

Dates: <b>September 4<sup>th</sup>, 2025 – November 14<sup>th</sup>, 2025</b>	Subject: <b>MATH</b>
Grades: <b>6-8</b>	SA

<b>Instructional Focus</b>	Students will engage in meaningful academic experiences using an individualized curriculum to equip all students with the knowledge, skills, and confidence to succeed in their communities and careers.
<b>Unit Instructional Focus</b>	Understanding fractions, decimals, integers, and rational numbers
<b>Highlights of Major Work From enVisions</b>	6 <sup>th</sup> Grade – Use positive rational numbers 7 <sup>th</sup> Grade – Rational Number Operations 8 <sup>th</sup> Grade - Real Numbers
<b>Essential Questions</b>	<p>6<sup>rd</sup> Grade:</p> <p>How can I fluently add, subtract, multiply and divide decimals? How can I multiply and divide fractions? What are integers and rational numbers? How are points graphed on a coordinate plane? What are expressions and how can they be written and evaluated?</p> <p>7<sup>th</sup> Grade:</p> <p>How can I apply and extend previous understands of operations with fractions? How can I recognize and represent proportional relationships and use them to solve problems? How can the properties of operations be used to solve problems involving integers and rational numbers? How can percents show proportional relationships between quantities and be used to solve problems?</p> <p>8<sup>th</sup> Grade:</p> <p>What are real numbers? How are real numbers used to solve problems? How can I analyze connections between linear equations and use them to solve problems? How can I use functions to model linear relationships?</p>
<b>Culminating Task (Including DOK terms in bold)</b>	<p><i>Conducting Mathematical Calculations</i></p> <p>In this 10-week unit, referencing The Multiple Means Learning (MML) approach and using Preferred Mode of Communication (PMC), students will evidence using real world applications of numeration by:</p> <ul style="list-style-type: none"> <li>• <b>Identifying</b> numbers written as fractions, decimals, integers, rational and radical.</li> <li>• <b>Ordering</b> a mix of fractions, decimals and integers by size or value.</li> <li>• <b>Recognizing</b> math symbols.</li> <li>• <b>Solving</b> problems involving multiplication and division of fractions, decimals and integers.</li> <li>• <b>Representing</b> math relationships in words, diagrams, or symbols.</li> <li>• <b>Comparing</b> numbers and equations in real world scenarios</li> </ul> <p><i>Culminating Task(s):</i></p> <ul style="list-style-type: none"> <li>• Pick a Project from enVisions at the end of each topic.</li> </ul>
<b>Duration of Unit</b>	45 teaching days

<b>What to Include in Student Portfolio</b>	Please refer to the portfolio coversheet.	
<b>NYS Next Generation Learning Standards Addressed Across Grades</b>	<p>6<sup>th</sup> Grade- NY-6.NS.1, NY-6.NS.2, NY-6.NS.3, NY-6.NS.5, NY-6.NS.6, NY-6.NS.57, NY-6.NS.8, MP.1 – 8, NY-6.EE.1, NY-6.EE.2, NY-6.EE.3, NY-6.EE.4, NY-6.EE.5, NY-6.EE.6, NY-6.EE.7, NY-6.EE.8, NY-6.RP.1, NY-6.RP.2, NY-6.RP.3a, NY-6.RP.3b, NY-6.RP.3c, NY-6.RP.3d</p> <p>7<sup>th</sup> Grade- NY-7.NS.1a, NY-6.NS.1b, NY-6.NS.1c, NY-7.NS.2c, NY-7.NS.2b, NY-7.NS.2a, NY-7.RP.1, NY-7.RP.2a, NY-7.RP.2b, NY-7.RP.3, MP.1 – 8</p> <p>8<sup>th</sup> Grade- NY-8.NS.1, NY-8.NS.2, NY-8.EE.1, NY-8.EE.2, NY-8.EE.3, NY-8.EE.4, NY-8.EE.5, NY-8.EE.6, NY-8.EE.7, NY-8.F.1, NY-8.F.2, NY-8.F.3, NY-8.F.4, NY-8.F.5, MP.1 – 8</p>	
<b>Key Terms/Vocabulary</b>	<p>6<sup>th</sup> Grade: Topic 1 – compatible numbers, decimal, divisor, estimate, quotient, mixed number, fraction, numerator, denominator, rational number, integer, factors, multiples</p> <p>7<sup>th</sup> Grade: Topic 1- additive inverse, complex fraction, multiplicative inverse, repeating decimal, terminating decimal, fraction, decimal, integer, radical number, rational number</p> <p>8<sup>th</sup> Grade: Topic 1- cube root, irrational number, negative exponent property, perfect square, perfect cube, scientific notation, square root</p> <p>*Create a Word Wall</p>	
<b>Assessments to Be Used</b>	<p>Online- Readiness Test (Beginning of the Year Benchmark Assessment)</p> <p>Online- Topic Assessment (upon completion of each topic)</p> <p>Culminating task (see pick a project)</p> <p>Student self-checks</p> <p>Daily homework assignments</p> <p>Exit slips</p>	
<b>Math Interventions Tier 2</b>	enVision Tier 2 Intervention	
<b>Virtual Platform/ Resources</b>	<p><b>Virtual Platforms/Resources</b></p> <p>Sora</p> <p>Newsela</p> <p>Google Classroom</p> <p>Google Meet</p> <p>Google Docs/Slides/Forms</p> <p>Google Jamboard</p> <p>Zoom</p> <p>Teacher made materials</p> <p>Classroom Libraries</p> <p>iReady</p>	

