



DISTRICT 13

Strategic Instructional Periods for Mathematics



Transforming Math Instruction for Every Student in District 13

Di Leo - CSD 13 DAIS Math



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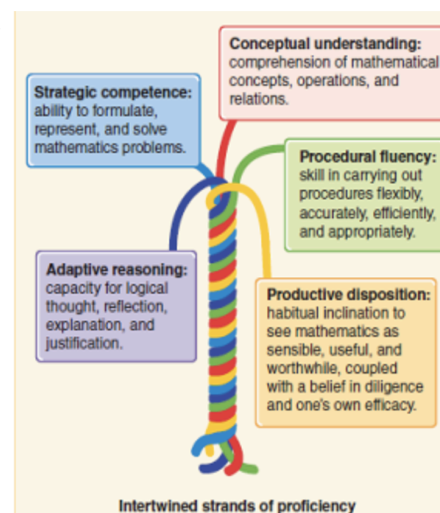


What is Strategic Math Instruction?

Strategic Mathematics Instruction is a teaching approach that equips students with the tools to think critically, reason mathematically, and solve problems effectively. It moves beyond rote memorization by emphasizing the use of specific evidence-based strategies to help students develop a deep understanding of concepts, promote flexible thinking and build strong problem-solving skills. Educators play a central role in actively engaging students in learning, focusing on the process of mathematical thinking and developing students' ability to think critically, reason mathematically, and apply appropriate methods to different situations. Ongoing assessment is used not just to measure learning, but to inform and adapt instruction to meet students' evolving needs. These are based on the Five Interdependent Strands of Mathematical Proficiency (see diagram below).

The National Research Council (2002) describes five interdependent strands of mathematical proficiency:

- **conceptual understanding** – comprehension of math concepts, operations, and relationships
- **procedural fluency** – skill in carrying out procedures flexibly and accurately
- **strategic competence** – ability to formulate, represent, and solve problems
- **adaptive reasoning** – capacity for logical thought, explanation, and justification
- **productive disposition** – inclination to see mathematics as worthwhile and view oneself as mathematically capable



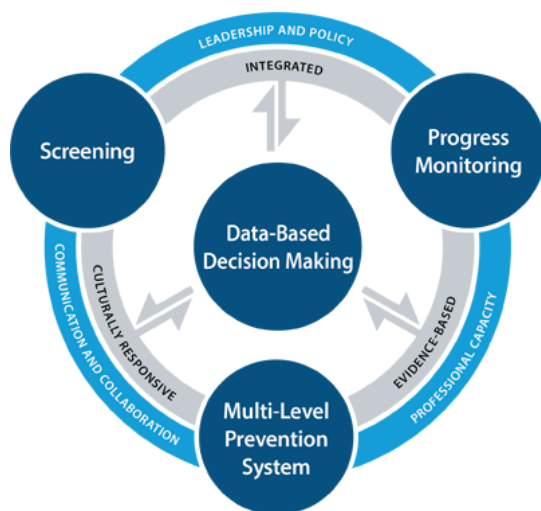


SIP Math Framework

What are Strategic Instructional Periods - Mathematics?

Strategic Instructional Periods for Mathematics (SIP Math) are dedicated times during the school day when students in grades 3 to 8 receive targeted support to address specific learning gaps or difficulties in mathematics while utilizing their assets and things they know. These interventions are an important part of strategic mathematics instruction, especially within a Multi-Tiered System of Support (MTSS) framework.

Strategic Instructional Periods for Mathematics should be aligned with and supplemental to Tier 1 instruction. Tier 1 represents core curriculum and instruction for all grade 3 to 8 students, while strategic interventions (Tier 2) and intensive interventions (Tier 3) provide targeted support for students needing additional help. These interventions should be data-driven, directly address identified skill gaps, and should be integrated with Tier 1 instruction to ensure a coherent learning experience.



4-Step MTSS Problem Solving Model





SIP Math Framework

Strategic Instructional Periods for Mathematics are:

Regularly Scheduled: SIP Math periods are scheduled at least two times per week for all students in grades 3 to 8. Each SIP Math should be at least one period in length.

