North Caldwell Mathematics

Grade Level: 3

Contents

Instructional Materials

Everyday Mathematics 4th Edition
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Supplemental Resources

- Connected Ed https://connected.mcgraw-hill.com/connected/login.do
- Illustrative Mathematics https://www.illustrativemathematics.org/
- Khan Academy https://www.khanacademy.org/
- Math for Elementary School Teachers http://www.mathforelementaryteachers.org/ video clips that contain explanations of arithmetic topics including: Place Value/Arithmetic Models/Arithmetic Algorithms, Mental Math, Primes/Divisibility, Fraction Arithmetic, and Word Problems/Model Drawing.
- 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/

Interdisciplinary Connections

Mathematics is a unified body of knowledge whose concepts build upon each other. Connecting mathematical concepts includes linking ideas to related ideas learned previously.

Major emphasis should be given to ideas and concepts across mathematical content areas that help students see that mathematics is a web of closely connected ideas. Students need to connect their mathematical learning to appropriate real-world contexts. They need to create interest and maintain the interest after the novelty of the work has worn off.

Mathematics is the language of science and is greatly utilized in industry and business. It gives us the power to solve difficult real-world problems, but also helps us to understand how the universe operates.

Every mathematics teacher needs to make students unafraid of the subject by convincing the students of the usefulness of learning mathematics in their daily lives and for higher studies. The world today, which leans more and more heavily on Science and Technology, demands more from mathematics. Tomorrow's world will, no doubt, make still greater demands from mathematics.

Interdisciplinary Connections for Grade 3

Literature:

~"The Doorbell Rang" by Pat Hutchins

- Introduce the lesson by reading *The Doorbell Rang.*
- Follow the lesson in the Supplemental Section. The lesson provided can cover up to 3 days, but modify as needed for time and student needs.

~"A Remainder of One" by Elinor Princzes

- Introduce the lesson by reading *A Remainder of One*.
- Follow the lesson in the Supplemental Section.

~"How Big is a Foot?" by Rolf Myller

- Introduce the lesson by reading *How Big is a Foot?* There is a you tube video of the story as well.
- Follow the lesson in the Supplemental Section.

Writing:

~Writing Word Problems

- Students will write a number story about a given situation.
- In pairs, students will share their number story with a classmate. As the story is read, their partner will fill in important information and solve the problem.
- Switch jobs.
- Use the worksheet in the Supplemental Section as a guide.

Social Studies:

~Bar Graphs

- Students will interview their classmates about their nationalities.
- Compile the data collected, organize the data and create bar graphs displaying their results.
- Use the worksheet in the Supplemental Section as a guide

New Jersey Student Learning Standards (NJSLS)

In Grade 3, instructional time should focus on four 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.

(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, 1/2 of the paint in a small bucket could be less paint than 1/3 of the paint in a larger bucket, but 1/3 of a ribbon is longer than 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.

Operations & Algebraic Thinking

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. *For example, describe and/or represent a context in which a total number of objects can be expressed as 5 × 7.*

3.OA.2. Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 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. *For example, describe and/or represent a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.*

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.OA.4. Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = _ ÷ 3, 6 × 6 = ?*

Understandings	Essential Questions
Students will understand… • the total number of objects, when grouped, can be found most efficiently by multiplication. • there are two different interpretations to a division problem. • when two out of three numbers are known in an equation, there is exactly one number, represented by the unknown, which will make the statement true.	• How are multiplication and division related?
Knowledge	**Skills**
Students will know . . . • the product of a x b is "a" groups of "b" things. • the quotient of c ÷ d can be interpreted as the number of objects when "c" things are partitioned equally into "d" shares or it can be interpreted as the number of groups when "c" things are partitioned into equal shares of "d" things.	Students will be able to . . . • interpret products of whole numbers. • interpret whole-number quotients of whole numbers. • by using multiplication and division in drawings and equations, 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.

