

Roosevelt Middle School 6-8 Math Materials Review

Board of Education Meeting
Tuesday, February 20, 2024

Curriculum Materials Review Team

| Name | Role | Grade Level |
|----------------|-------------|--------------------|
| Kelly Bower | Teacher | 7th & 8th grade |
| Melissa Pancer | Teacher | 7th grade |
| Meg Navolio | Teacher | 8th grade |
| Nancy Mueller | Math Coach | 5 – 8 grade |



Mathematics Materials Review Process

- Conduct needs assessment
- Review latest research related to evidence-based, best practices instruction
- Discuss and analyze current alignment of instruction across grade levels
- Review D90 Vision for Mathematics
- Vet curriculum materials
- Conduct materials pilot

Illinois Learning Standards for Mathematics



Reflect the Common
Core Standards for
Mathematics



Require a balance
between content
standards and
practice standards



Integrate student
collaboration and
discourse



Support the five
strands of
mathematical
proficiency

Mathematics Education Research 2010 - 2024

2000: National Council of Teachers of Mathematics published *Principles and Standards for School Mathematics* including the process standards

2001: The National Research Council published *Adding it Up: Helping Children Learn Mathematics*

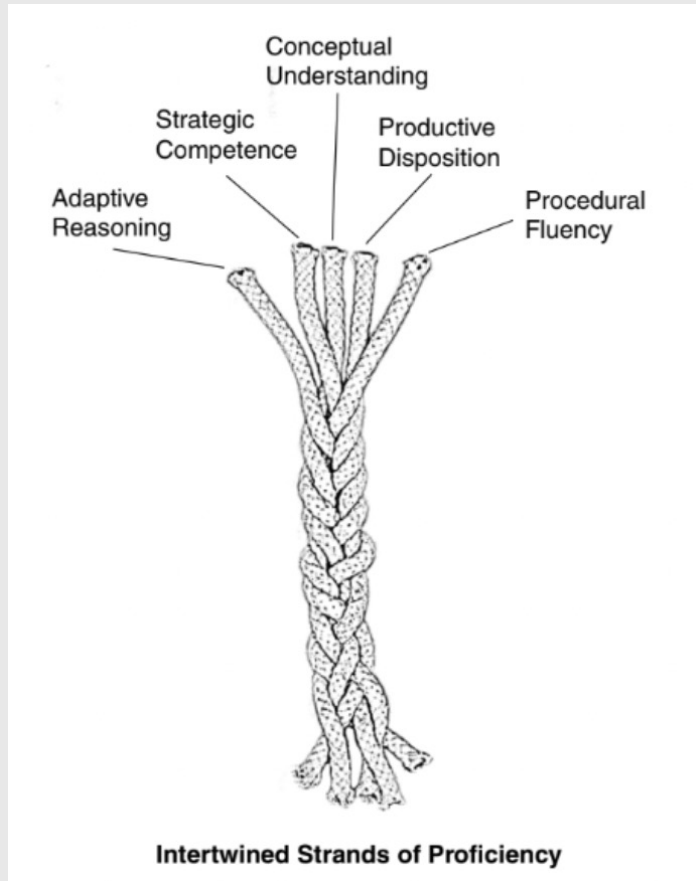
2010: Common Core State Standards combined National Council of Teachers of Mathematics and National Research Council's strands for mathematical proficiency to describe the behaviors of "mathematically proficient students."

2014: The National Council of Teachers of Mathematics published *Principles to Action: Ensuring Mathematical Success for All*

2014: National Council of Supervisors of Mathematics published *It's Time: Themes and Imperatives for Mathematics Education*

2010 – 2024: Areas of focus in the National Council of Teachers of Mathematics *Journal for Research Education* included: Problem-solving in the mathematics classroom, equity and diversity, teachers' knowledge and beliefs, and content-specific topics such as counting in early elementary classrooms

Five Strands of Mathematics Proficiency



Conceptual Understanding: comprehension of mathematical concepts, operations, and relations

Procedural Fluency: skill in carrying out procedures flexibly, accurately, efficiently, and appropriately

Strategic Competence: ability to formulate, represent, and solve mathematical problems

Adaptive Reasoning: capacity for logical thought, reflection, explanation, and justification

Productive Disposition: habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one's own efficacy

Source: National Research Council 2001. Adding it Up: Helping Children Learn Mathematics. Washington DC: The National Academies Press.

