Orange Public Schools

Office of Curriculum & Instruction
2019-2020 Mathematics Curriculum Guide

7th Grade Mathematics (Accelerated)

Math in Focus - Unit 1: Rational Numbers & Exponents

September 9, 2019 – November 13, 2019

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From the New Jersey Student Learning Standards:

Traditional Pathway Accelerated 7th Grade

In **Accelerated 7th Grade,** instructional time should focus on four critical areas: (1) Rational Numbers and Exponents; (2) Proportionality and Linear Relationships; (3) Introduction to Sampling Inference; (4) Creating, Comparing, and Analyzing Geometric Figures

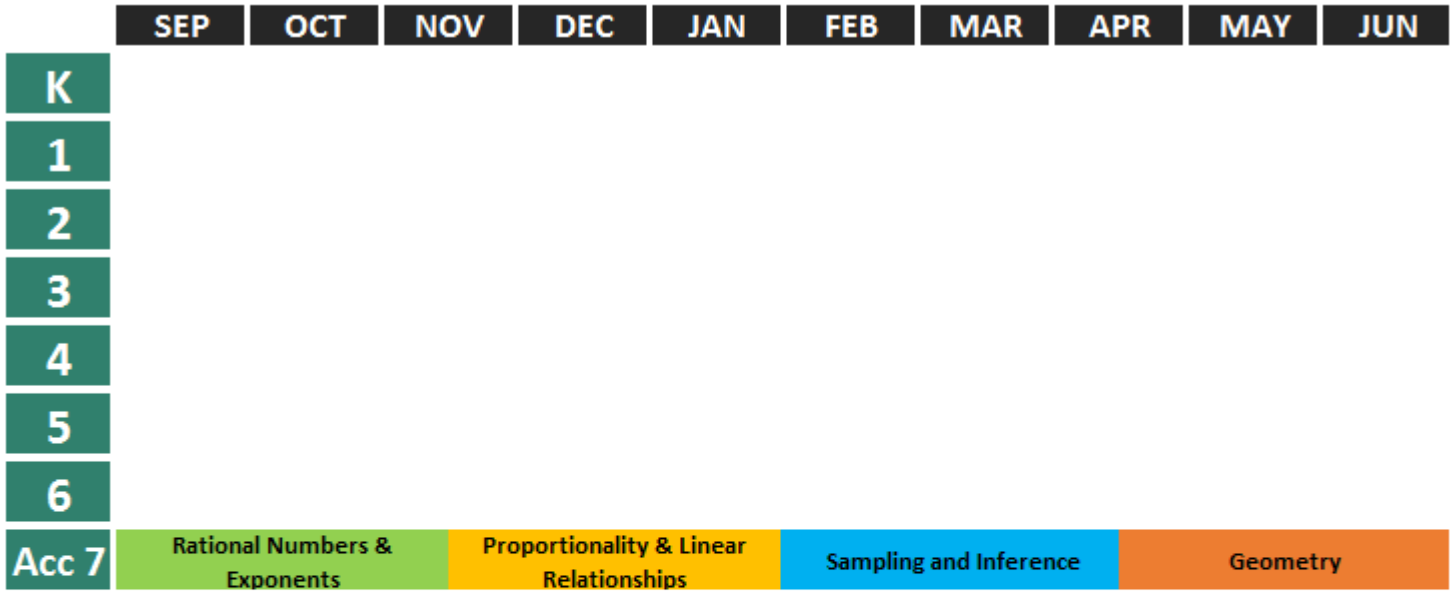
1. Students develop a unified understanding of number, recognizing fractions, decimals (that have a finite or a repeating decimal representation), and percents as different representations of rational numbers. Students extend addition, subtraction, multiplication, and division to all rational numbers, maintaining the properties of operations and the relationships between addition and subtraction, and multiplication and division. By applying these properties, and by viewing negative numbers in terms of everyday contexts (e.g., amounts owed or temperatures below zero), students explain and interpret the rules for adding, subtracting, multiplying, and dividing with negative numbers. They use the arithmetic of rational numbers as they formulate expressions and equations in one variable and use these equations to solve problems. They extend their mastery of the properties of operations to develop an understanding of integer exponents, and to work with numbers written in scientific notation.

2. Students use linear equations and systems of linear equations to represent, analyze, and solve a variety of problems. Students recognize equations for proportions ($y/x = m$ or $y = mx$) as special linear equations ($y= mx + b$), understanding that the constant of proportionality (m) is the slope, and the graphs are lines through the origin. They understand that the slope (m) of a line is a constant rate of change, so that if the input or x-coordinate changes by an amount A, the output or y-coordinate changes by the amount $m \times A$. Students strategically choose and efficiently implement procedures to solve linear equations in one variable, understanding that when they use the properties of equality and the concept of logical equivalence, they maintain the solutions of the original equation.

3. Students build on their previous work with single data distributions to compare two data distributions and address questions about differences between populations. They begin informal work with random sampling to generate data sets and learn about the importance of representative samples for drawing inferences

4. Students continue their work with area from Grade 6, solving problems involving the area and circumference of a circle and surface area of three-dimensional objects. In preparation for work on congruence and similarity, they reason about relationships among two-dimensional figures using scale drawings and informal geometric constructions, and they gain familiarity with the relationships between angles formed by intersecting lines. Students work with three-dimensional figures, relating them to two-dimensional figures by examining cross sections. They solve real- world and mathematical problems involving area, surface area, and volume of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes and right prisms. Students use ideas about distance and angles, how they behave under translations, rotations, reflections, and dilations, and ideas about congruence and similarity to describe and analyze two-dimensional figures and to solve problems. Students show that the sum of the angles in a triangle is the angle formed by a straight line, and that various configurations of lines give rise to similar triangles because of the angles created when a transversal cuts parallel lines. Students complete their work on volume by solving problems involving cones, cylinders, and spheres.

A STORY OF UNITS



Rational Numbers and Exponents: Operations with rational numbers, learn of irrational numbers, expressions and equations work with radical and integer exponents

Proportionality and Linear Relationships: Analyze proportional relationships, generate equivalent expressions using properties of operations, and understand connections between proportional relationships and

Sampling and Inference: Use random sampling, draw inferences, investigate chance processes, develop, use, and evaluate probability models

Geometry: construct geometrical figures, understand congruence and similarity using physical models, and solve real-life problems involving angle measure, area, surface area and volume

Table of Contents

References

"Math in Focus" *Houghton Mifflin Harcourt.* 2015 <https://my.hrw.com>

I. Unit Overview

Math in Focus Chapter 1: Students extend their knowledge of numbers (whole numbers, integers, fractions, and decimals) to irrational numbers. They identify the numbers that make up the set of rational numbers and those that make up the set of real numbers. They locate numbers from both sets on the number line.