RESOURCES

- **Everyday Mathematics 4 Lessons:** 1-2, 1-8, 1-9, 1-10, 1-12, 1-13, 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, 2-12, 3-1, 3-8, 3-9, 3-10, 3-11, 3-12, 4-1, 4-2, 4-3, 4-5, 4-8, 4-9, 4-10, 4-12, 5-4, 5-6, 5-8, 5-9, 5-10, 5-11, 6-1, 6-2, 6-4, 6-6, 6-7, 6-9, 7-2, 7-3, 7-12, 8-2, 8-3, 8-4, 8-5, 8-6, 8-7, 9-1, 9-2, 9-3, 9-4, 9-5, 9-6 (1-11, 1-13, 1-14, 2-1, 2-2, 2-3, 2-4, 2-9, 2-12, 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-8, 3-9, 3-13, 4-1, 4-2, 4-3, 4-4, 4-6, 4-7, 4-8, 4-11, 4-13, 5-1, 5-3, 5-5, 5-7, 5-8, 5-12, 6-2, 6-3, 6-5, 6-7, 6-9, 6-10, 6-11, 6-12, 7-1, 7-2, 7-4, 7-5, 7-7, 7-9, 7-10, 7-12, 7-13, 8-1, 8-2, 8-3, 8-6, 9-1, 9-3, 9-5, 9-6)
- **Supplemental Lessons:** Binder pages 1-2, 38-45, 61-62, 66-67, 84-86

Operations & Algebraic Thinking

3.OA.5. Apply properties of operations as strategies to multiply and divide.[2] *Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)*

3.OA.6. Understand division as an unknown-factor problem. *For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.*

Understandings	Essential Questions
Students will understand… • multiplication and division are inverse operations. • using properties can make problems easier.	• How can one use properties as strategies to solve problems? • How can one use multiplication to help solve division problems?
Knowledge	**Skills**
Students will know . . . • a x b = b x a • (a x b) x c = a x (b x c) • a x (b + c) = (a x b) + (a x c) • how to solve unknown-factor problems.	Students will be able to . . . • apply properties (commutative, associative, and distributive) of operations as strategies to multiply and divide. • find the answer to a division problem by solving the related unknown-factor problem.

RESOURCES

- **Everyday Mathematics 4 Lessons:** 1-9, 1-10, 2-6, 3-10, 3-11, 3-12, 4-5, 5-4, 5-5, 5-6, 5-8, 5-9, 5-11, 6-1, 6-2, 6-3, 6-6, 6-7, 6-9, 7-3, 8-2, 8-3, 8-5, 8-7, 9-1, 9-2, 9-3, 9-4, 9-5, 9-6 (2-1, 2-3, 3-5, 3-6, 3-7, 3-8, 4-1, 4-2, 4-3, 4-4, 4-5, 4-7, 4-9, 4-13, 5-7, 5-12, 6-2, 6-4, 6-9, 6-10, 6-11, 7-1, 7-2, 7-3, 7-4, 7-5, 7-7, 7-12, 8-1, 8-3, 8-4, 8-6, 8-7, 8-8, 8-9, 9-5)
- **Supplemental Lessons:** Binder pages 38-40, 43-45, 61-62, 66-67, 84-86

Operations & Algebraic Thinking

3.OA.7. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations.

By the end of Grade 3, know from memory all products of two one-digit numbers.

[2] Students need not use formal terms for these properties.

Understandings	Essential Questions
Students will understand… • there is an inverse relationship between multiplication and division.	• How can one use the relationship between multiplication and division to find products and quotients?
Knowledge	**Skills**
Students will know . . . • strategies to multiply and divide.	Students will be able to . . . • fluently multiply within 100, using properties of operations or the relationship between multiplication and division. • fluently divide within 100, using properties of operations or the relationship between multiplication and division.

RESOURCES

- **Everyday Mathematics 4 Lesson:** 1-1, 1-5, 1-8, 1-9, 1-10, 1-11, 1-12, 1-13, 2-2, 2-3, 2-4, 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 2-11, 2-12, 3-1, 3-5, 3-8, 3-9, 3-10, 3-11, 3-12, 3-13, 4-1, 4-3, 4-4, 4-5, 4-7, 4-9, 4-10, 4-11, 4-12, 5-1, 5-2, 5-3, 5-4, 5-5, 5-6, 5-7, 5-8, 5-9, 5-10, 5-11, 6-1, 6-2, 6-3, 6-4, 6-5, 6-6, 6-7, 6-8, 6-9, 6-10, 6-11, 7-1, 7-2, 7-3, 7-4, 7-6, 7-12, 8-2, 8-3, 8-4, 8-5, 8-6, 8-7, 9-1, 9-2, 9-3, 9-4, 9-5, 9-6, 9-7 (1-14, 2-1, 2-13, 3-3, 3-6, 3-7, 4-2, 4-6, 4-8, 4-13, 5-12, 7-5, 7-7, 7-8, 7-9, 7-10, 7-11, 7-13, 8-1, 8-8, 8-9, 9-8)
- **Supplemental Lessons:** Binder pages 1-2, 38-40, 43-45, 61-62, 66-67, 84-86

