Foundations of Math 11/12
Required
Full Year

Date Curriculum Approved/ Revised: 2025

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Statement of Purpose

Foundations of Math 11/12 is a course designed to guide the planning of instruction and assessment for students with Multiple Disabilities at Sayreville War Memorial High School. The premise of the class is to cover the topics that range from Time, Money Management to Equations. The goal is to align the curriculum with the mission of SWMHS and to offer a comprehensive educational experience which enables students to maximize their unique intMLectual potential (SWMHS Mission Statement).

Summary of the Course:

Students enrolled in this course will study various mathematics topics designed to help students develop skills related to basic mathematics. These skills will assist students in becoming better problem solvers and increase understanding of real-world mathematical applications.

In order to demonstrate a cohesive and complete implementation plan the following general suggestions are provided:

• The use of various formative assessments is encouraged in order to provide an ongoing method of determining the current level of understanding the students have of the material presented.

• Homework, when assigned should be relevant and reflective of the current teaching taking place in the classroom.

• Organizational strategies should be in place that allow the students the ability to take the information gained in the classroom and put in in terms that are relevant to them

. • Instruction should be differentiated to allow students the best opportunity to learn.

• Assessments should be varied and assess topics of instruction delivered in class.

• Modifications to the curriculum should be included that address students with Individualized Educational Plans (IEP), Multilingual Learners (ML), and those requiring other modifications (504 plans) as wML as those identified as twice gifted.

Unit 1: Numbers and Operations

Content Area: **Mathematics**
Course(s): **Math**
Time Period: **1st Marking Period**
Length: **2 Months**
Status: **Published**

Summary of Unit

Students will be able to name, count, skip count, and compare numbers. Students will perform arithmetic on integers and apply their ability to add, subtract, multiply, and divide to solve daily life applications

Enduring Understanding

By the end of this unit students will know:

• Naming and Counting Numbers

• Using Inequalities to Compare Numbers

• Additions with Integers

• Subtraction with Integers

• Multiplication with Integers

• Division with Integers

• All Operations with Integers

Essential Quesitons

• Can you read and write numbers?

• How can numbers be compared and ordered?

• How can arithmetic be used to solve real-world problems

Summative assessment to demonstrate mastery of the Unit.

• Performance Assessments

• Observations

• Written Assessment

Formative Assessment: To be administered at the close of each topic.

• Performance Assessments

• Observations

• Written Assessment

Unit Plan

Topic	Timeline	Objectives	Instructional Activities	NJSLS
Numbering and Counting Numbers	1 Week	Students will name numbers in different ways. Students will read and write numbers. Students will "skip count."	Express numbers in standard form and word form. Identify place values. Place numbers on a number line and practice finding missing numbers on a number line. Practice skip counting and use a number line to practice skip counting.	MA.K.CC.A.1 MA.K.CC.A.2 MA.K.CC.A.3 MA.2.NBT.A.2 MA.2.NBT.A.3

Using Inequalities to Compare Integers	1 Week	Students will identify the correct order for a set of integers. Students will identify and correctly use the following symbols: <, >, =.	Correctly place multiple integers on a number line. Use inequalities to compare integers.	MA.K.CC.C.6 MA.K.CC.C.7 MA.2.NBT.A.4
Addition with Integers	1 Week	Students will add integers. Students will write and solve addition equations and use equations to represent real world situations.	Introduce vocabulary associated with addition. Provide student with examples of number sentences and encourage students to use the proper vocabulary when solving, building and writing sentences. Read, write and solve real world situations in which addition is used.	MA.2.OA.A.1 MA.2.OA.B.2 MA.2.NBT.B.5 MA.2.NBT.B.6 MA.2.NBT.B.7 MA.2.NBT.B.8 MA.2.NBT.B.9
Subtraction with Integers	1 Week	Students will subtract integers. Students will write and solve subtraction equations and use equations to represent real-world situations.	Introduce vocabulary associated with subtraction. Provide student with examples of number sentences and encourage students to use the	MA.2.OA.A.1 MA.2.OA.B.2 MA.2.NBT.B.5 MA.2.NBT.B.6 MA.2.NBT.B.7 MA.2.NBT.B.8

			proper vocabulary when solving, building and writing sentences. Read, write and solve real world situations in which subtraction is used.	MA.2.NBT.B.9
Multiplication with Integers	1 Week	Students will multiply integers. Students will write and solve multiplication equations and use equations to represent real-world situations.	Introduce vocabulary associated with multiplication. Provide student with examples of number sentences and encourage students to use the proper vocabulary when solving, building and writing sentences. Read, write and solve real world situations in which multiplication is used.	MA.2.OA.C.3 MA.2.OA.C.4 MA.3.OA.A.1 MA.3.OA.A.3 MA.3.OA.B.5 MA.3.OA.C.7 MA.4.OA.A.1 MA.4.OA.A.2
Division with Integers	1 Week	Students will divide integers. Students will write and solve division equations and use equations to represent real-	Introduce vocabulary associated with division. Provide student with examples of number sentences and encourage	MA.3.OA.A.1 MA.3.OA.A.2 MA.3.OA.B.5 MA.3.OA.B.6 MA.3.OA.C.7 MA.4.OA.A.2

