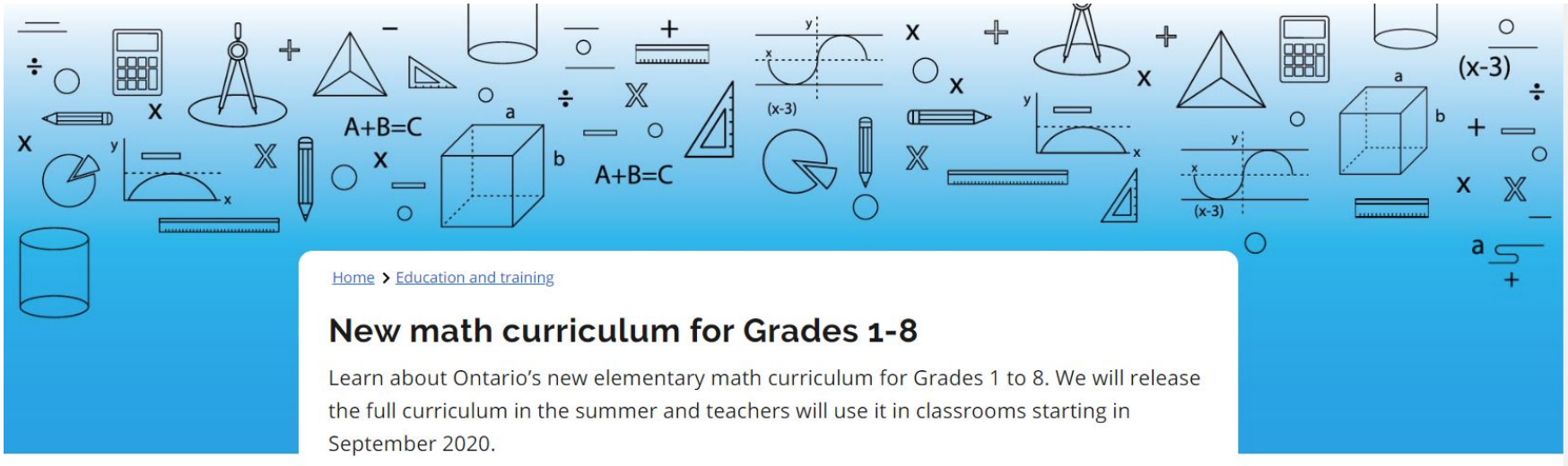
Presentation to the Williamson Rd. Parent Council

January 27th, 2021



Mentally Solve

18×5

Possible solutions

Why develop a new Math curriculum?

Quick Facts

- Overall, provincial performance results based on EQAO assessment of mathematics have shown a decline in recent years in both Grade 3 and Grade 6.
- Grade 9 assessment results, particularly for students enrolled in applied mathematics courses, show the need to improve math performance to equip students with the knowledge and skills they need for success.
- Over the next four years, Ontario is rolling out a revised math curriculum for all students in all grades that will focus on the fundamentals of mathematics and how to apply them.
- Overall, the graduation rate continues to grow across the province. In 2018, the five-year graduation rate increased to 87.1 per cent – up from 86.3 in 2017. The four-year graduation rate is now 81.2 per cent – up from 79.8 in 2017.

Why develop a new Math curriculum?

2020 Mathematics Curriculum: An Overview

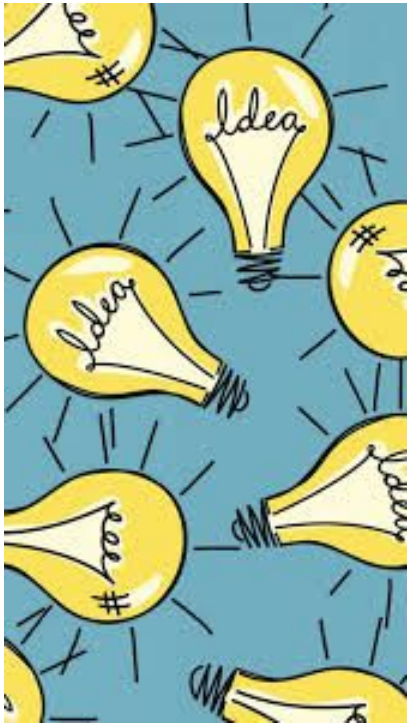
- The same curriculum learning expectations for English-Language and French-Language students
- Consistent Overall Expectations throughout the grades
- Foundational ideas developed in the early grades
- Time for consolidation in Grade 8
- 151 fewer expectations

Ontario

Today's goal:

What are some of the big ideas behind the new Math Curriculum?

