

ESSEX FELLS PUBLIC SCHOOL

CURRICULUM & INSTRUCTION

Mathematics

Grade: 3

ABSTRACT

In Grade 3, instruction focuses broadly on three critical areas:

- (1) developing understanding of multiplication and division and strategies for multiplication and division within 100;
- (2) developing understanding of fractions, especially unit fractions (fractions with numerator 1);
- (3) developing understanding of the structure of rectangular arrays and of area; and
- (4) describing and analyzing two-dimensional shapes.

Critical Areas

- (1) Students develop an understanding of the meanings of multiplication and division of whole numbers through activities and problems involving equal-sized groups, arrays, and area models; multiplication is finding an unknown product, and division is finding an unknown factor in these situations. For equal-sized group situations, division can require finding the unknown number of groups or the unknown group size. Students use properties of operations to calculate products of whole numbers, using increasingly sophisticated strategies based on these properties to solve multiplication and division problems involving single-digit factors. By comparing a variety of solution strategies, students learn the relationship between multiplication and division.
- (2) Students develop an understanding of fractions, beginning with unit fractions. Students view fractions in general as being built out of unit fractions, and they use fractions along with visual fraction models to represent parts of a whole. Students understand that the size of a

fractional part is relative to the size of the whole. For example, $\frac{1}{2}$ of the paint in a small bucket could be less paint than $\frac{1}{3}$ of the paint in a larger bucket, but $\frac{1}{3}$ of a ribbon is longer than $\frac{1}{5}$ of the same ribbon because when the ribbon is divided into 3 equal parts, the parts are longer than when the ribbon is divided into 5 equal parts. Students are able to use fractions to represent numbers equal to, less than, and greater than one. They solve problems that involve comparing fractions by using visual fraction models and strategies based on noticing equal numerators or denominators.

- (3) Students recognize area as an attribute of two-dimensional regions. They measure the area of a shape by finding the total number of same size units of area required to cover the shape without gaps or overlaps, a square with sides of unit length being the standard unit for measuring area. Students understand that rectangular arrays can be decomposed into identical rows or into identical columns. By decomposing rectangles into rectangular arrays of squares, students connect area to multiplication, and justify using multiplication to determine the area of a rectangle.
- (4) Students describe, analyze, and compare properties of two-dimensional shapes. They compare and classify shapes by their sides and angles, and connect these with definitions of shapes. Students also relate their fraction work to geometry by expressing the area of part of a shape as a unit fraction of the whole.

BOE Approved: 8/12/26

ESSEX FELLS PUBLIC SCHOOL

Grade 3 Mathematics

Unit of Study: <i>(Pacing Guide/Scope & Sequence - Specify time frame by days or weeks)</i>	Topic: Understand Multiplication and Area <i>September/October</i> (6 Weeks)	Topic: Multiplication and Division <i>October/November</i> (5 weeks)	Topic: Addition and Subtraction Strategies and Applications <i>November/December</i> (5 weeks)
STAGE 1: Desired Results			
Established Goals: Write out complete NJSLs: <i>(Content Specific Standards Only. Only use standards that are applicable to the unit.)</i>	NJSLS: 3.OA.1. Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each. <i>For example, describe and/or represent a context in which a total number of objects can be expressed as 5×7.</i> 3.OA.3. Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. ¹ 3.OB.5. Apply properties of operations as strategies to multiply and divide. ² <i>Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of</i>	NJSLS: 3.OA.3. Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. ¹ 3.OB.5. Apply properties of operations as strategies to multiply and divide. ² <i>Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) =$</i>	NJSLS: 3.OD.9. Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. <i>For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.</i> 3.OD.8. Solve two-step word problems, including problems involving money, using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. ³ 3.M.6. Solve real world and mathematical problems involving perimeters of polygons, including

	<i>multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.)</i> <i>**Students need not use formal terms for these properties. **</i> 3.M.3. Recognize area as an attribute of plane figures and understand concepts of area measurement. a. A square with side length 1 unit, called “a unit square,” is said to have “one square unit” of area, and can be used to measure area. b. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units. 3.M.4 Measure areas by counting unit squares (square cm, square m, square in, square ft, and non-standard units). 3.M.5. Relate area to the operations of multiplication and addition. a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that	$40 + 16 = 56$. (Distributive property.) <i>**Students need not use formal terms for these properties. **</i> 3.OD.9. Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. <i>For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.</i> 3.NBT.3. Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9×80, 5×60) using strategies based on place value and properties of operations. 3.M.5. Relate area to the operations of multiplication and addition. a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.	finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters. 3.M.1. Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram. ³ This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order (Order of Operations).
--	---	---	--

	the area is the same as would be found by multiplying the side lengths. b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning. d. Recognize the area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.	c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning. d. Recognize the area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems. 3.OA.1. Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each. <i>For example, describe and/or represent a context in which a total number of objects can be expressed as 5×7.</i> 3.OA.2. Interpret whole-number quotients of whole numbers, e.g., interpret $56 \div 8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. <i>For example, describe and/or represent a context in which a number of shares or a</i>	
--	---	---	--

		<i>number of groups can be expressed as $56 \div 8$.</i> 3.OB.6. Understand division as an unknown-factor problem. <i>For example, find $32 \div 8$ by finding the number that makes 32 when multiplied by 8.</i> 3.OA.4. Determine the unknown whole number in a multiplication or division equation relating three whole numbers. <i>For example, determine the unknown number that makes the equation true in each of the equations $8 \times ? = 48$, $5 = _ \div 3$, $6 \times 6 = ?$</i> 3.OD.8. Solve two-step word problems, including problems involving money, using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.³ ³ This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order (Order of Operations).	
--	--	---	--