Math in Focus Chapter 2: Students learn to add and subtract integers with the same sign and with different signs. They learn how to add integers to their opposites and how to subtract integers by adding their opposites. Students also learn to find the distance between two integers on the number line.

EngageNY Grade 7 Module 2: Rational Numbers (Topic B only).
Students represent the division of two integers as a fraction, extending product and quotient rules to all rational numbers. Students recognize that the context of a situation often determines the most appropriate form of a rational number, and they use long division, place value, and equivalent fractions to fluently convert between these fraction and decimal forms.

EngageNY Grade 8 Mathematics Module 7: Introduction to Irrational Numbers (Topic A & Topic B)
Though the term "irrational" is not introduced until Topic B, students learn that irrational numbers exist and are different from rational numbers. Students develop a deeper understanding of long division, they show that the decimal expansion for rational numbers repeats eventually, and they convert the decimal form of a number into a fraction.

EngageNY Grade 8 Module 1: Integer Exponents and Scientific Notation
Students expand their knowledge of positive integer exponents and prove the Laws of Exponents for any integer exponent. They work with numbers in the form of an integer multiplied by a power of 10 to express how many times as much one is than the other. This leads to an explanation of scientific notation and work performing operations on numbers written in this form.

Essential Questions

- How can we predict that the sum of two numbers is positive, negative or zero?
- What is the difference between the opposite and the absolute value of a number?
- Which methods can be used to compute rational numbers?
- How do we add integers with different signs?
- How can concrete and pictorial models represent operations with integers?
- How can any difference a – b of two rational numbers be restated as an equivalent addition statement?
- How do we determine if the product or quotient of two numbers is positive or negative?

Enduring Understanding

- Numerical representations can be used to describe and compare the value of real-world quantities.
- Relationships exist between positive and negative integers.
- Applying number properties can simplify expressions.
- Absolute value is a numbers distance from zero.
- Understand additive inverse and that opposite quantities combine to make zero.
- Understand subtraction of integers as adding the additive inverse and apply this to real world situations.
- Understand that a rational number is the quotient of two integers.
- Operations can be used to solve problems and equations with both positive and negative numbers.
- Solving real-world problems involves using all properties of operations and all integer rules.

II. Pacing Guide

Activity	New Jersey State Learning Standards (NJSLS)	Estimated Time
Grade 7 MIF Chapter 1 Pretest	7.NS.A.1; 7.NS.A.2; 7.NS.A.3; 7.EE.A.2; 7.EE.A.4;	1 Block
Grade 7 Chapter 1 (MIF) Lesson 1-5	7. NS.A.1; 7. NS.A.2; 7. NS.A.3	5 Blocks
Grade 7 Chapter 2 (MIF) Lesson 4-6	7. NS.A.2; 7. NS.A.3	3 Blocks
Unit 1 Performance Task 1	7.NS.A.2,	½ Block
Grade 7 Module 2 (EngageNY) Lesson 13-16	7.NS.A.2.a; 7.NS.A.2.b; 7.NS.A.2.c; 7.NS.A.2.d;	4 Blocks
Unit 1 Assessment 1 *(Optional)*	7.NS.A.1, 7.NS.A.2,7.NS.A.3;	½ Block
Grade 8 Module 7 (EngageNY) Lesson 1-4	8.NS.A.1, 8.NS.A.2, 8.EE.A.2	5 Blocks
Unit 1 Performance Task 2	8.NS.A.2	½ Block
Grade 8 Module 7 (EngageNY) Lesson 6-11	8.NS.A.1, 8.NS.A.2, 8.EE.A.2	5 Blocks
Unit 1 Assessment 2 *(Optional)*	8.NS.A.1, 8.NS.A.2,8.EE.A2	½ Block
Grade 8 Module 1 (EngageNY) Lesson 2-10	8.EE.A.1 , 8.EE.3,8.EE.4	9 Blocks
Unit 1 Performance Task 3	8.NS.A.1, 8.NS.A.2, 8.EE.A.2,	½ Block
Unit 1 Assessment 3 *(Optional)*	8.EE.A.1, 8.EE.A.3,8.EE.A.4	½ Block
Total Time		**35 Blocks**

Major Work Supporting Content Additional Contents

III. Pacing Calendar

Please complete the pacing calendar based on the suggested pacing (*see Pacing Guide)*.

SEPTEMBER						
Sunday	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**
1	**2**	**3**	**4**	**5**	**6**	**7**
8	**9**	**10**	**11**	**12**	**13**	**14**
15	**16**	**17**	**18**	**19**	**20**	**21**
22	**23**	**24**	**25**	**26**	**27**	**28**
29	**30**					

OCTOBER

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

NOVEMBER

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

IV. NJSLA Assessments Evidence Statements

NJSLS	Evidence Statement	Clarification	Math Practices	Calculator?
7.NS.1a	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.	-	5	No
7.NS.1b	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative.	i) Tasks do not have a context. ii) Tasks are not limited to integers. iii) Tasks involve a number line. iv) Tasks do not require students to show in general that a number and its opposite have a sum of 0; for this aspect of 7.NS.1b-1, see 7.C.1.1 and 7.C.2	5,7	No
7.NS.1c	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. c. Understand subtraction of rational numbers as adding the additive inverse, $p - q = p + (-q)$. Apply this principle in real-world contexts.	i) Tasks may or may not have a context. ii) Tasks are not limited to integers. iii) Contextual tasks might, for example, require students to create or identify a situation described by a specific equation of the general form $p - q = p + (-q)$ such as $3 - 5 = 3 + (-5)$. iv) Non-contextual tasks are not computation tasks but rather require students to demonstrate conceptual understanding, for example, by identifying a difference that is equivalent to a given difference. For example, given the difference $-1/3 - (1/5 + 5/8)$, the student might be asked to recognize the equivalent expression $-1/3 + -(1/5 + 5/8)$.	2,5,7	No