Operations & Algebraic Thinking

3.OA.8. Solve two-step word problems 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.OA.9. Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *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.*

[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.

Understandings	Essential Questions
Students will understand… • there are strategies to find patterns in a sequence of numbers. • equations can model real-world problems.	• How can patterns be used to solve problems?
Knowledge	**Skills**
Students will know . . . • how to round a number. • how to estimate. • properties of operations.	Students will be able to . . . • represent word problems using equations with a letter standing for the unknown quantity. • solve two-step word problems using the four operations. • assess the reasonableness of answers using mental computation and estimation strategies including rounding. • identify arithmetic patterns (including patterns in the addition or multiplication tables), and explain them using properties of operations. *For example, observe that four times a number is always even and explain why four times a number can be decomposed into two equal addends.*

RESOURCES

- **Everyday Mathematics 4 Lessons:** 2-2, 2-3, 2-4, 2-5, 2-6, 2-10, 3-2, 3-3, 3-4, 3-5, 3-6, 3-8, 3-10, 4-1, 4-12, 5-4, 5-5, 5-6, 5-7, 5-9, 5-10, 6-1, 6-7, 6-8, 6-9, 6-10, 6-11, 7-1, 7-2, 9-1, 9-3, 9-5, 9-7 (2-12, 3-1, 3-5, 3-7, 3-9, 3-10, 3-12, 3-13, 4-2, 4-4, 4-5, 4-6, 4-8, 4-11, 5-7, 5-8, 5-12, 6-3, 6-5, 7-4, 7-5, 7-6, 7-7, 7-8, 7-11, 8-1, 8-2, 8-4, 8-6, 9-3, 9-6, 9-8)
- **Supplemental Lessons:** Binder pages 38-40, 43-45, 61-62, 66-67, 84-86

Numbers and Operations in Base Ten

3.NBT.1. Use place value understanding to round whole numbers to the nearest 10 or 100.

3.NBT.2. Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

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.

[1] A range of algorithms may be used.

Understandings	Essential Questions
Students will understand… • the place that a digit is located assigns a value to that digit. • products that involve multiples of 10 can be found by multiplying the non-zero digits of the two numbers and then multiplying by 10.	• Why is place value important?
Knowledge	**Skills**
Students will know . . . • the procedure needed to round a whole number. • properties of operations. • strategies involving place-value, properties of operations, and inverse operations. • multiples of 10 in the range 10 – 90.	Students will be able to . . . • use place-value understanding to round whole numbers to the nearest ten or hundred. • fluently 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.

RESOURCES

- **Everyday Mathematics 4 Lessons:** 1-1, 1-2, 1-3, 1-4, 1-7, 1-8, 1-9, 1-10, 1-13, 2-1, 2-2, 2-3, 2-4, 2-5, 2-10, 2-11, 2-12, 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-8, 3-13, 4-1, 4-3, 4-6, 4-7, 4-9, 5-4, 5-5, 5-6, 5-7, 5-9, 6-1, 6-8, 6-10, 6-11, 7-1, 7-2, 7-3, 7-4, 8-2, 8-3, 8-5, 9-2, 9-3, 9-5, 9-6, 9-7 (1-5, 1-6, 1-8, 1-9, 1-10, 1-11, 1-12, 1-13, 1-14, 2-2, 2-6, 2-7, 2-8, 2-9, 2-13, 3-7, 3-9, 3-10, 3-12, 3-13, 4-2, 4-4, 4-5, 4-6, 4-8, 4-10, 4-11, 4-12, 5-1, 5-8, 5-12, 6-5, 6-6, 6-7, 6-9, 7-4, 7-5, 7-6, 7-7, 7-8, 7-9, 7-10, 7-11, 7-12, 7-13, 8-6, 8-7, 8-8, 8-9, 9-3, 9-4, 9-6, 9-7, 9-8)
- **Supplemental Lessons:** Binder pages 1-37, 41-45, 61-62, 66-67, 84-106

Numbers and Operations - Fractions

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*.