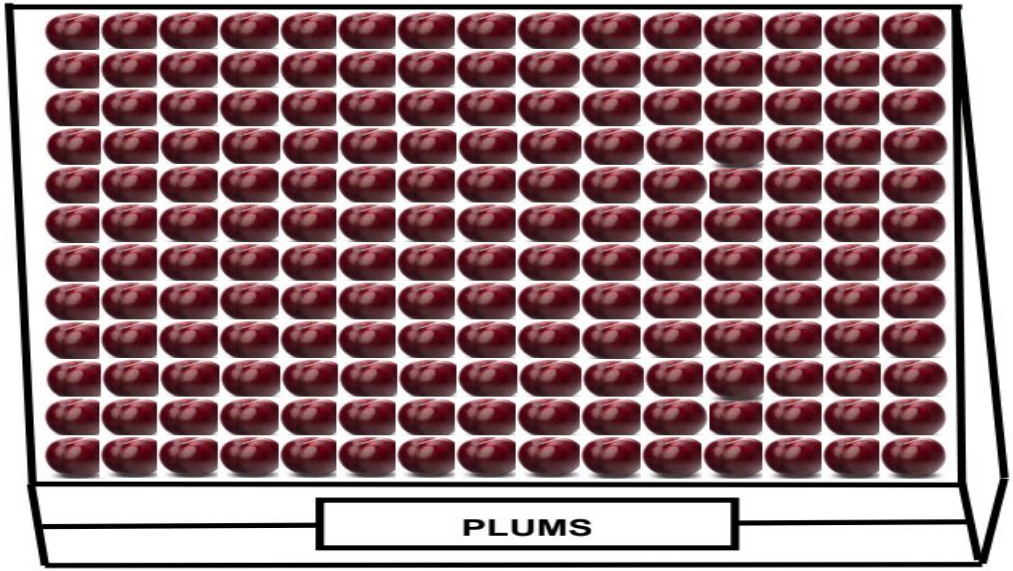
- Place students at the centre of planning, teaching, and assessment practices
- Foster a positive "I can do math" attitude in all students
- In collaboration with principals, teachers and school and system leaders, develop professional learning opportunities that:
  - deepen knowledge of the curriculum
  - mathematical content, and pedagogy
  - enhance self-efficacy in teaching mathematics



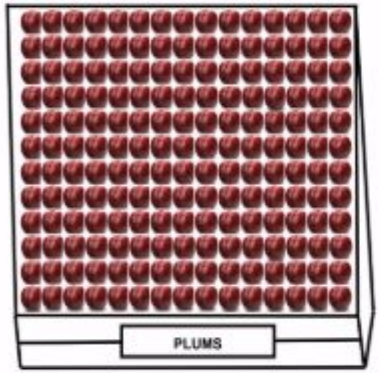
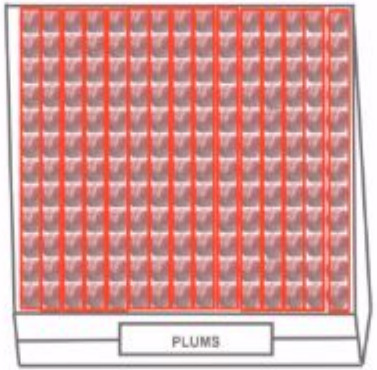
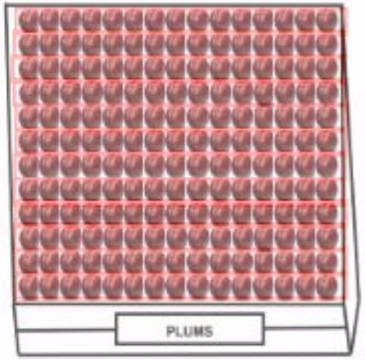
Big Idea #1: Place students at the centre of planning, teaching and assessment practices

Do Some Math: Plums Task

How many plums are there in the grocer's box?