7.NS.1d	Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram. d. Apply properties of operations as strategies to add and subtract rational numbers	i) Tasks do not have a context. ii) Tasks are not limited to integers. iii) Tasks may involve sums and differences of 2 or 3 rational numbers. iv) Tasks require students to demonstrate conceptual understanding, for example, by producing or recognizing an expression equivalent to a given sum or difference. For example, given the sum –8.1 + 7.4, the student might be asked to recognize or produce the equivalent expression –(8.1 – 7.4).	5,7	No
7.NS.2b	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then -(p/q) = (–p)/q =p/(–q).	i) Tasks do not have a context. ii) Tasks require students to demonstrate conceptual understanding, for example, by providing students with a numerical expression and requiring students to produce or recognize an equivalent expression.	7	No
7.NS.2c	Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers. c. Apply properties of operations as strategies to multiply and divide rational number	i) Tasks do not have a context. ii) Tasks are not limited to integers. iii) Tasks may involve products and quotients of 2 or 3 rational numbers. iv) Tasks require students to compute a product or quotient, or demonstrate conceptual understanding, for example, by producing or recognizing an expression equivalent to a given expression. For example, given the expression (–8)(6)/(–3), the student might be asked to recognize or produce the equivalent expression –(8/3)(–6).	7	No
7.NS.3	Solve real-world and mathematical problems involving the four operations with rational numbers..	i) Tasks are one-step word problems. ii) Tasks sample equally between addition/subtraction and multiplication/division. iii) Tasks involve at least one negative number. iv) Tasks are not limited to integers.	1,4	No

8.NS.1	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion, which repeats eventually into a rational number.$t = pn$.	i) Tasks do not have a context. ii) An equal number of tasks require students to write a fraction a/b as a repeating decimal, or write a repeating decimal as a fraction. iii) For tasks that involve writing a repeating decimal as a fraction, the given decimal should include no more than two repeating decimals without non-repeating digits after the decimal point (i.e. 2.16666…, 0.23232323…).	7,8	No
8.NS.2	Use rational approximations of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g. π 2). For example, by truncating the decimal expansion of √2, show that √2 is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.	i) Tasks do not have a context.	5,7,8	No
8.EE.1	Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $3^2 \times 3^{-5} = 1/3^3 = 1/27$	i) Tasks do not have a context. ii) Tasks focus on the properties and equivalence, not on simplification. iii) Half of the expressions involve one property; half of the expressions involves two or three properties. iv) Tasks should involve a single common base or a potential common base, such as, a task that includes 3, 9 and 27.	7	No
8.EE.2	Use square root and cube root symbols to represent solutions to equations of the form x2=p and x3 = p, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that √2 is irrational	i) Tasks may or may not have a context. ii) Students are not required to simplify expressions such as √8 to 2√2 . Students are required to express the square roots of 1, 4, 9, 16, 25, 36, 49, 64, 81 and 100; and the cube roots of 1, 8, 27, and 64.	7	No

8.EE.3	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. For example, estimate the population of the United States as 3×10^8 and the population of the world as 7×10^9, and determine that the world population is more than 20 times larger.	-	4	No
8.EE.4	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used.	i) Tasks have "thin context" or no context. ii) Rules or conventions for significant figures are not assessed. iii) Some of the tasks involve both decimal and scientific notation.	6,7,8	No or Yes

V. Differentiated Instruction

Chapter 1

Assessment and Intervention

	ASSESSMENT	RtI STRUGGLING LEARNERS
DIAGNOSTIC	• Quick Check in Recall Prior Knowledge in Student Book A, pp. 3–6 • Chapter 1 Pre-Test in *Assessments*	• Skills 1–6 in *Transition Guide, Course 2*
ON-GOING	• Guided Practice • Lesson Check • Ticket Out the Door	• *Reteach* worksheets • *Extra Practice* worksheets • *Activity Book*, Chapter 1
END-OF-CHAPTER	• Chapter Review/Test • Chapter 1 Test in *Assessments* • ExamView® Assessment Suite CD-ROM Course 2	• *Reteach* worksheets

ELL ENGLISH LANGUAGE LEARNERS

Review the terms *rational*, *terminate*, and *irrational*.

Model Write the word *rational*. Underline the root *ratio*. Below that, write $0.25 = \frac{1}{4}$ and $0.333\ldots = 0.\overline{3} = \frac{1}{3}$. Write the word *irrational*. Underline the prefix *ir-*. Below that, write $\pi = 3.14159265\ldots$.

Say A *rational* number is a number you can write as a ratio. The decimal 0.25 *terminates*. It ends. 0.25 is a rational number. You can rewrite it as the ratio $\frac{1}{4}$. The decimal $0.\overline{3}$ does not terminate. It repeats. $0.\overline{3}$ is also a rational number. You can rewrite it as the ratio $\frac{1}{3}$. The prefix *ir-* means "not." An *irrational* number is a number that is *not* rational. You cannot rewrite an irrational number as a ratio. π is an irrational number. If you write π as a decimal, it does not terminate. It does not repeat.

For definitions, see Glossary, page 308, and Online Multi-Lingual Glossary.

ADVANCED LEARNERS

- Students can use a simple rule to determine whether a rational number in the form of a fraction will terminate or repeat when it is rewritten as a decimal. Explain that in order for a fraction to be rewritten as a terminating decimal, it must be possible to rewrite the fraction so that its denominator is a power of ten (10, 100, 1,000, etc.). If a fraction has a denominator that cannot be multiplied by a whole number to yield a power of ten, its decimal form will be repeating.
- Give students the following fractions: $\frac{5}{8}$, $\frac{4}{7}$, $\frac{5}{9}$, and $\frac{11}{16}$. Ask them to use the rule to decide whether each decimal will terminate or repeat and, if it terminates, to name the least power of 10 that the fraction's denominator can be rewritten as. *(Terminate, 1,000; Repeat; Repeat; Terminate, 10,000)*

To provide additional challenges use:

- *Enrichment*, Chapter 1
- Student Book A, Brain@Work problem

Chapter 2

Assessment and Intervention

	ASSESSMENT	RtI STRUGGLING LEARNERS
DIAGNOSTIC	• Quick Check in Recall Prior Knowledge in Student Book A, pp. 53–57 • Chapter 2 Pre-Test in *Assessments*	• Skills 7–15 in *Transition Guide, Course 2*
ON-GOING	• Guided Practice • Lesson Check • Ticket Out the Door	• *Reteach* worksheets • *Extra Practice* worksheets, Chapters 1–2 Cumulative Practice worksheets • *Activity Book*, Chapter 2
END-OF-CHAPTER	• Chapter Review/Test • Chapter 2 Test, Chapters 1–2 Benchmark Test in *Assessments* • ExamView® Assessment Suite CD-ROM Course 2	• *Reteach* worksheets

ELL ENGLISH LANGUAGE LEARNERS

Review the terms *zero pair* and *additive inverse*.

Model Write the following equations on the board: $1 + (-1) = 0$, $2 + (-2) = [1 + (-1)] + [1 + (-1)] = 0$.

Say A pairing of integers 1 and −1, whose sum is 0, is called a *zero pair*. 1 and −1 are a zero pair. 2 and −2 have two zero pairs.