### Math 6-8 Teaching Points

I can add, subtract, multiply and divide whole numbers.	I can make sense of the problem.	I can look for entry points to begin solving a problem.	I can develop a representation – drawing, diagram, table, graph, expression, equation – to model a problem situation.	I can analyze relationships mathematically to draw conclusions.
I can consider appropriate tools when solving a mathematical problem.	I can use Thinking Maps to record and organize my thoughts.	I can multiply and divide fractions and decimals to solve problems.	I can communicate precisely to others.	I can use clear definitions in discussion with others.
I can state the meaning of the math symbols used in my equations.	I can calculate accurately and efficiently.	I can step back from a solution pathway and shift perspective.	I can use tools and properties strategically to solve problems when I multiply	I can maintain oversight of the process as they work to solve a problem, while also attending to the details.
I can check my solutions to problems.	I can make conjectures about the solutions.	I can think of similar problems and try simpler forms of the problem.	I can listen to the solutions of my peers and decide if they make sense.	I can ask useful questions to clarify or improve arguments of others.
I can think about unfamiliar concepts through what I already know.	I can work on grade-level mathematics beginning where I am knowledgeable.	I can compare my knowledge to that of peers and adjust.	I can ask for support and help from my teacher when I am unsure about how to proceed.	I can reflect on my work and form an opinion on where I stand at the end of each lesson.
I can use technology to display my work.	I can use technology to further my understanding.	I can use technology to foster engagement between myself and peers.	I can present my culminating project with clarity.	I can answer questions about my culminating project.

# Shifting Mathematics Instruction

In School Year 2025-2026, NYC Public Schools are thinking about Mathematics in new ways. The shifts reflect these different ways of thinking about math instruction in the classroom and beyond.

- Learning a system of **language and conventions** that includes symbolic notation, terminology, and multiple representations
- Using an ever-growing and evolving network of **mathematical concepts**
- Familiarity and flexibility with an expanding set of **procedures and problem solving strategies** that are applied to a growing set of numbers, mathematical objects, types of notation, and new problem situations
- Analyzing and exploring a variety of **mathematical, real-world, and imagined contexts**
- Seeing mathematics as sensible and worthwhile, and
- Developing **mathematical practices and habits of mind**
- Seeing oneself as a **mathematical thinker** and doer of mathematics



## NYCPS K-12

# MATHEMATICS SHIFTS

	From:	To:
1	Beginning with modeling	Beginning with sense-making
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

1

# MATHEMATICS SHIFT 1

## From: Beginning with modeling

Math learning begins with the teacher showing students a procedure for solving a problem. Students then practice using that procedure until it becomes routine. Math is mostly about memorization and answer-getting, and learning is less transferable.

(I Do, We Do, You Do)



## To: Beginning with sense-making

Math learning begins with students thinking about an unfamiliar problem and the ways they might use what they already know to solve it. The teacher helps students make connections between the ideas of the class and the big ideas of mathematics. Math is a tool for making sense of the world, and learning is more relevant and enduring.

(You Do, We Do, I Do)

## 2

# MATHEMATICS SHIFT 2

### From: Different tasks based on prior performance

Students are assigned different tasks based on prior performance (above, at, or below grade level). Students working below grade level fall further and further behind.



### To: Shared, low-floor, high-ceiling tasks

All students work on the same grade-level mathematical task that is **accessible** enough for everyone to get started, **open** enough to allow a variety of strategies, and **deep** enough that it connects to important grade-level standards. Students can engage in grade-level work in a way that builds upon and strengthens previous learning.

