




It's About Time!

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ONERCSD

THE REALITY — ALGEBRA 1 CONTEXT

45	180	15 Days	75%
standards	school days	for assessments	attendance rate

165 instructional days × 75% attendance ≈ 123 days for 45 standards
about 2 days per standard

Every day, teachers decide what level of learning is good enough for the day's target.

"How is the teacher supposed to know what is good enough if every topic has the same level of expected proficiency?"

It's About Time!

Prioritizing The Depth of Learning

Where time goes now

1. Difficult topics get the most time, even if they are not important.
2. Whatever comes early in a lesson gets time and patience; the end gets rushed.
3. Early lessons in a unit get more time, but the important concepts are often later.

What we do instead

1. Not everything is taught to the same depth. There is not enough time.
2. Only the highest priorities are taught to the deepest level.
3. To find time for high priorities, we take it from lower priorities.

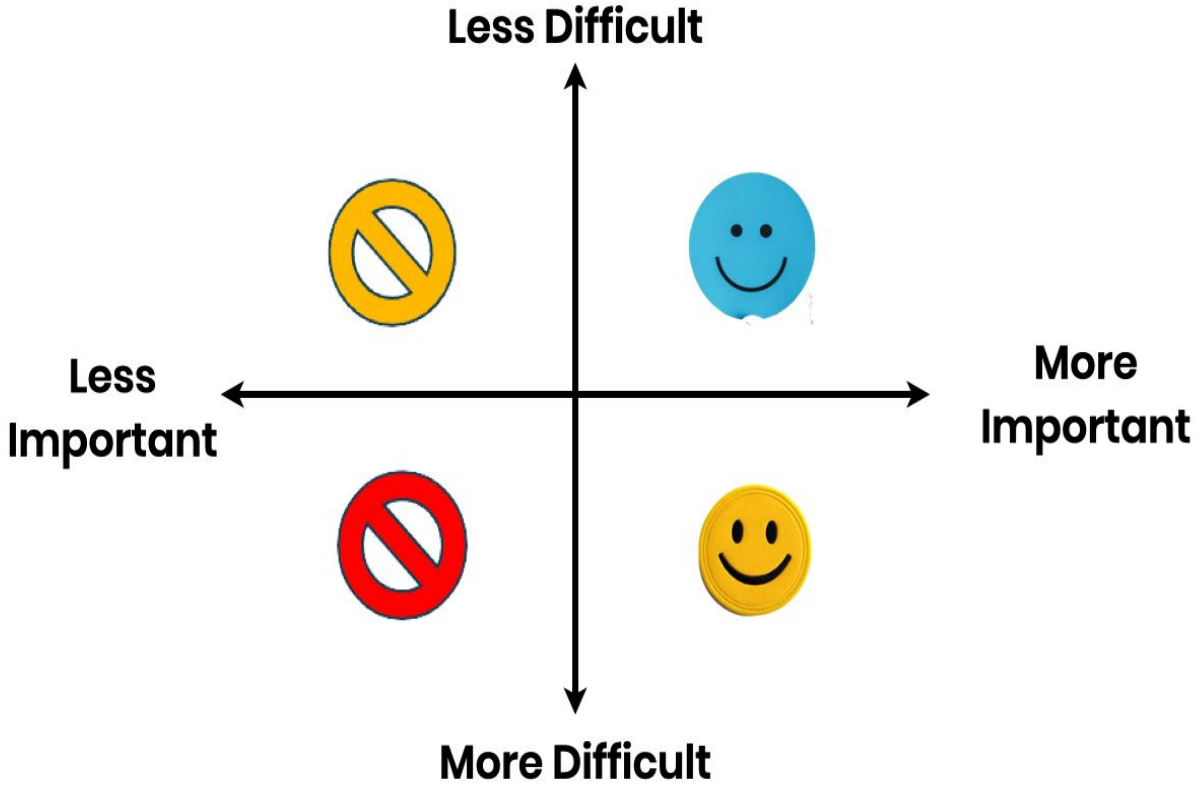
Time Goes to What's Hard, Not What Matters

The challenge, and how we responded

ROCHESTER CITY SCHOOL DISTRICT

Council of the Great City Schools
THE NATION'S VOICE FOR URBAN EDUCATION

ONERCSD



Spend time on the right stuff; difficulty alone doesn't earn time

The challenge, and how we responded

1 Deep

Flexible understanding. Students use the concept in unrehearsed, novel contexts and connect expressions, equations, graphs, tables, and text.