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 number line.
b. Represent a fraction *a*/*b* on a number line diagram by marking 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.

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., 1/2 = 2/4, 4/6 = 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 = 3/1; recognize that 6/1 = 6; locate 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.

Understandings	Essential Questions
Students will understand… • other numbers exist in addition to whole numbers. • the number one can be broken down into fractional parts that are also numbers.	• Why do we need fractions?

Knowledge	Skills
Students will know . . . • a fraction 1/b is the quantity formed by 1 part when a whole is partitioned into *b* equal parts; when *b* gets larger, more parts are formed and each part gets smaller. • a fraction a/b is the quantity formed by *a* parts of size 1/*b* . • a fraction is a number on the number line. • two fractions are equivalent (equal) if they represent the same amount of the whole. • two fractions are equivalent (equal) if they represent the same point on the number line. • comparing fractions is valid only when the two fractions refer to the same whole.	Students will be able to . . . • represent fractions on a number line diagram. • 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 simple equivalent fractions. • 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 same denominator by reasoning about their size. • compare fractions using <, =, or > . • justify fraction comparisons, e.g., using a visual fraction model.

RESOURCES

- **Everyday Mathematics 4 Lessons:** 1-12, 2-9, 2-12, 4-3, 5-1, 5-2, 5-3, 5-7, 6-4, 6-6, 7-2, 7-4, 7-5, 7-6, 7-7, 7-8, 7-9, 7-10, 7-11, 7-12, 8-1, 8-5, 8-7, 8-8, 9-5 (2-5, 2-7, 2-10, 3-2, 4-9, 4-13, 5-1, 5-5, 5-6, 5-7, 5-10, 6-2, 6-5, 6-7, 6-8, 6-12, 7-1, 7-3, 7-7, 7-8, 7-10, 7-12, 7-13, 8-1, 8-2, 8-3, 8-4, 8-5, 8-6, 8-7, 8-8, 9-1, 9-2, 9-3, 9-4, 9-5, 9-6, 9-7, 9-8)
- **Supplemental Lessons:** Binder pages 1, 57-60, 63-65, 66-67, 94-106

Measurement and Data

3.MD.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.MD.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]

[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").

Understandings	Essential Questions
Students will understand… • measurement involves units that must match in order to add or subtract them.	• Why does one need to measure? • How does one measure liquids? • How does one measure mass?
Knowledge	**Skills**
Students will know . . . • time intervals involve a start time and an end time. • how to add or subtract on a number line.	Students will be able to . . . • tell and write time to the nearest minute. • 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. • measure liquid volumes . • estimate liquid volumes. • measure masses of objects using standard units of grams (g), kilograms (kg), and liters (l). • estimate masses of objects using standard units of grams (g), kilograms (kg), and liters (l). • 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.

RESOURCES

- **Everyday Mathematics 4 Lessons:** 1-3, 1-5, 1-6, 1-11, 1-12, 1-13, 2-1, 2-6, 2-9, 2-12, 4-3, 5-4, 6-7, 7-1, 7-2, 7-3, 7-7, 8-7, 8-8, 9-2, 9-3, 9-4, 9-7 (1-7, 1-8, 1-9, 1-10, 1-12, 1-13, 2-2, 2-3, 2-4, 2-5, 2-6, 2-7, 2-8, 2-11, 3-6, 3-8, 3-9, 3-12, 4-1, 4-3, 5-6, 5-10, 6-1, 6-3, 6-8, 6-9, 6-11, 6-12, 7-2, 7-4, 7-5, 7-6, 7-8, 7-10, 7-11, 7-12, 8-1, 8-4, 8-7, 8-9, 9-1, 9-2, 9-3, 9-5, 9-7)
- **Supplemental Lessons:** Binder pages 1-2, 43-45, 66-67

Measurement and Data

3.MD.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. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*

3.MD.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.

