LESTER C. NOECKER SCHOOL
ROSELAND SCHOOL DISTRICT

Math Curriculum

Fourth Grade

Updated and aligned NJ SLS

August 2024

Approved by the Roseland Board of Education
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Giuseppe Leone, Superintendent
With special appreciation to Michele Smith & the Math Curriculum Writing Staff

Roseland Mathematics

Grade Level: 4

Contents

Instructional Materials

Everyday Mathematics 4th Edition
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www.everydaymath.com

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 4

Literacy:

~ *The Beautiful Oops*

- Read *The Beautiful Oops* by Barney Saltzberg.
- Discuss the story with students. Are mistakes okay to make? Why?
- Have students talk about a time when they made a mistake, but it turned out to be better than expected.

~ *Grandfather Tang's Story*

- Introduce lesson by reading *Grandfather Tang's Story* by Ann Tompert.
- Follow the attached lesson in the Supplemental Section.

~ *Great Estimations*

- Introduce lesson by reading *Great Estimations* by Bruce Goldstone
- Follow attached lesson in the Supplemental Section

~ *Zachary Zormer* Book

- Introduce lesson by reading *Zachary Zormer* by Joanne Reisberg
- Discuss the book as you read.

~Vocabulary Poster Project

- See the attached document in the Supplemental Section for directions and rubric.

New Jersey Student Learning Standards (NJSLS)

In Grade 4, instructional time should focus on three critical areas: (1) developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends; (2) developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; (3) understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

(1) Students generalize their understanding of place value to 1,000,000, understanding the relative sizes of numbers in each place. They apply their understanding of models for multiplication (equal-sized groups, arrays, area models), place value, and properties of operations, in particular the distributive property, as they develop, discuss, and use efficient, accurate, and generalizable methods to compute products of multi-digit whole numbers. Depending on the numbers and the context, they select and accurately apply appropriate methods to estimate or mentally calculate products. They develop fluency with efficient procedures for multiplying whole numbers; understand and explain why the procedures work based on place value and properties of operations; and use them to solve problems. Students apply their understanding of models for division, place value, properties of operations, and the relationship of division to multiplication as they develop, discuss, and use efficient, accurate, and generalizable procedures to find quotients involving multi-digit dividends. They select and accurately apply appropriate methods to estimate and mentally calculate quotients, and interpret remainders based upon the context.

(2) Students develop understanding of fraction equivalence and operations with fractions. They recognize that two different fractions can be equal (e.g., $15/9 = 5/3$), and they develop methods for generating and recognizing equivalent fractions. Students extend previous understandings about how fractions are built from unit fractions, composing fractions from unit fractions, decomposing fractions into unit fractions, and using the meaning of fractions and the meaning of multiplication to multiply a fraction by a whole number.

(3) Students describe, analyze, compare, and classify two-dimensional shapes. Through building, drawing, and analyzing two-dimensional shapes, students deepen their understanding of properties of two-dimensional objects and the use of them to solve problems involving symmetry.

New Jersey Student Learning Standards (NJSLS)

Operations & Algebraic Thinking

Use the four operations with whole numbers to solve problems.

4.OA.A.1 Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.

4.OA.A.2 Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.[1]

4.OA.A.3 Solve multi-step word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 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.

Understandings	Essential Questions
Students will understand… ● multiplication involving whole numbers (greater than 1) makes the answer become larger than either number. ● when solving word problems, remainders must be interpreted.	● What types of problems involve multiplication and division in the answer?
Knowledge	**Skills**
Students will know . . . ● sometimes one needs to multiply or divide numbers to find an answer.	Students will be able to . . . ● Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 x 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. ● Represent verbal statements of multiplicative comparisons as multiplication equations. ● Multiply to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. ● Divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. ● Distinguish multiplicative comparison from additive comparison. ● Solve multi-step word problems posed with whole numbers and having whole number answers using the four operations, including problems in which remainders must be interpreted. ● Represent word problems using equations with a letter standing for the unknown quantity.

	● Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

RESOURCES

- **Everyday Mathematics 4 Lessons:** 1-5, 1-6, 1-7, 1-9, 1-10, 2-6, 2-8, 2-9, 2-12, 3-4, 3-12, 4-1, 4-2, 4-8, 4-12, 5-3, 5-5, 5-6, 5-9, 5-13, 6-5, 6-6, 6-8, 6-11, 7-2, 7-7, 7-12, 8-1, 8-2, 8-4, 8-9, 8-10 (1-11, 1-12, 1-14, 2-6, 2-8, 2-9, 2-11, 2-12, 2-13, 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-8, 3-10, 3-11, 3-13, 4-6, 4-9, 4-10, 4-11, 4-12, 5-1, 5-3, 5-10, 5-14, 6-1, 6-2, 6-3, 6-4, 6-8, 6-10, 6-11, 6-13, 6-14, 7-9, 8-6, 8-7, 8-8, 8-11, 8-13)
- **Supplemental Lessons:** Binder pages 3-13, 35-39, 42

Operations & Algebraic Thinking

Gain familiarity with factors and multiples.

4.OA.B.4 Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.

Understanding	Essential Questions
Students will understand… ● factors of a number are less than or equal to the number. ● multiples of a number are greater than or equal to the number. ● the determination of prime or composite is unrelated to the size of the number.	● Why do we need factors and multiples? ● Why do we need to distinguish a number as being prime or composite? ● How does finding factors or multiples of a number help us to solve problems?
Knowledge	**Skills**
Students will know . . . ● a factor is one of 2 or more numbers that form a product when multiplied together . ● a multiple is a number which is a product of some specified number and another number. ● a prime number is a number that has only two factors, 1 and itself. ● a composite number is a number that has more than 2 factors. ● a whole number is a multiple of each of its factors.	Students will be able to . . . ● Find all factor pairs for a whole number in the range 1 – 100. ● Determine whether a given whole number in the range 1 – 100 is a multiple of a given one-digit number. ● Determine whether a given whole number in the range 1 – 100 is prime or composite.

RESOURCES

- **Everyday Mathematics 4 Lessons:** 2-3, 2-4, 2-5, 2-8, 2-9, 2-13, 3-2, 3-4, 3-6, 3-11, 4-1, 4-2, 4-3, 6-1, 6-3, 6-7, 7-5 (2-6, 2-7, 2-12, 2-10, 3-1, 3-3, 3-5, 3-8, 3-9, 3-12, 4-6, 4-8, 4-11, 4-12, 4-13, 6-10, 6-14)
- **Supplemental Lessons:** Binder pages 3-13, 26-39, 42

Operations & Algebraic Thinking

Generate and analyze patterns.

4.OA.C.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. *For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.*

Understanding	Essential Questions
Students will understand… ● patterns have units that repeat over and over. ● the unit in a pattern must be identified.	● How does recognizing a pattern help one to solve problems? ● Why does one need to look for patterns?
Knowledge	**Skills**
Students will know . . . ● pattern types, e.g., ABABAB… ● patterns can be made from numbers, shapes, letters, etc.	Students will be able to . . . ● Generate a pattern that follows a given rule. ● Identify apparent features of the pattern that were not explicit in the rule itself.

RESOURCES

- **Everyday Mathematics 4 Lessons:** 1-8, 2-1, 2-4, 2-6, 2-13, 3-2, 3-4, 4-2, 6-1, 6-8, 7-9 (1-1, 1-3, 1-10, 1-14, 2-5, 2-11, 3-10, 6-1, 6-3, 7-5, 7-7, 7-11, 7-13)
- **Supplemental Lessons:** Binder pages 3-8, 35-39, 42

Numbers and Operations in Base Ten[1]

Generalize place value understanding for multi-digit whole numbers.

4.NBT.A.1 Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. *For example, recognize that 700 ÷ 70 = 10 by applying concepts of place value and division.*

4.NBT.A.2 Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

4.NBT.A.3 Use place value understanding to round multi-digit whole numbers to any place.