Aligned and Supplementary:

SIP Math periods should be intentionally aligned with Tier I instruction to ensure students engage with the same essential concepts and skills in a more individualized and focused setting. These periods are not intended to function independently of the core curriculum, but rather to provide targeted support that enables all students in grades 3 to 8 to access and master grade-level content. SIP Math periods are designed to supplement, not replace, core mathematics instruction.

Targeted: SIP Math periods are focused on the specific skills or concepts a student is struggling with based on assessment data (D13 A.I.M. and Curricular-based Unit Assessments) while utilizing and building on their strengths and assets.

Evidence-based: SIP Math periods should be designed to use effective routines and strategies rooted in research and proven practices.

Monitored and Adjusted: Student progress is regularly monitored to ensure the focus of SIP Math is effective with adjustments to be made as needed.

Individual, Small Group or One-on-One: SIP Math periods often take place in smaller settings to allow for more individualized attention and instruction tailored to the student's pace and learning style. Station teaching is a model that may be utilized for the format of a SIP Math period.



Laying the Foundation for SIP Math

based on the 4-Step MTSS Problem Solving Model



Problem Identification

Screeners and Assessments: Unit Assessments and D13 A.I.M. after each administration to utilize as part of this process.

Problem Analysis

Data Analysis for Grouping: Use LASW Protocol (D13 D.A.T.A. sheet) to form Student Instructional Groups based on analysis of assessment data including student work products.



Plan Implementation

Instructional Planning: Teachers/Teacher teams plan and design SIP Math activities based on assessment data aligned to Tier I instruction.



Student Engagement: Student Instructional Groups participate in SIP Math as a support and as a supplement for Tier I instruction.

Plan Evaluation

Progress Monitoring: Monitor, reflect and adjust, if needed, at least every 4 to 6 weeks



Fall activities should address having teachers spend time using the LASW protocol, looking at assessments, and planning for SIP Math. School administrators should think about the systems and structures that need to be in place for this.

Planning SIP Math - Sample Design for a SIP Math Period*

using a "Stations" format

*based on *Using The Station Rotation Model in Math* - Dr. Catlin Tucker

Teacher-led Station

Small group instruction that follows a structured, sequential progression, with the teacher delivering differentiated and explicit guidance on skills, concepts and standards in alignment with Tier I instruction.

Independent Station(s)

Students engage in targeted review by revisiting and completing practice problems aligned to standards introduced in recent lessons to reinforce and/or extend the learning and mathematical understanding necessary for success in Tier I instruction.

Focused on addressing common misconceptions and errors. Systems should be in place to actively monitor and ensure students are on-task and engaged. Teachers may provide additional guidance and teaching to students if needed.

Progresses linearly

Designed to address needs of students based on assessment data

(D13 A.I.M. and Unit Assessments)

Allows students to revisit and review concepts or apply mathematical thinking

Based on assessment data

(D13 A.I.M. and Unit Assessments)

Explicit Teaching Model

- Explain and model
- Run through an example collaboratively
- Pair students to engage with another problem
- Continue to practice & apply individually

Explicit Teaching Model

Adaptive Lessons

(IXL/iReady/ILC-IM Math, etc.)

- Skill-based lessons facilitated by the teacher based on assessment data and student profiles from adaptive learning academic software.
- Can be designated to focus on skills, concepts and standards aligned to curriculum lesson(s) addressed in Tier I instruction by the teacher through the online platform.

Problem Sets

Illustrative Mathematics (IM v360)

- Provide students with a set of problems that revisit earlier processes, formulas, and mathematical concepts - Problems could be "Are you ready for more?", Problem set questions or Activities truncated from Tier I lessons.

Math Tasks

[Illustrative Mathematics](#)

(Original website)

- Standards-aligned math tasks designed to challenge learners to think critically to solve math problems.

[Inside Mathematics](#)

- Problem of the Day - Standards-aligned math tasks, and problems to challenge learners to think critically.

Exemplars

- Performance tasks that support rigorous, standards-based instruction by developing students' problem-solving, inquiry, and communication skills through collaborative learning.

Skill-based Practice Problems - Strategically Assigned/Adaptive Learning

Academic Software - Interactive

(IXL/iReady/ILC-IM Math, etc.)