Common Core State Standards Mathematics Curriculum Materials Analysis Project

| Materials Review Tool | Content Reviewed |
|---|---|
| <p><u>Tool 1</u> Helps reviewers determine the extent to which the materials develop math content across and within grade levels according to the Standards</p> | <ul style="list-style-type: none">• Ratios and proportional relationships• Expressions and equations• Geometry• Statistics and probability |
| <p><u>Tool 2</u> Focuses on the extent to which the Standards for Mathematical Practice are embedded and integrated into the curriculum materials and teacher support for incorporating them into instruction</p> | <p>The Standards for Mathematical Practice</p> <p>(see next slide)</p> |
| <p><u>Tool 3</u> Focuses on the extent to which materials address overarching considerations related to equity, assessment, and technology</p> | <ul style="list-style-type: none">• Equitable teaching practices• Integrating formative assessment• Using technology to support the learning of mathematics |

CCSS Mathematical Practices

Overarching Habits of Mind

1. Make sense of problems and persevere in solving them
6. Attend to precision

Reasoning and Explaining

2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others

Modeling and Using Tools

4. Model with mathematics
5. Use appropriate tools strategically

Seeing Structure and Generalizing

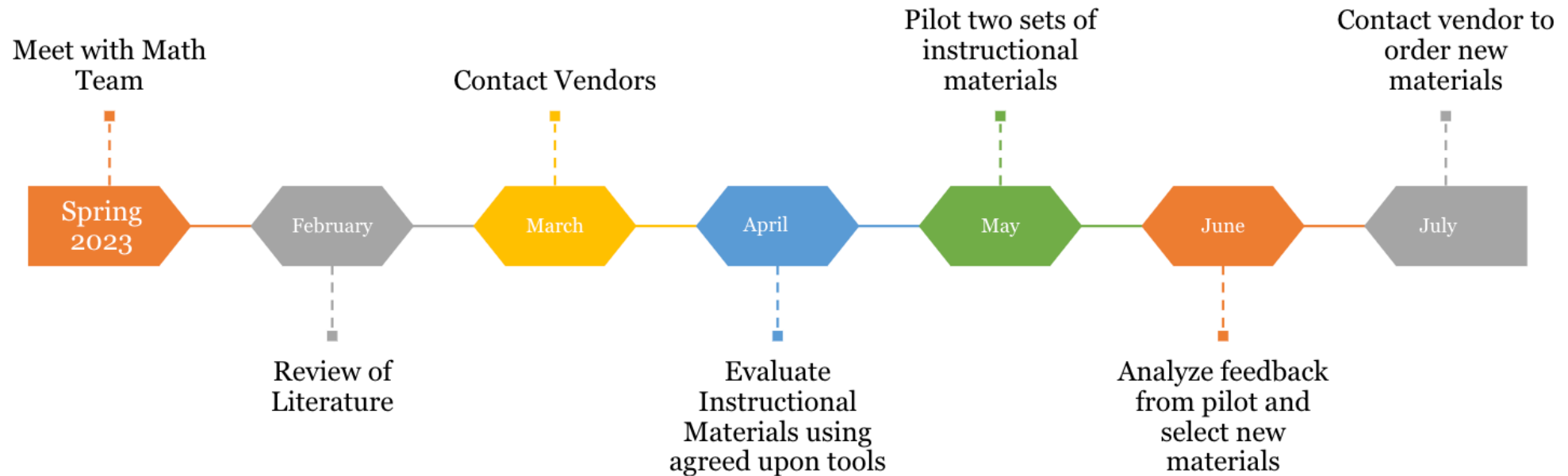
7. Look for and make use of structure
8. Look for and express regularity in repeated reasoning



Curriculum Review Process Timeline Efficiencies

- Content knowledge is limited to a single subject allowing for greater focus
- Review process composed of one teacher from each great level
- Consistent planning and team collaborations among pilot teachers
- Shared professional development and coaching support
- Extensive experience with a range of instructional materials

Curriculum Review Process Timeline





QUESTIONS?