Interdisciplinary Connections: Write out complete NJSLS: <i>(Must have at least one standard from one of these areas but may have more):</i> • <i>ELA companion standards;</i> • <i>Standards for Mathematical Practice</i> • <i>Science;</i> • <i>Visual/Performing Arts) - Standard 1;</i> • <i>Comprehensive Health & PE - Standard 2;</i> • <i>Social Studies - Standard 6;</i> • <i>World Languages - Standard 7;</i>	ELA Companion RI.CR.3.1. Ask and answer questions and make relevant connections to demonstrate understanding of an informational text, referring explicitly to textual evidence as the basis for the answers. RI.MF.3.6. Use information gained from text features (e.g., illustrations, maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur). SL.PE.3.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly. - Explicitly draw on previously read text or material and other information known about the topic to explore ideas under discussion. - Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). - Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others.	ELA Companion RI.CR.3.1. Ask and answer questions and make relevant connections to demonstrate understanding of an informational text, referring explicitly to textual evidence as the basis for the answers. RI.MF.3.6. Use information gained from text features (e.g., illustrations, maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur). SL.PE.3.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly. - Explicitly draw on previously read text or material and other information known about the topic to explore ideas under discussion. - Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). - Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others.	ELA Companion RI.CR.3.1. Ask and answer questions and make relevant connections to demonstrate understanding of an informational text, referring explicitly to textual evidence as the basis for the answers. RI.MF.3.6. Use information gained from text features (e.g., illustrations, maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur). SL.PE.3.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly. - Explicitly draw on previously read text or material and other information known about the topic to explore ideas under discussion. - Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). - Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others.
--	---	---	---

	D. Explain their own ideas and understanding in light of the discussion. SL.ES.3.3. Ask and answer questions about information from a speaker, offering appropriate elaboration and detail. L.VL.3.2. Determine or clarify the meaning of unknown and multiple-meaning academic and domain-specific words and phrases based on grade 3 reading and content, choosing flexibly from a range of strategies. A. Use sentence-level context as a clue to the meaning of a word or phrase. B. Determine the meaning of the new word formed when a known affix is added to a known word (e.g., agreeable/disagreeable, comfortable/uncomfortable, care/careless, heat/preheat). C. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., company, companion). D. Use glossaries or beginning dictionaries, both print and digital, to determine or clarify the precise meaning of key words and phrases	D. Explain their own ideas and understanding in light of the discussion. SL.ES.3.3. Ask and answer questions about information from a speaker, offering appropriate elaboration and detail. L.VL.3.2. Determine or clarify the meaning of unknown and multiple-meaning academic and domain-specific words and phrases based on grade 3 reading and content, choosing flexibly from a range of strategies. A. Use sentence-level context as a clue to the meaning of a word or phrase. B. Determine the meaning of the new word formed when a known affix is added to a known word (e.g., agreeable/disagreeable, comfortable/uncomfortable, care/careless, heat/preheat). C. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., company, companion). Use glossaries or beginning dictionaries, both print and digital, to determine or clarify the precise meaning of key words and phrases Recommended Texts:	D. Explain their own ideas and understanding in light of the discussion. SL.ES.3.3. Ask and answer questions about information from a speaker, offering appropriate elaboration and detail. L.VL.3.2. Determine or clarify the meaning of unknown and multiple-meaning academic and domain-specific words and phrases based on grade 3 reading and content, choosing flexibly from a range of strategies. A. Use sentence-level context as a clue to the meaning of a word or phrase. B. Determine the meaning of the new word formed when a known affix is added to a known word (e.g., agreeable/disagreeable, comfortable/uncomfortable, care/careless, heat/preheat). C. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., company, companion). Use glossaries or beginning dictionaries, both print and digital, to determine or clarify the precise meaning of key words and phrases Recommended Text:
--	--	---	--

	Recommended Text: <i>The Workshop</i> by Judy Lychak FOCUS: multiplication ACTIVITY Answers will vary depending on the number of chairs in students' classrooms. To find the number of legs that will be needed, students might count the number of chairs and multiply by 3.	<i>Corrie's Cookie Caper</i> by Educardo Perez FOCUS: Dividing 2 and 5 ACTIVITY: Note the students' ability to divide the cookies correctly into equal piles according to the number of people at the cookie party. <i>A Remainder of One</i> by Elinor Princes	<i>James' Frames</i> by Chester Adams FOCUS: Finding Perimeter ACTIVITY: Answers will vary. Note students' ability to find the perimeter of their pictures.
Integration of Career Readiness, Life Literacies & Key Skills: Write out complete NJSLs: (Must have at least one standard from: ● 9.1 Personal Financial Literacy; or ● 9.2 Career Awareness, Exploration, Preparation & Training; or ● 9.4 Life Literacies & Key Skills)	Life Literacies & Key Skills 9.4.5.IML.2: Create a visual representation to organize information about a problem or issue 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems. 9.4.5.CT.4 Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community, and global. 9.4.5.CI.2 Investigate a persistent local or global issue, such as climate change, and collaborate with individuals with diverse perspectives to improve upon current actions designed to address the issue. 9.4.5.CI.3 Participate in a brainstorming session with individuals with diverse perspectives to expand	Life Literacies & Key Skills 9.4.5.IML.2: Create a visual representation to organize information about a problem or issue 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems. 9.4.5.CT.4 Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community, and global. 9.4.5.CI.2 Investigate a persistent local or global issue, such as climate change, and collaborate with individuals with diverse perspectives to improve upon current actions designed to address the issue. 9.4.5.CI.3 Participate in a brainstorming session with individuals with diverse perspectives to expand	Life Literacies & Key Skills 9.4.5.IML.2: Create a visual representation to organize information about a problem or issue 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems. 9.4.5.CT.4 Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community, and global. 9.4.5.CI.2 Investigate a persistent local or global issue, such as climate change, and collaborate with individuals with diverse perspectives to improve upon current actions designed to address the issue. 9.4.5.CI.3 Participate in a brainstorming session with individuals with diverse perspectives to expand

