Summit Public Schools Summit, New Jersey Grade Level: <u>5th Grade</u>/ Content Area: <u>Math</u>

Course Description

In Grade 5, instructional time should focus on three critical areas:

(1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); Students apply their understanding of fractions and fraction models to represent the addition and subtraction of fractions with unlike denominators as equivalent calculations with like denominators. They develop fluency in calculating sums and differences of fractions, and make reasonable estimates of them. Students also use the meaning of fractions, of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for multiplying and dividing fractions make sense. (Note: this is limited to the case of dividing unit fractions by whole numbers and whole numbers by unit fractions.)

(2) extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations;

Students develop understanding of why division procedures work based on the meaning of base-ten numerals and properties of operations. They finalize fluency with multi-digit addition, subtraction, multiplication, and division. They apply their understandings of models for decimals, decimal notation, and properties of operations to add and subtract decimals to hundredths. They develop fluency in these computations, and make reasonable estimates of their results. Students use the relationship between decimals and fractions, as well as the relationship between finite decimals and whole numbers (i.e., a finite decimal multiplied by an appropriate power of 10 is a whole number), to understand and explain why the procedures for multiplying and dividing finite decimals make sense. They compute products and quotients of decimals to hundredths efficiently and accurately.

(3) developing understanding of volume; Students recognize volume as an attribute of three-dimensional space. They understand that volume can be measured by finding the total number of same-size units of volume required to fill the space without gaps or overlaps. They understand that a 1-unit by 1-unit by 1-unit cube is the standard unit for measuring volume. They select appropriate units, strategies, and tools for solving problems that involve estimating and measuring volume. They decompose three-dimensional shapes and find volumes of right rectangular prisms by viewing them as decomposed into layers of arrays of cubes. They measure necessary attributes of shapes in order to determine volumes to solve real world and mathematical problems.

Topic: Numbers and Operations in Base Ten			
enVision Math 2020 Units of Study Topic 1 - Understand Place Value Topic 2 - Add and Subtract Decimals to Hundredths Topic 3 - Fluently Multiply Multi-Digit Whole Numbers Topic 4 - Use Models and Strategies to Multiply Decimals Topic 5 - Use Models and Strategies to Divide Whole Numbers Topic 6 - Use Models and Strategies to Divide Decimals	 Recommended Texts to Support Topic: enVision Math 2020 Resources: Realize Online Platform Student Editions 		

Big Ideas: *Course Objectives/Content Statement(s)*

- Extend understanding of the base-ten system to the relationship between adjacent places
- Use models and strategies to add and subtract decimals
- Fluently multiply multi-digit numbers using the standard algorithm
- Use strategies based on place value, the properties of operations, and/or the relationship between multiplication and division to divide whole numbers
- When multiplying by 0.1 and by 0.01, explain why the product is ten or a hundred times as small as the multiplicand
- Extend understanding of general methods used for computing quotients of whole numbers to decimals with the addition of placing the decimal point in the quotient

Essential Questions What provocative questions will foster inquiry, understanding, and transfer of learning?	Enduring Understandings What will students understand about the big ideas?
 How are whole numbers and decimals written, compared and ordered? What are some relationships and patterns within the place value system? How can we use what we know about adding and subtracting whole numbers to add and subtract decimals? What are the standard procedures for finding products of multi-digit numbers? How can you use place value to divide? How can we use what we know about multiplying whole numbers to multiply decimals? How can you use place value to divide? 	 A quantity can be represented numerically in various ways. Place value understanding is essential when modeling, comparing and computing whole numbers and decimals. A variety of algorithms can be utilized when computing whole numbers and decimals
Areas of Focus: Proficiencies (New Jersey Student Learning Standards)	Key Concepts and Skills

Students will:

5.NBT.A.1 Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.

5.NBT.A.2 Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

5.NBT.A.3a-b Read, write, and compare decimals to thousandths. a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$. b.

Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

5.NBT.A.4 Use place value understanding to round decimals to any place

5.NBT.B.5: Fluently multiply multi-digit whole numbers using the standard algorithm.

5.NBT.B.6 Find whole-number quotients of whole numbers with up to four-digit dividends and two digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

5.NBT.B.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Mathematical Practices

• MP.The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.

- Fluently multiply multi-digit numbers using the standard algorithm
- Divide whole numbers with larger dividends
- Understand decimals as equal divisions of a whole.
- Read, write, and model whole and decimal numbers.
- Model and identify equivalent decimals.
- Model adding and subtracting decimals.
- Add and subtract whole numbers and decimals to hundredths.
- Use the Commutative, Associative, and Distributive Properties to compute mentally.
- Estimate decimal sums and differences.
- Read construct graphs with decimal scales and decimals numbers.

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Differentiation			Assessments
 Technology Integration Students use Chromebooks to access SAVVAS Realize platform to practice and reinforce skills and concepts. Students will use Google Classroom to access links to: interactive activities and math games. Students will access various websites, such as iReady, Reflex Math, and Splash Learn to practice and reinforce math skills. 		access SAVVAS nd reinforce skills scroom to access and math games. vebsites, such as ash Learn to tills.	 Formative Assessments: Teacher Observation Individual Lesson Quick Checks Daily Classwork Homework Pages per lesson/topic Student Activity Pages per lesson/topic Summative Assessments: Topic Unit Tests 1, 2, 3, 4, 5, and 6
Supports for English Language Learners		ge Learners	
Sensory Supports	Graphic Supports	Interactive Supports	
Real-life objects	Charts	In pairs or partners	
Manipulatives	Graphic Organizers	In triands or small groups	
Pictures	Tables	In a whole group	
Illustrations, diagrams & drawings	Graphs	Using cooperative group	

Magazines & Newspapers	Timelines	Structures
Physical activities	Number lines	Internet / Software support
Videos & Film		In the home language
Broadcasts		With mentors
Models & Figures		

Intervention Strategies		
Accommodations	Interventions	Modifications
Allow for verbal responses	Multi-sensory techniques	Modified tasks/expectations
Repeat/confirm directions	Increase task structure (e.g. directions, checks for understanding, feedback	Differentiated materials
Permit response provided via computer or electronic device	Increase opportunities to engage in active academic responding	Individualized assessment tools based on student need
Audio Books	Utilize pre-reading strategies and activities previews, anticipatory guides, and semantic mapping	Modified assessment grading

Topic: Numbers and Operations-Fractions			
<u>enVision Math 2020 Units of Study</u> Topic 7 - Use Equivalent Fractions to Add and Subtract Fractions Topic 8 - Apply Understanding of Multiplication to Multiply Fractions Topic 9- Apply Understanding of Division to Divide Fractions	Recommended Texts to Support Topic: • enVision Math 2020 Resources: • Realize Online Platform • Student Editions		

Big Ideas: *Course Objectives/Content Statement(s)*

- Extend understanding of equivalent fractions to situations where it is necessary to re-express both fractions in terms of a new denominator
- Multiplying a quantity by a number smaller than 1 produces a smaller quantity
- Connect Fractions with division

