

Township of Union Public Schools
Administration Building

K - 5

CURRICULUM GUIDE APPROVAL REQUEST FORM

Please present the attached guide to the Board of Education for approval. The guide has been reviewed by all involved parties and is aligned with the New Jersey Core Curriculum Content Standards.

Title: Math Curriculum Guide

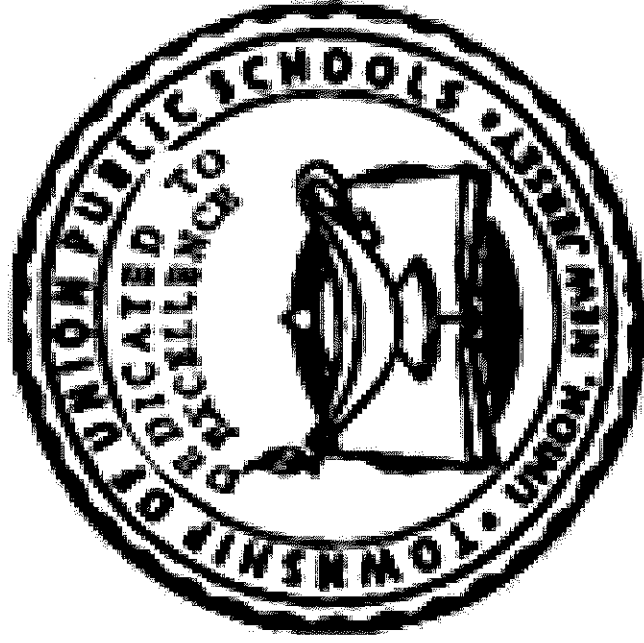
Department/Grade: Grade 5

Supervisor: Terri Matthews

Submission Date: May 22, 2015

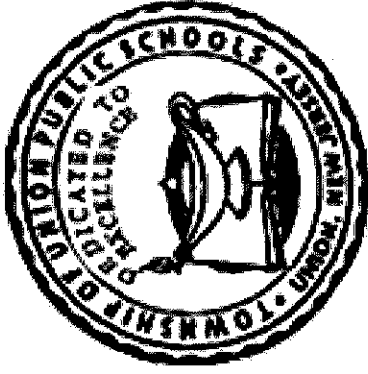
Board Approval Date: _____

TOWNSHIP OF UNION PUBLIC SCHOOLS



Grade 5 Mathematics Curriculum Guide 2015/2016

Curriculum Guide Approved June 2015



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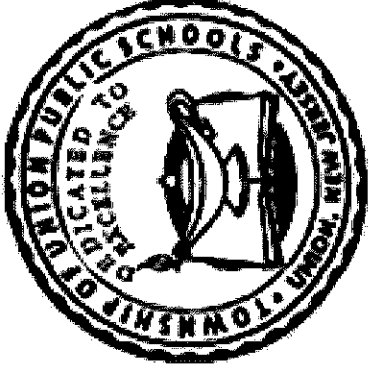
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TOWNSHIP OF UNION PUBLIC SCHOOLS

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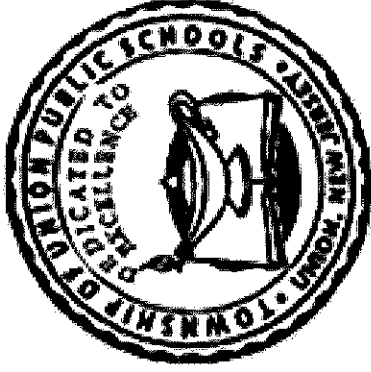
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Mathematics Grade 5

Curriculum Committee:

**Jill Monaghan
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Mission Statement

The Township of Union Board of Education believes that every child is entitled to an education designed to meet his or her individual needs in an environment that is conducive to learning. State standards, federal and state mandates, and local goals and objectives, along with community input, must be reviewed and evaluated on a regular basis to ensure that an atmosphere of learning is both encouraged and implemented. Furthermore, any disruption to or interference with a healthy and safe educational environment must be addressed, corrected, or when necessary, removed in order for the district to maintain the appropriate educational setting.