	one's thinking about a topic of curiosity. 9.4.5.IML.3: Represent the same data in multiple visual formats in order to tell a story about the data. 9.4.5.TL.3: Format a document using a word processing application to enhance text, change page formatting, and include appropriate images, graphics, or symbols.	one's thinking about a topic of curiosity. 9.4.5.IML.3: Represent the same data in multiple visual formats in order to tell a story about the data. 9.4.5.TL.3: Format a document using a word processing application to enhance text, change page formatting, and include appropriate images, graphics, or symbols.	one's thinking about a topic of curiosity. 9.4.5.IML.3: Represent the same data in multiple visual formats in order to tell a story about the data. 9.4.5.TL.3: Format a document using a word processing application to enhance text, change page formatting, and include appropriate images, graphics, or symbols.
Integration of Computer Science and Design Thinking: Write out complete NJSLS: <i>(Must have at least one standard from:</i> • <i>8.1 Computer Science; or</i> • <i>8.2 Design Thinking)</i>	Design Thinking <u>8.2.5.ED.2</u> Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development. 8.2.5.ED.6: Evaluate and test alternative solutions to a problem using the constraints and tradeoffs identified in the design process. 8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim 8.1.5.DA.5: Propose cause and effect relationships, predict outcomes, or communicate ideas using data.	Design Thinking <u>8.2.5.ED.2</u> Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development. 8.2.5.ED.6: Evaluate and test alternative solutions to a problem using the constraints and tradeoffs identified in the design process 8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim 8.1.5.DA.5: Propose cause and effect relationships, predict outcomes, or communicate ideas using data.	Design Thinking <u>8.2.5.ED.2</u> Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development. 8.2.5.ED.6: Evaluate and test alternative solutions to a problem using the constraints and tradeoffs identified in the design process. 8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim 8.1.5.DA.5: Propose cause and effect relationships, predict outcomes, or communicate ideas using data.
21st Century Life and Careers: Career Education: Write out	N/A	N/A	N/A

complete NJSLS: <i>(Only include if a CTE curriculum</i> ● <i>9.3 Career and Technical Education)</i>			
Enduring Understandings: <i>(Follow UbD: What big ideas will students know?)</i>	● Interpret products of whole numbers. ● Interpret whole-number quotients of whole numbers. ● Use multiplication and division in drawings and equations, and solve word problems within 100. The word problems will involve equal groups, arrays, and measurement quantities. ● Determine the unknown whole number in a multiplication or division equation relating three whole numbers. ● Analyze some real world problems involving joining and separating equal groups or comparison can be solved using multiplication.	● Understand that multiplication and division have inverse relationships. ● Analyzing the inverse relationship between multiplication and division can be used to find division facts; every division fact has a related multiplication fact.	● Use place-value understanding to round whole numbers to the nearest ten or hundred. ● Add and subtract within 1000, using strategies and algorithms based on place-value, properties of operations, and/or the relationship between addition and subtraction. ● Multiply one-digit whole numbers by multiples of 10 in the range 10 – 90, using strategies based on place-value and properties of operations. ● Understand that place value can be used to compare and order numbers. ● Understand that a given number can be shown in a variety of ways, such as word, expanded and standard form. ● Understand that one representation may sometimes be more helpful than another; and, used together, multiple representations give a fuller understanding of a problem.

Essential Questions: <i>(Follow UbD best practices in the creation of questions)</i>	1. How are multiplication and division related? 2. How can one use the relationship between multiplication and division to find products and quotients? 3. How can one use properties (commutative, associative, and distributive) of operations as strategies to solve problems? 4. How can writing an equation to express the total number of objects arranged in a rectangular array as a sum of equal addends and repeated addition help solve multiplication problems? 5. How can one use multiplication to help solve division problems? 6. Why do we need to measure the area of a surface? 7. How do we find areas of irregular shapes? 8. How can one use properties as strategies to solve problems?	1. Why is place value important? 2. How do we use place value understanding and properties of operations to perform multi-digit arithmetic? 3. How do you apply the facts you know and your place value understanding to solve various addition and subtraction problems? 4. How can using drawings and a place value strategy to add and subtract within 1000, help solve equations? 5. How can representing a word problem with drawings and equations help solve for a symbol that is unknown?	1. How can patterns be used to solve problems? 2. How can representing a word problem with drawings and equations help solve for a symbol that is unknown? 3. How can addition and subtraction strategies work based on place value rules? 4. How can addition and subtraction strategies work based on properties of operations?
Unit of Study: <i>(Pacing Guide/Scope &</i>	Topic: Fractions	Topic: Measurement and Data	Topic: Geometry