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[1]Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000

Understanding	Essential Questions
Students will understand… ● place value is used to round numbers. ● place value can be used to compare and order numbers.	● What does knowing place value help us to do?
Knowledge	**Skills**
Students will know . . . ● how a base-ten numeral is related to the numeral name and the expanded form. ● that in a multi-digit whole number, a digit in one place represents ten times what it represents to its right.	Students will be able to . . . ● read multi-digit whole numbers using base-ten numerals, numeral names, and expanded form. ● write multi-digit whole numbers using base-ten numerals, numeral names, and expanded form. ● compare two multi-digit numbers based on meanings of the digits in each place, using <, =, and > symbols. ● use place-value understanding to round multi-digit whole numbers to any place.

RESOURCES

- **Everyday Mathematics 4 Lessons:** 1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 1-7, 1-8, 1-9, 1-10, 1-11, 1-12, 1-13, 2-1, 2-2, 2-3, 2-4, 2-6, 2-7, 2-8, 3-1, 3-2, 3-3, 3-5, 3-6, 3-7, 3-8, 3-9, 3-10, 3-12, 3-13, 4-1, 4-2, 4-3, 4-5, 4-6, 4-7, 4-8, 4-10, 4-12, 4-13, 5-1, 5-7, 5-13, 6-1, 6-2, 6-4, 6-7, 7-3, 8-8 (1-1, 1-3, 1-8, 2-5, 2-7, 2-9, 2-11, 2-13, 3-1, 3-3, 3-8, 3-9, 3-11, 3-12, 3-13, 3-14, 4-1, 4-3, 4-9, 4-11, 8-9, 8-10)
- **Supplemental Lessons:** Binder pages 1-13, 26-39, 42

Numbers and Operations in Base Ten[1]

Use place value understanding and properties of operations to perform multi-digit arithmetic.

4.NBT.B.4 With accuracy and efficiency, add and subtract multi-digit whole numbers using the standard algorithm.

4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

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

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[1]Grade 4 expectations in this domain are limited to whole numbers less than or equal to 1,000,000

Understanding	Essential Questions
Students will understand… ● the standard algorithm is one way to get the answer to an addition or subtraction problem. ● one should use an alternate algorithm to check the answer to a problem. ● place value helps to understand the appropriate size of an answer.	● How are strategies useful in solving computation problems? ● Why does it help to know inverse relationships?
Knowledge	**Skills**
Students will know . . . ● addition and subtraction are inverse operations. ● multiplication and division are inverse operations.	Students will be able to . . . ● fluently add multi-digit whole numbers using the standard algorithm. ● fluently subtract multi-digit whole numbers using the standard algorithm. ● multiply a whole number of up to four digits by a one-digit whole number. ● multiply two two-digit numbers. ● find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors. ● illustrate and explain calculations by using equations, rectangular arrays, and/or area models.
RESOURCES	

- **Everyday Mathematics 4 Lessons:** 1-1 to 1-13, 2-1 to 2-5, 2-7 to 2-10, 2-12, 2-13, 3-3, 3-4, 3-8, 3-10, 4-1 to 4-13, 5-1, 5-5, 5-7, 5-8, 5-12, 5-13, 6-1 to 6-11, 6-13, 7-1, 7-3 to 7-9, 7-12, 8-1, 8-2, 8-4, 8-6 to 8-13 (1-2, 1-4, 1-8, 1-14, 2-4, 2-5, 2-6, 2-8, 2-11, 3-1, 3-2, 3-3, 3-5, 3-6, 3-7, 3-9 to 3-14, 4-1, 4-5, 4-13, 5-2 to 5-4, 5-6, 5-8 to 5-11, 5-13, 5-14, 6-1, 6-3, 6-5, 6-8, 6-9, 6-12, 7-2, 7-4, 7-6, 7-8, 7-10 to 7-13, 8-2, 8-5, 8-6, 8-7, 8-9, 8-10, 8-11, 8-14)
- **Supplemental Lessons:** Binder pages 1-13, 26-42

Number & Operations - Fractions[1]

Extend understanding of fraction equivalence and ordering.

4.NF.A.1 Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

4.NF.A.2 Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

[1] Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, 100.

