Math Resource Update

Granby Board of Education Sub-Committee

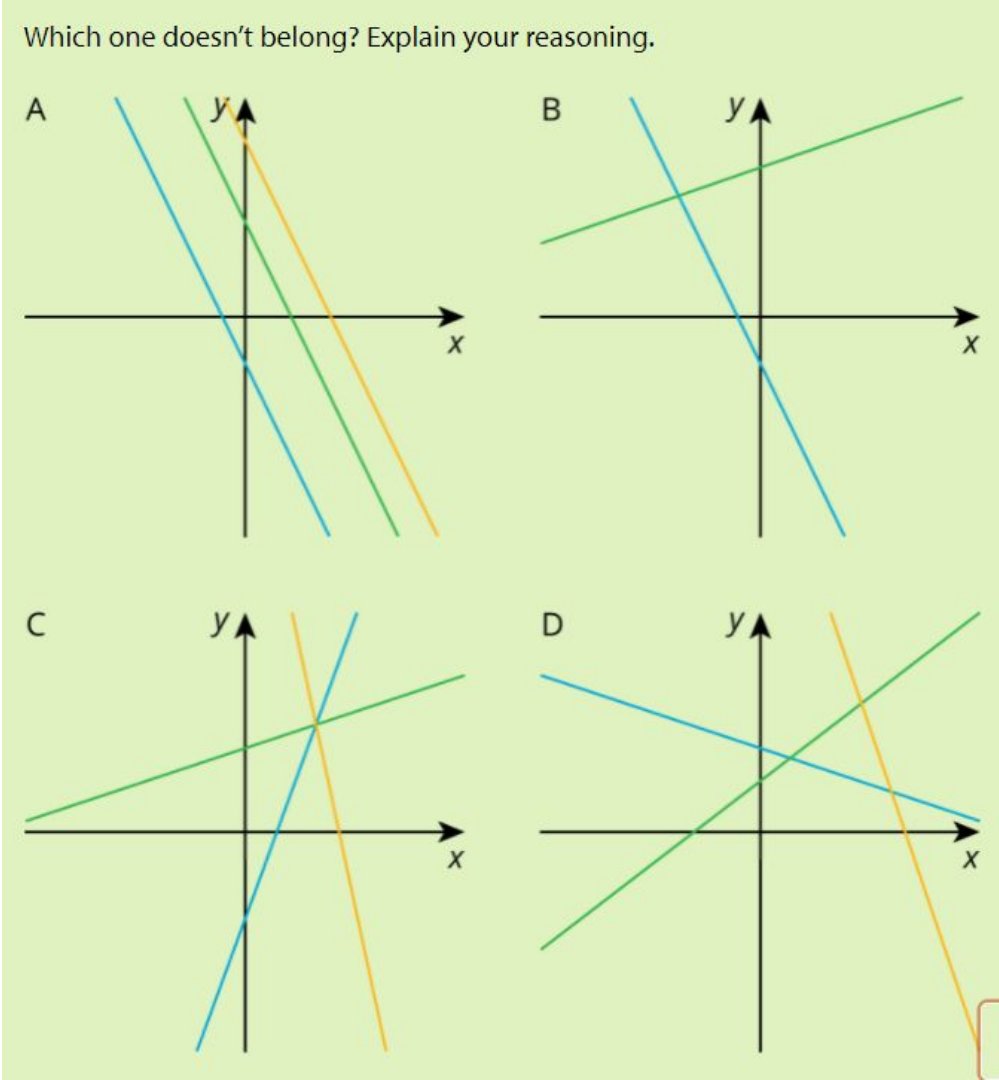
Illustrative Math in Action:

Warm-up (Gr 8 Unit 4 Lesson 10)

Instructional Routine:

"Which One Doesn't Belong?"

- 1-2 min quiet think time
- 1 min to share with partner
- 2-3 min to share whole class