Sequence - Specify time frame by days or weeks)	January/February (5 weeks)	March/April (5 weeks)	May/June (5 weeks)
STAGE 1: Desired Results			
Established Goals: Write out complete NJSLS: <i>(Content Specific Standards Only. Only use standards that are applicable to the unit.)</i>	NJSLS: 3.NF.1. Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size $1/b$. For example: If a rectangle (i.e. the whole) is partitioned into 3 equal parts, each part is $1/3$. Two of those parts would be $2/3$. 3.G.2. Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. <i>For example, partition a shape into 4 parts with equal area, and describe the area of each part as $1/4$ of the area of the shape.</i> 3.NF.2. Understand a fraction as a number on the number line; represent fractions on a number line diagram. a. Represent a fraction $1/b$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size $1/b$ and that the endpoint of the part based at 0 locates the number $1/b$ on the	NJSLS: 3.M.2. Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).¹ Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.² 3.DL.3. Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. <i>For example, draw a bar graph in which each square in the bar graph might represent 5 pets.</i> 3.DL.3. Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. <i>For example, draw a bar graph in which each square in the bar graph might represent 5 pets.</i>	NJSLS: 3.G.1. Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories. 3.G.2. Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. <i>For example, partition a shape into 4 parts with equal area, and describe the area of each part as $1/4$ of the area of the shape.</i>

number line. For example, partition the number line from 0 to 1 into 3 equal parts, represent $\frac{1}{3}$ on the number line and show that each part has a size of $\frac{1}{3}$.

b. Represent a fraction $\frac{a}{b}$ on a number line diagram by marking off a lengths $\frac{1}{b}$ from 0. Recognize that the resulting interval has size $\frac{a}{b}$ and that its endpoint locates the number $\frac{a}{b}$ on the number line.

3.NF.3. Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.

a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.

b. Recognize and generate simple equivalent fractions, e.g., $\frac{1}{2} = \frac{2}{4}$, $\frac{4}{6} = \frac{2}{3}$. Explain why the fractions are equivalent, e.g., by using a visual fraction model.

c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers.

Examples: Express 3 in the form $3 = \frac{3}{1}$; recognize that

3.DL.4. Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.

¹ Excludes compound units such as cm^3 and finding the geometric volume of a container.

² Excludes multiplicative comparison problems (problems involving notions of “times as much”).

	$\frac{6}{1} = 6$; locate $\frac{4}{4}$ and 1 at the same point of a number line diagram. d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model. ¹ Grade 3 expectations in this domain are limited to fractions with denominators 2, 3, 4, 6, 8.		
Interdisciplinary Connections: Write out complete NJSLs: <i>(Must have at least one standard from one of these areas but may have more):</i> • ELA companion standards; • Standards for Mathematical Practice • Science; • Visual/Performing Arts) - Standard 1; • Comprehensive Health & PE - Standard 2; • Social Studies - Standard 6; • World Languages - Standard 7;	ELA Companion Recommended Text: <i>The Whole Picture</i> by Thea MacNell FOCUS: Finding Perimeter ACTIVITY: 11 coins. Identify that 5/11, or five-elevenths, are nickels; 6/11, or six-elevenths, are pennies. Total: 17 cents. RI.CR.3.1. Ask and answer questions and make relevant connections to	ELA Companion Recommended Text: <i>How Heavy? How Much?</i> By Jared Adams FOCUS: capacity and weight and customary units of measurement ACTIVITY: Note the students' ability to select objects weighing approximately 1 pound.	ELA Companion Recommended Text: <i>Busy Bees</i> by Coretta Young FOCUS: 2-D shapes ACTIVITY: Answers will vary. Note the pattern that students make with pattern blocks and ensure that they create a table that shows the pattern. RI.CR.3.1. Ask and answer questions

	demonstrate understanding of an informational text, referring explicitly to textual evidence as the basis for the answers. RI.MF.3.6. Use information gained from text features (e.g., illustrations, maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur). SL.PE.3.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly. A. Explicitly draw on previously read text or material and other information known about the topic to explore ideas under discussion. B. Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). C. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others. D. Explain their own ideas and understanding in light of the	Recommended Text: <i>How Big is a Foot?</i> by Rolf Myller RI.CR.3.1. Ask and answer questions and make relevant connections to demonstrate understanding of an informational text, referring explicitly to textual evidence as the basis for the answers. RI.MF.3.6. Use information gained from text features (e.g., illustrations, maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur). SL.PE.3.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly. A. Explicitly draw on previously read text or material and other information known about the topic to explore ideas under discussion. B. Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). C. Ask questions to check understanding of information presented, stay on topic, and	and make relevant connections to demonstrate understanding of an informational text, referring explicitly to textual evidence as the basis for the answers. RI.MF.3.6. Use information gained from text features (e.g., illustrations, maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur). SL.PE.3.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly. A. Explicitly draw on previously read text or material and other information known about the topic to explore ideas under discussion. B. Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). C. Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others. D. Explain their own ideas and understanding in light of the
--	--	--	---