Philosophy Statement

The Township of Union Public School District, as a societal agency, reflects democratic ideals and concepts through its educational practices. It is the belief of the Board of Education that a primary function of the Township of Union Public School System is to formulate a learning climate conducive to the needs of all students in general, providing therein for individual differences. The school operates as a partner with the home and community.

Statement of District Goals

- **Develop reading, writing, speaking, listening, and mathematical skills.**
- **Develop a pride in work and a feeling of self-worth, self-reliance, and self discipline.**
- **Acquire and use the skills and habits involved in critical and constructive thinking.**
- **Develop a code of behavior based on moral and ethical principals.**
- **Work with others cooperatively.**
- **Acquire a knowledge and appreciation of the historical record of human achievement and failures and current societal issues.**
- **Acquire a knowledge and understanding of the physical and biological sciences.**
- **Participate effectively and efficiently in economic life and the development of skills to enter a specific field of work.**
- **Appreciate and understand literature, art, music, and other cultural activities.**
- **Develop an understanding of the historical and cultural heritage.**
- **Develop a concern for the proper use and/or preservation of natural resources.**
- **Develop basic skills in sports and other forms of recreation.**

Course Description

The fifth grade curriculum is aligned with the Core Curriculum Content Standards for mathematics:

- 5.OA Operations and Algebraic Thinking**
- 5.NBT Number and Operations in Decimals**
- 5.NF Number and Operations - Fractions**
- 5.MD Measure and Data**
- 5.G Geometry**

The content emphases for this grade level are:

- Developing an understanding of and fluency with addition, subtraction, multiplication, and division of decimals
- Developing an understanding of and fluency with addition, subtraction, multiplication, and division of fractions
- Describing two- and three-dimensional shapes and analyzing their properties, including area and volume

These focal points will be addressed in contexts that promote problem solving, reasoning, communication, making connections, and designing and analyzing representations. The purpose is “to enable all of New Jersey’s children to acquire the mathematical skills, understandings and attitudes that they will need to be successful in their careers and daily lives” (NJCCCS, p. 2).

Recommended Textbook:

Houghton Mifflin Harcourt/GO MATH Grade 5

Resources:

5th Grade CCCS Resource Packet

Course Proficiencies

Students will be able to...

5.OA Operations and Algebraic Thinking

- Communicates understanding of math concepts
- Uses manipulatives and/or models effectively
- Applies appropriate strategies in problem-solving
- Perseveres in problem solving
- Write & interpret numerical expressions with grouping symbols
- Analyze patterns and relationships

5.NBT Number and Operations in Decimals

- Use whole-number exponents to denote powers of 10
- Read, write, and compare decimals to thousandths
- Place value understanding to round decimals to any place
- Fluently multiply multi-digit whole numbers
- Find whole-number quotients of whole numbers with up to four-digit dividends & two-digit divisors
- Add, subtract, multiply, and divide decimals to hundredths

5.NF Number and Operations - Fractions

- Add & Subtract fractions with unlike denominators
- Solve word problems involving addition & subtraction of fractions
- Multiply a fraction or whole number by a fraction
- Divide unit fractions by whole numbers & whole numbers by unit fractions

5.MD Measurement and Data

- Convert like measurement units within a given measurement system
- Represent and interpret data
- Understand concepts of volume measurement
- Solve real world & mathematical problems involving volume

4.G Geometry

- Graphing points in the first quadrant of the coordinate plane
- Interpret coordinate values of points in the context of the situation
- Classify two-dimensional figures into categories based on properties