Work of 2021-22

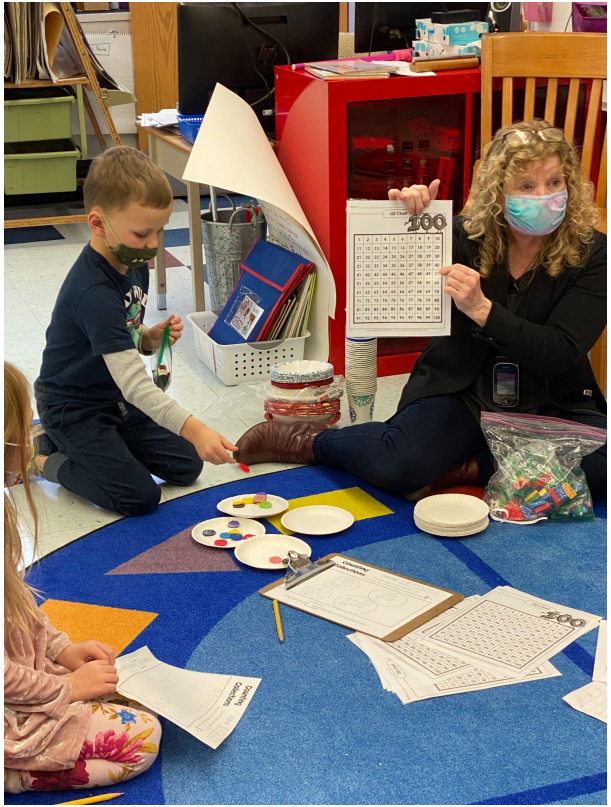
- Curriculum writing and piloting of Illustrative Math and acceleration model 6-8
- Consider/pilot resources for K-5 and Algebra/Geometry
- Reassess and evaluate 11th/12th grade options before rewriting or adopting resources in 2022-23

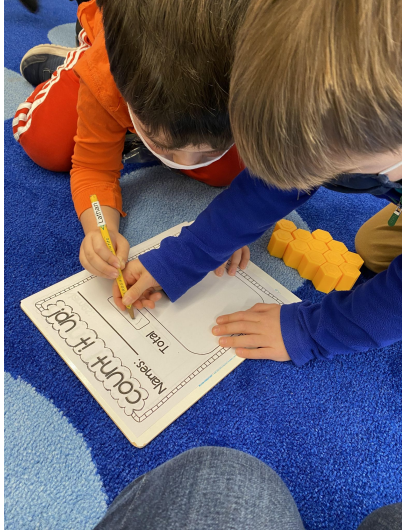
K-2 Consider/pilot resources for K-5

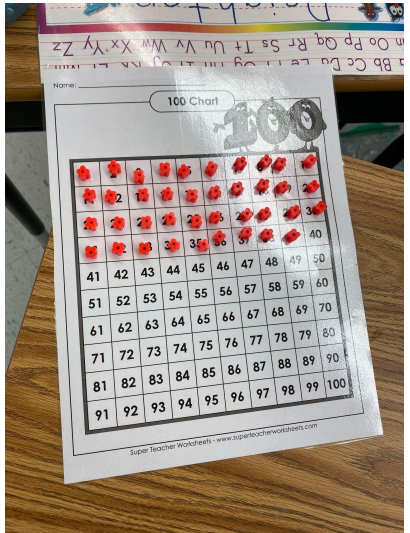
Update:

- Grade 2 piloted in the fall. Grades K and 1 will pilot mid March, one unit each. If they want to, we will continue to end of year.
- Teachers have been learning about IM during math PLC so roll out of pilot unit is smooth
- Teachers eager to have a resource that is student centered, student friendly, and accessible by all.
- Counting collections- an instructional strategy that has shown great success in Kindergarten is embedded in IM
- Grade 2 Quote: “I appreciate that it is very engaging and involves many opportunities for hands-on exploration of concepts. Having piloted the first unit, I liked how a launch is part of the curriculum and helps to teach children the learning routines in an intentional way. There appears to be A LOT of materials to prep each day, this is challenging at our level, but I think (hope) it would become more streamlined as we get used to it. My biggest concern was the lack of opportunity for independent practice of skills taught. I think this is a critical piece of solidifying concepts for students, as well as a piece of evidence for teachers to address gaps.”
- Grade 1 Quote: “ I do like how there are opportunities to discuss more (for example which one doesn't belong) I also like how the slides are pre-prepped and have visuals that connect to the lesson's objective. Although there is a lot of change with curriculum and it is a lot to adapt to, prep, and get comfortable with, I do feel that there needed to be a change with the math program - Eureka is too wordy for this level, half of the time the class cannot read directions or problems and cannot complete independently, exit tickets do not connect to the lesson objective, independent work doesn't always connect with the teaching in the teachers manual.