	discussion. SL.ES.3.3. Ask and answer questions about information from a speaker, offering appropriate elaboration and detail. L.VL.3.2. Determine or clarify the meaning of unknown and multiple-meaning academic and domain-specific words and phrases based on grade 3 reading and content, choosing flexibly from a range of strategies. A. Use sentence-level context as a clue to the meaning of a word or phrase. B. Determine the meaning of the new word formed when a known affix is added to a known word (e.g., agreeable/disagreeable, comfortable/uncomfortable, care/careless, heat/preheat). C. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., company, companion). D. Use glossaries or beginning dictionaries, both print and digital, to determine or clarify the precise meaning of key words and phrases	link their comments to the remarks of others. D. Explain their own ideas and understanding in light of the discussion. SL.ES.3.3. Ask and answer questions about information from a speaker, offering appropriate elaboration and detail. L.VL.3.2. Determine or clarify the meaning of unknown and multiple-meaning academic and domain-specific words and phrases based on grade 3 reading and content, choosing flexibly from a range of strategies. A. Use sentence-level context as a clue to the meaning of a word or phrase. B. Determine the meaning of the new word formed when a known affix is added to a known word (e.g., agreeable/disagreeable, comfortable/uncomfortable, care/careless, heat/preheat). C. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., company, companion). D. Use glossaries or beginning dictionaries, both print and digital, to determine or clarify the precise meaning of key	discussion. SL.ES.3.3. Ask and answer questions about information from a speaker, offering appropriate elaboration and detail. L.VL.3.2. Determine or clarify the meaning of unknown and multiple-meaning academic and domain-specific words and phrases based on grade 3 reading and content, choosing flexibly from a range of strategies. A. Use sentence-level context as a clue to the meaning of a word or phrase. B. Determine the meaning of the new word formed when a known affix is added to a known word (e.g., agreeable/disagreeable, comfortable/uncomfortable, care/careless, heat/preheat). C. Use a known root word as a clue to the meaning of an unknown word with the same root (e.g., company, companion). D. Use glossaries or beginning dictionaries, both print and digital, to determine or clarify the precise meaning of key words and phrases
--	--	---	--

		words and phrases	
Integration of Career Readiness, Life Literacies & Key Skills: Write out complete NJSLs: (Must have at least one standard from: ● 9.1 Personal Financial Literacy; or ● 9.2 Career Awareness, Exploration, Preparation & Training; or ● 9.4 Life Literacies & Key Skills)	Life Literacies & Key Skills 9.4.5.IML.2: Create a visual representation to organize information about a problem or issue 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems. 9.4.5.CT.4 Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community, and global. 9.4.5.CI.2 Investigate a persistent local or global issue, such as climate change, and collaborate with individuals with diverse perspectives to improve upon current actions designed to address the issue. 9.4.5.CI.3 Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity. 9.4.5.IML.3: Represent the same data in multiple visual formats in order to tell a story about the data. 9.4.5.TL.3: Format a document using a word processing application to enhance text, change page formatting, and include appropriate images	Life Literacies & Key Skills 9.4.5.IML.2: Create a visual representation to organize information about a problem or issue 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems. 9.4.5.CT.4 Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community, and global. 9.4.5.CI.2 Investigate a persistent local or global issue, such as climate change, and collaborate with individuals with diverse perspectives to improve upon current actions designed to address the issue. 9.4.5.CI.3 Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity. 9.4.5.IML.3: Represent the same data in multiple visual formats in order to tell a story about the data. 9.4.5.TL.3: Format a document using a word processing application to enhance text, change page formatting, and include appropriate images	Life Literacies & Key Skills 9.4.5.IML.2: Create a visual representation to organize information about a problem or issue 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems. 9.4.5.CT.4 Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community, and global. 9.4.5.CI.2 Investigate a persistent local or global issue, such as climate change, and collaborate with individuals with diverse perspectives to improve upon current actions designed to address the issue. 9.4.5.CI.3 Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity. 9.4.5.IML.3: Represent the same data in multiple visual formats in order to tell a story about the data. 9.4.5.TL.3: Format a document using a word processing application to enhance text, change page formatting, and include appropriate images

	graphics, or symbols.	graphics, or symbols.	graphics, or symbols.
Integration of Computer Science and Design Thinking: Write out complete NJSLs: <i>(Must have at least one standard from:</i> • 8.1 Computer Science; or • 8.2 Design Thinking)	Design Thinking 8.2.5.ED.2 Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development.	Design Thinking 8.2.5.ED.2 Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models 8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim. 8.1.5.DA.2: Compare the amount of storage space required for different types of data. 8.1.5.DA.3: Organize and present collected data visually to communicate insights gained from different views of the data. 8.1.5.DA.4: Organize and present climate change data visually to highlight relationships or support a claim.	Design Thinking 8.2.5.ED.2 Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models 8.1.5.AP.4: Break down problems into smaller, manageable sub-problems to facilitate program development. 8.2.5.ED.6: Evaluate and test alternative solutions to a problem using the constraints and tradeoffs identified in the design process.
21st Century Life and Careers: Career Education: Write out complete NJSLs: <i>(Only include if a CTE curriculum</i> • 9.3 Career and Technical Education)	N/A	N/A	N/A
Enduring Understandings: <i>(Follow UbD: What big ideas will students know?)</i>	• Represent fractions on a number line diagram.	• Solve problems involving measurement and estimation of intervals of time, liquid	• Recognize that rhombuses, rectangles, and squares are examples of quadrilaterals.

