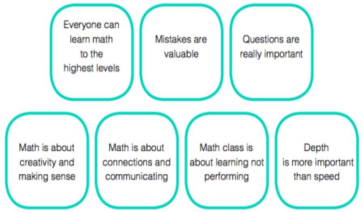
Livingston Mathematics in the Elementary World

Our Process and Foundation - Year 5

Vision



Mission

Instruction is focused on conceptual understanding, visualization, mathematical variation, application, and procedural skill and fluency in math.

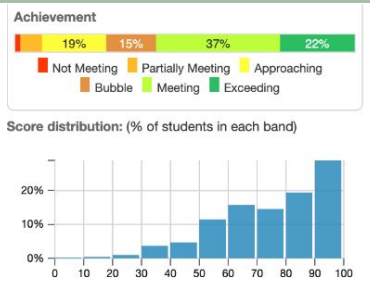
Curriculum

PD

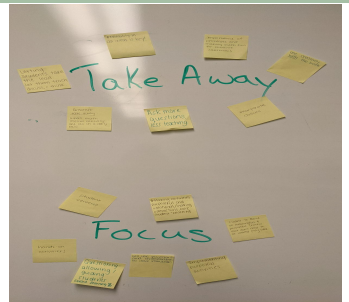
Culture

Community

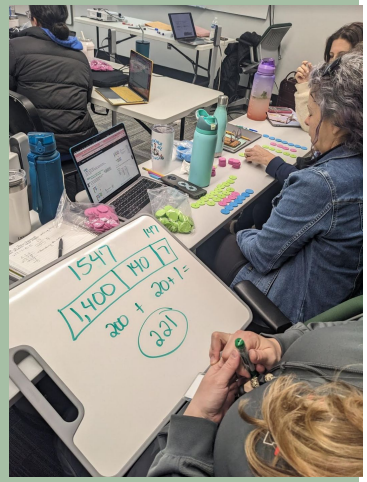
Assess

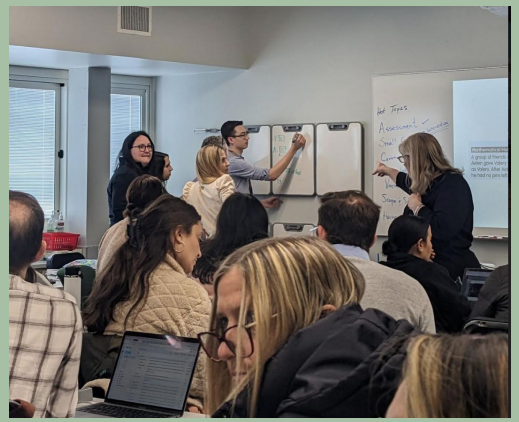


Reflect



Elementary Mathematics Pre-K - 6

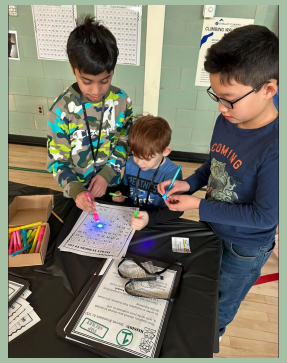




As of 2023-2024 School Year:

- Math in Focus K-5
  - Polya's Problem Solving Process
    - Heuristics
    - Strategy-Based Approach
  - Intervention Toolkit
- K-6 Classroom Visitations
  - Expectations
  - Environment
  - Community & Culture Shifts
- Manipulatives & Resources K-6
- Jo Boaler's Positive Norms - K-6
- Curriculum Writing
  - 5th Grade
    - Parent Resources per Unit (4th and 5th)
  - 6th Grade
- New Standards Roll Out

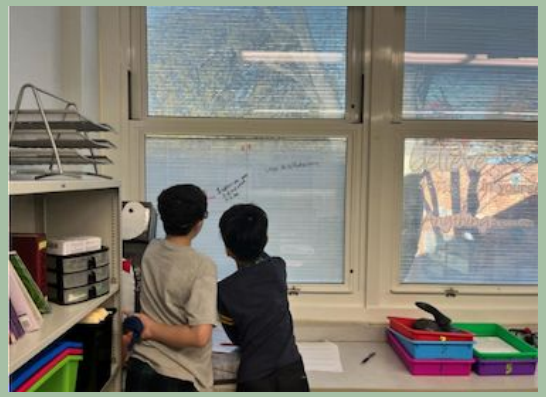
Elementary Mathematics Pre-K - 6

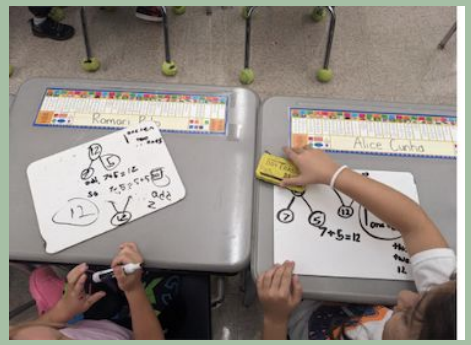


As of 2023-2024 School Year:

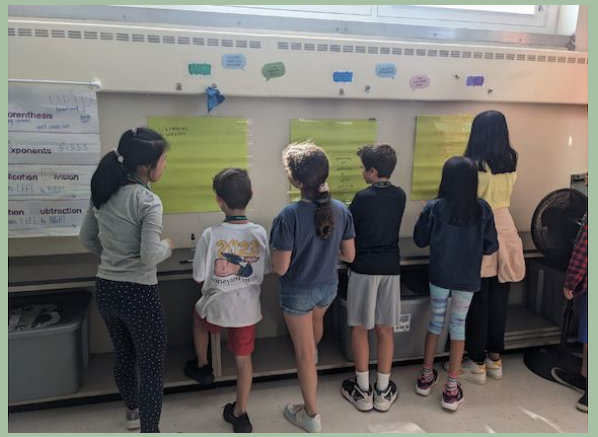
- Professional Development
  - Lab Sites
  - Susan Resnick, Author Math in Focus 2020 Gr K -8
  - Demo Lessons
  - Lesson Studies
  - Bar Modeling
  - Fluency
  - Skills Tracing

- 24 Competition
- Annual District Wide 100th Day of School Event
- Transparency
- Vertical Learning
  - Building Thinking Classrooms
  - Vertical Work Spaces
  - Interconnectedness
  - Professional Development
- Family Math Nights





Focus on Student Performance & Feedback



Systematic Approach to Progress Monitoring & Targeted Feedback

Chapter Assessment Analysis

- K-5 assessment analysis of Type 1, 2, and 3 questions.
- 70-80% proficiency on assessments across the board

Tier 1 Intervention Toolkit

- Focus on Number Sense, Fluency & Problem Solving
- Tier 1 Small Group Instruction

Skills Tracing

- Documents that skills trace standards by grade level to identify pre-requisite skills necessary to close gaps or accelerate learning

3rd Grade Progression

18 - 19 NJSLA Math No MIF Grade 3 407 students tested		
	n	%
Not Meeting	4	1.0%
Partially Meeting	22	5.4%
Approaching	49	12.0%
Meeting	207	50.9%
Exceeding	125	30.7%
Meeting/ Exceeded	332	81.6%

21-22 NJSLA Math MIF Remote/Hybrid Grade 3 461 students tested		
	n	%
Not Meeting	5	1.1%
Partially Meeting	26	5.6%
Approaching	82	17.8%
Meeting	191	41.4%
Exceeding	157	34.1%
Meeting/ Exceeded	349	75.4%

22-23 NJSLA Math MIF Grade 3 453 students tested		
	n	**%**
Not Meeting	8	1.8%
Partially Meeting	33	7.3%
Approaching	72	15.9%
Meeting	170	37.5%
Exceeding	170	37.5%
Meeting/ Exceeded	340	75.1%

4th Grade Progression

18-19 NJSLA Math No MIF Grade 4 471 students tested		
	n	%
Not Meeting	7	1.5%
Partially Meeting	33	7.0%
Approaching	74	15.7%
Meeting	268	56.9%
Exceeding	89	18.9%
Meeting/ Exceeded	357	75.8%

21 - 22 NJSLA Math MIF Teacher PD/Strategy Implementation Grade 4 468 students tested		
	n	%
Not Meeting	8	1.7%
Partially Meeting	28	6.0%
Approaching	71	15.2%
Meeting	255	54.5%
Exceeding	106	22.6%
Meeting/ Exceeded	361	77.1%

22-23 NJSLA Math 1st MIF Cohort Grade 4 505 students tested		
	n	**%**
Not Meeting	12	2.4%
Partially Meeting	28	5.5%
Approaching	66	13.1%
Meeting	270	53.5%
Exceeding	129	25.5%
Meeting/ Exceeded	399	79.0%

1st Cohort

21-22 NJSLA Math Grade 3 461 students tested			
	n	%	State
Not Meeting	5	**1.1%**	13.3%
Partially Meeting	26	**5.6%**	18.3%
Approaching	82	**17.8%**	23.0%
Meeting	191	**41.4%**	32.8%
Exceeding	157	**34.1%**	12.6%
Meeting & Exceeding	348	**75.4%**	45.4%

22-23 NJSLA Math Grade 4 505 students tested			
	n	%	State
Not Meeting	12	**2.4%**	13.1%
Partially Meeting	28	**5.5%**	17.8%
Approaching	66	**13.1%**	24.7%
Meeting	270	**53.5%**	37.2%
Exceeding	129	**25.5%**	7.1%
Meeting & Exceeding	399	**79.0%**	44.4%

NJSLA Growth from Grade 3 - 4

Cohort 1
1st Grade in 19-20
Grade 3 in 21-22
Grade 4 in 22-23

14% of students moved up at least one performance level in Major Content Areas.