Essential Questions What provocative questions will foster inquiry, understanding, and transfer of learning?	Enduring Understandings What will students understand about the big ideas?
 How do we use equivalent fractions to add and subtract fractions? How can I apply and extend my previous understanding of multiplication to multiply fractions? How are fractions related to division? How can you divide with whole numbers and unit fractions? 	 Common denominators are needed when adding and subtracting fractions. There are multiple strategies for finding common denominators. Fractions are an integral part of real world situations. Fractions can be modeled and computed in a variety of ways.
Areas of Focus: Proficiencies (New Jersey Student Learning Standards)	Key Concepts and Skills
Students will: 5.NF.A.1 Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. <i>For example,</i> $2/3 + 5/4 = 8/12 + 15/12 = 23/12$. (<i>In general,</i> $a/b + c/d = (ad+bc)/db$) 5.NF.A.2 Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. <i>For example, recognize an incorrect result</i> $2/5 + 1/2 = 3/7$, <i>by observing that</i> $3/7 < 1/2$. 5.NF.B.3 Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading	 Use fraction bars to discuss basic fraction ideas. Generate and explain simple equivalent fractions. Understand the role of the multiplier in equivalent fractions. Use a variety of strategies to compare fractions. Convert between fractions and mixed numbers. Add and subtract mixed numbers with like denominators Add and subtract fractions with different denominators. Add and subtract mixed numbers with unlike denominators. Estimate sums and differences of fractions and mixed numbers, and decide whether answers are reasonable. Use estimates to determine whether answers to word problems are reasonable. Connect multiplying by 1/n to dividing by n, and use this idea to make multiplicative comparisons. Interpret 3/b times a quantity as a of b equal parts of that quantity. Multiply a whole number by a fraction to produce a fraction. Multiply any two fractions.
to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. <i>For example, interpret 3/4 as the</i>	 fractions. Multiply with mixed numbers. Relate operations with fractions and whole numbers, and discuss properties of arithmetic.

result of dividing 3 by 4, noting that 3/4 multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size 3/4. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?

5.NF.B.4a Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. For example, use a visual fraction model to show $(2/3) \times 4 = 8/3$, and create a story context for this equation. Do the same with $(2/3) \times (4/5) = 8/15$. (In general, $(a/b) \times (c/d) = ac/bd$.)

5.NF.B.4b Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.

5.NF.B.5a Compare the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.

5.NF.B.5b Explain why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1. **5.NF.B.6** Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

5.NF.B.7a Interpret division of a unit fraction by a non-zero whole number, *For example, create a story context for* $(1/3) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$.

- Add, subtract, compare, multiply, and divide fractions to solve word problems.
- Predict the size of a product relative to the size of one factor based on the size of the other factor.
- Relate division by a unit fraction or whole number to multiplication.
- Determine whether solving a word problem requires multiplication or division.

5.NF.B.7b Interpret division of a whole number by a unit fraction, and compute such quotients. *For example, create a story context for* $4 \div (1/5)$ *, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that* $4 \div (1/5) = 20$ *because* $20 \times (1/5) = 4$. **5.NF.B.7c** Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?

Mathematical Practices

- MP.The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.
- MP.1. Make sense of problems and persevere in solving them.
- MP.2. Reason abstractly and quantitatively.
- MP.3. Construct viable arguments and critique the reasoning of others.
- MP.4. Model with mathematics.
- MP.5. Use appropriate tools strategically.
- MP.6. Attend to precision.
- MP.7. Look for and make use of structure.
- MP.8. Look for and express regularity in repeated reasoning.

Career-Ready Practices

CRP2: Apply appropriate academic and technical skills.
CRP4: Communicate clearly and effectively and with
reason.

CRP8: Utilize critical thinking to make sense of problems and persevere in solving them.

CRP11: Use technology to enhance productivity.

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Differentiation	Assessments
Technology Integration	Formative Assessments:
• Students use Chromebooks to access SAVVAS	Teacher Observation
Realize platform to practice and reinforce skills	 Individual Lesson Quick Checks

and concepts.

- Students will use Google Classroom to access links to: interactive activities and math games.
- Students will access various websites, such as iReady, Reflex Math, and Splash Learn to practice and reinforce math skills.