Understanding	Essential Questions
Students will understand… ● equivalent fractions represent the same amount of a whole. ● fraction comparisons are only valid when they refer to the same whole. ● in order to find the fraction equivalent to one half, the numerator must be the denominator divided by 2; or the denominator must be 2 times the numerator.	● Why does one need to use fractions? ● Why does one need to find equivalent fractions?
Knowledge	**Skills**
Students will know . . . ● the same number must multiply the numerator and denominator in order for fractions to be equivalent. ● 1/2 can be used as a benchmark to compare fractions. ● "<" means less than; ">" means greater than; and "=" means equal to.	Students will be able to . . . ● identify equivalent fractions. ● generate equivalent fractions. ● explain fractions that are equivalent through visual models. ● compare two fractions using a benchmark fraction. ● compare two fractions using common numerators or denominators.

RESOURCES

- **Everyday Mathematics 4 Lessons:** 3-1, 3-2, 3-3, 3-4, 3-5, 3-6, 3-7, 3-8, 3-9, 3-11, 3-13, 4-9, 4-11, 5-1, 5-2, 5-4, 5-5, 5-7, 5-8, 5-11, 6-4, 6-6, 6-7, 6-8, 6-11, 6-12, 7-2, 7-7, 7-10, 7-13, 8-5, 8-9, 8-10, 8-11, 8-13 (2-10, 2-14, 3-5, 3-7, 3-12, 4-1, 4-2, 4-3, 4-4, 4-5, 4-7, 5-1, 5-2, 5-3, 5-4, 5-6, 5-9, 6-5, 6-10, 6-14, 7-10, 7-14, 8-6, 8-14)
- **Supplemental Lessons:** Binder pages 9-10, 14-34, 42

Number & Operations - Fractions[1]

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

4.NF.B.3 Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$.

a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.
b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.*
c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.
d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.

4.NF.B.4 Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.

a. Understand a fraction a/b as a multiple of $1/b$. *For example, use a visual fraction model to represent 5/4 as the product 5 × (1/4), recording the conclusion by the equation 5/4 = 5 × (1/4).*
b. Understand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express 3 × (2/5) as 6 × (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × a)/b.)*
c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. *For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*

[1] Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, 100.

Understanding	Essential Questions
Students will understand… ● a fraction (with a numerator greater than 1) is made up of unit fractions, e.g. 3/7 = 1/7 + 1/7 + 1/7. ● addition and subtraction of fractions is joining and separating parts referring to the same whole. ● a fraction a/b is a multiple of $1/b$. ● a multiple of a/b is a multiple of 1/b.	● How operations are allowed with fractions? ● When would one need to add, subtract, multiply, or divide a fraction?
Knowledge	**Skills**
Students will know . . . ● fractions must have common denominators in order to be added or subtracted. ● when adding or subtracting fractions with like denominators, one must add or subtract the	Students will be able to . . . ● decompose a fraction into the sum of fractions in more than one way. ● justify decompositions. ● add mixed numbers with like denominators. ● subtract mixed numbers with like denominators.

numerators and keep the denominator the same. ● mixed numbers are multiples of fractions.	● solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators. ● multiply a fraction by a whole number. ● solve word problems involving multiplication of a fraction by a whole number.

RESOURCES

- **Everyday Mathematics 4 Lessons:** 3-8, 5-1 to 5-10, 5-13, 6-1, 6-3, 6-5, 6-6, 6-9, 6-12, 6-13, 7-1 to -13, 8-1, 8-2, 8-4 to 8-13 (2-10, 2-14, 4-10, 4-14, 5-5, 5-6, 5-9, 5-11 to 5-13, 6-2, 6-4 to 6-10, 6-14, 7-1, 7-2 to 7-5, 7-7 to 7-11, 7-13, 7-14, 8-1 to 8-4, 8-6, 8-9, 8-10, 8-12, 8-13, 8-14)
- **Supplemental Lessons:** Binder pages 35-39, 42

Number & Operations - Fractions[1]

Understand decimal notation for fractions, and compare decimal fractions.

4.NF.C.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.[2] *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.*

4.NF.C.6 Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*

4.NF.C.7 Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.