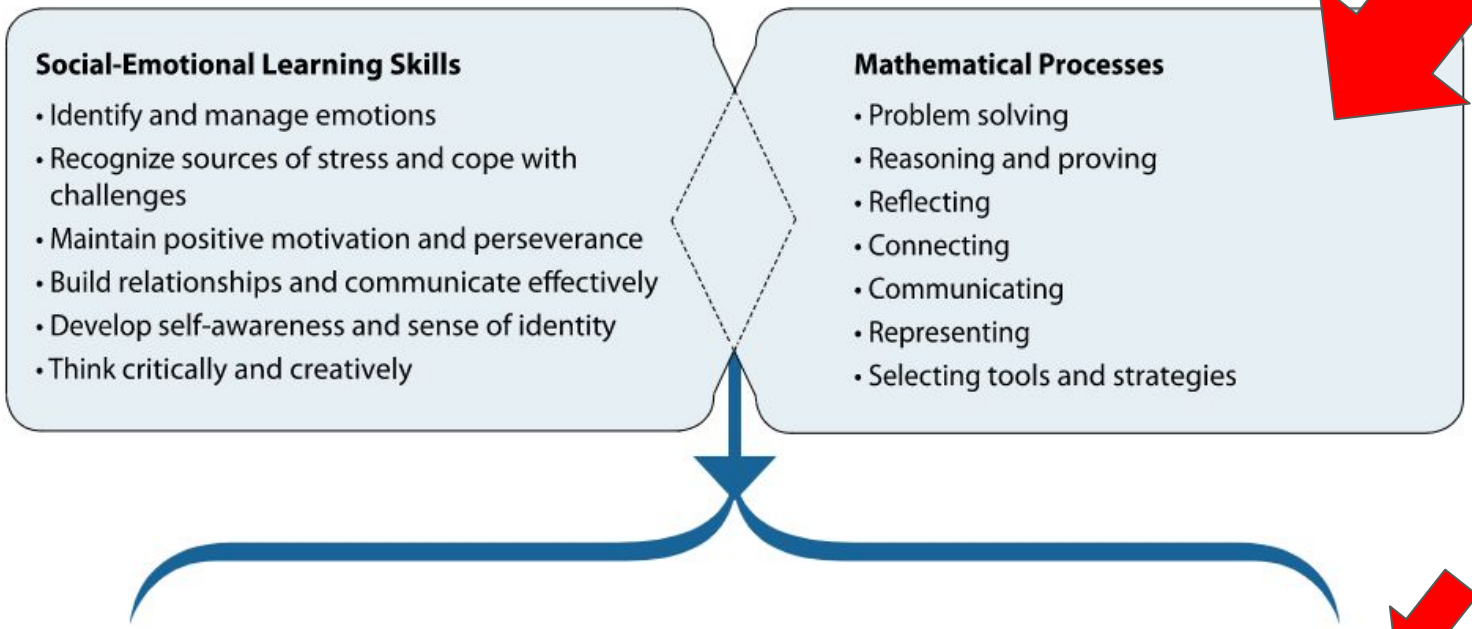


Consolidate: Plums Task

	 
1, 2, 3, 4, 5, 6, …., 177, 178, 179, 180 [1 + 1 + 1 + 1 + 1 + … 1 + 1 = 180] (180 times)	12 + 12 +12 + 12 +12 + 12 + 12 +12 + 12 +12 + 12 + 12 +12 + 12 +12 = 180 12, 24, 36, 48, 60, 72, 84, 96, 108, 120, 132, 144, 156, 168, 180 OR 15 + 15 + 15 + 15 + 15 + 15 + 15 + 15 + 15 + 15 + 15 + 15 = 180 15, 30, 45, 60, 75, 90, 105, 120, 135, 150, 165, 180
1 by 1 count (one-to-one correspondence; tagging)	Repeated Addition / Skip Counting - by 12's - by 15's

Big Idea #2: Foster a positive “ I can do Math” attitude in all students.

Social & Emotional Learning Skills



coding

measurements

Strand B. Number	Strand C. Algebra	Strand D. Data	Strand E. Spatial Sense	Strand F. Financial Literacy