Say −1 is the opposite of 1. Another name for opposite is *additive inverse*. −1 is the additive inverse of 1. 1 is the additive inverse of −1. We call −1 the *additive inverse* of 1 because when you *add* −1 to 1, the sum is 0. When you add a number to its additive inverse, the sum must be zero. −4 is the additive inverse of 4. 4 is the additive inverse of −4.

Model Write 3, −6, 9, −12, and 100 on the board. Have students name the additive inverse of each integer.

For definitions, see Glossary, page 308, and Online Multi-Lingual Glossary.

ADVANCED LEARNERS

- Students can use integer operations to compare the highest and lowest temperatures on different planets in the solar system. Have students do research to identify the highest and lowest temperatures on various planets. Once they have compiled their data, ask them to use integer operations to find a range of temperatures for each planet they researched. Have students create posters to share their data.
- You may want to suggest that students use a double bar graph to display their temperature data. Students can use a vertical axis for temperatures above and below 0°C (or 0°F).

To provide additional challenges use:

- *Enrichment*, Chapter 2
- Student Book A, Brain@Work problem

Pacing

If pacing is a challenge, consider the following modifications and omissions. Depending on students' strengths, consider consolidating Lessons 5 and 6. In Lesson 5, omit Problem 1 of the Concept Development, and move directly into renaming with the algorithm after Problem 2. Use the Problem Set from Lesson 6 for independent student practice. Consider consolidating Lessons 7 and 8 as well. Ask students to estimate the product beginning with the Concept Development of Lesson 7, and then use the Problem Set from Lesson 8 for student practice. Similarly, Lessons 11 and 12 can also be consolidated. Use estimation from the outset, and have students practice with the Problem Set from Lesson 12.

It is not recommended to omit any lessons from Topic D as it is a foundation for work later in the year. Students convert measurement units from small to large and from large to small using multiplication. This significantly expedites their understanding of and fluency with conversion and fraction multiplication as the year continues. In Lesson 14, students multiply whole numbers by unit fractions, which they learned to do in Grade 4 Module 5. If necessary, consider moving the fluency activity, "Multiply Unit Fractions," from Lesson 14 to Topic C to provide a few extra days of practice prior to beginning Lesson 14.

Scaffolds

The Common Core State Standards for Mathematics require that "all students must have the opportunity to learn and meet the same high standards if they are to access the knowledge and skills necessary in their post school lives." The writers of A Story of Units agree and feel strongly that accommodations cannot be just an extra set of resources for particular students. Instead, scaffolding must be folded into the curriculum in such a way that it is part of its very DNA. Said another way, faithful adherence to the modules IS the primary scaffolding tool.

See *III. The Common Core Approach to Differentiating Instruction (Pg. 14)* for additional information.

Use the links below for support with specific groups of learners.

Scaffolds for English Language Learners (Pg. 16-17)

Scaffolds for Students with Disabilities (Pg. 17-18)

Scaffolds for Students Performing Below Grade Level (Pg. 19)

Scaffolds for Students Performing Above Grade Level (Pg. 20)

Scaffolding Instruction for English Language Learners: A Resource Guide for Mathematics

VI. Vocabulary

Term	Definition
Additive Identity	The additive identity is the number 0.
Additive Inverse	An additive inverse of a number is a number such that the sum of the two numbers is 0.
Multiplicative Identity	The multiplicative identity is the number 1
Repeating Decimal Expansion	Decimal expansion is repeating if, after some digit to the right of the decimal point, there is a finite string of consecutive digits called a block after which the decimal expansion consists entirely of consecutive copies of that block repeated forever.
Terminating Decimal Expansion	A terminating decimal expansion is a repeating decimal expansion with period 1 and repeating digit 0.
Decimal System	The decimal system is a positional numeral system for representing real numbers by their decimal expansions. The decimal system extends the whole number place value system and the place value systems to decimal representations with an infinite number of digits.
Irrational Number	An irrational number is a real number that cannot be expressed as p/p for integers p and q with $q \neq 0$. An irrational number has a decimal expansion that is neither terminating nor repeating
Perfect Square	A perfect square is a number that is the square of an integer
Rational Approximation	*y* is *inversely proportional* to *x* if *y = k/x.*
A Square Root of a Number	A square root of b is a number aa such that $a^2 = b$. Negative numbers do not have any square roots, zero has exactly one square root, and positive numbers have two square roots.
The Square Root of a Number	Every positive real number a has a unique positive square root called the square root of the number b or principle square root of b; it is denoted $\sqrt{b}$. The square root of zero is zero
Scientific Notation	A representation of real numbers as the product of a number between 1 and 10 and a power of 10, used primarily for very large or very small numbers.
Model	A mathematical representation of a process, device, or concept by means of a number of variables.
Interpret	To establish or explain the meaning or significance of something.
Linear	A relationship or function that can be represented by a straight line.

Non-Linear	A relationship which does not create a straight line
Base	The number that is raised to a power in an exponential expression. In the expression 35, read “3 to the fifth power”, 3 is the base and 5 is the exponent.
Standard Form	The most common way we express quantities. For example, 27 is the standard form of 33.
Exponential Form	A quantity expressed as a number raised to a power. In exponential form, 32 can be written as 25. The exponential form of the prime factorization of 5,000 is 23×54.

VII. Assessment Framework

Unit 1 Assessment Framework				
Assessment	**NJSLS**	**Estimated Time**	**Format**	**Graded ?**
Grade 7 Chapter 1 Pretest (Beginning of Unit) *Math in Focus*	7.NS.A.1; 7.NS.A.2; 7.NS.A.3; 7.EE.A.2; 7.EE.A.4;	½ Block	Individual	Yes (No Weight)
Unit 1 Assessment 1 (After EngageNY Gr. 7 Module 2) *District Assessment*	7.NS.A.1, 7.NS.A.2	½ Block	Individual	Yes
Unit 1 Assessment 2 (After EngageNY Gr. 8 Module 7) *District Assessment*	8.NS.A.1,8.NS.A.2,8. EE.2	1 Block	Individual	Yes
Unit 1 Assessment 3 (Conclusion of Unit) *District Assessment*	8.EE.1, 8.EE.A.3, 8.EE.A.4	1 Block	Individual	Yes
Grade 7 Chapter 1 Test (Optional) *Math in Focus*	7.NS.A.1; 7.NS.A.2; 7.NS.A.3; 7.EE.A.2;7.EE.A.4;	Teacher Discretion	Teacher Discretion	Yes, if administered
Grade 7 Chapter 2 Test (Optional) *Math in Focus*	7. NS.A.1; 7. NS.A.2; 7. NS.A.3	Teacher Discretion	Teacher Discretion	Yes, if administered
Mid- Module Assessment Gr. 7 Module 2 (Optional) *EngageNY*	7.NS.A.1, 7.NS.A.2	Teacher Discretion	Teacher Discretion	Optional
Mid- Module Assessment Gr. 8 Module 7 (Optional) *EngageNY*	8.NS.A.1,8.NS.A.2	Teacher Discretion	Teacher Discretion	Optional
Mid- Module Assessment Gr. 8 Module 1 (Optional) *EngageNY*	8.EE.A.3, 8.EE.A.4	Teacher Discretion	Teacher Discretion	Optional
End of Module Assessment Gr. 7 Module 2 (Optional) *EngageNY*	7.NS.A.1, 7.NS.A.2	Teacher Discretion	Teacher Discretion	Optional
End of Module Assessment Gr. 8 Module 7 (Optional) *EngageNY*	8.NS.A.1,8.NS.A.2	Teacher Discretion	Teacher Discretion	Optional
End of Module Assessment Gr. 8 Module 1 (Optional) *EngageNY*	8.EE.A.3, 8.EE.A.4	Teacher Discretion	Teacher Discretion	Optional
Acc Gr 7 Interim Assessment 1 (Early November) *District Assessment*	7.NS.A.1a-d; 7.NS.A.2a-b	1 Block	Individual	Yes