- Practice problems focused on skills and concepts needed to meet standards aligned to curriculum and current lessons as selected and assigned by the teacher through an online platform and may be based on student assessment profiles and suggested instructional groups.
 - Personalized practice that adapts based on the student's performance
 - May be aligned to current lessons, standards, concepts and skills as assigned by teacher through online platform
 - Present students with next-level problems

Data Analysis Template for Assessment (D.A.T.A. sheet) LASW Protocol

Based on D13 A.I.M. D.A.T.A. using a "Stations" format

Data Analysis Template for Assessment (D.A.T.A.) Sheet

School: District 13 **Grade:** 3 **Class:** 399 **Teacher/Teacher Team:** Di Leo, 3rd Grade TT

Date: 11/14/25 **Data Source:** D13 A.I.M. October 2025 - Question #1

Section 1: Expectations in Student Performance

1. Four situations are described below.

In one situation, the number of chocolate bars is equal to 9×3 .

Which situation is it? (3.OA.1)

- A. Emma makes 9 goodie bags with 3 chocolate bars in each bag.
- B. Sophie makes 3 goodie bags with 9 chocolate bars in each.
- C. Joseph has 9 chocolate bars and gives 3 chocolate bars to each friend.
- D. Vince has 9 chocolate bars and Kathy has 3 more chocolate bars than Vince.

NY-3.OA.1 Interpret products of whole numbers. e.g., Interpret 5×7 as the total number of objects in 5 groups of 7 objects each. Describe a context in which a total number of objects can be expressed as 5×7 .

Section 2: Description of Student Need

Need #1: Answer B	Need #2: Answer C	Need #3: Answer D	Met Expectations: Answer A
The student is confused and reversed the roles of groups and group size, interpreting the problem as 3×9 instead of 9×3 . Possible Asset: Correct understanding of multiplication as repeated addition.	The student misinterpreted the operation as division (partitioning 9 into groups of 3) instead of multiplication. Possible Asset: Shows understanding of grouping concept	The student interpreted the situation as an additive comparison instead of a multiplication problem. Possible Asset: Recognizes relationships between numbers, though addition rather than multiplication is applied.	Students understand that a multiplication expression represents groups $\times$ how many in each group (9 bags with 3 chocolate bars each)

Section 3: Instructional Student Groups (based on Section 2)

Group 1	Group 2	Group 3	Group 4

Section 4: Strategies/Scaffolds to Address Needs or Extend Learning

Independent Station	Independent Station	Teacher-led Station	Independent (Online) Station
Strategy/Scaffold - Need #1	Strategy/Scaffold - Need #2	Strategy/Scaffold - Need #3	Students Who Met Standard

"GET" Method Scaffold handoutGroups $\times$ Each = Total

$G \times E = T$

$E \times G = T$

$T \div E = G$

$T \div G = E$

Sentence Frames Scaffold handout

The first number tells me _____, and
the second number tells me _____."

Fill in: "Sophie has _____ groups with
_____ chocolates in each group."

Act It Out

Students role-play each scenario.
Students ask questions to identify
which scenario best represents the
problem to select Emma's scenario
which matches the "grouping" format
of multiplication.

Illustrative Mathematics

"Are You Ready for More?"/Truncated
Activity and/or Problem Set
question(s)

Academic Software - IXL

Students engage with questions
aligned to standards 3.OA.1 and the
related 3.OA cluster.

Visual Aids

Incorporate graphic organizers, mind
maps, and brainstorming techniques
to help students represent ideas and
organize information. (Graphic
organizer of the "G.E.T. Method")

Act It Out with Counters

Students role-play each scenario
using counters to manipulate.
Students ask questions to identify
which scenario best represents the
problem to select Emma's scenario
which matches the "grouping" format
of multiplication.

Illustrative Mathematics

"Are You Ready for More?"/Truncated
Activity and/or Problem Set
question(s)

Academic Software - IXL

Students engage with questions and
activities aligned to 3.OA.1 and the
related 3.OA cluster.

Demonstrate and Model

Demonstrate how to create a model
that tells "The Story of the Problem"
and represents the "groups", the
"number in each group" and the
"total amount". (i.e. Circle drawings,
arrays and/or bar models are
appropriate here).

Draw the Scenario

Draw each scenario using an
appropriate model.
Compare each scenario model and
discuss which represents the
structure of multiplication. (see
"Demonstrate and Model" above).

Numberless Version of Problem

Create, share and discuss a
"numberless" version of the problem
- to focus on what the math of the
problem is without an initial focus on
the actual numbers in the problem..