Curriculum Units

Unit 1: Operations and Algebraic Thinking

Unit 2: Number and Operations in Decimals

Unit 3: Number and Operations - Fractions

Unit 4: Measurement and Data

Unit 5: Geometry

Pacing Guide

<u>Chapter</u>	<u>Introduction</u>	<u>Instruction</u>	<u>Assessment</u>	<u>TOTAL</u>
1	1 day	13 days	2 days	16
2	1 day	10 days	2 days	13
3	1 day	13 days	2 days	16
4	1 day	9 days	2 days	12
6	1 day	11 days	2 days	14
7	1 day	11 days	2 days	14
9	1 day	9 days	2 days	11
10	1 day	9 days	2 days	12
11	1 day	13 days	2 days	16
5	1 day	9 days	2 days	12
8	1 day	6 days	2 days	9

Total Days : 135

Misc Days : 35

35 days for
miscellaneous tests,
quizzes, assemblies,
and PARCC Prep

Unit 1: 5.OA Operations and Algebraic Thinking

Essential Questions	Instructional Objectives/ Skills and Benchmarks (CPI/s)	Activities	Assessments
<p><u>5.OA.1 & 5.OA.2 Numerical Expressions</u></p> <ul style="list-style-type: none"> In what order must operations be evaluated ... to find the solution to a problem? ... when there are parentheses within parentheses? How can you use a numerical expression to describe a situation? 	<p><u>5.OA.1 & 5.OA.2 Numerical Expressions</u></p> <p>SWBAT :</p> <ul style="list-style-type: none"> Use the order of operations to evaluate numerical expressions including those that contain parentheses, brackets, and braces. Write numerical expression to describe a situation. 	<p><u>5.OA.1 & 5.OA.2 Numerical Expressions</u></p> <ul style="list-style-type: none"> http://parcc.pearson.com/practice-tests/math/ PEMDAS Hopscotch Order of Operations Bowling Create your own PEMDAS acronym saying Exponents Dice Game <p>Cross Curricular Counting on Frank – MATH & ENGLISH</p>	<p><u>5.OA.1 & 5.OA.2 Numerical Expressions</u></p> <ul style="list-style-type: none"> Sample SCR Item: Emma has eleven fish in her aquarium. She buys four more. Write the expression that matches the situation numerically. (Ans: $11 + 4$) Sample MC Item: Solve $3^2 + 6 \div (9 - 2)$ a. 3 *b. 2 c. 5. d. 4 Sample ECR Item: Who is Right? Ms. Robertson put the following expression on the board. She asked all students to solve the

problem on their own
and
explain the solving
process.

$$3^2 + 4 \times 9 - 10$$

Kayla said the correct
answer is 107.

Bill said the correct
answer
is 35.

- Solve the problem and
show your work.

- Who is correct?

- If Kayla is wrong, what
was

the mistake? Explain.

**Performance
Assessment**

The Order of Operations
Brochure

<p><u>5.OA.3</u> <u>Patterns & Relationships</u></p> <ul style="list-style-type: none"> • How can you identify a relationship between two numerical patterns? • How could you use the strategy <i>solve a simpler problem</i> to help you solve a problem with patterns? • How can you write and graph an ordered pair on a coordinate grid using two numerical patterns? 	<p><u>5.OA.3</u> <u>Patterns & Relationships</u></p> <p>SWBAT:</p> <ul style="list-style-type: none"> • Use two rules to generate a numerical pattern and identify the relationship between corresponding terms in patterns. • Solve problems using the strategy <i>Solve a simpler problem</i>. • Graph the relationship between two numerical patterns on a coordinate grid. 	<p><u>5.OA.3</u> <u>Patterns & Relationships</u></p> <ul style="list-style-type: none"> • Find the next term Race • Patterns: I have...you have matching game • Patterns: Quiz, Quiz, Trade activity 	<p><u>5.OA.3</u> <u>Patterns & Relationships</u></p> <p>Sample MC Item: Last year, the cafeteria at Kyle's school recycled 100 pounds of the trash that was collected. This year was the second year of recycling, and the cafeteria recycled twice as much. If the amount of trash the cafeteria recycles doubles each year, how much will be recycled in the fourth year? a. 1600 pounds * b. 800 pounds c. 600 pounds d. 400 pounds</p> <p>Sample MC Item: The following pattern has a rule of $X3, -12$.</p>
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7, 21, 9, 27, 15, 45, 33, ...