For teachers: Invest time here. Return, reteach, extend.

2 Use with Support

Students use the concept in familiar, well-rehearsed contexts and read and write representations with help.

For teachers: Teach to competency. Tools are fine. Move on.

3 Appreciation

Students can look up how to use the concept and solve the simplest, most transparent problems.

For teachers: Introduce briefly. Do not linger.

Level 1: AI-A.CED. 3

Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context

Depth of Learning

Three levels, so every teacher knows what "good enough" means

Algebra 1 Prioritizing Tool

D	E	F	G	H	I
Unit (1)	**Lessons**	**Depth of coverage**	**How it is evaluated**	**Notes/Gaps**	**Level: 1,2,3**
2	A1.2.1, A1.2.2, A1.2.3, A1.2.4, A1.2.5, A1.2.9, A1.2.10, A1.2.12, A1.2.17	extensive	Cooldowns,Section questions and CFAs, and unit test	Ensure that students are building a strong foundation on writing equations to model situations. Graphing a linear equation and making the connections between the graph, table, and equation as well as the context.	1
4	A1.4.1, A1.4.3, A1.4.5, A1.4.6, A1.4.7, A1.4.9	extensive	Cooldowns,Section questions and CFAs, and unit test	Focus on what makes a solution and the number of solutions to an inequality. Knowing what constraints are to a given word problem resulting in an inequality. Not really a priority but to focus on the next two sections, is a priority.Comparing and contrasting this with systems of equations is important and how there can be more than one solution with inequalities.	2
				Lesson 2- solving quadratic equations using the graph is important factored form can be written based on the graph of the quadratic function. the number of solutions can also be determined by looking at the graph	

What a Teacher Receives

Unit Level Prioritization: Algebra 1

U2 L5 Equations and Their Graphs **denotes prioritized tasks based IM and/or NGLS*

RCSD Prioritization Notes	**1 = DEEP**. Students can fluently read, write, and make connections between associated mathematical expressions, equations, diagrams, tables, graphs, and texts. Therefore more time has been dedicated to this lesson.	
Lesson Intention	Students revisit the idea that graphs can be a useful way to represent relationships and that each point on a graph is a solution to an equation that the graph represents. Use technology to graph equations	
Lesson	**Suggested Daily Activities**	**Materials**
Lesson on Imagine Learning Standard: AI-A.CED.2 AI-A.CED.3 AI-A.REI.10	• **Warm-up**: Which One Doesn't Belong: Hours and Dollars *(5 min)* • **Activity 1:** Snacks in Bulk ***Prioritized Task** (10 min)* • **Activity 2**: *Graph it!* ***Prioritized Task** (20 minutes)* ○ *MCCS Notes: Activity 2 read more* • **Lesson Synthesis** • **Cool-down:** A Spoonful of Sugar *(5 min)* More Chances • Practice Problems(for HW, math lab or deep dive days)	Student Workbook Pages: 201-211 Teacher Guide Lesson at a Glance **Be sure to print** Cool Down Activity 2 Graphs Scaffold &Supports Same But Different
Lesson Narrative	In this lesson, students revisit the idea that graphs can be a useful way to represent relationships. Students are reminded that each point on a graph is a solution to an equation that the graph represents. They analyze points on and off a graph and interpret them in context. In explaining correspondences between equations	

1 Priority notes

Why this lesson matters and how deep to go.

2 Suggested activities

Which activities to keep, shorten, or skip.

3 Materials and links

Everything needed to teach it, in one place.

What a Teacher Receives

Lesson-level guidance: Algebra 1

Activity Level

Algebra Teams of Teachers

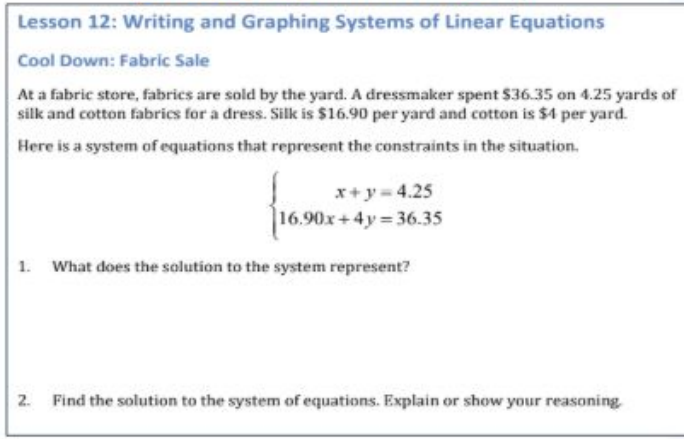
Unit 2: Considerations and Supports

Lesson 14TG Priority Day 1 Activity 1 and Day 2 Activity 2 (2 days)