Supports for English Language Learners			
Sensory Supports	Graphic Supports	Interactive Supports	
Real-life objects	Charts	In pairs or partners	
Manipulatives	Graphic Organizers	In triands or small groups	
Pictures	Tables	In a whole group	
Illustrations, diagrams & drawings	Graphs	Using cooperative group	
Magazines & Newspapers	Timelines	Structures	
Physical activities	Number lines	Internet / Software support	
Videos & Film		In the home language	
Broadcasts		With mentors	
Models & Figures			

Intervention Strategies		
Accommodations	Interventions	Modifications
Allow for verbal responses	Multi-sensory techniques	Modified tasks/expectations
Repeat/confirm directions	Increase task structure (e.g. directions, checks for understanding, feedback	Differentiated materials
Permit response provided via computer or	Increase opportunities to engage in active	Individualized assessment tools based on student

- Daily Classwork
- Homework Pages per lesson/topic
- Student Activity Pages per lesson/topic

Summative Assessments:

• Topic Unit Tests 7, 8, and 9

Topic: Measurement and Data		
<u>enVision Math 2020 Units of Study</u> Topic 10 - Represent and Interpret Data Topic 11 - Understand Volume Concepts Topic 12- Convert Measurements	Recommended Texts to Support Topic:• enVision Math 2020 Resources:• Realize Online Platform• Student Editions	
 Big Ideas: Course Objectives/Content Statement(s) Make a line plot to display a data set of measurements in fractions of a unit Understand that multiplying the length times the width of a right rectangular prism can be viewed as determining how many cubes would be in each layer if the prism were packed with or built up from unit cubes Convert like measurement units within a given measurement system 		
Essential Questions What provocative questions will foster inquiry, understanding, and transfer of learning?	Enduring Understandings What will students understand about the big ideas?	
 How can line plots be used to represent data and answer questions? What is the meaning of volume of a solid? How can the volume of a rectangular prism be found? How can I convert different-sized measurements? 	 When converting metric measurement, it's essential to apply understanding of place value and decimals. Data displays convey information in a concise way. Volume is an attribute of three dimensional space and is measured in cubic units. Volume is additive: volumes of composite solids can be determined by adding the volumes of each solid. 	
Areas of Focus: Proficiencies (New Jersey Student Learning Standards)	Key Concepts and Skills	
Students will: 5.MD.A.1 Convert among different-sized standard	 Convert among metric units of length. Convert among metric units of liquid volume. 	

measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these

conversions in solving multi-step, real world problems.

5.MD.B.2 Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems

involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally*

5.MD.C.3a A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume.

5.MD.C.3b A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.

5.MD.C.4 Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units. **5.MD.C.5a** Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.

5.MD.C.5b Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole number edge lengths in the context of solving real world and mathematical problems.

5.MD.C.5c Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.

Mathematical Practices

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- MP.1. Make sense of problems and persevere in solving them.
- MP.2. Reason abstractly and quantitatively.

- Convert among metric units of mass.Convert among customary units of length.
- Convert among customary units of liquid volume. Convert among customary units of weight.
- Make and analyze line plots.
- Use a formula to find the perimeter and area of a rectangle with fractional side lengths.
- Use a formula to find the volume of a rectangular prism.
- Identify whether a situation involves length, area or volume.
- Find the volume of a composite solid figure.

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	Differentiation		Assessments
 Technology Integration Students use Chromebooks to access SAVVAS Realize platform to practice and reinforce skills and concepts. Students will use Google Classroom to access links to: interactive activities and math games. Students will access various websites, such as iReady, Reflex Math, and Splash Learn to practice and reinforce math skills. 		access SAVVAS nd reinforce skills ssroom to access and math games. vebsites, such as ash Learn to cills.	 Formative Assessments: Teacher Observation Individual Lesson Quick Checks Daily Classwork Homework Pages per lesson/topic Student Activity Pages per lesson/topic Summative Assessments: Topic Unit Tests 10, 11, and 12
Supports to	or English Langua	ge Learners	
Sensory Supports	Graphic Supports	Interactive Supports	
Real-life objects	Charts	In pairs or partners	
Manipulatives	Graphic Organizers	In triands or small groups	
Pictures	Tables	In a whole group	
Illustrations, diagrams & drawings	Graphs	Using cooperative group	
Magazines & Newspapers	Timelines	Structures	
Physical activities	Number lines	Internet / Software	