	• Represent a fraction $1/b$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size $1/b$ and that the endpoint of the part based at 0 locates the number $1/b$ on the number line. • Represent a fraction a/b on a number line diagram by defining the interval from 0 to 1 as the whole, partition it into b equal parts and mark off a, lengths $1/b$, from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line. • Explain equivalence of fractions in special cases. • Compare fractions by reasoning about their size. • Recognize and generate simple equivalent fractions. • Explain why fractions are equivalent, e.g., using a visual fraction model. • Express whole numbers as fractions. • Recognize fractions that are equivalent to whole numbers. • Compare two fractions with the same numerator or the	volumes, and masses of objects. • Geometric measurement: understand concepts of area and relate area to multiplication and to addition. • Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures. • Telling and writing time to the nearest minute. • Solving word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.	• Draw examples of quadrilaterals that do not belong to any of these subcategories. • Partition shapes into parts with equal areas. • Express area of a part of a shape as a unit fraction of the whole. (<i>For example, partition a shape into 4 parts with equal area, and describe the area of each part as $1/4$ of the area of the whole shape.</i>) • Use tiling in a concrete case that the area of a rectangle with whole-number side lengths a and $b+c$ is the sum of $a \times b$ and $a \times c$. • Use area models to represent the distributive property in mathematical reasoning. • Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts. • Apply multiple techniques to solve real-world problems.
--	---	--	---

	same denominator by reasoning about their size. • Compare fractions using $<$, $=$, or $>$. • Justify fraction comparisons, e.g., using a visual fraction model. • Express area of a part of a shape as a unit fraction of the whole. (<i>For example, partition a shape into 4 parts with equal area, and describe the area of each part as $\frac{1}{4}$ of the area of the whole shape.</i>)		
Essential Questions: (Follow UbD best practices in the creation of questions)	1. Why do we need fractions? 2. Why does one need to find equivalent fractions? 3. What is a benchmark? 4. Why is it important to use equations with a symbol for the unknown and drawings, such as drawings of rulers, to represent the problem 5. How can using equally spaced points of a number line to represent whole numbers and fractions of a number important to solving specific equations?	1. How can representing data help us to interpret it and draw conclusions? 2. How can one determine the best representation to display data? 3. How does recognizing a pattern help one to solve problems? 4. Why does one need to measure? 5. How does one measure liquids? 6. How does one measure mass?	1. What characteristics define a polygon? 2. What types of problems involve perimeter? 3. What types of problems involve area? 4. Why does one need to classify shapes? 5. Why does one need to identify lines of symmetry? 6. How can we use data to ask better questions that lead to deeper understanding and improved ideas?

	6. How operations are allowed with fractions? 7. When would one need to add, subtract, multiply, or divide a fraction? 8. How is a unit fraction related to its multiples? 9. How does recognizing a pattern help one to solve problems?	7. How can effectively measuring help us solve real world problems?	7. How can we effectively gather and organize different types of data so it can be used to answer meaningful questions?
STAGE 2: Evidence			
Assessment & Evidence: <i>(By what criteria will performances of understanding be judged? Include:</i> <i>1. Formative,</i> <i>2. Summative,</i> <i>3. Alternative - Performance/Project)</i> <i>4. Benchmark)</i>	Formative Assessments • Student Participation • Teacher Observations • Textbook/Workbook Activities • Learning Centers • Constructing spoken and written explanations • Quizzes • Exit Tickets • Open-Ended Responses Summative Assessments • Unit Assessments (may include but not limited to): Tests, Quizzes, Google Forms etc	Formative Assessments • Student Participation • Teacher Observations • Textbook/Workbook Activities • Learning Centers • Constructing spoken and written explanations • Quizzes • Exit Tickets • Open-Ended Responses Summative Assessments • Unit Assessments (may include but not limited to): Tests, Quizzes, Google Forms etc	Formative Assessments • Student Participation • Teacher Observations • Textbook/Workbook Activities • Learning Centers • Constructing spoken and written explanations • Quizzes • Exit Tickets • Open-Ended Responses Summative Assessments • Unit Assessments (may include but not limited to): Tests, Quizzes, Google Forms etc

	Alternative Assessments • Performance Tasks to solve real world problems • Projects • Problem based or concept based projects • Journal Entries: student reflection • Oral Presentations Benchmark Assessments • Student Growth Assessments (BOY, Mid-Year, EOY) • IXL assessment • MAP	Alternative Assessments • Performance Tasks to solve real world problems • Projects • Problem based or concept based projects • Journal Entries: student reflection • Oral Presentations Benchmark Assessments • Student Growth Assessments (BOY, Mid-Year, EOY) • IXL assessment • MAP	Alternative Assessments • Performance Tasks to solve real world problems • Projects • Problem based or concept based projects • Journal Entries: student reflection • Oral Presentations Benchmark Assessments • Student Growth Assessments (BOY, Mid-Year, EOY) • IXL assessment • MAP
STAGE 3: Learning Plan			
Learning Activities/Content: <i>(What is the core content of this unit? What performance tasks/ activities will students do? What skills will students know? Include content that adheres to NJ Administrative Code and Statutes:</i> • <i>Amistad Law</i> • <i>Holocaust Law</i> • <i>LGBTQ/Disabilities Law</i>	Activities • Understand fractions as numbers that represent equal parts of a whole. • Identify and write fractions using correct mathematical notation. • Represent fractions using area models, set models, and number lines. • Explain the meaning of numerators and denominators. • Compare fractions with like numerators or like	Activities • Measure length, liquid volume, and mass using appropriate standard units. • Estimate and compare measurements. • Tell time to the nearest minute and solve elapsed time problems. • Collect, organize, represent, and interpret data using graphs and line plots. • Solve real-world measurement and data	Activities • Identify and classify polygons based on their attributes. • Describe shapes using correct mathematical vocabulary. • Compare and contrast geometric figures based on shared attributes. • Partition shapes into equal parts and represent the parts as fractions. • Recognize that equal shares of identical wholes may have the same value even when