		world situations.	students to use the proper vocabulary when solving, building and writing sentences. Read, write, and solve real world situations in which division is used.	
Operations with Integers	1 Week	Students will combine integers utilizing addition, subtraction, multiplication, and division. Students will write and solve equations and use equations to represent real-world situations.	Discus order of operations. Provide student with examples of number sentences and encourage students to use the proper vocabulary when solving, building and writing sentences. Read, write and solve real world situations in which multiple operations are used.	MA.3.OA.D.8 MA.3.OA.D.9 MA.4.OA.A.3

MA.3.OA.A.1	Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each.
MA.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.
MA.2.OA.A.1	Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
MA.K.CC.A.1	Count to 100 by ones and by tens.

MA.K.CC.A.2	Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
MA.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.
MA.K.CC.A.3	Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).
MA.3.OA.A.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.
MA.2.OA.B.2	Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.
MA.4.OA.A.3	Solve multistep 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.
MA.3.OA.A.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.
MA.2.OA.C.3	Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.
MA.2.OA.C.4	Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.
MA.3.OA.B.5	Apply properties of operations as strategies to multiply and divide.
MA.K.CC.C.6	Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.
MA.3.OA.B.6	Understand division as an unknown-factor problem.
MA.K.CC.C.7	Compare two numbers between 1 and 10 presented as written numerals.
MA.2.NBT.A.2	Count within 1000; skip-count by 5s, 10s, and 100s.
MA.2.NBT.A.3	Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
MA.3.OA.C.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.
MA.2.NBT.A.4	Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.
MA.2.NBT.B.5	Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.

MA.3.OA.D.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.
MA.2.NBT.B.6	Add up to four two-digit numbers using strategies based on place value and properties of operations.
MA.2.NBT.B.7	Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.
MA.3.OA.D.9	Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.
MA.2.NBT.B.8	Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.
MA.2.NBT.B.9	Explain why addition and subtraction strategies work, using place value and the properties of operations.

Summative Assessment and/or Summative Criteria

• Chapter Tests

• Short/Extended Constructed Response Items

• Multiple-Choice Items (where multiple answer choices may be correct)

• Quizzes

• Journal Entries/Reflections/Quick-Writes

• Projects

• Portfolio

Suggested Modifications for Students with Disabilities, Eligible ML, At Risk, and Gifted Students

• Consistent with individual plans, when appropriate.

• Below-level learners can be provided with graphic organizers, vocabulary cards, study guides, printed notes, and leveled readers. Projects can be modified or leveled as needed.

• Design lessons using UDL principles

• Structure lessons around questions that are authentic, relate to students' interests, social/family background and knowledge of their community.

• Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling).

• Provide multiple grouping opportunities for students to share their ideas and to encourage work among various backgrounds and cultures (e.g. multiple representation and multimodal experiences).

• Provide ML students with multiple literacy strategies including websites with various language options.

• Collaborate with after-school programs or clubs to extend learning opportunities.

Suggested Technological Innovations/ Use:

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8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

A. Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations.

B. Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology

C. Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

D: Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.

E: Critical thinking, problem solving, and decision making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

A. Design: The design process is a systematic approach to solving problems.

Cross Curricular/ 21st Century Connections:

9.1 21st Century Life and Career Skills: All students will demonstrate the creative, critical thinking, collaboration, and problem solving skills needed to function successfully as both global citizens and workers in diverse ethnic and organizational cultures

9.2 21st Century Life and Career Skills: Personal Financial Literacy: All students will develop skills and strategies that promote personal and financial responsibility related to financial planning, savings, investment, and charitable giving in the global economy.

9.3 21st Century Life and Career Skills: Career Awareness, Exploration, and Preparation: All students will apply knowledge about and engage in the process of career awareness, exploration, and preparation in order to navigate the globally competitive work environment of the information age.

Unit 2: Fractions and Decimals

Content Area: **Mathematics**
Course(s):   **Math**
Time Period: **1st Marking Period**
Length: **5 Weeks**
Status: **Published**

Summary of Unit

Students will be able to identify model representations, perform arithmetic operations, as wML as order and compare fraction and decimals. These skills will be used to solve problems related to real world application.

Enduring Understanding

By the end of this unit students will know:

- Identifying Fractions and Decimals
- Ordering Fractions and Decimals
- Fraction Equivalences
- Operations with Fractions
- Operations with Decimals

Essential Quesitons

- What are different ways to represent fractions?
- How are fractions and decimals ordered?
- What are the practical applications of fractions and decimals?