Unit 1 Performance Assessment / PBL Framework				
Assessment	**NJSLS**	**Estimated Time**	**Format**	**Graded ?**
Unit 1 Performance Task 1 (Late September) *Equivalent fractions approach to non-repeating decimals*	7.NS.2	½ Block	Individual w/ Interview Opportunity	Yes; Rubric
Unit 1 Performance Task 2 (Early October) *Identifying Rational Numbers*	8.NS.A.1	½ Block	Group (Possible Reflection)	Yes; Rubric
Unit 1 Performance Task 3 (Early November) *Giant burgers*	8.EE.A.3, 8.EE.A.4	½ Block	Individual w/ Interview Opportunity	Yes; Rubric
Unit 1 Performance Task Option 1 (optional)	7.NS.1	Teacher Discretion	Teacher Discretion	Yes, if administered
Unit 1 Performance Task Option 2 (optional)	7.NS.1	Teacher Discretion	Teacher Discretion	Yes, if administered
Extended Constructed Response (ECR)* (click here for access)	Dependent on unit of study & month of administration	Up to 30 minutes	Individual	Yes; Rubric

* Use the following links to access ECR protocol and district assessment scoring documents:

- *Assessment & Data in Mathematics Bulletin*
- *Extended Constructed Response Protocol*

Equivalent fractions approach to non-repeating decimals (7.NS.2)

Malia found a "short cut" to find the decimal representation of the fraction $\frac{117}{250}$. Rather than use long division she noticed that because $250 \times 4 = 1000$,

$$\frac{117}{250} = \frac{117 \times 4}{250 \times 4} = \frac{468}{1000} = 0.468.$$

a. For which of the following fractions does Malia's strategy work to find the decimal representation?

$$\frac{1}{3}, \frac{3}{4}, -\frac{6}{25}, \frac{18}{7}, \frac{13}{8} \text{ and } -\frac{113}{40}.$$

For each one for which the strategy does work, use it to find the decimal representation.

b. For which denominators can Malia's strategy work?

Solution:

a.
- The strategy does not work for $\frac{1}{3}$ because there are no multiples of 3 which are powers of 10.
- Because $4 \times 25 = 100$, $\frac{3}{4} = \frac{3 \times 25}{4 \times 25} = \frac{75}{100} = 0.75$.
- $-\frac{6}{25} = -\frac{24}{100} = -0.24$.
- The strategy does not work for $\frac{18}{7}$ because there are no multiples of 7 which are powers of 10.
- $\frac{13}{8} = \frac{13 \times 125}{8 \times 125} = \frac{1625}{1000} = 1.625$.
- $-\frac{113}{40} = -2\frac{37}{40} = -2 + (-\frac{37 \times 25}{40 \times 25}) = -2 + (-\frac{825}{1000}) = -2.825$.

b. The strategy can work for any denominator which is a factor of a power of 10. In this case one can multiply the numerator and denominator by the complementary factor (that is, the quotient of that power of 10 by the denominator) to obtain a fraction with denominator equal to that power of 10. Such fractions are represented by terminating decimals.

Unit 1 Performance Task 1 PLD Rubric

SOLUTION

The strategy does not work for 13 because there are no multiples of 3 which are powers of 10. Because 4×25=100,

$\frac{3}{4} = \frac{3\times 25}{4\times 25} = \frac{75}{100} = 0.75.$ $-\frac{6}{25} = -\frac{24}{100} = -0.24.$

The strategy does not work for $\frac{18}{7}$ because there are no multiples of 7 which are powers of 10

$\frac{13}{8} = \frac{13\times 125}{8\times 125} = \frac{1625}{1000} = 1.625.$ $-\frac{113}{40} = -2\frac{37}{40} = -2+(\frac{37\times 25}{40\times 25}) = -2+(\frac{825}{1000}) = -2.825.$

Level 5: Distinguished Command	Level 4: Strong Command	Level 3: Moderate Command	Level 2: Partial Command	Level 1: No Command
Clearly constructs and communicates a complete response based on concrete referents provided in the prompt or constructed by the student such as diagrams that are connected to a written (symbolic) method, number line diagrams or coordinate plane diagrams, including: • a logical approach based on a conjecture and/or stated assumptions • a logical and complete progression of steps • complete justification of a conclusion with minor computational error	Clearly constructs and communicates a complete response based on concrete referents provided in the prompt or constructed by the student such as diagrams that are connected to a written (symbolic) method, number line diagrams or coordinate plane diagrams, including: • a logical approach based on a conjecture and/or stated assumptions • a logical and complete progression of steps • complete justification of a conclusion with minor conceptual error	Clearly constructs and communicates a complete response based on concrete referents provided in the prompt or constructed by the student such as diagrams that are connected to a written (symbolic) method, number line diagrams or coordinate plane diagrams, including: • a logical, but incomplete, progression of steps • minor calculation errors • partial justification of a conclusion • a logical, but incomplete, progression of steps	Constructs and communicates an incomplete response based on concrete referents provided in the prompt such as: diagrams, number line diagrams or coordinate plane diagrams, which may include: • a faulty approach based on a conjecture and/or stated assumptions • an illogical and incomplete progression of steps • major calculation errors • partial justification of a conclusion	The student shows no work or justification.