	denominators using visual models. ● Recognize equivalent fractions using models. ● Solve real-world problems involving fractions. ● Use mathematical vocabulary including fraction, numerator, denominator, equal parts, unit fraction, equivalent, compare, greater than, less than, and equal to. ● Communicate mathematical reasoning through discussion, writing, drawings, and models. DEI Activities ● Solve fraction problems that incorporate the contributions and achievements of African American leaders, inventors, artists, scientists, mathematicians, and community members. ● Use culturally diverse contexts, such as sharing foods from different cultures or exploring community celebrations, when solving fraction problems. ● Solve real-world fraction problems involving equitable sharing of materials and resources.	problems. ● Select appropriate tools for measuring different attributes. ● Use mathematical vocabulary including length, inch, foot, centimeter, meter, gram, kilogram, liter, milliliter, mass, volume, elapsed time, scale, graph, data, line plot, and interval. ● Explain mathematical reasoning using models, graphs, equations, and written responses. ● Collaborate effectively to collect and analyze data. DEI Activities ● Collect and graph data related to the achievements and contributions of African American leaders, inventors, scientists, mathematicians, artists, and community members. ● Solve measurement and data problems using culturally responsive real-world contexts, such as community celebrations, historical landmarks, or service projects. ● Read short informational texts featuring diverse historical figures and analyze related	they are different shapes. ● Use models, drawings, and mathematical language to explain geometric reasoning. ● Apply geometric concepts to solve real-world problems. ● Collaborate effectively to solve problems and communicate mathematical thinking. DEI Activities ● Explore geometric patterns, designs, and artwork inspired by the cultural contributions of African American artists, architects, and quilt makers (e.g., examining symmetry, tessellations, and geometric designs). ● Solve geometry problems using real-world contexts that highlight the achievements of African American leaders, inventors, mathematicians, and community members. ● Design geometric art projects that celebrate diverse cultural traditions while identifying and describing geometric attributes. ● Participate in collaborative activities that promote appreciation for the contributions of diverse
--	---	---	---

	● Solve fraction word problems that include diverse family structures, cultures, languages, abilities, and community experiences. ● Participate in collaborative problem-solving activities emphasizing mathematical discourse and perseverance. ● Encourage students to analyze data or create arrays that celebrate community contributions and cultural diversity. ● Incorporate age-appropriate lessons emphasizing cooperation, fairness, empathy, respect, and standing against bias through collaborative mathematical tasks. ● Use partner and group problem-solving activities that promote inclusion, shared responsibility, and respectful discussion while reinforcing positive classroom community values. ● Ensure instructional materials represent students of diverse backgrounds, cultures, abilities, and family compositions. ● Provide multiple means of engagement, representation, and expression through	numerical data through graphs and charts. ● Participate in collaborative problem-solving activities emphasizing mathematical discourse and perseverance. ● Incorporate age-appropriate lessons emphasizing cooperation, fairness, empathy, respect, and standing against bias through collaborative mathematical tasks. ● Use partner and group problem-solving activities that promote inclusion, shared responsibility, and respectful discussion while reinforcing positive classroom community values. ● Ensure instructional materials represent students of diverse backgrounds, cultures, abilities, and family compositions. ● Provide multiple means of engagement, representation, and expression through manipulatives, visual models, technology, partner work, and differentiated supports consistent with inclusive instructional practices.	cultures throughout history. ● Explore themes of community, belonging, and working together through shared design projects that encourage empathy and appreciation of different perspectives. ● Incorporate age-appropriate lessons emphasizing cooperation, fairness, empathy, respect, and standing against bias through collaborative mathematical tasks. ● Use partner and group problem-solving activities that promote inclusion, shared responsibility, and respectful discussion while reinforcing positive classroom community values. ● Ensure instructional materials represent students of diverse backgrounds, cultures, abilities, and family compositions. ● Provide multiple means of engagement, representation, and expression through manipulatives, visual models, technology, partner work, and differentiated supports consistent with inclusive instructional practices.
--	--	---	--

	manipulatives, visual models, technology, partner work, and differentiated supports consistent with inclusive instructional practices.		
Resources: <i>(Include names of texts and all online resources)</i>	• HMH Into Math Copyright 2020 by Houghton Mifflin Harcourt Publishing Company • Illustrative Mathematics https://www.illustrativemathematics.org/ • Khan Academy https://www.khanacademy.org/ • National Council of Teachers of Mathematics http://www.nctm.org/ • National Library of Virtual Manipulatives http://nlvm.usu.edu/ • NCTM Illuminations Resources for Teaching Math http://illuminations.nctm.org/ • Freckle • Generation Genius • BrainPop	• HMH Into Math Copyright 2020 by Houghton Mifflin Harcourt Publishing Company • Illustrative Mathematics https://www.illustrativemathematics.org/ • Khan Academy https://www.khanacademy.org/ • National Council of Teachers of Mathematics http://www.nctm.org/ • National Library of Virtual Manipulatives http://nlvm.usu.edu/ • NCTM Illuminations Resources for Teaching Math http://illuminations.nctm.org/ • Freckle • Generation Genius • BrainPop	• HMH Into Math Copyright 2020 by Houghton Mifflin Harcourt Publishing Company • Illustrative Mathematics https://www.illustrativemathematics.org/ • Khan Academy https://www.khanacademy.org/ • National Council of Teachers of Mathematics http://www.nctm.org/ • National Library of Virtual Manipulatives http://nlvm.usu.edu/ • NCTM Illuminations Resources for Teaching Math http://illuminations.nctm.org/ • Freckle • Generation Genius • BrainPop
Differentiation: <i>(What type of differentiated instruction will be used for each of the following subgroups:</i> 1. Special Education 2. English Language Learners (ELLs)	Special Education • Individualized Education Plans (IEPs) • Exemplars of varied	Special Education • Individualized Education Plans (IEPs) • Exemplars of varied	Special Education • Individualized Education Plans (IEPs) • Exemplars of varied