Activity 1 Consider using the pictures on slide 49 to give students access to the context of the problem. **Prioritize Graphing since it is a fluency in the NYS Next Gen Algebra 1 standards.** for part **b. Technology required.** Use graphing technology to graph the equation. Be sure to print **Graphs for Activity 1**

Sample Responses for Activity 1 Synthesis starting on slide 50

Cool Down(success criteria)



Lesson 12: Writing and Graphing Systems of Linear Equations

Cool Down: Fabric Sale

At a fabric store, fabrics are sold by the yard. A dressmaker spent $36.35 on 4.25 yards of silk and cotton fabrics for a dress. Silk is $16.90 per yard and cotton is $4 per yard.

Here is a system of equations that represent the constraints in the situation.

$$\begin{cases} x+y=4.25 \\ 16.90x+4y=36.35 \end{cases}$$

1. What does the solution to the system represent?

2. Find the solution to the system of equations. Explain or show your reasoning.

Activity 2 Notice and Wonder(click here to access)

When synthesizing warm up, if no one shares that the raisins are represented by x, and walnuts are represented by y make sure you point that out. Also, discuss how sometimes its harder to identify the solution on a table if the answer is a decimal. *Consider chunking activity so that students write the systems first. Then have students use technology to find the solutions.*

Project Timeline

Cohort Implementation

Nov 2024	Jan–Mar 2025	May 2025–May 2026	June 2026	Summer 2026
3	**12**	**200**	**50**	**K–12**
Teachers	**Teacher Leads**	**Teachers**	**Teacher Leads**	**Documents**
Attended the CGCS Prioritization Workshop	Grades 6–8 and Algebra 1 teams built unit-level guidance	All secondary teachers trained; unit and lesson-level work	Elementary Grades K-6 started the prioritized work	Instructional documents designed for every grade

How We Did It

Teacher-led, grown in stages

January 2026 Algebra 1 Regents

+23.5 % pts
Pilot School 1

+19.4 % pts
Pilot School 2

+12.1 % pts
District total

August 2026: students of 2026 summer school teachers gained **+13.5 % pts**.

Cohort comparison

Exam	Grade	Change (% pts)
Algebra I 2025	8	**+14.0**
	9	**+0.2**
Algebra I 2026	8	**+6.1**
	9	**+10.0**

Plus new tutoring partnerships with the University of Rochester and RIT (150+ RIT students).

Student Proficiency Data

Change in percent proficient, NYS Algebra 1 Regents (% pts = percentage points)

01

Teacher knowledge comes first

You can't prioritize what you don't deeply understand.

Building teachers' content knowledge is necessary for good decisions.

02

Teachers need roadmaps

Clear guidance, with the reasons behind it, tells teachers how to spend their time.

03

Teacher-led is the key

Teacher leads, a cohort model, and teacher voice in every document build lasting commitment.