Summative assessment to demonstrate mastery of the Unit.

• Performance Assessments

• Observations

• Written Assessment

Formative Assessment: To be administered at the close of each topic.

• Performance Assessments

• Observations

• Written Assessment

Unit Plan

Topic	Timeline	Objectives	Instructional Activities	NJSLS
Identifying Fractions and Decimals	1 Week	Students will read and write fractions utilizing their understanding of the numerator and denominator. Students will identify fractions from visual representations. Students will read and write decimals utilizing their understanding of place value. Students will identify decimals from visual representations.	Use visuals to introduce common fractions (halves, thirds, fourths, etc.) and the relation to the numerator and denominator of a faction. Classify various fraction using visuals. Be sure to incorporate improper fractions. Use manipulatives to create and identify parts of wholes. Introduce place values.	MA.4.NF.A.1 MA.4.NF.A.2 MA.4.NF.B.3 MA.4.NF.C.5 MA.4.NF.C.6 MA.4.NF.C.7

			Have students will write decimals from verbal and written expression as well as visual models.	
Ordering Fractions and Decimals	1 Week	Students will compare fractions and order from largest to smallest and smallest to largest. Students will compare decimals and order from largest to smallest and smallest to largest. Students will place fractions and decimals in the appropriate place on a number line.	Compare fractions with like denominators. Compare fractions with like numerators. Use the place value within decimals to compare decimals. Model comparing fractions and placing them on a number line. Model comparing decimals and placing them on a number line.	MATH.3.NF.A.3.d MA.4.NF.C.5 MA.4.NF.C.6 MA.4.NF.C.7

			Use both fractions and decimals and properly order them on a number line.	
Fraction Equivalences	1 Week	Students will identify equivalent fractions using visual representations.	Use models of different shapes to represent equivalencies.	MATH.3.NF.A.3.a MATH.3.NF.A.3.b MATH.3.NF.A.3.c MA.4.NF.C.5
		Students will reduce fractions to identify equivalents.	Use division to reduce fractions. Use division to convert fractions to decimals.	MA.4.NF.C.6 MA.4.NF.C.7
		Students will identify fractions and decimals that are equivalent.	Use place value and simplification to convert from decimals to fractions.	
Operations with Fractions	1 Week	Students will add and subtract fractions with common denominators.	Provide students with examples or each type of problem.	MA.4.NF.B.3 MA.4.NF.B.4 MA.5.NF.A.1 MA.5.NF.A.2
		Students will find common denominators in order to add and	Allow students to practice skills as a class, with one-on-one instruction,	MA.5.NF.B.3 MA.5.NF.B.4

		subtract fractions.	and independently.	MA.5.NF.B.5
				MA.5.NF.B.6
		Students will multiply fractions.	Discuss real-world examples of operations with fractions.	MA.5.NF.B.7
		Students will divide fractions by multiplying by the reciprocal.		
Operations with Decimals	1 Week	Students will use place values to add and subtract decimals. Students will use place values to multiply and divide fractions.	Provide students with examples of each type of problem. Allow students to practice skills as a class, with one-on-one instruction, and independently. Discuss real-world examples of operations of decimals.	MA.4.NF.B.3 MA.4.NF.B.4 MA.5.NF.A.1 MA.5.NF.A.2 MA.5.NF.B.3 MA.5.NF.B.4 MA.5.NF.B.5 MA.5.NF.B.6 MA.5.NF.B.7

MA.5.NF.A.1	Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.
MA.5.NF.A.2	Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.
MA.4.NF.A.1	Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × 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.
MA.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.

MA.5.NF.B.3	Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
MA.4.NF.B.3	Understand a fraction a/b with $a > 1$ as a sum of fractions $1/b$.
MA.5.NF.B.4	Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.
MA.4.NF.B.4	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.
MA.5.NF.B.5	Interpret multiplication as scaling (resizing), by:
MA.5.NF.B.6	Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
MA.5.NF.B.7	Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.
MATH.3.NF.A.3.a	Understand two fractions as equivalent (equal) if they are the same size. Understand two fractions as equivalent if they are located at the same point on a number line.
MATH.3.NF.A.3.b	Recognize and generate simple equivalent fractions by reasoning about their size, (e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent with the support of a visual fraction model.
MATH.3.NF.A.3.c	Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers.
MATH.3.NF.A.3.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 with the support of a visual fraction model.
MA.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.
MA.4.NF.C.6	Use decimal notation for fractions with denominators 10 or 100.
MA.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.