Understandings	Essential Questions
Students will understand… • different scales are needed to represent various data.	• How can representing data help us to interpret it and draw conclusions? • How can one determine the best representation to display data?
Knowledge	**Skills**
Students will know . . . • the characteristics of picture graphs. • the characteristics of bar graphs. • the characteristics of a line plot.	Students will be able to . . . • draw a scaled picture graph to represent a data set with several categories. • draw 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 (*e.g., one square = 5 pets*). • generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. • use a line plot to show measurement data found with a ruler, where the horizontal scale is marked off in appropriate units – whole numbers, halves, or quarters.

RESOURCES

- **Everyday Mathematics 4 Lessons:** 1-3, 1-6, 1-7, 1-11, 3-6, 3-7, 3-8, 4-1, 4-2, 4-3, 4-6, 4-7, 4-8, 5-1, 5-5, 5-6, 6-5, 8-1, 8-2, 8-7, 9-4, 9-7 (1-9, 1-12, 2-2, 2-4, 2-9, 2-13, 3-2, 3-4, 3-10, 3-11, 3-13, 3-14, 4-4, 4-5, 4-11, 5-2, 5-4, 5-6, 5-10, 6-1, 6-3, 7-9, 8-3, 8-5, 8-7, 8-8, 8-9, 9-6, 9-8)
- **Supplemental Lessons:** Binder pages 43-45, 87-89

Measurement and Data

3.MD.5. 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.MD.6. Measure areas by counting unit squares (square cm, square m, square in, square ft, and non-standard units).

3.MD.7. 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.
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 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.

Understandings:	**Essential Questions**
Students will understand… • area measurement involves covering a surface. • area is measured in square units. • that area is related to the operations of multiplication and division.	• Why do we need to measure the area of a surface? • How do we find areas of irregular shapes?
Knowledge	**Skills**
Students will know . . . • area is an attribute of plane figures. • a square with side length 1 unit, called "a unit square" is said to have "one square unit" of area. • a unit square can be used to measure area. • 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. • area is additive.	Students will be able to . . . • measure areas by counting unit squares (square cm, square m, square in, square ft., and improvised units). • find the area of a rectangle with whole-number side lengths by tiling it • show that the area of a rectangle found by tiling is the same as would be found by multiplying the side lengths. • multiply side lengths to find areas of rectangles with whole number side lengths in the context of solving real-world and mathematical problems. • represent whole-number products as rectangular areas in mathematical reasoning. • 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* x *b* and *a* x *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 this technique to solve real-world problems.

RESOURCES
• **Everyday Mathematics 4 Lessons:** 2-12, 3-7, 4-7, 4-8, 4-9, 4-10, 4-11, 4-12, 5-1, 5-3, 5-4, 5-5, 5-6, 5-11, 6-5, 7-10, 8-3, 8-7, 9-1, 9-5 (3-11, 3-14, 4-9, 4-13, 4-14, 5-1, 5-2, 5-3, 5-4, 5-6, 5-9, 5-10, 6-1, 6-2, 6-3, 6-4, 6-6, 6-10, 7-1, 7-2, 7-3, 7-4) • **Supplemental Lessons:** Binder pages 49-56, 87-89

Measurement and Data	
3.MD.8. Solve real world and mathematical problems involving perimeters of polygons, including 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.	
Understandings	**Essential Questions**
Students will understand… • perimeter is a linear measure and area is a square measure.	• What types of problems involve perimeter? • What types of problems involve area?
Knowledge	**Skills**
Students will know . . . • the difference between area and perimeter. • rectangles with the same area do not necessarily have the same perimeter and vice versa.	Students will be able to . . . • find the perimeter of a polygon given the side lengths. • find an unknown side length of a polygon. • exhibit rectangles with the same perimeter but different areas. • exhibit rectangles with the same area but different perimeters. • solve real-world and mathematical problems involving perimeters of polygons.
RESOURCES	
• **Everyday Mathematics 4 Lessons:** 4-3, 4-6, 4-7, 4-8, 4-10, 4-11, 5-1, 5-11, 6-5, 7-10, 9-1 (4-12, 5-3, 5-5, 5-6, 5-7, 5-10, 6-1, 6-3, 6-6, 6-10, 8-2, 8-6) • **Supplemental Lessons:** Binder pages 49-56, 87-89	

Geometry

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. *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.*

