	2568	64.7	2582	56.2	2557
SBA 7	66.2	2600	59.8	2588	72.5	2610
SBA 8	60.5	2608	65.8	2618	52.5	2593
Overall 3-8	62.5%		62.5%		62.9%	
SAT 11	70%	573	57.1%	549	61.9% (17/19 DRG B)	551

# Current Model

	Grades K-4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9+
95-99% of students	Grade level standards	Grade level standards	Grade 6 standards plus a few Grade 7 standards if time	Grade 7 standards and all Grade 8 non-Algebra standards	Algebra I (65%) OR Algebra IA (35%)	Geometry H (35%) OR Geometry (21%) OR Algebra I (11%) OR Algebra IB (32%)

1-5% of students double up Grade 5 & Grade 6 Math in Grade 5 and track 1 year ahead

100% of students complete Algebra by end of 9th grade

All students get Grade 7 and Grade 8 standards condensed in one year with varying levels of success

# What did our research reveal?

- Spoke with 13 districts from Farmington Valley and DRG B
- Most districts begin an accelerated pathway in Grade 6 or 7
- Most districts have 25-40% of students in Algebra in 8th Grade (range 16-85%)
- Readiness should drive course access
- 5 districts utilize Illustrative Mathematics, others rely on Big Ideas, Math in Focus, or “home grown” units
- Strong K-5 programming sets up 6-8 for success

# Where do we need to go?

- Realignment of middle school progression
- Utilize Illustrative Math in Grades 6-8 (21-22)
- Continue standards forward curriculum development and resource exploration for K-5/9-10
- Utilize professional development in unit roll-outs
- Realign STAR & PSAT Assessments
- Monitor data
- Gather input and feedback
- Continue to communicate

## Proposed Model

Grades K-5	Grade 6	Grade 7	Grade 8	Grade 9+
Grade level standards	Accelerated 6/7  OR Grade 6 standards	Accelerated 7/8  OR Grade 7 standards	Algebra I (est. 35%)  OR Grade 8 Standards (est. 65%)	Geometry H (est. 35%)  OR Algebra I (est. 50%)  OR Concepts of Algebra (est. 10%)

Utilize Gifted and Talented Identification with Elementary Enrichment Model to accelerate based on individual needs  
 100% of students complete Algebra by end of 9th grade  
 Students that are ready can start accelerating in Grade 6 and study 3 grades of standards over 2 years  
 Established pathway to high school with credit potential



# What are the priorities?

- ★ Acceleration based on readiness
- ★ Mastery of grade level standards
  - ★ Math practices
  - ★ Engagement
  - ★ Problem-based learning
- ★ Student-centered instruction
- ★ Conceptual understanding
  - ★ Hands-on
- ★ Technology components

# Core Resource Exploration

K-5:

Why IM?

Bridges


Illustrative Math (2021-22)










6-8:

Math in Focus

Illustrative Math

- **Highly-rated:** According to EdReports, an independent nonprofit that reviews K-12 instructional materials, IM 6–8 Math™ and IM 9–12 Math™ certified by Illustrative Mathematics® meet all expectations across all three gateways for focus, coherence, rigor, mathematical practices, and usability. K–5 reports coming soon.
- **Grounded in best practices for effective mathematics education:** Our programs are rooted in well-respected pedagogy and methodology to form a rigorous, standards-aligned curriculum.
- **Expert authoring team:** Read more about the educators and mathematicians who developed our curricula and professional learning: [K-5](#), [6-8](#), [9-12](#).
- **Full-service experience:** By combining the curricula with IM Certified Facilitator-led professional learning and an active online community provides educators with 24/7 support, districts receive support at every level to create effective mathematics classrooms. (CREC)
- **Open Sourced**



GRADE LEVEL	FOCUS & COHERENCE	RIGOR & MATHEMATICAL PRACTICES	ALIGNMENT RATING	USABILITY RATING
Sixth Grade			Meets Expectations	
Seventh Grade			Meets Expectations	
Eighth Grade			Meets Expectations	

<https://www.edreports.org/compare/results/math-k-8>

<https://illustrativemathematics.org/>

### ***Research-driven, problem-based curriculum.***

In a problem-based curriculum, students work on carefully crafted and sequenced mathematics problems during most of the instructional time. Teachers help students understand the problems and guide discussions to be sure that the mathematical takeaways are clear to all. In the process, students explain their ideas and reasoning and learn to communicate mathematical ideas. The goal is to give students just enough background and tools to solve initial problems successfully, and then set them to increasingly sophisticated problems as their expertise increases.

Mathematics is not a spectator sport. The value of a problem-based approach is that students spend most of their time in math class doing mathematics: making sense of problems, estimating, trying different approaches, selecting and using appropriate tools, and evaluating the reasonableness of their answers. They go on to interpret the significance of their answers, noticing patterns and making generalizations, explaining their reasoning verbally and in writing, listening to the reasoning of others, and building their understanding.