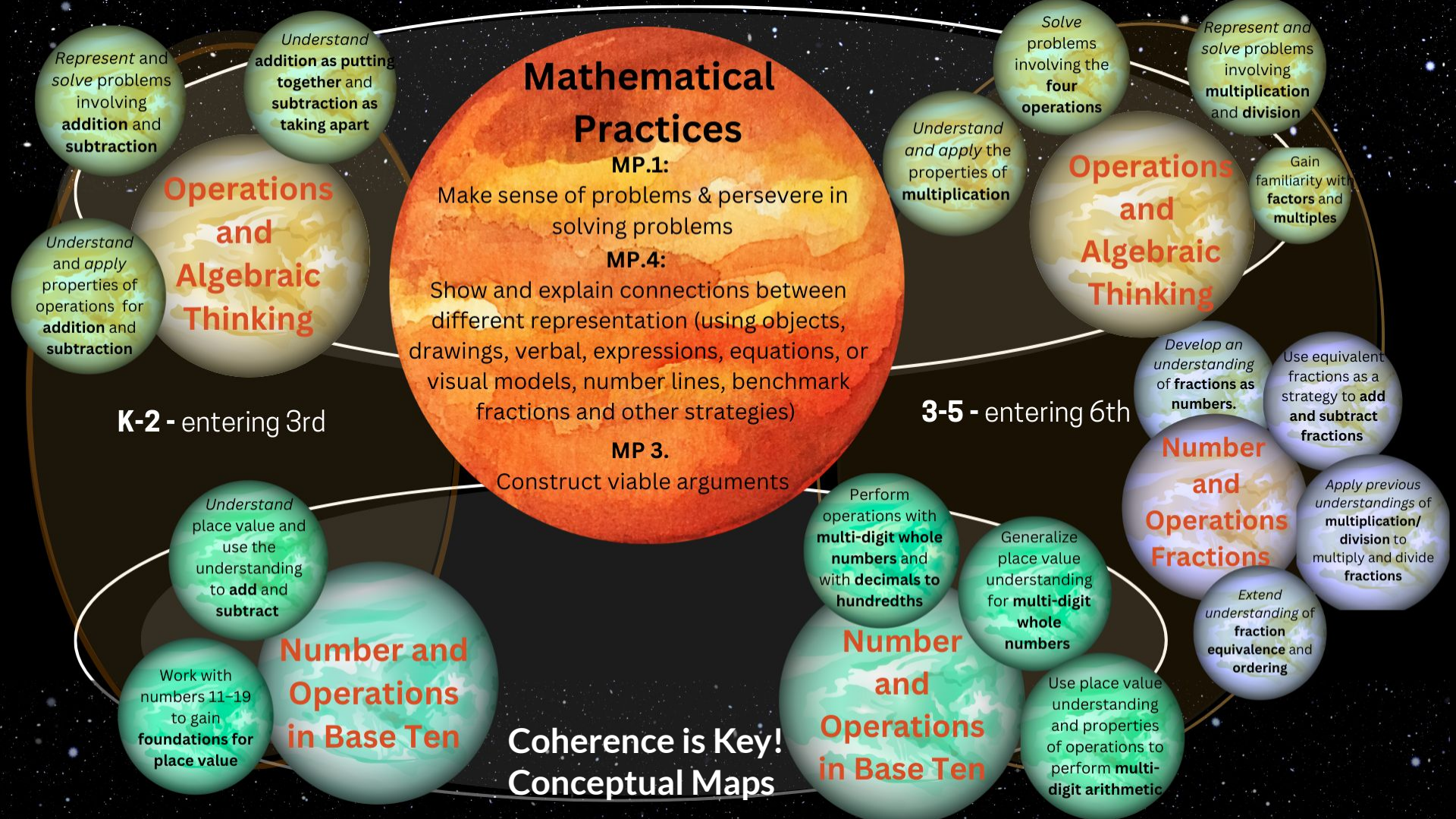
> ***"Nothing for you, without you."***

What We Learned

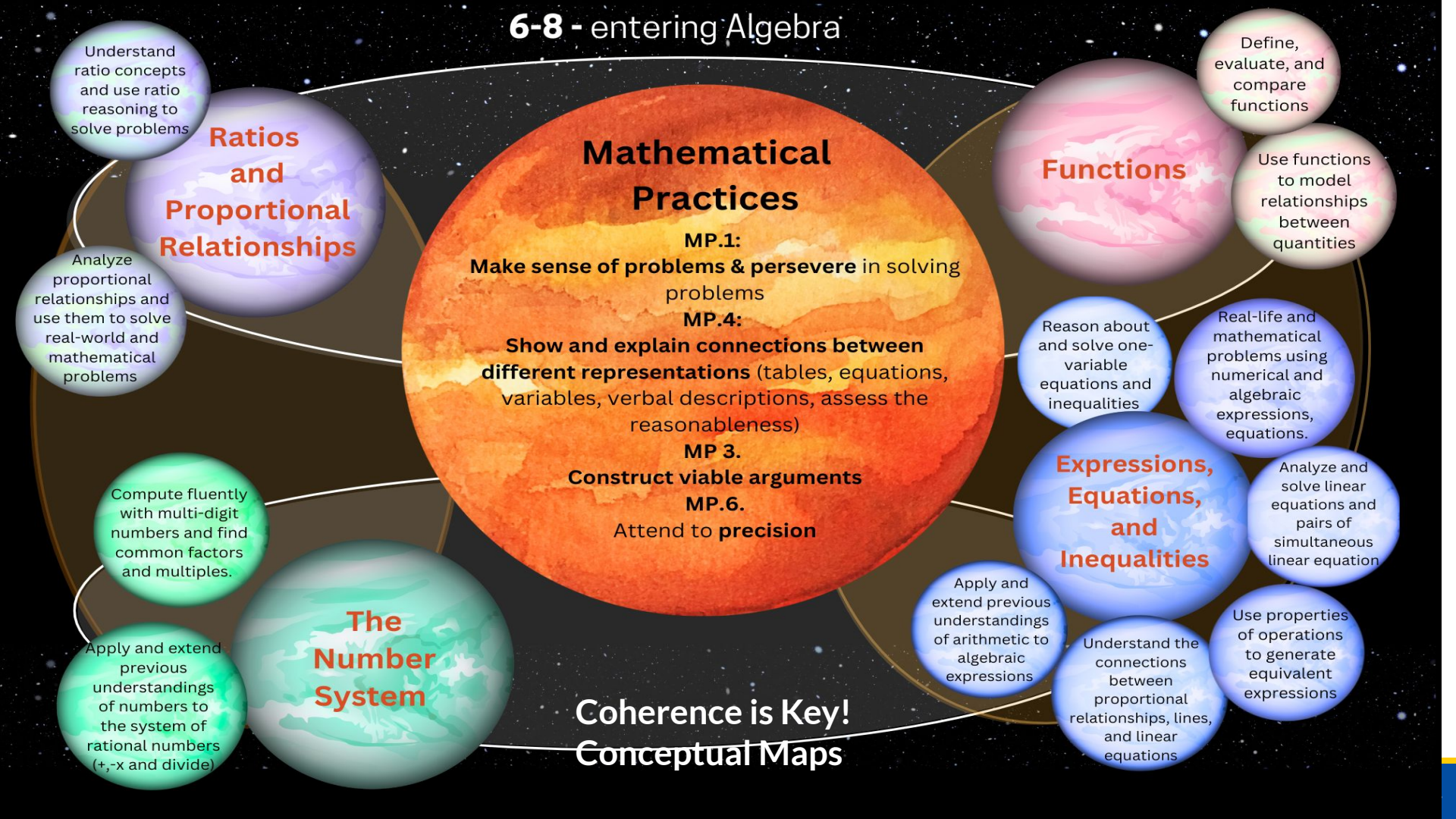
Three lessons for any district starting this work

Appendix

Reference slides for questions. Not presented.


Mathematical Practices
MP.1:
Make sense of problems & persevere in solving problems
MP.4:
Show and explain connections between different representation (using objects, drawings, verbal, expressions, equations, or visual models, number lines, benchmark fractions and other strategies)
MP 3.
Construct viable arguments
Represent and solve problems involving addition and subtraction
Understand addition as putting together and subtraction as taking apart
Operations and Algebraic Thinking
Understand and apply properties of operations for addition and subtraction
K-2 - entering 3rd
Understand place value and use the understanding to add and subtract
Number and Operations in Base Ten
Work with numbers 11-19 to gain foundations for place value
Solve problems involving the four operations
Represent and solve problems involving multiplication and division
Understand and apply the properties of multiplication
Operations and Algebraic Thinking
Gain familiarity with factors and multiples
3-5 - entering 6th
Develop an understanding of fractions as numbers.
Use equivalent fractions as a strategy to add and subtract fractions
Number and Operations Fractions
Apply previous understandings of multiplication/ division to multiply and divide fractions
Extend understanding of fraction equivalence and ordering
Perform operations with multi-digit whole numbers and with decimals to hundredths
Generalize place value understanding for multi-digit whole numbers
Number and Operations in Base Ten
Use place value understanding and properties of operations to perform multi-digit arithmetic
Coherence is Key!
Conceptual Maps