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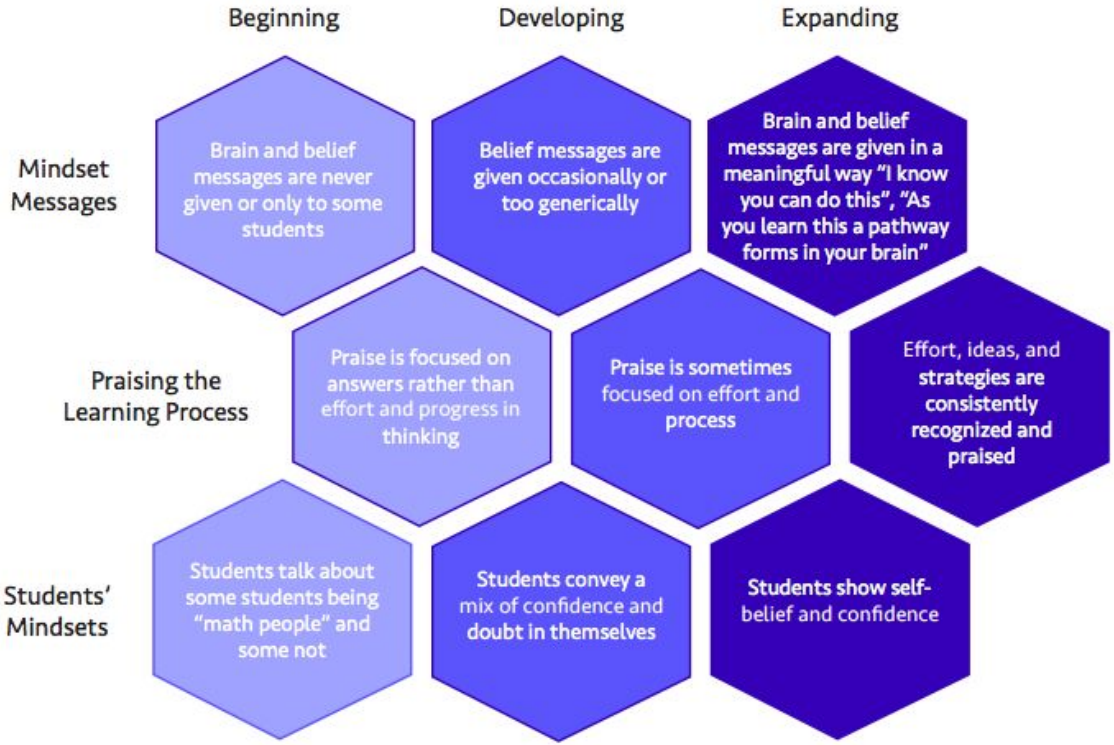
Mathematical Mindset Practice 1: Growth Mindset Culture



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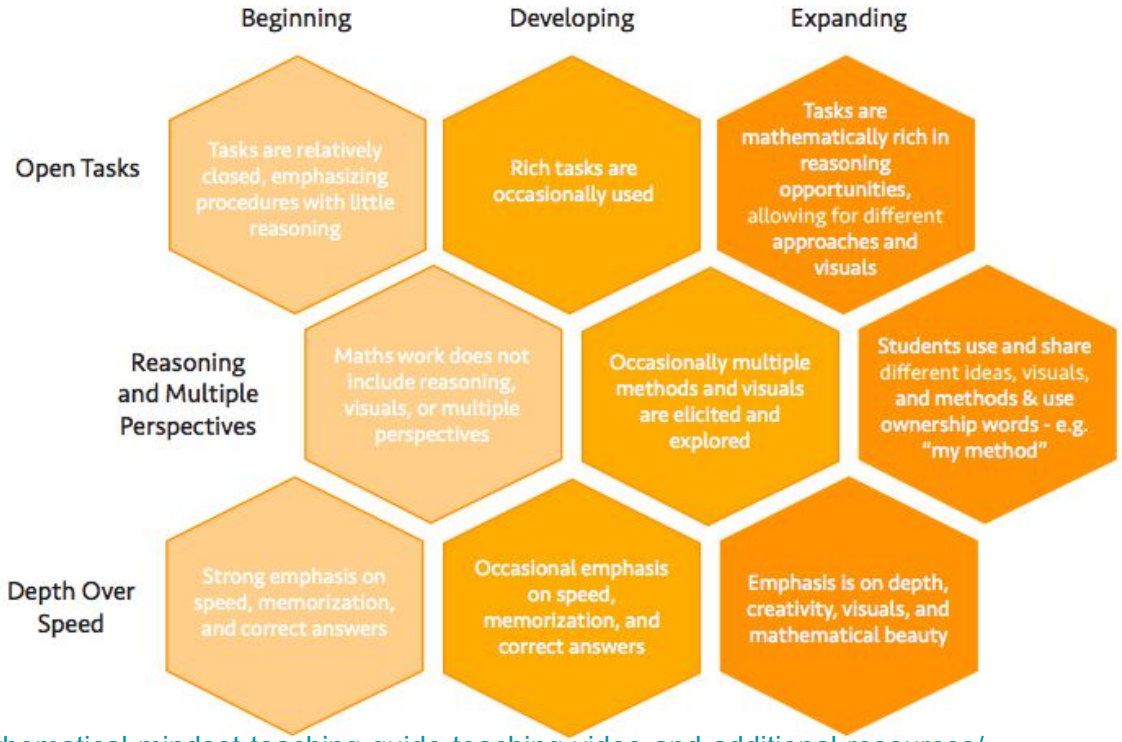
Mathematical Mindset Practice 2: Nature of Mathematics