13% of students moved up at least one performance level in Modeling & Reasoning.

17% of students moved up at least one performance level in Expressing Mathematical Reasoning.

12% of students moved up at least one performance level in Additional & Supporting Standards.

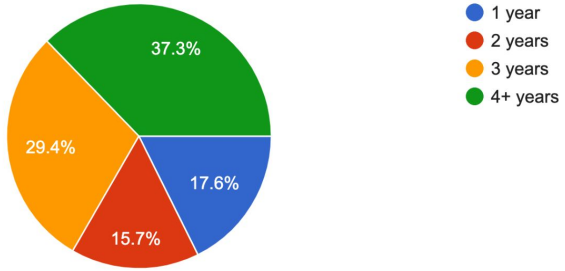
1st Cohort

NJSLA 22-23 % Meets Exceeds 4th Grade - Cohort 1					
	16-17	**17-18**	**18-19**	**21-22**	**22-23**
Major Content	74%	70%	73%	73%	75%
Additional & Supporting Content	64%	62%	77%	78%	81%
Modeling & Application	72%	73%	79%	68%	84%
Expressing Mathematical Reasoning	73%	72%	65%	66%	72%

Educator Sense-Making & Feedback

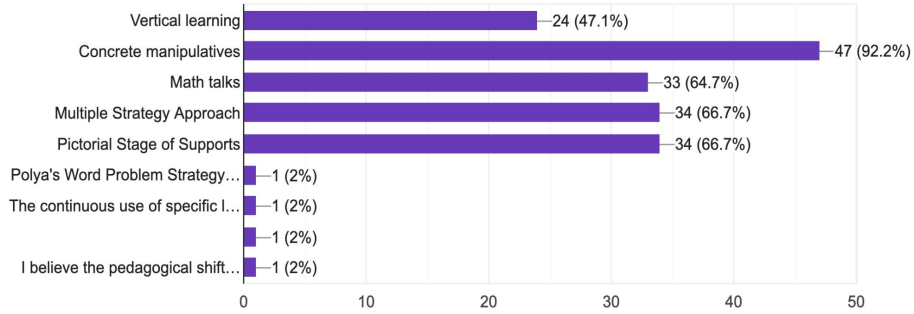
How many years have you been teaching MIF?

51 responses



Which instruction practice(s) do you feel are most impactful for student learning?

51 responses



Teacher Feedback

Do you feel your students enter each new school year with foundational concepts and terminology from the year(s) prior?

YES! This is year one teaching MIF and I can see a huge difference in vocabulary and understanding of concepts than previous years who did not receive MIF instruction.

There is now, through the implementation of MIF, a common language about math that students and teachers share.

Ensuring that students enter each new school year with a solid foundation in math concepts and terminology from previous years is very important for their ongoing success. Math In Focus has supported that work tremendously. Through recalling prior knowledge, diagnostic assessments, spiral review, real world applications, and differentiated instruction teachers can help ensure that students enter each new school year with a strong grasp of foundational math concepts and terminology, setting them up for success in more advanced coursework.

Yes for sure. I can see evidence of their learning in the consistent language that they use and definitely in their fluency and number sense. The way students are able to compose and decompose numbers as well as problem solve through different multiple/strategies is way more evident the longer they are working in the curriculum of Math in Focus.

Yes, seeing 5th graders this year versus last year who did not have MIF is quite the difference. This year students came in with exceptional mathematical language and for the most part will persevere through challenging problems.

Yes. Each year students feel more comfortable with the math and focus progression and understand the components (math talks, engage, try) of what to expect in each lesson.

Teacher Feedback

Explain how you feel the pedagogy of MIF has impacted your instructional practices and/or your students' learning experience. If applicable, how does this compare to other math programs you have used?