# 3

## MATHEMATICS SHIFT 3

### From: Discourse to demonstrate understanding

Discourse is used as a means to communicate before and after engaging in mathematics. Teachers explain procedures and vocabulary to students at the beginning of a lesson. At the end of the lesson, students are expected to restate the procedures they performed and use vocabulary that was shared with them. This limits the use of discourse as a tool for thinking about math.



### To: Discourse to develop understanding

Students use discourse throughout the lesson by discussing and writing about their ideas and strategies as part of the learning process. They ...

- Notice and wonder about unfamiliar problems
- Discuss, write about, and improve on emerging ideas as they work on math problems
- Compare their thinking with one another

Teachers support this by listening, asking questions, connecting ideas, and formalizing concepts. Learning in this way allows math language and content knowledge to develop in parallel and in support of each other.

# 4

## MATHEMATICS SHIFT 4

### From: Deficit-based support

Teachers focus on what student can't do. They identify students' weaknesses to develop below-grade-level supports so that students struggle less. This creates negative math identities and prevents students from engaging with grade-level content, widening the gaps in learning.



### To: Asset-based support

Teachers focus on what students know and can do. They identify students' strengths and use this information to help their students make sense of the math, turn challenges into productive learning, and access grade-level work. These types of supports foster positive math identities, agency, and perseverance.

# 5

## MATHEMATICS SHIFT 5

### From: Using lesson materials from a variety of sources

Teachers use a mix of informal, self-made, and published curriculum materials that are both on and off grade level. Alignment within and across grades is inconsistent even within a school, causing opportunity gaps that widen as students grow older.



### To: Shared high-quality instructional materials

Teachers use a shared curriculum that is research-based, field-tested on a diverse set of learners, and expertly sequenced so that concepts can be developed coherently within and across grades. Teachers support one another and improve their own practice by working together to plan and reflect. Students experience consistent and equitable instruction across classes and schools.

## Weekly Pacing Calendar for the Instructional Unit

Adapt to meet your students specific instructional/ PMC needs

Weekly Pacing Calendar Week of: _____				
Monday	Tuesday	Wednesday	Thursday	Friday
Learning Objective: _____	Learning Objective: _____	Learning Objective: _____	Learning Objective: _____	Learning Objective: _____
Thinking Map: _____	Thinking Map: _____	Thinking Map: _____	Thinking Map: _____	Thinking Map: _____
Center: _____	Center: _____	Center: _____	Center: _____	Center: _____
Steps: _____	Steps: _____	Steps: _____	Steps: _____	Steps: _____

Planning my week is a great way to be  
EFFECTIVE!

### Math Scoring Rubric

	1	2	3	4
<b>TASK COMPLETION AND ACCURACY</b>	I provided incorrect, incoherent, and irrelevant work solutions that contained a correct solution obtained using an obviously incorrect procedure.	I addressed some elements of the task correctly but reached an inadequate solution and/or provided reasoning that is faulty or incomplete.	I appropriately addressed most of the aspects of the task using correct procedures.	I appropriately addressed all the aspects of the task using correct procedures.
<b>WORK PRODUCTS THAT SUPPORT MATH CONCEPTS</b>	I provided insufficient work product(s) to support knowledge of math concepts.	I provided work that contained the correct solution(s) but required work is limited.	I provided a correct or incorrect solution provided sound procedures, reasoning, and/or explanations to show how I arrived at my answer.	I provided a correct solution and sufficient work to demonstrate a thorough understanding of the mathematical concepts and/or procedures.
<b>DEMONSTRATES A THOROUGH UNDERSTANDING</b>	I provided work where some elements contained correct mathematical procedures but were not sufficient to demonstrate understanding of the mathematical concepts embedded in the task.	I provided work that reflects a lack of essential understanding of the underlying mathematical concepts.	I provide work that reflects some minor misunderstanding of the underlying mathematical concepts and/or procedures.	I provide work that contains inconsequential errors that do not detract from the correct solution(s) and the demonstration of a thorough understanding.
<b>PARTICIPATION IN THE CULMINATING TASK</b>	I participated in culminating task activities minimally. I do not self-monitor my progress throughout the unit.	I participated in several culminating task activities and occasionally self-monitored my progress throughout the unit.	I participated in most of the activities related to the culminating task and self-monitored my progress periodically throughout the unit.	I participated in all activities related to the culminating task and self-monitored my progress throughout the unit. I also shared my work and understanding with my peers.