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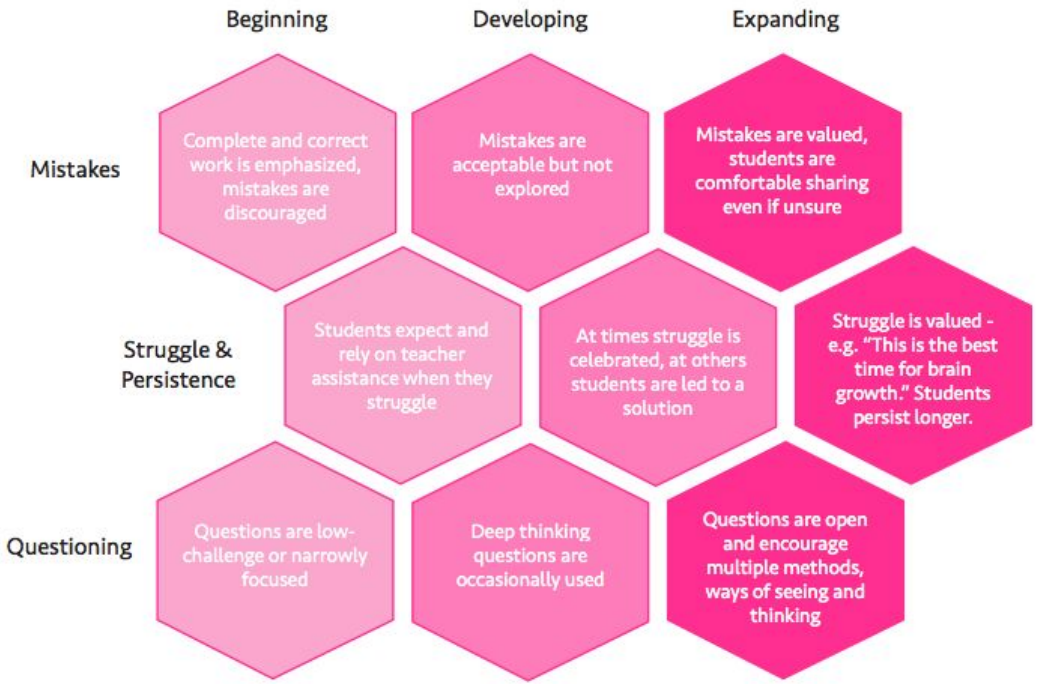
Mathematical Mindset Practice 3: Challenge & Struggle



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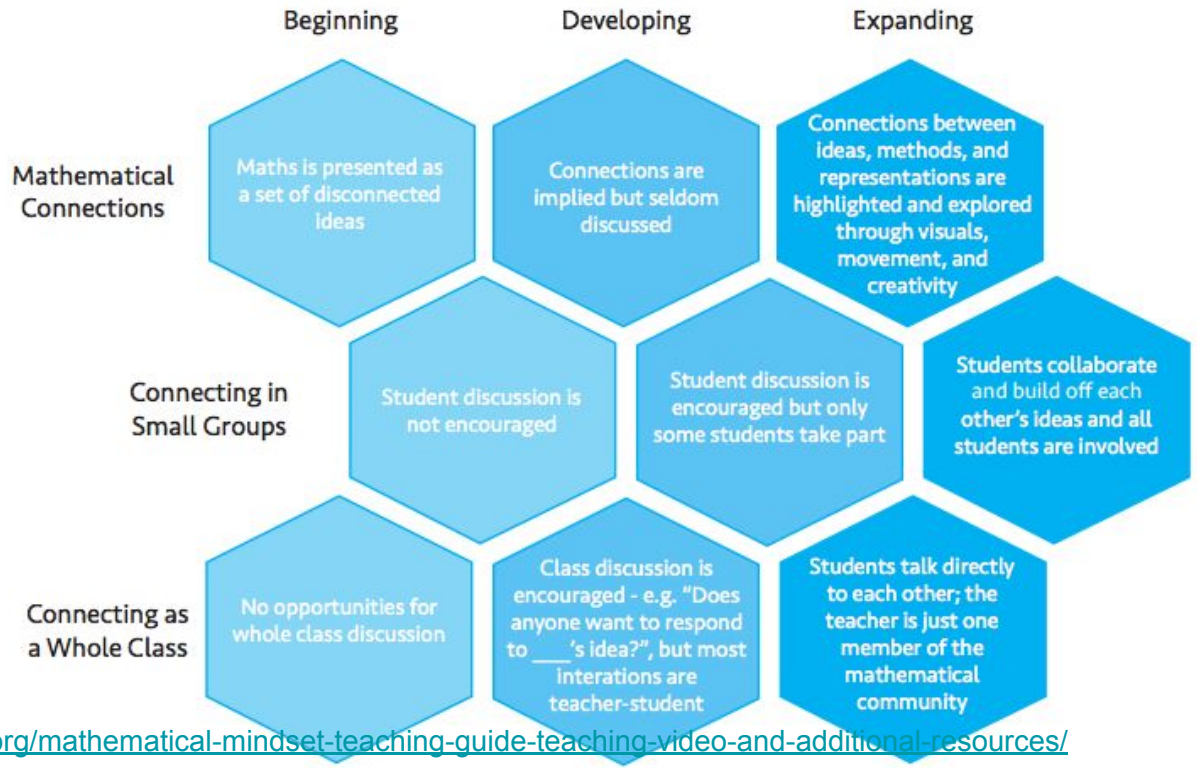
Mathematical Mindset Practice 4: Connections & Collaboration