Understandings	Essential Questions
Students will understand… • 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).	• What characteristics define a polygon?
Knowledge	**Skills**
Students will know . . . • shapes in different categories may share attributes (e.g., rhombuses and rectangles both have four sides). • shared attributes can define a larger category (e.g., rhombuses and rectangles are part of the category called quadrilaterals.	Students will be able to . . . • recognize that rhombuses, rectangles, and squares are examples of quadrilaterals. • 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. (*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.*)

RESOURCES

- **Everyday Mathematics 4 Lessons:** 1-3, 1-12, 2-9, 3-7, 4-4, 4-5, 4-6, 5-1, 6-5, 6-8, 7-4, 7-10, 7-11, 8-7, 8-8, 9-4 (1-6, 2-5, 2-7, 2-10, 2-12, 3-2, 3-4, 3-11, 3-14, 4-8, 4-9, 4-10, 4-11, 4-12, 4-13, 5-1, 5-2, 5-3, 5-4, 5-5, 5-7, 5-9, 5-11, 6-1, 6-5, 6-6, 6-7, 6-8, 6-10, 6-12, 7-6, 7-9, 7-13, 8-3, 8-5, 9-2, 9-4, 9-6)
- **Supplemental Lessons:** Binder pages 1, 46-48, 68-83

Connecting the Standards for Mathematical Content to the Standards for Mathematical Practice

The Standards for Mathematical Practice describe ways in which developing student practitioners of the discipline of mathematics increasingly ought to engage with the subject matter as they grow in mathematical maturity and expertise throughout the elementary, middle and high school years. Designers of curricula, assessments, and professional development should all attend to the need to connect the mathematical practices to mathematical content in mathematics instruction.

The Standards for Mathematical Content are a balanced combination of procedure and understanding. Expectations that begin with the word "understand" are often especially good opportunities to connect the practices to the content. Students who lack understanding of a topic may rely on procedures too heavily. Without a flexible base from which to work, they may be less likely to consider analogous problems, represent problems coherently, justify conclusions, apply the mathematics to practical situations, use technology mindfully to work with the mathematics, explain the mathematics accurately to other students, step back for an overview, or deviate from a known procedure to find a shortcut. In short, a lack of understanding effectively prevents a student from engaging in the mathematical practices.

In this respect, those content standards, which set an expectation of understanding, are potential "points of intersection" between the Standards for Mathematical Content and the Standards for Mathematical Practice. These points of intersection are intended to be weighted toward central and generative concepts in the school mathematics curriculum that most merit the time, resources, innovative energies, and focus necessary to qualitatively improve the curriculum, instruction, assessment, professional development, and student achievement in mathematics.

Standards for Mathematical Practice

The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important "processes and proficiencies" with longstanding importance in mathematics education. The first of these are the NCTM process standards of problem solving, reasoning and proof, communication, representation, and connections. The second are the strands of mathematical proficiency specified in the National Research Council's report *Adding It Up*: adaptive reasoning, strategic competence, conceptual understanding (comprehension of mathematical concepts, operations and relations), procedural fluency (skill in carrying out procedures flexibly, accurately, efficiently and appropriately), and productive disposition (habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one's own efficacy).

1. Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

2. Reason abstractly and quantitatively.

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to *decontextualize*—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to *contextualize*, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

3. Construct viable arguments and critique the reasoning of others.

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

4. Model with mathematics.

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

5. Use appropriate tools strategically.

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

6. Attend to precision.

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

7. Look for and make use of structure.

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well-remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.

8. Look for and express regularity in repeated reasoning.

Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x^2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

Standard 9
21st Century Life and Careers

In today's global economy, students need to be lifelong learners who have the knowledge and skills to adapt to an evolving workplace and world. To address these demands, Standard 9, 21st Century Life and Careers, which includes the 12 Career Ready Practices, establishes clear guidelines for what students need to know and be able to do in order to be successful in their future careers and to achieve financial independence.