Identifying Rational Numbers (8.NS.A.1)

Decide whether each of the following numbers is rational or irrational. If it is rational, explain how you know.

a. $0.33\overline{3}$

b. $\sqrt{4}$

c. $\sqrt{2} = 1.414213\ldots$

d. 1.414213

e. $\pi = 3.141592\ldots$

f. 11

g. $\frac{1}{7} = 0.\overline{142857}$

h. $12.3456565\overline{656}$

Solution:

a. Since

$$0.33\overline{3} = \frac{1}{3}$$

$0.33\overline{3}$ is a rational number.

b. Since

$$\sqrt{4} = 2 = \frac{2}{1}$$

$\sqrt{4}$ is a rational number.

c. $\sqrt{2} = 1.414213\ldots$ is not rational. In eighth grade most students know that the square root of a prime number is irrational as a "fact," but few 8th grade students will be able to prove it. There are arguments that 8th graders can understand if they are interested.

d. Since

$$1.414213 = \frac{1414213}{100000},$$

1.414213 is a rational number.

e. $\pi = 3.141592\ldots$ is not rational. In eighth grade most students know that π is irrational as a "fact." The proof of this is quite sophisticated.

f. Since

$$11 = \frac{11}{1}$$

11 it is rational.

g. $\frac{1}{7} = 0.\overline{142857}$ is already written in a way that makes it clear it is a rational number, although some students might say it is irrational, possibly because the repeating part of the decimal is longer than many familiar repeating decimals (like $\frac{1}{3}$).

h. We have

$$12.3456565\overline{656} = 12.34 + .00\overline{56} = \frac{1234}{100} + \frac{56}{9900} = \frac{1234 \cdot 99 + 56}{9900} = \frac{122222}{9900},$$

which is certainly rational.

Unit 1 Performance Task 2 PLD Rubric

SOLUTION:

A) Rational
B) Rational
C) Irrational
D) Rational
E) Irrational
F) Rational
G) Rational
H) Rational

Level 5: Distinguished Command	Level 4: Strong Command	Level 3: Moderate Command	Level 2: Partial Command	Level 1: No Command
Clearly constructs and communicates a complete response based on concrete referents provided in the prompt or constructed by the student such as diagrams that are connected to a written (symbolic) method, number line diagrams or coordinate plane diagrams, including: • a logical approach based on a conjecture and/or stated assumptions • a logical and complete progression of steps • complete justification of a conclusion with minor computational error	Clearly constructs and communicates a complete response based on concrete referents provided in the prompt or constructed by the student such as diagrams that are connected to a written (symbolic) method, number line diagrams or coordinate plane diagrams, including: • a logical approach based on a conjecture and/or stated assumptions • a logical and complete progression of steps • complete justification of a conclusion with minor conceptual error	Clearly constructs and communicates a complete response based on concrete referents provided in the prompt or constructed by the student such as diagrams that are connected to a written (symbolic) method, number line diagrams or coordinate plane diagrams, including: • a logical, but incomplete, progression of steps • minor calculation errors • partial justification of a conclusion • a logical, but incomplete, progression of steps	Constructs and communicates an incomplete response based on concrete referents provided in the prompt such as: diagrams, number line diagrams or coordinate plane diagrams, which may include: • a faulty approach based on a conjecture and/or stated assumptions • an illogical and incomplete progression of steps • major calculation errors • partial justification of a conclusion	The student shows no work or justification.

Giantburgers Task (8.EE.4)

This headline appeared in a newspaper.

Every day 7% of Americans eat at Giantburger restaurants

Decide whether this headline is true using the following information.

- There are about 8×10^3 Giantburger restaurants in America.
- Each restaurant serves on average 2.5×10^3 people every day.
- There are about 3×10^8 Americans.
- Explain your reasons and show clearly how you figured it out.

Solution:

If there are about 8×10^3 Giantburger restaurants in America and each restaurant serves about 2.5×10^3 people every day, then about

$$8 \times 10^3 \cdot 2.5 \times 10^3 = 20 \times 10^6 = 2 \times 10^7$$

people eat at a Giantburger restaurant every day.

Since there are about 3×10^8 Americans, the percent of Americans who eat at a Giantburger restaurant every day can be computed by dividing the number of restaurant patrons by the total number of people:

$$2 \times 10^7 \div 3 \times 10^8 = \frac{2}{3} \times 10^{-1}$$

Since

$$\frac{2}{3} \times 10^{-1} = \frac{2}{3} \times \frac{1}{10} = \frac{2}{30} = \frac{1}{15} = 0.06\overline{6},$$

our estimate is that $6\frac{2}{3}\%$ of Americans eat a Giantburger restaurant every day, which is reasonably close to the claim in the newspaper.

Unit 1 Performance Task 3 PLD Rubric

SOLUTION

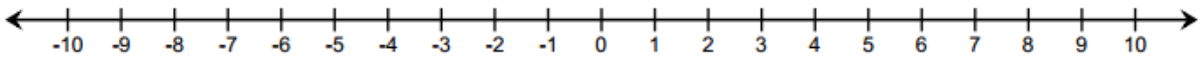
- **Our estimate is that $6\frac{2}{3}\%$ or 6.0666 of Americans eat a Giantburger restaurant every day, which is reasonably close to the claim in the newspaper.**

Level 5: Distinguished Command	Level 4: Strong Command	Level 3: Moderate Command	Level 2: Partial Command	Level 1: No Command
Clearly constructs and communicates a complete response based on concrete referents provided in the prompt or constructed by the student such as diagrams that are connected to a written (symbolic) method, number line diagrams or coordinate plane diagrams, including: • a logical approach based on a conjecture and/or stated assumptions • a logical and complete progression of steps • complete justification of a conclusionwith minor computational error	Clearly constructs and communicates a complete response based on concrete referents provided in the prompt or constructed by the student such as diagrams that are connected to a written (symbolic) method, number line diagrams or coordinate plane diagrams, including: • a logical approach based on a conjecture and/or stated assumptions • a logical and complete progression of steps • complete justification of a conclusionwith minor conceptual error	Clearly constructs and communicates a complete response based on concrete referents provided in the prompt or constructed by the student such as diagrams that are connected to a written (symbolic) method, number line diagrams or coordinate plane diagrams, including: • a logical, but incomplete, progression of steps • minor calculation errors • partial justification of a conclusion • a logical, but incomplete, progression of steps	Constructs and communicates an incomplete response based on concrete referents provided in the prompt such as: diagrams, number line diagrams or coordinate plane diagrams, which may include: • a faulty approach based on a conjecture and/or stated assumptions • An illogical and Incomplete progression of steps • major calculation errors • partial justification of a conclusion	The student shows no work or justification.