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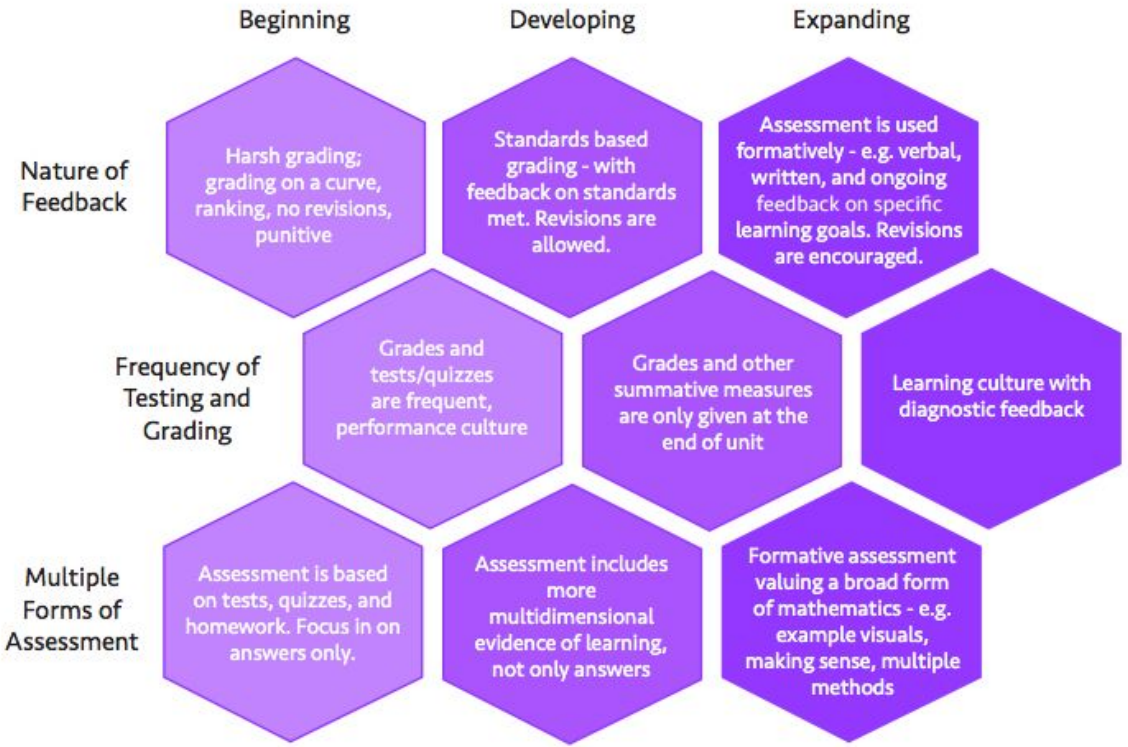
Mathematical Mindset Practice 5: Assessment



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Highlights

Highlights from Financial Literacy

- Learning about money concepts in Gr. 1 to 3
- Extending learning to include financial management, and consumer and civic awareness beginning in Gr. 4
- Designing a budget, beginning in Gr. 5
- Understanding interest rates and bank fees in Gr. 6
- Understanding and comparing exchange rates and currency conversion in Gr. 7 and Gr.8
- Comparing credit card fees, rates, and incentives in Gr. 8