Mission: *21st century life and career skills enable students to make informed decisions that prepare them to engage as active citizens in a dynamic global society and to successfully meet the challenges and opportunities of the 21st century global workplace.*

Vision: To integrate 21st Century life and career skills across the K-12 curriculum and in Career and Technical Education (CTE) programs to foster a population that:

- Continually self-reflects and seeks to improve the essential life and career practices that lead to success.
- Uses effective communication and collaboration skills and resources to interact with a global society.
- Is financially literate and financially responsible at home and in the broader community.
- Is knowledgeable about careers and can plan, execute, and alter career goals in response to changing societal and economic conditions.
- Seeks to attain skill and content mastery to achieve success in a chosen career path.

The Standards: Standard 9 is composed of the Career Ready Practices and Standard 9.1, 9.2, and 9.3 which are outlined below:

- **The 12 Career Ready Practices**
  These practices outline the skills that all individuals need to have to truly be adaptable, reflective, and proactive in life and careers. These are researched practices that are essential to career readiness.
- **9.1 Personal Financial Literacy**
  This standard outlines the important fiscal knowledge, habits, and skills that must be mastered in order for students to make informed decisions about personal finance. Financial literacy is an integral component of a student's college and career readiness, enabling students to achieve fulfilling, financially-secure, and successful careers.
- **9.2 Career Awareness, Exploration, and Preparation**
  This standard outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.
- **9.3 Career and Technical Education**
  This standard outlines what students should know and be able to do upon completion of a CTE Program of Study.

For students to be college and career ready they must have opportunities to understand career concepts and financial literacy. This includes helping students make informed decisions about their future personal, educational, work, and financial goals. By integrating Standard 9 into instruction, New Jersey students will acquire the necessary academic and life skills to not only achieve individual success but also to contribute to the success of our society.

21st Century Themes

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

CRP1. Act as a responsible and contributing citizen and employee.

CRP2. Apply appropriate academic and technical skills.

CRP3. Attend to personal health and financial well-being.

CRP4. Communicate clearly and effectively and with reason.

CRP5. Consider the environmental, social and economic impacts of decisions.

CRP6. Demonstrate creativity and innovation.

CRP7. Employ valid and reliable research strategies.

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

CRP9. Model integrity, ethical leadership and effective management.

CRP10. Plan education and career paths aligned to personal goals.

CRP11. Use technology to enhance productivity.

CRP12. Work productively in teams while using cultural global competence.

CRP1. **Act as a responsible and contributing citizen and employee**
Career-ready individuals understand the obligations and responsibilities of being a member of a community, and they demonstrate this understanding every day through their interactions with others. They are conscientious of the impacts of their decisions on others and the environment around them. They think about the near-term and long-term consequences of their actions and seek to act in ways that contribute to the betterment of their teams, families, community and workplace. They are reliable and consistent in going beyond the minimum expectation and in participating in activities that serve the greater good.

CRP2. Apply appropriate academic and technical skills.
Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be more productive. They make connections between abstract concepts with real-world applications, and they make correct insights about when it is appropriate to apply the use of an academic skill in a workplace situation

CRP3. Attend to personal health and financial well-being.
Career-ready individuals understand the relationship between personal health, workplace performance and personal well-being; they act on that understanding to regularly practice healthy diet, exercise and mental health activities. Career-ready individuals also take regular action to contribute to their personal financial wellbeing, understanding that personal financial security provides the peace of mind required to contribute more fully to their own career success.

CRP4. Communicate clearly and effectively and with reason.
Career-ready individuals communicate thoughts, ideas, and action plans with clarity, whether using written, verbal, and/or visual methods. They communicate in the workplace with clarity and purpose to make maximum use of their own and others' time. They are excellent writers; they master conventions, word choice, and organization, and use effective tone and presentation skills to articulate ideas. They are skilled at interacting with others; they are active listeners and speak clearly and with purpose. Career-ready individuals think about the audience for their communication and prepare accordingly to ensure the desired outcome.

CRP5. Consider the environmental, social and economic impacts of decisions.
Career-ready individuals understand the interrelated nature of their actions and regularly make decisions that positively impact and/or mitigate negative impact on other people, organization, and the environment. They are aware of and utilize new technologies, understandings, procedures, materials, and regulations affecting the nature of their work as it relates to the impact on the social condition, the environment and the profitability of the organization.

CRP6. Demonstrate creativity and innovation.