6-8 - entering Algebra



Coherence is Key!
Conceptual Maps

Year at the Glance

Algebra 1 Year at a Glance

Year Learning Plan (Semester Learning Plan)								
Unit Narratives & Guidance *(Time frame)*	**Unit 1** One-Variable Statistics *(September 8-12)*	**Unit 2** Linear Equations and Systems *(Sept 15-Oct 23)*	**Unit 3** Two-Variable Statistics *(Oct 24- Nov 6)*	**Unit 4** Linear Inequalities and Systems *(November 7-24)*	**Unit 5** Functions *(Dec 1- Jan 9)*	**Unit 6** Introduction to Exponential Functions *(Jan 12- Feb 26)*	**Unit 7** Quadratic Functions *(Feb 27-Mar 27)*	**Unit 8** Quadratic Equations *(April 6-May 8)*
Learning Topics by Section	**Section A:** Getting to Know you **Section B:** Distribution Shapes	**Section A:** Writing and Modeling with Equations **Section B:** Manipulating Equations and Understanding Their Structure **Section C:** Systems of Linear Equations in Two Variables	**Section A:** Two-Way Tables **Section B:** Scatterplots **Section C:** Correlation Coefficients	**Section A:** Linear Inequalities in One Variable **Section B:** Linear Inequalities in Two Variables **Section C:** Systems of Linear Inequalities in Two Variables	**Section A:** Functions and Their Representations **Section B:** Analyzing and Creating Graphs of Functions **Section C:** A Closer Look at Inputs and Outputs	**Section A:** Looking at Growth **Section B:** New Kind of Relationship **Section D:** Exponential Functions **Section E:** Percent Growth and Decay **Section F:** Comparing Linear and Exponential Functions	**Section A:** A Different Kind of Change **Section B:** Quadratic Functions **Section C:** Working with Quadratic Expressions **Section D:** Features of Quadratic Functions	**Section A:** Finding Unknown Inputs **Section B:** Solving Quadratic Equations **Section C:** Completing the Square **Section D:** The Quadratic Formula **Section E:** Vertex Form Revisited
Prioritized Clusters of Related Standards*and Clusters of Related Standards* Avg % these standards are on NYS Next Gen Math Tests*	3%	-Understand solving equations as a process of reasoning and explain the reasoning. -Solve equations and inequalities in one variable. -Solve systems of equations. -Represent and solve equations and inequalities graphically -Create equations that describe numbers or relationships -Build a function that models a relationship between two quantities.(AI-F.BF.1) 21%	7%	-Understand solving equations as a process of reasoning and explain the reasoning. -Solve equations and inequalities in one variable. -Solve systems of inequalities -Represent and solve equations and inequalities graphically -Create inequalities that describe numbers or relationships 9%	-Understand the concept of a function and use function notation. -Interpret functions that arise in applications in terms of the context. 13%	-Interpret functions that arise in applications in terms of the context -Build a function that models a relationship between two quantities. -Create equations that describe numbers or relationships -Construct and compare linear, quadratic, and exponential models and solve problems 9%	-Interpret functions that arise in applications in terms of the context. -Build a function that models a relationship between two quantities. -Understand the relationship between zeros and factors of polynomials. 13%	-Understand solving equations as a process of reasoning and explain the reasoning. -Solve equations and inequalities in one variable. -Use properties of rational and irrational numbers 23%
Lesson Guidance	Unit 1 LINK	Unit 2 LINK	Unit 3 LINK	Unit 4 LINK	Unit 5 LINK	Unit 6 LINK	Unit 7 LINK	Unit 8 LINK
Considerations and Support and		Unit 2 Live Draft		Unit 4 Live Draft	Unit 5 Live Draft	Unit 6 Live Draft	Unit 7 Live Draft	Unit 8 Live Draft

Imagine IM High School Curriculum Guide

Unit 2 Linear Equations and Systems

Unit Guidance | **Lesson Guidance**

(includes Standards, Assessments, Family Supports, and Regents questions by standards)

Prioritization Notes: *The content presented in this unit is* ***High Leverage*** *therefore instructional time is increased to support deep understanding of the content. This aligns with the Prioritization work done by RCSD teacher teams. The Next Gen Standards addressed in this unit make up 20% of the NYS Assessment.*