IXL Skill-based Lesson

based on standard 3.OA.1 and related
3.OA cluster.

Academic Software - IXL

Students engage in adaptive learning
online platform - aligned to skills and
concepts that focus on standards
3.OA.1 and the related 3.OA cluster.

Student-created Problems

Have students come up with their
own scenarios. Students can share
with each other and offer peer
feedback.

Extension Tasks

Additional problem tasks to engage
and extend learning

Illustrative Mathematics

(Original Website)
[Illustrative Math 3.OA.Tasks](#)

Inside Mathematics

Problem of the Day:
[The Wheel Shop | 3.OA.1, 3.OA.2 |](#)
[Inside Mathematics](#)

Teacher Reference

Coherence Map Link:
[3.OA.A.1 - Operations And Algebraic](#)
[Thinking - Coherence Map](#)



Scheduling SIP Math

Elementary School Sample Teacher Schedule – Dynamic SIP Math

(5 Tier I Math, 2 or 3 SIP Math – as part of Math "blocks")

Periods	Times	Monday	Tuesday	Wednesday	Thursday	Friday
Arrival	8:20 – 8:30	Arrival	Arrival	Arrival	Arrival	Arrival
1	8:30 - 9:20					
2	9:20 – 10:10	Math		Math		
3	10:10 - 11:00					
4	11:00 - 11:50	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
5	11:50 - 12:40		Math		Math	Math
6	12:40 - 1:30		SIP Math		SIP Math (if possible)	SIP Math
7	1:30 - 2:20					
Dismissal	2:25 - 2:30	Dismissal	Dismissal	Dismissal	Dismissal	Dismissal

Monday PD **Math meeting** - Data analysis of SIP Math from the previous Friday and planning for the current week.

Elementary School Sample Teacher Schedule – Static SIP Math						
(5 Tier I Math periods each class, 2 SIP Math by grade)						
Periods	Times	Monday	Tuesday	Wednesday	Thursday	Friday
Arrival	8:20 – 8:30	Arrival	Arrival	Arrival	Arrival	Arrival
1	8:30 - 9:20		301 Math			
2	9:20 – 10:10	301 Math	SIP Math 3 rd Grade			
3	10:10 - 11:00				301 Math	
4	11:00 - 11:50	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
5	11:50 - 12:40					301 Math
6	12:40 - 1:30			301 Math		SIP Math 3 rd Grade
7	1:30 - 2:20					
Dismissal	2:25 - 2:30	Dismissal	Dismissal	Dismissal	Dismissal	Dismissal
Monday PD	Math meeting - Data analysis of SIP Math from the previous Friday and planning for the current week.					

Scheduling SIP Math

Middle/High School Sample Teacher Schedule – Dynamic SIP Math						
(Three Classes – 5 Tier I, 3 SIP Math each, 1 “extra”)						
Period	Times	Monday	Tuesday	Wednesday	Thursday	Friday
Arrival	8:00 – 8:10	Arrival	Arrival	Arrival	Arrival	Arrival
1	8:10 - 8:55	601	602			603
2	9:00 – 9:45	601 SIP Math	602 SIP Math	603	601	602
3	9:50 - 10:35			603 SIP Math	601 SIP Math	602 SIP Math
4	10:40 - 11:25		“Extra” Period	601	602	
5	11:30 - 12:15	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
6	12:20 - 1:05	602	603		603	601
7	1:10 - 1:55	603		602	603 SIP Math	601 SIP Math
8	2:00 - 2:45	603 SIP Math	601	602 SIP Math		
Dismissal	2:50 - 3:00	Dismissal	Dismissal	Dismissal	Dismissal	Dismissal
Monday PD	Math meeting - Data analysis of SIP Math from the previous Friday and planning for the current week.					

Middle/High School Sample Teacher Schedule – Static SIP Math

(Five Classes – 5 Tier I with Math teacher, 2 SIP Math by grade)

Period	Times	Monday	Tuesday	Wednesday	Thursday	Friday
Arrival	8:00 – 8:10	Arrival	Arrival	Arrival	Arrival	Arrival
1	8:10 - 8:55	601		603	604	605
2	9:00 – 9:45	602	SIP Math 6 th Grade	604	605	601
3	9:50 - 10:35	603	602			
4	10:40 - 11:25		603		601	602
5	11:30 - 12:15	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
6	12:20 - 1:05		604	605	602	603
7	1:10 - 1:55	604	605	601	603	604
8	2:00 - 2:45	605	601	602		SIP Math 6 th Grade
Dismissal	2:50 - 3:00	Dismissal	Dismissal	Dismissal	Dismissal	Dismissal
Monday PD	Math meeting - Data analysis of SIP Math from the previous Friday and planning for the current week.					