3. At Risk/BSI

4. Gifted & Talented/Advanced 5. 504)

- performance levels
- Multi-media presentations
- Manipulatives
- Scaffolded Lessons
- Guided note-taking
- Study guides
- Modified homework
- Differentiated pre-typed class notes and example problems
- Flexible small group instruction
- Use of alternate assessments
- Modelings

English Language Learners (ELLs):

- Pair visual prompts with verbal presentations
- Provide repetition and practice
- Model skills/techniques to be mastered
- Extended time
- Assign a peer helper in the class setting
- Provide access to a computer
- Front load vocabulary
- Dictionaries
- Mnemonic devices
- Visual aids
- Provide notes to students as needed in native language
- Cultural responsiveness
- Present information in a variety of ways (notes, guided notes, video clips, images,

- performance levels
- Multi-media presentations
- Manipulatives
- Scaffolded Lessons
- Guided note-taking
- Study guides
- Modified homework
- Differentiated pre-typed class notes and example problems
- Flexible small group instruction
- Use of alternate assessments
- Modelings

English Language Learners (ELLs):

- Pair visual prompts with verbal presentations
- Provide repetition and practice
- Model skills/techniques to be mastered
- Extended time
- Assign a peer helper in the class setting
- Provide access to a computer
- Front load vocabulary
- Dictionaries
- Mnemonic devices
- Visual aids
- Provide notes to students as needed in native language
- Cultural responsiveness
- Present information in a variety of ways (notes, guided notes, video clips, images,

- performance levels
- Multi-media presentations
- Manipulatives
- Scaffolded Lessons
- Guided note-taking
- Study guides
- Modified homework
- Differentiated pre-typed class notes and example problems
- Flexible small group instruction
- Use of alternate assessments
- Modelings

English Language Learners (ELLs):

- Pair visual prompts with verbal presentations
- Provide repetition and practice
- Model skills/techniques to be mastered
- Extended time
- Assign a peer helper in the class setting
- Provide access to a computer
- Front load vocabulary
- Dictionaries
- Mnemonic devices
- Visual aids
- Provide notes to students as needed in native language
- Cultural responsiveness
- Present information in a variety of ways (notes, guided notes, video clips, images,

	diagrams, graphic organizers, stations) ● Group students with others of different learning levels and abilities. ● Non-verbal assessments Students At-Risk (BSI) ● Interactive maps ● Graphic organizers ● Use of technology for class assignments and homework ● Provide opportunities for students to discuss material verbally and also periods of quiet reflection. ● Highlighted and/or repeated directions Gifted and Talented (Advanced) Students: ● Allow students to pursue independent projects based on their individual interests ● Provide enrichment activities that include more advanced material ● Allow team-teaching opportunities and collaboration ● Set individual goals ● Conduct research and provide presentation of appropriate topics ● Design surveys to generate	diagrams, graphic organizers, stations) ● Group students with others of different learning levels and abilities. ● Non-verbal assessments Students At-Risk (BSI) ● Interactive maps ● Graphic organizers ● Use of technology for class assignments and homework ● Provide opportunities for students to discuss material verbally and also periods of quiet reflection. ● Highlighted and/or repeated directions Gifted and Talented (Advanced) Students: ● Allow students to pursue independent projects based on their individual interests ● Provide enrichment activities that include more advanced material ● Allow team-teaching opportunities and collaboration ● Set individual goals ● Conduct research and provide presentation of appropriate topics ● Design surveys to generate	diagrams, graphic organizers, stations) ● Group students with others of different learning levels and abilities. ● Non-verbal assessments Students At-Risk (BSI) ● Interactive maps ● Graphic organizers ● Use of technology for class assignments and homework ● Provide opportunities for students to discuss material verbally and also periods of quiet reflection. ● Highlighted and/or repeated directions Gifted and Talented (Advanced) Students: ● Allow students to pursue independent projects based on their individual interests ● Provide enrichment activities that include more advanced material ● Allow team-teaching opportunities and collaboration ● Set individual goals ● Conduct research and provide presentation of appropriate topics ● Design surveys to generate
--	--	--	--

	and analyze data to be used in discussion. • Higher-level questioning techniques • Provide assessments at a higher level of thinking 504 Plans • Preferential seating • Extended time on tests and assignments • Reduced homework or classwork • Verbal, visual, or technology aids • Modified textbooks or audio-video materials • Oral assessments • Highlighted and/or repeated directions	and analyze data to be used in discussion. • Higher-level questioning techniques • Provide assessments at a higher level of thinking 504 Plans • Preferential seating • Extended time on tests and assignments • Reduced homework or classwork • Verbal, visual, or technology aids • Modified textbooks or audio-video materials • Oral assessments • Highlighted and/or repeated directions	and analyze data to be used in discussion. • Higher-level questioning techniques • Provide assessments at a higher level of thinking 504 Plans • Preferential seating • Extended time on tests and assignments • Reduced homework or classwork • Verbal, visual, or technology aids • Modified textbooks or audio-video materials • Oral assessments • Highlighted and/or repeated directions
--	---	---	---