Career-ready individuals regularly think of ideas that solve problems in new and different ways, and they contribute those ideas in a useful and productive manner to improve their organization. They can consider unconventional ideas and suggestions as solutions to issues, tasks or problems, and they discern which ideas and suggestions will add greatest value. They seek new methods, practices, and ideas from a variety of sources and seek to apply those ideas to their own workplace. They take action on their ideas and understand how to bring innovation to an organization.

CRP7. Employ valid and reliable research strategies.

Career-ready individuals are discerning in accepting and using new information to make decisions, change practices or inform strategies. They use reliable research process to search for new information. They evaluate the validity of sources when considering the use and adoption of external information or practices in their workplace situation.

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

Career-ready individuals readily recognize problems in the workplace, understand the nature of the problem, and devise effective plans to solve the problem. They are aware of problems when they occur and take action quickly to address the problem; they thoughtfully investigate the root cause of the problem prior to introducing solutions. They carefully consider the options to solve the problem. Once a solution is agreed upon, they follow through to ensure the problem is solved, whether through their own actions or the actions of others.

CRP9. Model integrity, ethical leadership and effective management.

Career-ready individuals consistently act in ways that align personal and community-held ideals and principles while employing strategies to positively influence others in the workplace. They have a clear understanding of integrity and act on this understanding in every decision. They use a variety of means to positively impact the directions and actions of a team or organization, and they apply insights into human behavior to change others' action, attitudes and/or beliefs. They recognize the near-term and long-term effects that management's actions and attitudes can have on productivity, morals and organizational culture.

CRP10. Plan education and career paths aligned to personal goals.

Career-ready individuals take personal ownership of their own education and career goals, and they regularly act on a plan to attain these goals. They understand their own career interests, preferences, goals, and requirements. They have perspective regarding the pathways available to them and the time, effort, experience and other requirements to pursue each, including a path of entrepreneurship. They recognize the value of each step in the education and experiential process, and they recognize that nearly all career paths require ongoing education and experience. They seek counselors, mentors, and other experts to assist in the planning and execution of career and personal goals.

CRP11. Use technology to enhance productivity.

Career-ready individuals find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring new technology. They are proficient with ubiquitous technology applications. They understand the inherent risks-personal and organizational-of technology applications, and they take actions to prevent or mitigate these risks.

CRP12. Work productively in teams while using cultural global competence.

Career-ready individuals positively contribute to every team, whether formal or informal. They apply an awareness of cultural difference to avoid barriers to productive and positive interaction. They find ways to increase the engagement and contribution of all team members. They plan and facilitate effective team meetings.

Differentiation Strategies

Students with Disabilities/ Students at Risk of School Failure

(For students with disabilities, appropriate accommodations, instructional adaptations, and/or modifications should be determined by the IEP or 504 team)

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Ask students to restate information, directions, and assignments.
- Give repetition and practice exercises
- Model skills/techniques to be mastered
- Give extended time to complete class work
- Provide copy of class notes
- Determine if preferential seating would be beneficial
- Provide access to a computer
- Provide copies of textbooks for home
- Provide access to books on tape/CD/digital media, as available and appropriate
- Assign a peer helper in the class setting
- Provide oral reminders and check student work during independent work time
- Assist student with long and short term planning of assignments
- Encourage student to proofread assignments and tests
- Provide regular parent/school communication

Modifications for Homework and Assignments

- Provide extended time to complete assignments
- Break down assignments
- Provide the student with clearly stated (written) expectations and grading criteria for assignments
- Implement RAFT activities as they pertain to the types/modes of communication (role, audience, format, topic)

Modifications for Assessments

- Provide extended time on classroom tests and quizzes
- Provide alternate setting as needed
- Restate, reread, and clarify directions/questions
- Distribute study guide for classroom tests
- Establish procedures for accommodations /modifications for assessments

Differentiation Strategies

Gifted and Talented

(content, process, product and learning environment)

- 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.
- Use Higher-Level Questioning Techniques
- Provide assessments at a higher level of thinking

English Language Learners

Modifications for Classroom

- Pair visual prompts with verbal presentations
- Provide repetition and practice
- Model skills/techniques to be mastered

Modifications for Homework/Assignments

- Provide Native Language Translation (peer, online assistive technology, translation device, bilingual dictionary)
- Provide extended time for assignment completion as needed
- Highlight key vocabulary
- Use graphic organizers