I apply the pedagogy of MIF to all content areas throughout the school day. The power of allowing students to do all the "heavy lifting," explain their thinking not just in what they came to as an answer but to hold them accountable in explaining the metacognitive thinking they did in order to arrive to that conclusion is incredibly powerful. In fifth grade I have been hitting hard the importance of perseverance , resilience and flexibility in thinking. The amount of teachable moments, opportunities to have students identify when they need to have these attitudes, beliefs, has been so key.

The students benefit from the common language used throughout the program and from grade to grade. The strategies they learn can be built upon and used as needed. There are multiple "tools" for the students to draw from and there are options that work for each individual student.

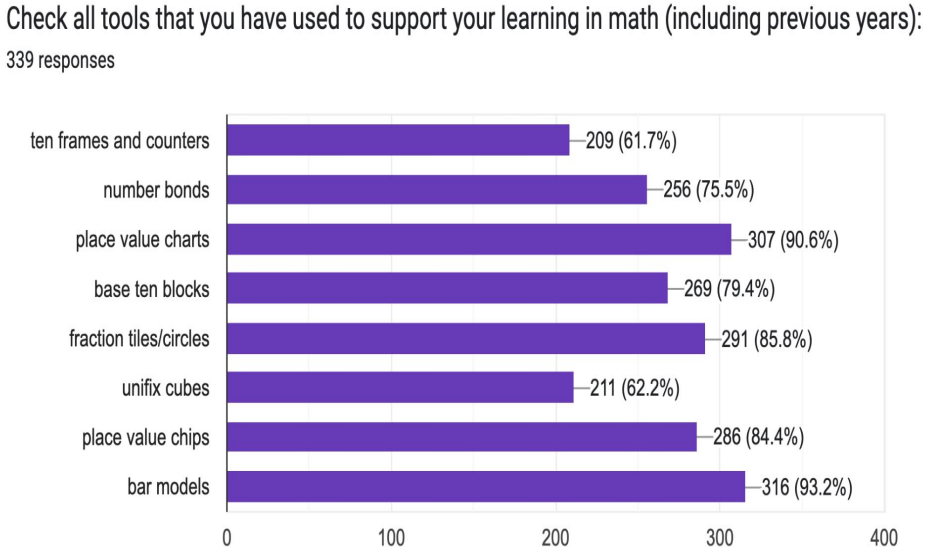
This program is AMAZING for my instructional practice. It has made me more confident and I understand all of the math better myself since teaching this program. I feel more equip to help students who struggle because I have the manipulatives, the models, the drawings, the language, etc. to provide better support.

My math lessons have become much more student centered. There is much less teacher talk and more "heavy lifting" from the students. They know how to prove their ideas, ask follow up questions and use mathematical vocabulary to solve problems.

The pedagogy of Math in Focus is designed to foster a deep understanding of mathematical concepts through a combination of hands-on learning, problem-solving, and visual representation, ultimately helping students develop strong mathematical proficiency.

My students are more confident learners who refer to themselves as mathematicians. They are willing to persevere through challenging problems, collaborate with peers and engage in discourse the enhances their deeper understanding of concepts. The program is ALL about the STUDENTS and their learning. The curriculum is designed with a coherent and consistent progression of topics enabling students to build on concepts from grade to grade.

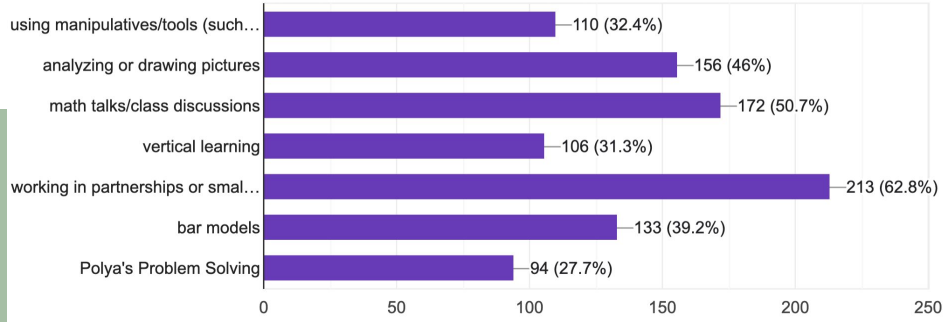
Student Sense-Making



Student Sense-Making

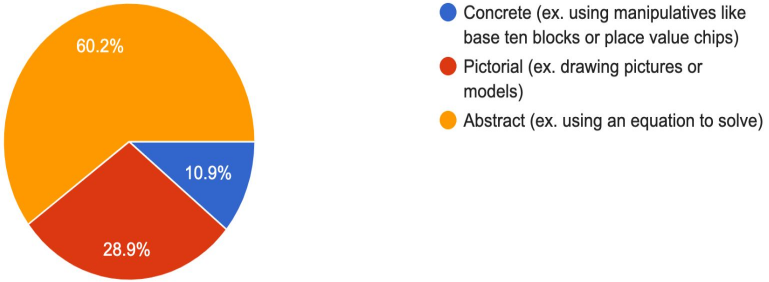
When learning new concepts in math, which of the following best supports your learning? Choose all that apply.