What are the next three numbers in the pattern?

- a. 99, 87, 261*
- b. 21, 24, 12
- c. 99, 297, 285
- d. 21, 63, 51

Sample MC Item: At a science lab, a cell was divided in two. Then each of those cells were divided in two. Finally, each of those cells were divided in two. How many total cells were there?

- a. 2
- b. 6
- *c. 8
- d. 12

Exemplar
Exemplars Gr3-5
pg143-152

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Unit 2: 5.NBT Number and Operations in Decimals

Essential Questions	Instructional Objectives/ Skills and Benchmarks (CPIs)	Activities	Assessments
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<p>5.NBT.1 – 5.NBT.4 <u>Place Value System</u></p> <ul style="list-style-type: none"> • How can you describe the relationship between 2 place value positions? • How do you read, write, and represent whole numbers through hundred millions and decimals through thousandths? • How can you use an exponent to show powers of 10 • How can you use a basic fact and a pattern to multiply by a 2-digit #? • How can you use place value to compare, order, and round decimals? 	<p>5.NBT.1 – 5.NBT.4 <u>Place Value System</u></p> <p>SWBAT:</p> <ul style="list-style-type: none"> • Recognize the 10 to 1 relationship between 2 place value positions. • Read and write whole numbers through hundred millions and decimals through thousandths. • Write and evaluate repeated factors in exponent form. • Use basic fact and a pattern to multiply mentally by multiples of 10, 100, and 1,000. • Compare, order, & round decimals to thousandths using place value. 	<p>5.NBT.1 – 5.NBT.4 <u>Place Value System</u></p> <ul style="list-style-type: none"> • http://parcc.pearson.com/practice-tests/math/ • Place value number line • Place Value Snakes • Take a Chance! • Place Value Communicators • Decimal War • Decimal Shuffle • Decimal: I Have... You Have Matching Game • Dueling Duos 	<p>5.NBT.1 – 5.NBT.4 <u>Place Value System</u></p> <ul style="list-style-type: none"> • Sample SCR Item: What's the error? Matt wrote five million two hundred thousand seven hundred eighty four as 5,025,784. What's wrong and write it correctly in standard form. (Ans: 5,205,784) • Sample SCR Item: $10^3 = 10^1 \times 10^2$ What is the value of n. (Ans: 2) • Sample MC Item: 4.85 <input type="checkbox"/> 4.8 *a. > b. < c. = <p>Performance Assessment Representing Decimals Match Chart Cut and</p>
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Paste

Exemplar
Exemplars Gr3-5
Pg 199-206

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5.NBT.5 – 5.NBT.7
Operations with
Decimals