Highlights from Algebra

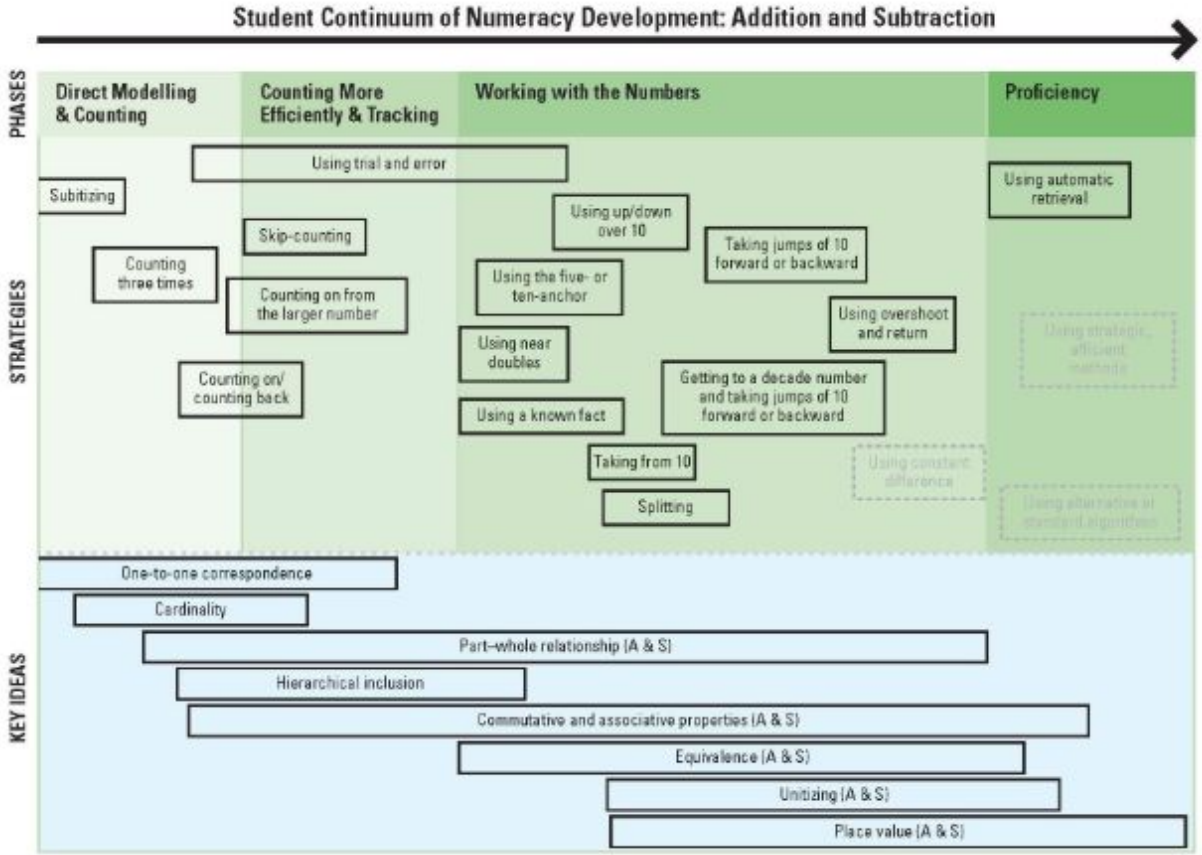
- Working with all types of patterns
- Reading, altering, and writing code, beginning in Gr. 1
- Solving inequalities, beginning in Gr. 4
- Simplifying algebraic expressions, including monomials and binomials, in Gr. 6 to 8
- Applying the iterative process of mathematical modelling to concepts and skills in other strands

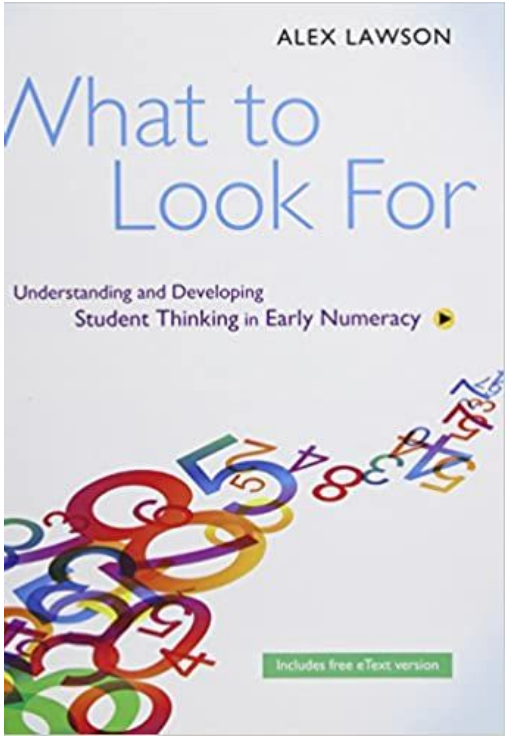
Ontario

Big Idea #3: There is a need for professional learning opportunities that:

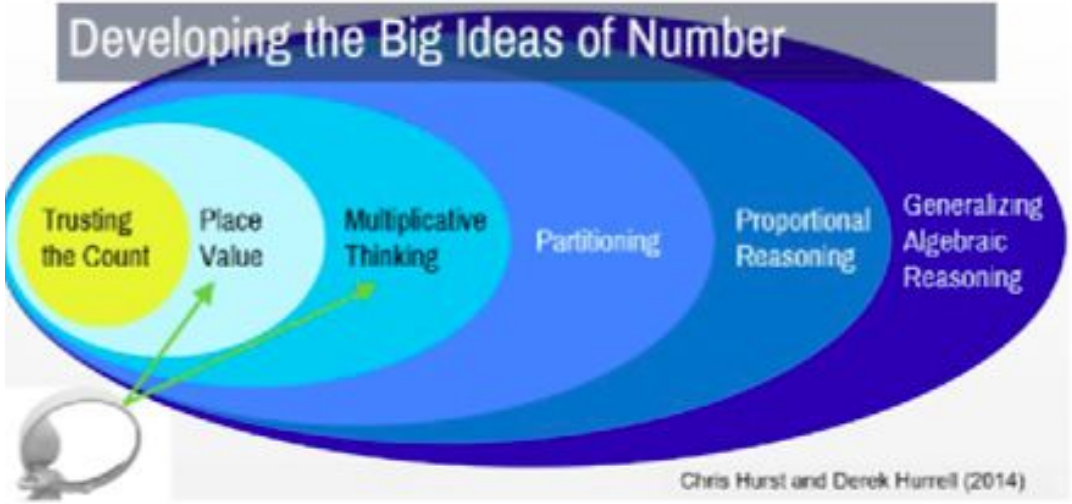
- deepen knowledge of curriculum
- mathematical content and pedagogy
- enhance self-efficacy in teaching mathematics

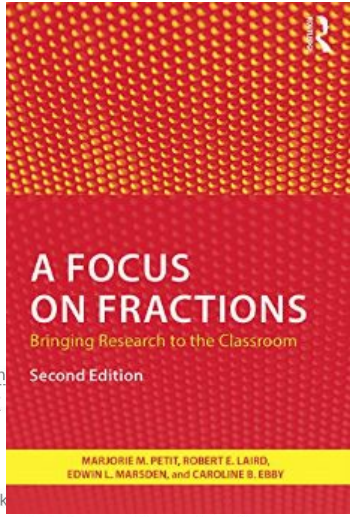
Student Continuum of Strategies





What specific content knowledge do we need to understand as educators to support and push student's mathematical thinking?





Patterns

C1.1 identify and describe repeating, growing, and shrin
contexts, and specify which growing patterns are linear

Teacher supports

C1.2 create and translate repeating, growing, and shrink
tables of values, graphs, and, for linear growing patterns, algebraic expressions and equations

Teacher supports

C1.3 determine pattern rules and use them to extend patterns, make and justify predictions, and identify elements in repeating, growing, and shrinking patterns, and use algebraic representations of the pattern solve for unknown values in linear growing patterns

Teacher supports

Developing the Big Ideas of Number

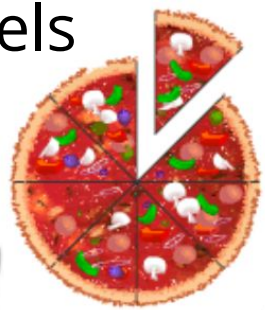
Mathematical Models

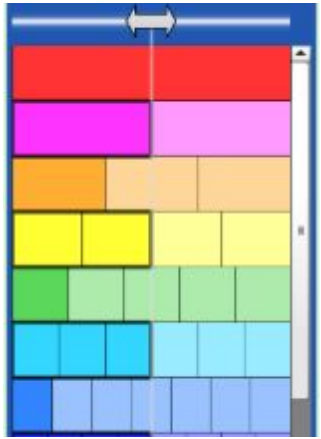
The whole is understood to be a set of objects, and subsets of the whole make up fractional parts.

Set Models

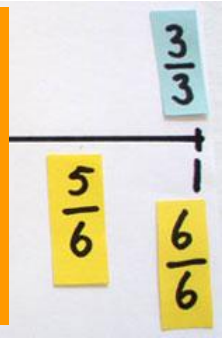
Fractions are represented as parts of an area or region.

Area Models

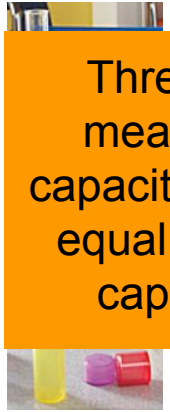




Lengths are compared instead of areas.



Linear Models



Three dimensional measures, such as capacity or mass, where equal part is an equal capacity or mass.

Capacity Models