Performance Task 1 Option 1 (7.NS. A.1)

1. Diamond used a number line to add. She started counting at 10, and then she counted until she was on the number -4 on the number line.

   a. If Diamond is modeling addition, what number did she add to 10? Use the number line below to model your answer.



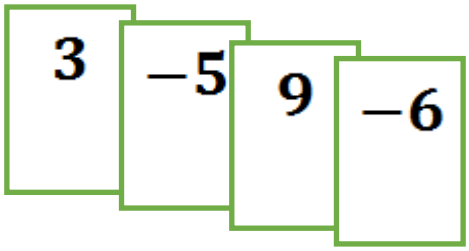
   b. Write a real-world story problem that would fit this situation.

   c. Use absolute value to express the distance between 10 and -4.

Performance Task 1 Option 2 (7.NS. A.1)

Jesse and Miya are playing the Integer Card Game. The cards in Jesse's hand are shown below:

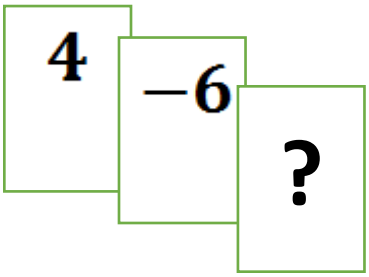
Jesse's Hand
$3, -5, 9, -6$



a. What is the total score of Jesse's hand? Support your answer by showing your work.

b. Jesse picks up two more cards, but they do not affect his overall point total. State the value of each of the two cards, and tell why they do not affect his overall point total.

c. Complete Jesse's new hand to make this total score equal zero. What must be the value of the card? Explain how you arrived at your answer.



IX. Modifications

Special Education/ 504:	English Language Learners:
-Adhere to all modifications and health concerns stated in each IEP. -Give students a MENU options, allowing students to pick assignments from different levels based on difficulty. -Accommodate Instructional Strategies: reading aloud text, graphic organizers, one-on-one instruction, class website (Google Classroom), handouts, definition list with visuals, extended time -Allow students to demonstrate understanding of a problem by drawing the picture of the answer and then explaining the reasoning orally and/or writing , such as Read-Draw-Write -Provide breaks between tasks, use positive reinforcement, use proximity -Assure students have experiences that are on the Concrete- Pictorial- Abstract spectrum by using manipulatives -Implement supports for students with disabilities (click here) - Make use of strategies imbedded within lessons -Common Core Approach to Differentiate Instruction: Students with Disabilities (pg 17-18) - Strategies for students with 504 plans	- Use manipulatives to promote conceptual understanding and enhance vocabulary usage - Provide graphic representations, gestures, drawings, equations, realia, and pictures during all segments of instruction - During i-Ready lessons, click on “Español” to hear specific words in Spanish - Utilize graphic organizers which are concrete, pictorial ways of constructing knowledge and organizing information - Use sentence frames and questioning strategies so that students will explain their thinking/ process of how to solve word problems - Utilize program translations (if available) for L1/ L2 students - Reword questions in simpler language - Make use of the ELL Mathematical Language Routines (click here for additional information) -Scaffolding instruction for ELL Learners -Common Core Approach to Differentiate Instruction: Students with Disabilities (pg 16-17)
Gifted and Talented:	**Students at Risk for Failure:**
- Elevated contextual complexity - Inquiry based or open ended assignments and projects - More time to study concepts with greater depth - Promote the synthesis of concepts and making real world connections - Provide students with enrichment practice that are imbedded in the curriculum such as: ● Application / Conceptual Development ● Are you ready for more? - Provide opportunities for math competitions - Alternative instruction pathways available - Common Core Approach to Differentiate Instruction: Students with Disabilities (pg. 20)	- Assure students have experiences that are on the Concrete- Pictorial- Abstract spectrum - Modify Instructional Strategies, reading aloud text, graphic organizers, one-on-one instruction, class website (Google Classroom), inclusion of more visuals and manipulatives, Peer Support - Constant parental/ guardian contact - Provide academic contracts to students & guardians - Create an interactive notebook with samples, key vocabulary words, student goals/ objectives. - Plan to address students at risk in your learning tasks, instructions, and directions. Anticipate where the needs will be, then address them prior to lessons. -Common Core Approach to Differentiate Instruction: Students with Disabilities (pg 19)

21st Century Life and Career Skills:

Career Ready Practices describe the career-ready skills that all educators in all content areas should seek to develop in their students. They are practices that have been linked to increase college, career, and life success. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

https://www.state.nj.us/education/cccs/2014/career/9.pdf

- **CRP1**. Act as a responsible and contributing citizen and employee.
- **CRP2**. Apply appropriate academic and technical skills.
- **CRP3**. Attend to personal health and financial well-being.
- **CRP4**. Communicate clearly and effectively and with reason.
- **CRP5**. Consider the environmental, social and economic impacts of decisions.
- **CRP6**. Demonstrate creativity and innovation.
- **CRP7**. Employ valid and reliable research strategies.
- **CRP8**. Utilize critical thinking to make sense of problems and persevere in solving them.
- **CRP9**. Model integrity, ethical leadership and effective management.
- **CRP10**. Plan education and career paths aligned to personal goals.
- **CRP11**. Use technology to enhance productivity.
- **CRP12**. Work productively in teams while using cultural global competence.

Students are given an opportunity to communicate with peers effectively, clearly, and with the use of technical language. They are encouraged to reason through experiences that promote critical thinking and emphasize the importance of perseverance. Students are exposed to various mediums of technology, such as digital learning, calculators, and educational websites.

Technology Standards:

All students will be prepared to meet the challenge of a dynamic global society in which they participate, contribute, achieve, and flourish through universal access to people, information, and ideas.
https://www.state.nj.us/education/cccs/2014/tech/

8.1 Educational Technology:

All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

A. **Technology Operations and Concepts:** Students demonstrate a sound understanding of technology concepts, systems and operations.
B. **Creativity and Innovation:** Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.
C. **Communication and Collaboration:** Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.
D. **Digital Citizenship:** Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.
E. **Research and Information Fluency:** Students apply digital tools to gather, evaluate, and use of information.
F. **Critical thinking, problem solving, and decision making:** Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming:

All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

A. **The Nature of Technology: Creativity and Innovation-** Technology systems impact every aspect of the world in which we live.
B. **Technology and Society:** Knowledge and understanding of human, cultural, and societal values are fundamental when designing technological systems and products in the global society.
C. **Design:** The design process is a systematic approach to solving problems.
D. **Abilities in a Technological World:** The designed world in a product of a design process that provides the means to convert resources into products and systems.
E. **Computational Thinking: Programming-** Computational thinking builds and enhances problem solving, allowing students to move beyond using knowledge to creating knowledge.