Counting Collections







3-5

Process: IM rolled out to 3-5, resource teachers August 2021, all grade 3,4,5 teachers utilizing IM

Math PLC meetings focus on IM units, assessments, student work, troubleshooting, problem solving, *“How did you do that?” “What’s coming up next?”*

Vertical IM team meetings: Grade 3, 4, 5, special education rep 4x/ year *“What are you seeing/hearing?”*

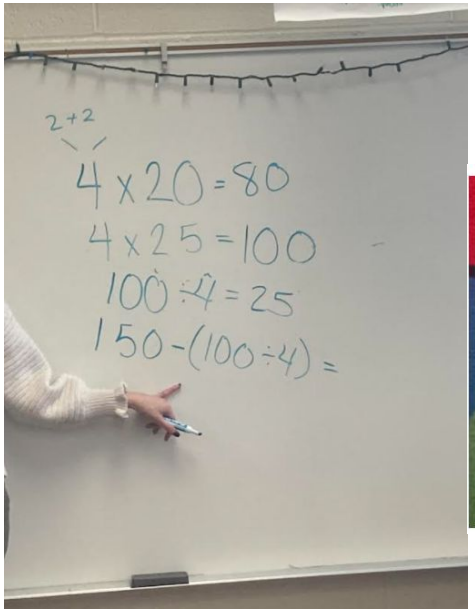
Coaches meet regularly to troubleshoot, learn from each other and IM *“What did teachers think? How did that go?”*

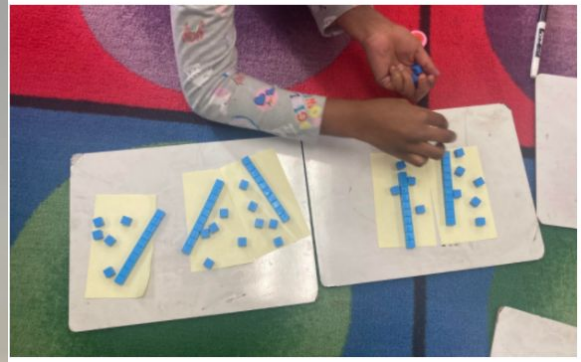
Challenges:

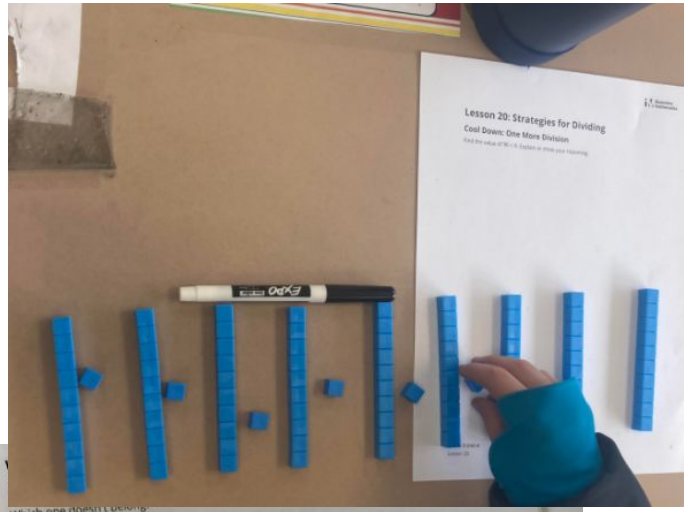
More practice problems needed for students to apply their skills, lessons can be repetitive, teachers need to plan carefully, prep time for centers is time consuming, have to think strategically about what activities are most important, how to make it work in a workshop model, need ongoing PD

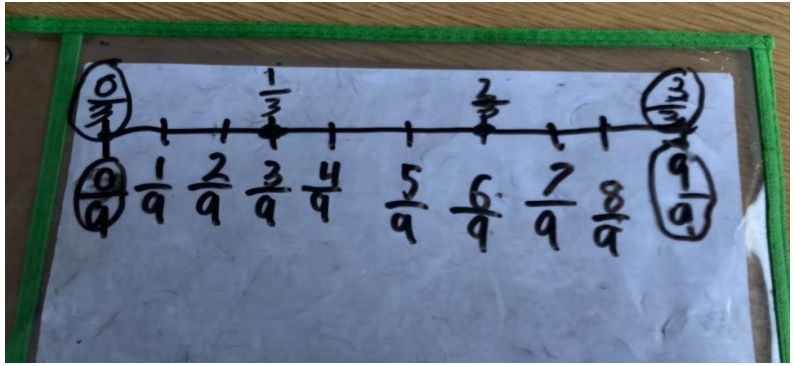
Successes:

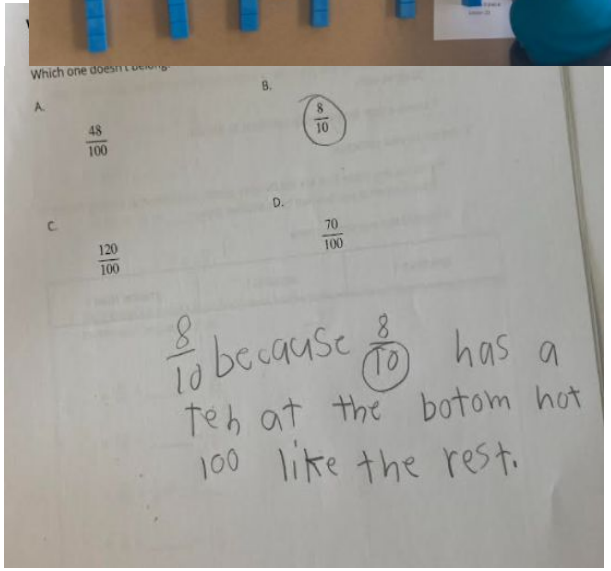
Language is not a barrier for accessibility to the math, math language and visuals are consistent, independent parts of the lessons are good, presentations are created for teachers, lesson plan is easier to understand, exploratory sense is good for students, pace is realistic


2+2
4 x 20 = 80
4 x 25 = 100
100 ÷ 4 = 25
150 - (100 ÷ 4) =




Lesson 20: Strategies for Dividing
Cool Down: One More Division


0/9
1/3
2/3
3/3
1/9
2/9
3/9
4/9
5/9
6/9
7/9
8/9
9/9

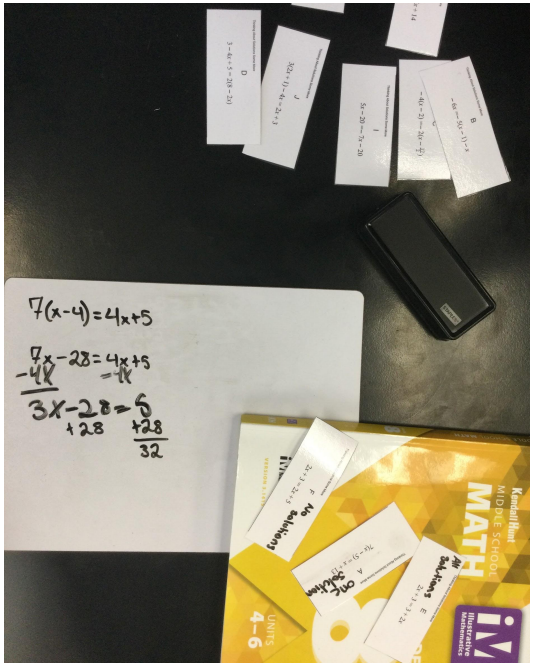

A.
48/100
B.
8/10
C.
120/100
D.
70/100
8/10 because 8/10 has a teh at the botom not 100 like the rest.

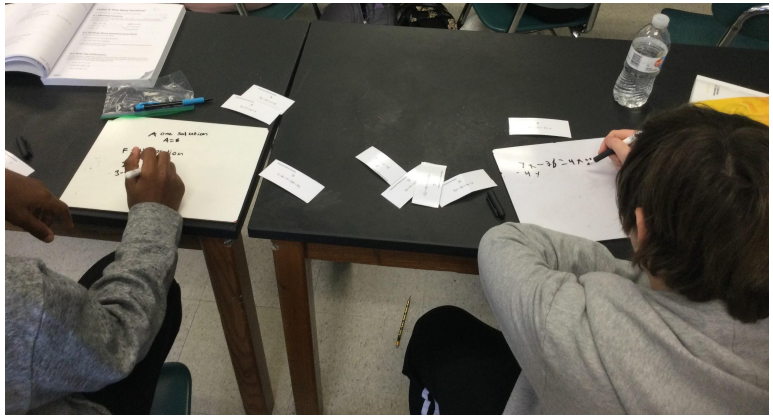
Implementing 6-8

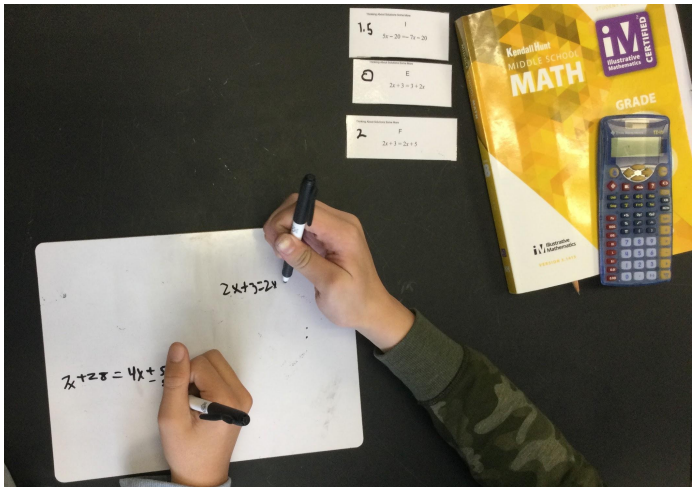
Update:

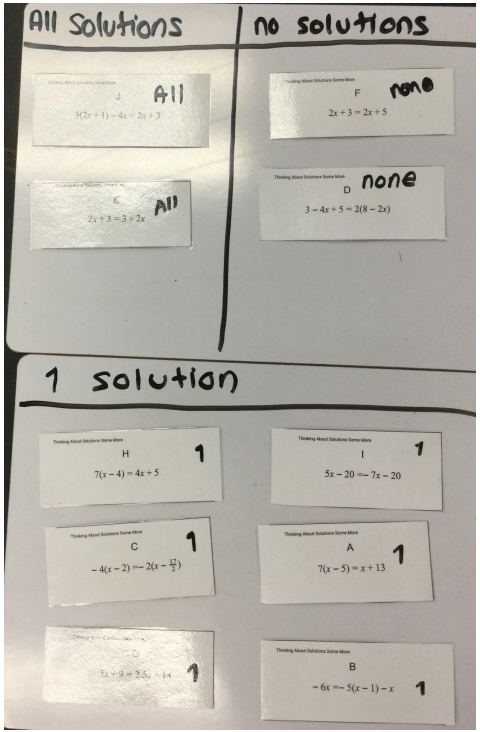
- Hardest shift for 8th grade students
- Accelerated courses - have the right students in the right classes
- Going much better than it was at the beginning of the year!
- Timing of units is going OK - bringing in lessons from the previous grade at beginning of unit, or just in time as part of a warm up for foundational knowledge/skills students do not have
- Monthly PD from IM certified trainer has been necessary to help teachers learn instructional routines, how to facilitate problem-based lessons, and determine the level of success for standards

• workbook is student friendly	• hard to differentiate
• questions are more accessible topic wise to students	• not a lot of time to add in additional practice
• it's nice to have some kind of plan/structure to follow	• don’t like feeling the need to be lock-step
• hoping it provides coherence vertically	• a lot for a teacher to process for each lesson
• online interactives	• need to buy in/trust the curriculum is building conceptual understanding and not teach shortcuts


7(x-4)=4x+5
7x-28=4x+5
-4x -4x
3x-28=5
+28 +28
32
Kendall Hunt
MIDDLE SCHOOL
MATH
UNITS
4–6




2x+7=2x
2x+28=4x+5
Kendall Hunt
MIDDLE SCHOOL
MATH
GRADE
Illustrative Mathematics
CERTIFIED


All Solutions
no solutions
J
All
3(2r+1)-4x=2x+3
F
none
2x+3=2x+5
E
All
2x+3=3+2x
D
none
3-4x+5=2(8-2x)
1 solution
H
1
7(x-4)=4x+5
I
1
5x-20=-7x-20
C
1
-4(x-2)=-2(x-12/2)
A
1
7(x-5)=x+13
B
1
-6x=-5(x-1)-x

Work of 2022-23

- Plans for next year:
  - Grades K-2 - Implement IM units with PD
  - Grades 3-5 Implement IM units with PD
  - Grades 6-8 - continue to implement IM units with PD
  - Consider/pilot resources for Gr 9 Algebra & Geometry

- Reassess and evaluate 11th/12th grade options before rewriting or adopting resources in future

Realigned Progression

	Applied Pathway	*Preparatory Pathway*	*STEM Pathway*
6th Grade	**Grade 6 CCSS**		**Accelerated Grade 6/7 CCSS**
7th Grade	**Grade 7 CCSS**		**Accelerated Grade 7/8 CCSS**
8th Grade	**Grade 8 CCSS**		Algebra
9th Grade	Applied Algebra	Algebra	Geometry H
10th Grade	Applied Geometry	Geometry A/H	Algebra II H
11th Grade	Advanced Algebra Concepts in ____?	Algebra II A/H	Pre-Calculus H
12th Grade	Mathematical Applications	Pre-Calculus A/H	Calculus H/AP AB or BC
Electives/ Alternatives	Introduction to Statistics/AP Statistics AP Computer Science Principles/AP Computer Science A Intervention Supports		

What are 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:

Bridges

Illustrative Math (2021-22)

6-8:

Math in Focus

Illustrative Math

Why IM?

- **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**