5.NBT.5 – 5.NBT.7
Operations with
Decimals

5.NBT.5 – 5.NBT.7
Operations with Decimals

5.NBT.5 – 5.NBT.7

	SWBAT: <ul style="list-style-type: none"> Use properties of operations to solve problems. Multiply by 1- and 2-digit numbers. Use multiplication to solve division problems. Divide -3 and 4-digit dividends by 1- and 2-digit divisors. Estimate quotients using compatible numbers. Make reasonable estimates of decimal sums and differences. Model decimal addition and subtraction using base ten blocks. Add and subtract decimals using place value. 	<ul style="list-style-type: none"> Conquering Division Dueling Digits McDonald's Rhyme Decimal Squares (manipulative) Decimal Magic Squares Decimal War Base Ten Block (manipulative) Fraction People 	<u>Operations with Decimals</u> <p>Sample SCR Item: Four brownies left over from a party. They would like to split them equally. How much should each of them receive? (Answer: 75% or 0.75 or $\frac{3}{4}$ of a brownie)</p> <p>Sample SCR Item: A gallon contains 128 ounces. Paul wants to divide three gallons of apple cider equally among the two dozen friends at his party. How much apple cider will each friend receive? (Answer: 16 oz.)</p> <p>Sample MC Item: Debbie has a \$5.00 bill. She wants to purchase a notebook for \$0.75 and a pen for \$0.50. How much money will Debbie have after purchasing the notebook and the pen? (Answer: \$3.75)</p>
<ul style="list-style-type: none"> How can you use properties of operations to solve problems? How do you multiply by 1- and 2-digit numbers? How is multiplication used to solve a division problem? How can you divide whole numbers? How can you use compatible numbers to estimate quotients? How can you estimate decimal sums and differences? How can you use base ten blocks to model decimal addition and subtraction? How can you add and subtract decimals? 	<ul style="list-style-type: none"> Use properties of operations to solve problems. Multiply by 1- and 2-digit numbers. Use multiplication to solve division problems. Divide -3 and 4-digit dividends by 1- and 2-digit divisors. Estimate quotients using compatible numbers. Make reasonable estimates of decimal sums and differences. Model decimal addition and subtraction using base ten blocks. Add and subtract decimals using place value. 	<ul style="list-style-type: none"> Conquering Division Dueling Digits McDonald's Rhyme Decimal Squares (manipulative) Decimal Magic Squares Decimal War Base Ten Block (manipulative) Fraction People 	<u>Operations with Decimals</u> <p>Sample SCR Item: Four brownies left over from a party. They would like to split them equally. How much should each of them receive? (Answer: 75% or 0.75 or $\frac{3}{4}$ of a brownie)</p> <p>Sample SCR Item: A gallon contains 128 ounces. Paul wants to divide three gallons of apple cider equally among the two dozen friends at his party. How much apple cider will each friend receive? (Answer: 16 oz.)</p> <p>Sample MC Item: Debbie has a \$5.00 bill. She wants to purchase a notebook for \$0.75 and a pen for \$0.50. How much money will Debbie have after purchasing the notebook and the pen? (Answer: \$3.75)</p>

<ul style="list-style-type: none"> • How can you use addition or subtraction to describe a pattern or create a sequence with decimals? • How can you solve decimal multiplication problems? • How can you divide decimals by whole numbers and decimal divisors? • What strategies can you use to place a decimal point in a product/quotient? • How can you estimate decimal products and quotients? • When do you write a zero in the dividend to find a quotient? 	<ul style="list-style-type: none"> • Identify, describe, and create numeric patterns with decimals. • Solve decimal multiplication problems using place value. • Divide decimals by whole number and decimal divisors. • Place the decimal point in decimal multiplication or division. • Divide decimals by whole number and decimal divisors. • Estimate decimal products and quotients. • Write a zero in the dividend to find a quotient. 		<p>a. \$1.25 b. \$2.75 c. *\$3.75 d. \$4.25</p> <p>Sample MC Item: How many numbers between 20 and 50 have no remainder when divided by 6? a. 3 b. 4 * c. 5 d. 6</p> <p>Sample SCR Item: Paula's tractor holds 3 liters of gasoline. Tom's tractor holds 2.4 liters. How much more does one tractor hold than the other? (Answer: 0.6 liters)</p> <p>Exemplar Exemplars Gr3-5 pg133-142</p>
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Unit 3: 5.NF Number and Operations - Fractions