October

Monday	Tuesday	Wednesday	Thursday	Friday
Sept 28 Section A **U2 Lesson 5** *AI-CED.2, AI-CED.3, AI-REI.10* Equations and Their Graphs **Day 2 of 2**	Sept 29 ***Deep Dive*** *AI-A.CED.2, AI-REI.10* *Solutions to 2 Variable Linear Equations* **Supplemental Activity** Checkpoint A	Sept 30 Section B **U2 Lesson 6** *AI-CED.2, AI-REI.1, AI-SSE.1* Equivalent Equations	1 Section B **U2 Lesson 7** *AI-REI.1* Explaining Steps for Rewriting Equations	2 ***Deep Dive*** *AI-REI.1, AI-REI.3* *Solutions to 1 Variable Equations using Acceptable Moves* **Supplemental Activity**

Prioritizing Depth and Instructional Time

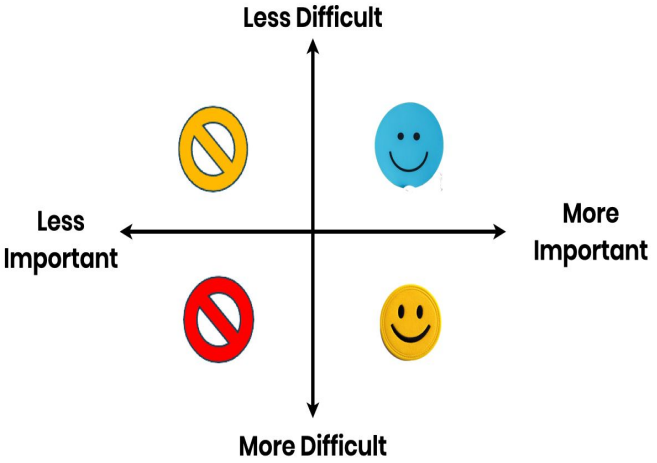
Learning Plan: Algebra 1

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Prioritizing Depth and Instructional Time

Lesson Level Guidance: Algebra 1



MCCS #	Most Important Critical Content and Skills	High Leverage Calculator Strategy/Spanish
#1	**Linear Functions (two variables):** • Represent Linear Functions(equations) on tables, graphs and symbolically. Interpret the meaning of $f(x) = mx + b$ in a variety of contexts • Know what a solution means for a 2-variable equation (x,y). • Determine if a point is a solution(on a line) when given its equation. • Rearrange an equation using acceptable moves ($y = mx+b$)	Use Calc Strategy **#1 and 2**
#2	**Solutions to Equations -(one variable):** • Know what a solution for a 1-variable equation is. • Use acceptable moves(properties of equality) to find the solution to a one variable equation. • Utilize the graphing calculator to find the solution.	Use Calc Strategy **#2 and 3**
#3	**Writing & Solving System of Linear Equations :** • Write 2 equations in two variables • Justify/explain whether values are a solution to the equation(or situation) • Find the solution to a system of equations using the graphing calculator	Use Calc Strategy **#1 and 3**
#4	**Linear Regressions** • Students must know to turn Diagnostics ON so that the correlation coefficient is part of the linear regression • Enter data in L1 and L2, then Stat Calc to get the Linear Regression. Students should write the full display including the y=ax+b that they see • Know that an r value closer to 1 or -1 is a strong correlation and closer to 0 is a weak correlation • Know that tenths is 1 decimal place, hundredths is 2 decimal places, and thousandths is 3 decimal places to round (use a scaffold to support)	Use Calc Strategy **#4**

#5	**Linear Inequalities and Systems of Inequalities**
	• Solve one variable inequalities as an equation to then use the graphing calculator to find the solution
	• Graph the related equations(must be y=) with at least 1 labeled
	  ○ **Ex** Graph $y > 3x - 4$ and $x + 2y \leq 6$
	  ○ Use $y = 3x-4$ and $y = \frac{6-x}{2}$
		Use Calc Strategy **#2 and 3 for 1 variable #1 for two variables**

#6	**Functions** • Know that a function assigns an input to exactly one output. • Know function notation and how to evaluate a function. • Know the Domain (input) and Range (output) of a function from function notation, table, and graph.	Use Calc Strategy **#1 and 2**
#7	**Graph of a quadratic equation (function)** • Use the table feature on the graphing calc to plot points correctly • Be able to write the coordinates of the vertex and/or identify it as the maximum and minimum of the function. • Be able to write the equation of the axis of symmetry. Use the vertex to identify the x value for the axis of symmetry and write as x= • Be able to identify the zeros(x-intercepts) of the function	Use Calc Strategy **#1, 2,**

The Most Attainable Concepts/Skills