[1] Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, 100.
[2] Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators in general is not a requirement at this grade.

Understanding	Essential Questions
Students will understand… ● decimals and fractions are related. ● fractions with a denominator of 10 or 100 can be written in decimal form. ● comparisons of decimals are valid only when the two decimals refer to the same whole.	● Why does one need to change a fraction to a decimal? ● When is it easier to use the decimal form of a fraction? ● Why would decimal forms of a fraction need to be compared?
Knowledge	**Skills**

Students will know . . .	Students will be able to . . .
● the decimal point location is related to the size of the denominator when the denominator is a multiple of 10. ● decimal forms of numbers are easiest to find when the denominator is a multiple of 10.	● find an fraction with a denominator of 100 for a fraction with a denominator of 10. ● add two fractions with respective denominators 10 and 100. ● write fractions with denominators 10 or 100 in decimal form. ● compare two decimals to hundredths by reasoning about their size. ● compare two decimals using the symbols >, =, or <, and justify the conclusions.
RESOURCES	
● **Everyday Mathematics 4 Lessons:** 3-8, 3-9, 3-10, 3-11, 3-12, 3-13, 4-7, 4-10, 4-13, 5-3, 5-4, 5-5, 5-8, 6-6, 6-7, 6-13, 7-11, 7-12, 8-7, 8-13 (4-5, 4-7, 5-2, 5-4, 5-6, 5-8, 5-11, 5-13, 6-2, 6-4, 6-9, 6-11, 6-12, 7-6, 7-8, 7-10, 7-14, 8-5, 8-6, 8-8, 8-9) ● **Supplemental Lessons:** Binder page 42	

Measurement	
Solve problems involving measurement and conversion of measurement from a larger unit to a smaller unit. **4.M.A.1** Know relative sizes of measurement units within one system of units including km, m , cm, mm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. *For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), …* **4.M.A.2** Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale. **4.M.A.3** Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*	
Understandings	**Essential Questions**
Students will understand… ● the size of the unit used to measure has an effect on the number of units in the answer. ● area and perimeter measure different things therefore the types of label on the answers are different. ● the region covered by square units in an array is the same as the area of the rectangle.	● What can be measured? ● Why does one need to measure things?
Knowledge	**Skills**
Students will know . . . ● relative sizes of measurement units within one system of units including km, m, cm, mm; kg, g; lb, oz.; l, ml; hr, min, sec. ● the larger the unit used to measure, the smaller the number of units in the answer and vice versa. ● area of a rectangle is equal to the length x the width (A = l x w)	Students will be able to . . ● express measurements in a larger unit in terms of a smaller unit. ● record measurement equivalents in a two-column table. ● find the area of a rectangle using the formula. ● find the perimeter of a rectangle using the formula.
RESOURCES	

- **Everyday Mathematics 4 Lessons:** 1-10, 1-13, 2-2, 2-6, 2-7, 2-10, 3-1, 3-8, 3-11 to 3-13, 4-1, 4-3 to 4-8, 4-11, 5-5, 5-7, 5-8, 5-12, 6-2, 6-3, 6-6, 6-12, 7-1, 7-2, 7-5, 7-8 to 7-13, 8-2, 8-4 to 8-11 (1-10, 1-13, 1-14, 2-1 to 2-7, 2-9, 2-11 to 2-13, 3-1 to 3-4, 3-6, 3-10, 4-1 to 4-5, 4-8, 5-1 to 5-7, 5-9, 5-10 to 5-14, 6-4, 6-8, 7-3, 7-4, 7-10, 7-13, 7-14, 8-1, 8-2, 8-3, 8-5, 8-9, 8-12, 8-13)
- **Supplemental Lessons:** Binder pages 3-8, 11-13, 26-39, 42-54