Essential Questions	Instructional Objectives/ Skills and Benchmarks (CPIs)	Activities	Assessments
<p><u>5.NF.1 & 5.NF.2 Add/Subtract Fractions</u></p> <ul style="list-style-type: none"> • How can you add and subtract fractions and mixed numbers with unlike denominators? • How can you use renaming to find the difference of two mixed numbers? • How can you make reasonable estimates of fraction sums and differences? 	<p><u>5.NF.1 & 5.NF.2 Add/Subtract Fractions</u></p> <p>SWBAT:</p> <ul style="list-style-type: none"> • Use equivalent fractions to add and subtract fractions and mixed numbers. • Rename to find the difference of two mixed numbers. • Make reasonable estimates of fraction sums and differences. 	<p><u>5.NF.1 & 5.NF.2 Add/Subtract Fractions</u></p> <ul style="list-style-type: none"> • http://parcc.pearson.com/practice-tests/math/ • Fraction Man • Equivalent Fraction Pizza Activities • Calculators – Fractions (manipulative) • The Game of Concentration Match Game • Fraction Strips (manipulative) • Fraction Tiles (manipulative) • Dry Erase Board Fraction Problems (manipulative) 	<p><u>5.NF.1 & 5.NF.2 Add/Subtract Fractions</u></p> <p>Sample ECR Item: Joe had a pizza party. He ordered 8 pizzas, each cut into 8 slices. When his friends went home, he had $\frac{1}{4}$ of a pepperoni pizza, $\frac{5}{8}$ of a mushroom pizza, $\frac{1}{2}$ of a cheese pizza, and $\frac{1}{8}$ of a veggie pizza left over. How much pizza was left over in all?</p> <p> Show one way to get the answer to this problem. Explain your method.</p> <p> Show another way to get the answer to this problem. Explain your method.</p>

		<ul style="list-style-type: none"> • Fraction Dice (manipulative) • Fractions: True or False Game • Fractions: I Have... You Have Game • Sip of Spring <p>Cross Curricular History of M&Ms Candies – MATH & SS</p>	<p>Sample SCR Item: A fifth-grade class will perform an act for the spring talent show. Two-thirds of the class of 24 students want to perform a skit. The rest of the students in the class want to sing a song. The teacher decided that $\frac{3}{4}$ of the students must agree on an act before the decision will be final. How many more students would have to choose a skit before $\frac{3}{4}$ of the students agree on it? (Answer: 2 students)</p> <p>Performance Assessment Add/Subtract Fractions Match Cut and Paste</p> <p>Exemplar Exemplars Gr3-5 pg153-162</p>
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<p><u>5.NF.3 – 5.NF.7</u> <u>Multiply/Divide Fractions</u></p> <ul style="list-style-type: none"> • How do you multiply fractions? • How do you multiply mixed numbers? • How can you use a unit tile to find the area of a rectangle with fractional side lengths? • How does a fraction represent division? • How can you divide a whole number by a fraction and divide a fraction by a whole number? 	<p><u>5.NF.3 – 5.NF.7</u> <u>Multiply/Divide Fractions</u></p> <p>SWBAT:</p> <ul style="list-style-type: none"> • Multiply fractions. • Multiply mixed numbers. • Use a model to multiply two mixed numbers and find the area of a rectangle. • Interpret a fraction as division and solve whole number division problems that result in a fraction or mixed number. • Divide a whole number by a fraction and divide a fraction by a whole number. 	<p><u>5.NF.3 – 5.NF.7</u> <u>Multiply/Divide Fractions</u></p> <ul style="list-style-type: none"> • Fraction War • Recipes • Dividing Fractions Song 	<p><u>5.NF.3 – 5.NF.7</u> <u>Multiply/Divide Fractions</u></p> <ul style="list-style-type: none"> • Sample SCR Item: Mary cuts 5 pans of brownies into eighths. How many 1/8 size brownie pieces does she have now? (Ans: 40) • Sample SCR Item: Five cats each ate a quarter of food. How much food did they eat altogether? (Ans: 1 1/4) <p>Performance Assessment Grandma's Favorite Cupcakes</p> <p>Exemplar</p>
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				Exemplars Gr3-5 pg123-131