Interdisciplinary Connections:	
English Language Arts:	
L.7.3	Use knowledge of language and its conventions when writing, speaking, reading, or listening.
SL.7.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly.
W.7.1	Write arguments to support claims with clear reasons and relevant evidence.

X. Core Instruction & Supplemental Resources

Core Instruction

MATH IN FOCUS v. 2015
(HOUGHTON MIFFLIN HARCOURT)

GRADE	TEACHER RESOURCES	STUDENT RESOURCES
2-5	• **Teacher Edition (A & B)** • Implementation Guide • Assessment Package • Enrichment Bundle • Extra Practice Guide • Transition Guides • Reteaching Guide • Home -to- School Connection Book • Online Teacher Technology Kit • Fact Fluency • Online Interactive Whiteboard Lessons	• Student Texts (A & B) • Student Workbooks • Online Student Technology Kit • Student Interactivities
6-7	• **Teacher Edition (A & B)** • Implementation Guide • Assessment Package • Enrichment Bundle • Extra Practice Guide • Transition Guides • Reteaching Guide • Home -to- School Connection Book • Online Teacher Technology Kit	• Student Texts (A & B) • Online Student Interactive Manipulatives

ENGAGE NY v. 2015
(GREAT MINDS)

GRADE	TEACHER RESOURCES	STUDENT RESOURCES
6 (v. 2015)	• **Teacher Edition: Module 1-6**	• Student Material Set: Module 1-6
7	• **Teacher Edition: Module 1-6**	• Student Material Set: Module 1-6
8	• **Teacher Edition: Module 1-7**	• Student Material Set: Module 1-7

5 Practices for Orchestrating Productive Mathematics Discussions

Anticipate

Consider how students might mathematically interpret a problem, the array of strategies—both correct and incorrect—that they might use to tackle it, and how those strategies and interpretations might relate to the mathematical concepts, representations, procedures, and practices that you would like the students to learn.

- Solve the problem yourself first. If possible work with colleagues.
- Ask yourself the following questions:
  - What strategies have students used in the past?
  - What representations are students most likely to use?
  - What incorrect or unproductive strategies are students likely to try?
  - What things might get in the way of students being able to engage with the problem? How can you remove those barriers?
  - What questions will you ask those who struggle?

Monitor

Pay close attention to students' mathematical thinking and solution strategies as they work on the task.

- Create a list of strategies the students may produce.
- Circulate the room. Watch and listen to students as they work.
- If any students use strategies you anticipated, write their name or group number on your list.
- Ask questions that will help students make their thinking visible.
- Ask questions that will help students clarify their thinking.
- Press students to consider aspects of the task to which they need to attend.

Select

Select particular students to share their work with the rest of the class to get specific mathematics into the open for discussion. The selection of particular students and their solutions is guided by the previously anticipated strategies and your assessment of how each approach will contribute to that goal.

- Based on the previously anticipated strategies and the mathematical goal of the activity, decide which student strategies to highlight.
- Select students who will share their work with the class.

Sequence

Make purposeful choices about the order in which students' work is shared to maximize the chances of achieving the mathematical goals for the discussion.

- Based on the mathematical goal, decide on the purpose for the sequence of work. For example: least efficient to most efficient, concrete to abstract, misconceptions to conceptions, or building representations.
- Decide in which order students will present their work.

Connect

Help students draw connections between their solutions and other students' solutions as well as the key mathematical ideas in the lesson. Help students to make judgments about the consequences of different approaches for the range of problems that can be solved, one's likely accuracy and efficiency in solving them, and the kinds of mathematical patterns that can be most easily discerned. Know where you want the discussion to "land" and make choices that are likely to get you there. If necessary, you may have to demonstrate an approach that students didn't come up with themselves.

- As students share, ask questions to elicit and clarify student thinking.
- After each student shares, ask questions to connect it to previously shared work or ask a student to summarize what another student said in their own words.
- Ask students to compare and contrast strategies or representations during the discussion.
- If students did not come up with an approach that you need them to see in order for the discussion to "land," demonstrate this approach and connect it to the work that students did.

IDEAL MATH BLOCK

Whole Group Instruction	55min	INSTRUCTION (Grades 3 – 8) Daily Routine: Mathematical Content or Language Routine (7 – 10 min) Anchor Task: Anticipate, Monitor, Select, Sequence, Connect Tech Integration: Digital applets embedded within lessons designed to enhance student learning Collaborative Work* Guided Learning/Guided Practice Independent Work (Demonstration of Student Thinking) Additional Activities / Let's Practice		
Rotation Stations (Student Notebooks & Chromebooks Needed)	1-2X 30 min	STATION 1: Focus on current Grade Level Content STUDENT EXPLORATION* Independent or groups of 2-3 Emphasis on MP's 3, 6 (Reasoning and Precision) And MP's 1 & 4 (Problem Solving and Application) TOOLS/RESOURCES Practice Problems Extra Practice/Enrichment Are you ready for more? Put Your Thinking Cap On	STATION 2: Focus on Student Needs TECH STATION Independent TECH INTEGRATION iReady - *i-Ready* delivers online lessons driven by student data to provide tailored instruction that meets students where they are in their learning trajectory. Dreambox (ELL) – Adaptive online learning platform.	TEACHER STATION: Focus on Grade Level Content; heavily scaffolded to connect deficiencies TARGETED INSTRUCTION 4 – 5 Students TOOLS/ RESOURCES Homework Manipulatives Reteach Workbook Transition Guide *all students seen in 2 weeks
Closure	5 min	INSTRUCTION Exit Ticket (Demonstration of Student Thinking) TOOLS/RESOURCES Notebooks or Exit Ticket Slips		

* Promotes discourse and collaboration

Supplemental Resources

Achieve the Core

Tasks - https://achievethecore.org/category/416/mathematics-tasks

Coherence Map - https://achievethecore.org/page/1118/coherence-map

Embarc

https://embarc.online/

Engage NY

https://www.engageny.org/ccss-library/?f%5B0%5D=field_subject%253Aparents_all%3A13601

iReady Digital Platform

https://login.i-ready.com/

Math in Focus

https://my.hrw.com/

Illustrative Mathematics

Content Standard Tasks - https://tasks.illustrativemathematics.org/content-standards

Practice Standard Tasks - https://tasks.illustrativemathematics.org/practice-standards

Open Up Resources - https://access.openupresources.org/sign_in

iM Additional Resources - https://bit.ly/imshare

Khan Academy

https://www.khanacademy.org/math/illustrative-math

NJDOE Digital Item Library

https://nj.digitalitemlibrary.com/home?subject=Math

Ready Teacher Toolbox

https://teacher-toolbox.com/