Scheduling SIP Math

Middle/High School Sample Class Schedule – Dynamic SIP Math

(5 Tier I Math periods , 3 SIP Math - based on a teacher with a three class schedule)

Period	Times	Monday	Tuesday	Wednesday	Thursday	Friday
Arrival	8:00 – 8:10	Arrival	Arrival	Arrival	Arrival	Arrival
1	8:10 - 8:55	601				
2	9:00 – 9:45	601 SIP Math			601	
3	9:50 - 10:35				601 SIP Math	
4	10:40 - 11:25			601		
5	11:30 - 12:15	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
6	12:20 - 1:05					601
7	1:10 - 1:55					601 SIP Math
8	2:00 - 2:45		601			
Dismissal	2:50 - 3:00	Dismissal	Dismissal	Dismissal	Dismissal	Dismissal
Monday PD	Math meeting - Data analysis of SIP Math from the previous Friday and planning for the current week.					

Middle/High School Sample Class Schedule – Static SIP Math

(5 Tier I periods with Math teacher, 2 SIP Math as a grade)

Period	Times	Monday	Tuesday	Wednesday	Thursday	Friday
Arrival	8:00 – 8:10	Arrival	Arrival	Arrival	Arrival	Arrival
1	8:10 - 8:55			603		
2	9:00 – 9:45		SIP Math 6 th Grade			
3	9:50 - 10:35	603				
4	10:40 - 11:25		603			
5	11:30 - 12:15	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
6	12:20 - 1:05					603
7	1:10 - 1:55				603	
8	2:00 - 2:45					SIP Math 6 th Grade
Dismissal	2:50 - 3:00	Dismissal	Dismissal	Dismissal	Dismissal	Dismissal
Monday PD	Math meeting - Data analysis of SIP Math from the previous Friday and planning for the current week.					



**NYCPS NYC Solves
Mathematical Instructional Shifts**

	From:	To:
1	Beginning with modeling	Beginning with sensemaking
2	Different tasks based on prior performance	Shared, Low-floor, High-ceiling Tasks
3	Discourse to demonstrate understanding	Discourse to develop understanding
4	Deficit-based support	Asset-based support
5	Using lesson materials from a variety of sources	Shared High-Quality Instructional Materials

Shifts 1 and 2 are the major focus for 2025-2026 City-wide Math

NYCPS K-12 MATHEMATICS SHIFTS



Resources and References

Resource		Link
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NYCPS Instructional Mathematics Shifts	NYCPS	New York City Public Schools Instructional Mathematics Shifts
Multi Tiered System of Supports Resources Website	NYCPS	NYCPS MTSS Website
MTSS-M Implementation Guide Exploration Phase	NYCPS	MTSS in Mathematics
What Is MTSS? Multi-Tiered System of Supports Everything you need to know about MTSS in education and how to implement.	Branching Minds	What Is MTSS? Multi-Tiered System of Supports
Illustrative Mathematics - Alignment to New York State Next Generation Mathematics Learning Standards	IM - Imagine Learning (ILC)	IM Alignment to NYS NGLS Math
Using The Station Rotation Model in Math	Dr. Catlin Tucker	Using The Station Rotation Model in Math - Dr. Catlin Tucker
Mathematics: Focus by Grade Level	Achievethecore.org	Instructional Content - Mathematics: Focus by Grade Level
Coherence Map - Math Standards	Achievethecore.org	Coherence Map - Achievethecore.org
Illustrative Tasks and Resources by Content Standard	Illustrative Mathematics	Illustrative Math Tasks
Inside Problem Solving Guide and Problems	Inside Mathematics Charles A. Dana Center University of Texas at Austin	Inside Problem Solving
Performance Assessment Tasks	Inside Mathematics Charles A. Dana Center University of Texas at Austin	Performance Assessment Tasks Inside Mathematics