Unit 4: 5.MD Measurement and Data

Essential Questions	Instructional Objectives/ Skills and Benchmarks (CP/Is)	Activities	Assessments
<p><u>5.MD.1 & 5.MD.2</u> <u>Convert Measurements</u></p> <ul style="list-style-type: none"> How can a line plot help you find an average with data given in fractions? How can you compare and convert customary units of length, capacity, and weight? How can you compare and convert metric units? 	<p><u>5.MD.1 & 5.MD.2</u> <u>Convert Measurements</u></p> <p>SWBAT:</p> <ul style="list-style-type: none"> Make and use line plots with fractions to solve problems. Compare, contrast, and convert customary units of length, capacity, and weight. Compare, contrast, and convert metric units. 	<p><u>5.MD.1 & 5.MD.2</u> <u>Convert Measurements</u></p> <ul style="list-style-type: none"> http://parcc.pearson.com/practice-tests/math/ Measure Man Metric Number Line Communicator Conversions: The Game of Concentration Customary Units of Measure Match Conversions: I Have / You Have 	<p><u>5.MD.1 & 5.MD.2</u> <u>Convert Measurements</u></p> <p>Sample MC Item: If these fractions were graphed on the number line, which of them would be closest to zero? a. $\frac{3}{5}$ b. $\frac{1}{4}$ c. $\frac{3}{20}$ d. $\frac{1}{10}$</p> <p>Sample SCR Item: State a number that is between $\frac{1}{3}$ and 0.36. Acceptable answers would include various representations of Real Numbers between $\frac{1}{3}$ and $.36$ (e.g., 0.34, 0.334,</p>

- Guess My Unit

0.35, $\frac{7}{20}$, etc.)

Sample ECR Item: On the number line in your answer folder, plot points for the following numbers. $\frac{4}{5}$, 0.6

Label each point.

Name two different rational numbers that are greater than 0.6 and less than $\frac{4}{5}$. (Write one of your numbers in fractional form and write the other number in decimal form.)

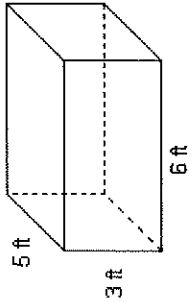
Explain how you know that each of your numbers is greater than 0.6 and less than $\frac{4}{5}$.

Sample ECR Item: Two students measured the same book shelf. Debbie said the measurement is 3. Tim said the measurement is 36. How can both students be correct? Explain your reasoning.

Sample ECR Item: Carol measured her height to be 1.5. How can this be possible? Explain your reasoning.

Performance Assessment
Conversions Match Chart
Cut and Paste

Exemplar
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pg143-152

<p><u>5.MD.3 – 5.MD.5</u> <u>Geometric Measurement</u></p> <ul style="list-style-type: none"> • What is a unit cube and how can you use it to build a solid figure? • How can you find the volume of a rectangular prism using the formula/using unit cubes? • How can you use an everyday object to estimate the volume of a rectangular prism? 	<p><u>5.MD.3 – 5.MD.5</u> <u>Geometric Measurement</u></p> <p>SWBAT:</p> <ul style="list-style-type: none"> • Understand unit cubes and how they can be used to build a solid figure. • Find the volume of rectangular prisms using the formula and unit cubes. • Estimate the volume of a rectangular prism. 	<p><u>5.MD.3 – 5.MD.5</u> <u>Geometric Measurement</u></p> <ul style="list-style-type: none"> • Cereal Box • Volume Stations • Investigation: Unit Cubes and Volume • Volume Playing Cards • Measuring Volume Activity 	<p><u>5.MD.3 – 5.MD.5</u> <u>Geometric Measurement</u></p> <ul style="list-style-type: none"> • Sample MC Item: Find the volume.  <p>a. 80 ft^3 b. 90 ft^2 c. 80 ft^2 *d. 90 ft^3</p> <ul style="list-style-type: none"> • Sample SCR Item: Patty built a rectangular prism with unit cubes. The base has 12 cm cubes. If the prism was built with 108 cm cubes,
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				what is the height of the prism? (Ans: 9 cm cubes)
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Unit 5: 5.G Geometry