339 responses



What stage of learning do you feel best helps you understand the concepts you are taught?

339 responses



Student Voice

How does the "Think" at the beginning and end of a section help you learn?

It helps me by challenging my brain with things I do and don't know.

The "THINK" at the beginning and end of a section helps me learn to be persistent and it also gives me an idea about what we're going to do today.

It helps your brain get ready for the lesson ahead.

Because at the beginning we don't know how to solve it but when we come back to it we know how to solve it. And also in the beginning we are really using our minds

It helps us get ready for the lesson. and to see if we understand before starting . it helps me understand what we are doing for the lesson.

It helps me learn persistence and practice.

It shows what you know and you can learn from your mistakes.

It helps you learn and you grow as a learner.

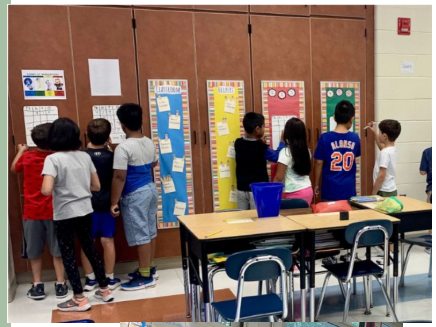
The think at the beginning and end of a section helps me learn by let my brain get a workout.

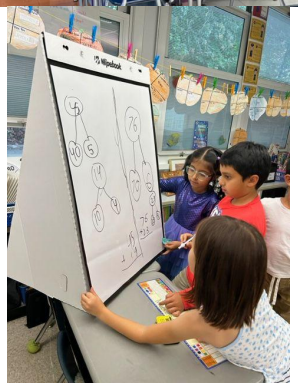
It helps me learn by giving a problem to answer and really focuses my skills on a topic and directs them towards the problem.

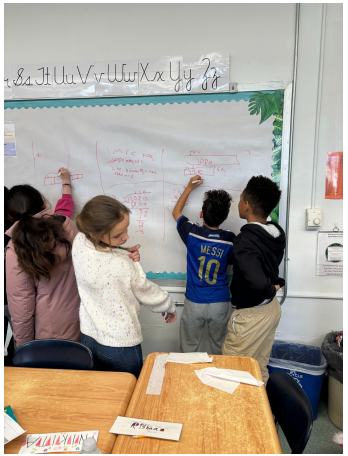
The think at the beginning and end section helps me learn because it gives me an idea of how well I know what we learned and gives me a idea of what we are doing in that learning section.

It helps me by making me really think of the strategies I used and what I know and what I will know.

24-25 - Looking Forward



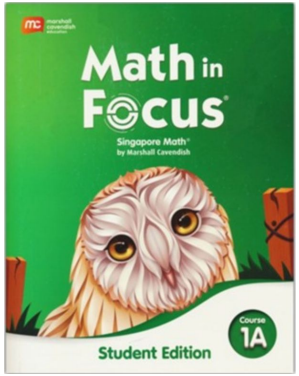




- Roll out of Math in Focus to 6th Grade
  - Professional Development
  - Lab Sites
- Spring training of Math in Focus for 5th & 6th Grade
  - March 21 & 22
- Vertical Learning
  - Building Thinking Classrooms
  - Vertical Work Spaces
  - Professional Development
- Focus on:
  - Small Group Instruction
  - Tier 1 Intervention Toolkit
  - Fluency (centers)
- Family Math Nights

24-25 - 6th Grade

- Roll out of Math in Focus to 6th Grade
- Year Long Training Schedule with Susan Resnick
  - Focus on pedagogy, differentiation, pacing
- Vertical Learning
  - Building Thinking Classrooms
  - Vertical Work Spaces
  - Professional Development



- Level Support through MIF
  - Enrichment/Extension
  - Extra Practice
  - Reteach
  - Best Practices
  - MLL Support
  - Major/Supporting/Additional Standards
- Articulation of MIF with 7th & 8th Grade Teachers
  - Visits to observe Gr. 4 & 5 Math Instruction

Focus Moving Forward

Fact Fluency	Ensuring Fidelity	Rigor of Assessments
Tier 1 Interventions	Building Thinking Classrooms	Supporting Students New to Livingston

Thank you!