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		support
Videos & Film		In the home language
Broadcasts		With mentors
Models & Figures		
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In	tervention Strateg	ies
A		Madifications
Accommodations	Interventions	Modifications
Allow for verbal responses	Multi-sensory techniques	Modified tasks/expectations
Repeat/confirm directions	Increase task structure (e.g. directions, checks for understanding, feedback	Differentiated materials
Permit response provided via computer or electronic device	Increase opportunities to engage in active academic responding	Individualized assessment tools based on student need
Audio Books	Utilize pre-reading strategies and activities previews, anticipatory guides, and semantic	Modified assessment grading

Topic: Operations and Algebraic Thinking	
<u>enVision Math 2020 Units of Study</u> Topic 13- Write and Interpret Numerical Expressions Topic 15- Algebra: Analyze Patterns and Relationships	 Recommended Texts to Support Topic: enVision Math 2020 Resources: Realize Online Platform Student Editions
Big Ideas : Course Objectives/Content Statement(s)	
 Write and interpret numerical expressions Generate numerical patterns using two given rules 	
Essential Questions Enduring Understandings	

Essential Questions	Enduring Understandings
What provocative questions will foster inquiry,	What will students understand about the big ideas?

understanding, and transfer of learning?	
 How is the value of a numerical expression found? How can we find patterns in number relationships? 	 Any number, measure, numerical or algebraic expression, or equation can be represented in a variety of ways that have the same value. Representing problems and situations mathematically can help us understand real life scenarios. The four operations are interrelated, and the properties of each may be used to understand the others. Different math approaches can yield the same results.
Areas of Focus: Proficiencies (New Jersey Student Learning Standards)	Key Concepts and Skills
 Students will: 5.OA.A.1: Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. 5.OA.A.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation "add 8 and 7, then multiply by 2" as 2 × (8 + 7). Recognize that 3 × (18932 + 921) is three times as large as 18932+ 921, without having to calculate the indicated sum or product. 5.OA.B.3 Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so. Mathematical Practices MP.The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. 	 Read and write expressions. Interpret numerical expressions. Write and evaluate expressions that contain variables. Write situation and solution equations to solve addition, subtraction, multiplication and division problems. Write word problems for equations involving fractions and decimals and model the product. Use a variety of methods to determine reasonable answers. Generate two numerical patterns using two given rules Explain why given rules work to create patterns

 MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning. Career-Ready Practices CRP2: Apply appropriate academic and technical skills. CRP4: Communicate clearly and effectively and with reason. CRP8: Utilize critical thinking to make sense of problems and persevere in solving them. CRP11: Use technology to enhance productivity. 		s and persevere in uantitatively. ents and critique es. rategically. of structure. gularity in and technical skills. ectively and with ke sense of em. roductivity.	
Differentiation			Assessments
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Sensory Supports	Graphic Supports	Interactive Supports	
Real-life objects	Charts	In pairs or partners	
Manipulatives	Graphic Organizers	In triands or small groups	
Pictures	Tables	In a whole group	
Illustrations, diagrams & drawings	Graphs	Using cooperative group	

Magazines & Newspapers	Timelines	Structures
Physical activities	Number lines	Internet / Software support
Videos & Film		In the home language
Broadcasts		With mentors
Models & Figures		

Intervention Strategies		
Accommodations	Interventions	Modifications
Allow for verbal responses	Multi-sensory techniques	Modified tasks/expectations
Repeat/confirm directions	Increase task structure (e.g. directions, checks for understanding, feedback	Differentiated materials
Permit response provided via computer or electronic device	Increase opportunities to engage in active academic responding	Individualized assessment tools based on student need
Audio Books	Utilize pre-reading strategies and activities previews, anticipatory guides, and semantic mapping	Modified assessment grading