Essential Questions	Instructional Objectives/ Skills and Benchmarks (CPIs)	Activities	Assessments
<p><u>5.G.1 & 5.G.2 Coordinate Plane</u></p> <ul style="list-style-type: none"> How can you identify and plot points on a coordinate grid? How can you use a coordinate grid to display data collected in an experiment? How can you use a line graph to display and analyze real-world data? 	<p><u>5.G.1 & 5.G.2 Coordinate Plane</u></p> <p>SWBAT:</p> <ul style="list-style-type: none"> Graph and name points on a coordinate grid using ordered pairs. Collect and graph data on a coordinate grid. Analyze and display data in a line graph. 	<p><u>5.G.1 & 5.G.2 Coordinate Plane</u></p> <ul style="list-style-type: none"> http://parcc.pearson.com/practice-tests/math/ Super Bowl Graph River Riding Plot the Picture A.I Plot the Picture <p>Cross Curricular Treasure Map Grid – MATH & SS</p>	<p><u>5.G.1 & 5.G.2 Coordinate Plane</u></p> <p>Sample SCR Item: Three vertices of a parallelogram are at the points (0, 0), (2, 4), and (6, 0). What are the coordinates of the fourth vertex? (Answer: (8,4) or (-4,4) or (4, -4). Although not expected to find either of the answers out of the first quadrant, a student would not be</p>

<p><u>5.G.3 & 5.G.4</u> <u>Two-Dimensional Figures</u></p> <ul style="list-style-type: none"> • How can you identify and classify polygons? • How can you classify triangles? quadrilaterals? 	<ul style="list-style-type: none"> • Understand and apply the concepts of congruence and symmetry (line and rotational). <p><u>5.G.3 & 5.G.4</u> <u>Two-Dimensional Figures</u></p> <p>SWBAT:</p> <ul style="list-style-type: none"> • Identify and classify polygons. • Classify and draw triangles/quadrilaterals using their properties. 	<p><u>5.G.3 & 5.G.4</u> <u>Two-Dimensional Figures</u></p> <ul style="list-style-type: none"> • Polygon Song • Pattern Block (manipulatives) • Toothpick Triangles • Geometry Scavenger Hunt • I Have/You Have • Geoboard (manipulatives) <p>Cross Curricular Teaching Tangrams – MATH & ENGLISH</p>	<p>penalized for finding such a vertex.)</p> <p><u>5.G.3 & 5.G.4</u> <u>Two-Dimensional Figures</u></p> <p>Sample ECR Item: Describe the similarities and differences between the following polygons. - Compare and contrast an isosceles triangle and an equilateral triangle. - Compare and contrast a rectangle and a parallelogram.</p>
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New Jersey Core Curriculum Content Standards
Mathematics

Operations and Algebraic Thinking

- Write and interpret numerical expressions.
- Analyze patterns and relationships.

Number and Operations in Base Ten

- Understand the place value system.
- Perform operations with multi-digit whole numbers and with decimals to hundredths.

Number and Operations—Fractions

- Use equivalent fractions as a strategy to add and subtract fractions.
- Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

Measurement and Data

- Convert like measurement units within a given measurement system.
- Represent and interpret data.
- Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

Geometry

- Graph points on the coordinate plane to solve real-world and mathematical problems.
- Classify two-dimensional figures into categories based on their properties.



New Jersey Scoring Rubric

Rubrics - SCORING STUDENT RESPONSES

Holistic Scoring Guide for Mathematics Open-Ended (OE) Items (Generic Rubric)

3 - Point Response

The response shows complete understanding of the problem's essential mathematical concepts. The student executes procedures completely and gives relevant responses to all parts of the task. The response contains few minor errors, if any. The response contains a clear, effective explanation detailing how the problem was solved so that the reader does not need to infer how and why decisions were made.

2 - Point Response

The response shows nearly complete understanding of the problem's essential mathematical concepts. The student executes nearly all procedures and gives relevant responses to most parts of the task. The response may have minor errors. The explanation detailing how the

problem was solved may not be clear, causing the reader to make some inferences.

1 - Point Response

The response shows limited understanding of the problem's essential mathematical concepts. The response and procedures may be incomplete and/or may contain major errors. An incomplete explanation of how the problem was solved may contribute to questions as to how and why decisions were made.

0 - Point Response

The response shows insufficient understanding of the problem's essential mathematical concepts. The procedures, if any, contain major errors. There may be no explanation of the solution or the reader may not be able to understand the explanation. The reader may not be able to understand how and why decisions were made.