Measurement	
Geometric measurement: understand concepts of angle and measure angles. **4.M.B.5** Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles. b. An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees. **4.M.B.6** Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure. **4.M.B.7** Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.	
Understanding	**Essential Questions**
Students will understand… ● the measure of an angle is the measure of the turn.	● Why would one need to measure an angle?
Knowledge	**Skills**
Students will know . . . ● that an angle is formed wherever two rays share a common endpoint. ● angle measure is additive. ● an angle decomposed into non-overlapping parts is the sum of the measure of each parts. ● an angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. ● an angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles. ● an angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees.	Students will be able to . . . ● measure angles in whole-number degrees using a protractor. ● sketch angles of specified measure. ● solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems.
RESOURCES	

- **Everyday Mathematics 4 Lessons:** 5-10, 5-11, 6-9, 6-10, 6-11, 7-4, 7-12, 8-2, 8-3, 8-11 (6-1, 6-3, 6-13, 7-1, 7-2, 7-3, 7-4, 7-6, 7-8, 7-10, 7-14, 8-1, 8-5, 8-7, 8-9, 8-10, 8-12, 8-14)
- **Supplemental Lessons:** Binder pages 35-39, 42

Data Literacy

Organize data and understand data visualizations

4.DL.A.1 Create data-based questions, generate ideas based on the questions, and then refine the questions.

4.DL.A.2 Develop strategies to collect various types of data and organize data digitally.

4.DL.A.3 Understand that subsets of data can be selected and analyzed for a particular purpose.

4.DL.A.4 Analyze visualizations of a single data set, share explanations, and draw conclusions that the data supports.

Understandings	Essential Questions
Students will understand that... ● information can be organized through data surveys ● data is collected and represented using various graphs and plots ● questions can developed and answered about a data set	● How can one collect, use, and analyze data?
Knowledge	**Skills**
Students will know... ● how to organized data ● how to create a line plot ● how to read and interpret data	Students will be able to . . . ● carry out a survey ● gather data ● place data on line plots ● order fractions ● find equivalent fractions ● answer questions based on visual models ● create data based questions.

RESOURCES

- **Everyday Mathematics 4 Lessons:**
- **Supplemental Lessons:** Binder pages 55-85

Data Literacy

Represent and interpret measurement data

4.DL.B.5 Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*

Understanding	Essential Questions
Students will understand… ● a line plot is a visual display of data used to help see trends in the data.	● When would a line plot be used? ● Why does one need to display data graphically?
Knowledge	**Skills**
Students will know . . . ● the scale of a line plot must be equally spaced as in a number line. ● the scale of a line plot can contain fractions.	Students will be able to . . ● make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). ● solve problems involving addition and subtraction of fractions by using information presented in line plots.

RESOURCES

- **Everyday Mathematics 4 Lessons:** 5-9, 7-13, 8-5 (1-11, 4-10, 4-14, 6-6, 6-8, 6-10, 6-14, 7-5, 7-7, 8-6)
- **Supplemental Lessons:** Binder page 42

Geometry

Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

4.G.A.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

4.G.A.2 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.

4.G.A.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

Understanding	Essential Questions
Students will understand… ● characteristics of a figure enables one to identify it by a name.	● Why does one need to classify shapes? ● Why does one need to identify lines of symmetry?
Knowledge	**Skills**
Students will know . . . ● a right triangle is a category of triangles. ● a line of symmetry is such that the figure can be folded along the line into matching parts.	Students will be able to . . . ● draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. ● identify these in two-dimensional figures. ● classify two-dimensional figures based on properties of parallel and perpendicular lines and sizes of angles. ● identify right triangles. ● identify line-symmetric figures. ● draw lines of symmetry.
RESOURCES	
● **Everyday Mathematics 4 Lessons:** 1-11, 1-12, 2-7, 2-10, 2-11, 2-12, 3-10, 3-12, 4-4, 5-10, 5-11, 5-12, 6-9, 6-10, 6-11, 8-2, 8-4, 8-8 (1-13, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 2-8, 3-2, 3-4, 3-5, 3-6, 3-7, 3-8, 3-9, 3-12, 4-5, 4-7, 4-9, 4-10, 4-12, 4-14, 5-6, 5-8, 5-14, 6-6, 6-8, 6-13, 7-1, 7-2, 7-3, 7-4, 7-6, 7-8, 7-10, 7-14) ● **Supplemental Lessons:** Binder pages 9-13, 42	

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