Topic: Geometry		
<u>enVision Math 2020 Units of Study</u> Topic 14- Graph Points on a Coordinate Plane Topic 16- Geometric Measurement- Classify Two-Dimensional Figures	Recommended Texts to Support Topic:• enVision Math 2020 Resources:• Realize Online Platform• Student Editions	
Big Ideas: Course Objectives/Content Statement(s)		

- Interpret the components of a rectangular grid structure as line segments or lines (rather than regions) and understand the precision of location that these lines
- Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category

Essential Questions What provocative questions will foster inquiry, understanding, and transfer of learning?	Enduring Understandings What will students understand about the big ideas?
 How are points plotted? How are relationships shown on a graph? How can triangles and quadrilaterals be described, classified and named? 	 Coordinate geometry can be used to represent and verify geometric/algebraic relationships. Two dimensional shapes can belong to more than one category based on their attributes.
Areas of Focus: Proficiencies (New Jersey Student Learning Standards)	Key Concepts and Skills
 Students will: 5.G.A.1 Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate) 5.G.A.2 Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation 5.G.B.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles. 5.G.B.4 Classify two-dimensional figures in a hierarchy based on properties. 	 Understand attributes of different types of quadrilaterals. Understand attributes of different types of triangles. Understand attributes of polygons and other dimensional figures. Locate and plot points in the first quadrant of the coordinate plane. Graph ordered pairs and use them to represent and solve real world problems

 MP.1. Make sense of problems and persevere in solving them. MP.2. Reason abstractly and quantitatively. MP.3. Construct viable arguments and critique the reasoning of others. MP.4. Model with mathematics. MP.5. Use appropriate tools strategically. MP.6. Attend to precision. MP.7. Look for and make use of structure. MP.8. Look for and express regularity in repeated reasoning. Career-Ready Practices CRP2 : Apply appropriate academic and technical skills. CRP4 : Communicate clearly and effectively and with reason. CRP8 : Utilize critical thinking to make sense of problems and persevere in solving them. CRP11 : Use technology to enhance productivity.		s and persevere in puantitatively. ents and critique es. crategically. of structure. egularity in and technical skills. ectively and with ke sense of em. productivity.	
Differentiation			Assessments
 Technology Integration Students use Chromebooks to access SAVVAS Realize platform to practice and reinforce skills and concepts. Students will use Google Classroom to access links to: interactive activities and math games. Students will access various websites, such as iReady, Reflex Math, and Splash Learn to practice and reinforce math skills. 		access SAVVAS nd reinforce skills scroom to access and math games. vebsites, such as ash Learn to tills.	 Formative Assessments: Teacher Observation Individual Lesson Quick Checks Daily Classwork Homework Pages per lesson/topic Student Activity Pages per lesson/topic Summative Assessments: Topic Unit Tests 14 and 16
Supports for English Language Learners		ge Learners	
Sensory Supports	Graphic Supports	Interactive Supports	
Real-life objects	Charts	In pairs or partners	
Manipulatives	Graphic Organizers	In triands or small groups	
Pictures	Tables	In a whole group	
Illustrations, diagrams & drawings	Graphs	Using cooperative group	

Magazines & Newspapers	Timelines	Structures
Physical activities	Number lines	Internet / Software support
Videos & Film		In the home language
Broadcasts		With mentors
Models & Figures		

Intervention Strategies			
Accommodations	Interventions	Modifications	
Allow for verbal responses	Multi-sensory techniques	Modified tasks/expectations	
Repeat/confirm directions	Increase task structure (e.g. directions, checks for understanding, feedback	Differentiated materials	
Permit response provided via computer or electronic device	Increase opportunities to engage in active academic responding	Individualized assessment tools based on student need	
Audio Books	Utilize pre-reading strategies and activities previews, anticipatory guides, and semantic mapping	Modified assessment grading	