Summative Assessment and/or Summative Criteria

• Chapter Tests

• Short/Extended Constructed Response Items

• Multiple-Choice Items (where multiple answer choices may be correct)

• Quizzes

• Journal Entries/Reflections/Quick-Writes

• Projects

• Portfolio

Suggested Modifications for Students with Disabilities, Eligible ML, At Risk, and Gifted Students

• Consistent with individual plans, when appropriate.

• Below-level learners can be provided with graphic organizers, vocabulary cards, study guides, printed notes, and leveled readers. Projects can be modified or leveled as needed.

• Design lessons using UDL principles

• Structure lessons around questions that are authentic, relate to students' interests, social/family background and knowledge of their community.

• Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling).

• Provide multiple grouping opportunities for students to share their ideas and to encourage work among various backgrounds and cultures (e.g. multiple representation and multimodal experiences).

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D: Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.

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Unit 3: Expressions and Equations

Content Area: **Mathematics**
Course(s): **Math**
Time Period: **2nd Marking Period**
Length: **5 Weeks**
Status: **Published**

Summary of Unit

Students will be able to evaluate and simplify expressions and determine equivalencies within expressions. Students will follow step-by-step procedures in order to solve for an unknown.

Enduring Understanding

By the end of this unit students will know:

- Write and Interpret Numerical Expressions
- Write and Interpret Algebraic Expressions
- Algebraic Properties and Equivalences

- Solving Equations using Addition and Subtraction
- Solving Equations using Multiplication and Division

Essential Quesitons

- How is it helpful to write numbers in different ways?
- How can you determine if two numbers or expressions are equivalent?

Summative assessment to demonstrate mastery of the Unit.

• Performance Assessments

• Observations

• Written Assessment

Formative Assessment: To be administered at the close of each topic.

• Performance Assessments

• Observations

• Written Assessment

Unit Plan

Topic	Timeline	Objectives	Instructional Activities	NJSLS
Write and Interpret Numerical Expressions	1 Week	Students will write verbal phrases as simple algebraic expressions. Students will find the value of expressions using order of operations.	Define expression. Create a list of keywords that indicate operations. Define order of operations. Demonstrate how	MA.5.OA.A.1 MA.5.OA.A.2 MA.6.EE.A.1

			to find the value of an unknown within an expression using mental math.	
Write and Interpret Algebraic Expressions	1 Week	Students will evaluate algebraic expressions.	Define unknown and variable. Discuss the definition of evaluate. Model how to evaluate expressions using mental math.	MA.6.EE.A.2
Algebraic Properties and Equivalences	1 Week	Students simplify, compare, and evaluate expressions. Students will recognize equivalent expressions.	Define simplify and model how to simplify expressions. Define equivalent, term, coefficient, constant and like terms. Model how to	MA.6.EE.A.2 MA.6.EE.A.4 MA.7.EE.A.1 MA.7.EE.A.2

			reorder (sort) and expression based on similar terms.	
			Provide students with various expressions and ask them to compare each set of expressions.	
			Have students identify equivalencies.	
Solving Equations using Addition and Subtraction	1 Week	Students will solve equations using mental math.	Define equation and inverse operations.	MA.6.EE.B.5 MA.6.EE.B.6 MA.6.EE.B.7
		Students will solve and write addition and subtraction equations.	Have students identify the unknown and discuss how to isolate each unknown using inverse operations.	MA.7.EE.B.3 MA.7.EE.B.4
			Remind students what equations must always be kept equivalent (balanced).	

| Solving Equations using Multiplication and Division | 1 Week | Students will solve equations using mental math. Students will solve and write multiplication and division equations. | Define equation and inverse operations. Have students identify the unknown and discuss how to isolate each unknown using inverse operations. Remind students what equations must always be kept equivalent (balanced). | MA.6.EE.B.5 MA.6.EE.B.6 MA.6.EE.B.7 MA.7.EE.B.3 MA.7.EE.B.4 |

MA.5.OA.A.1	Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
MA.5.OA.A.2	Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.
MA.7.EE.A.1	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.
MA.7.EE.A.2	Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related.
MA.7.EE.B.3	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.
MA.7.EE.B.4	Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.
MA.6.EE.A.1	Write and evaluate numerical expressions involving whole-number exponents.
MA.6.EE.A.2	Write, read, and evaluate expressions in which letters stand for numbers.
MA.6.EE.A.3	Apply the properties of operations to generate equivalent expressions.
MA.6.EE.A.4	Identify when two expressions are equivalent (i.e., when the two expressions name the same number regardless of which value is substituted into them).
MA.6.EE.B.5	Understand solving an equation or inequality as a process of answering a question: which

	values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.
MA.6.EE.B.6	Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.
MA.6.EE.B.7	Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q and x are all nonnegative rational numbers.

Summative Assessment and/or Summative Criteria

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• Provide ML students with multiple literacy strategies including websites with various language options.

• Collaborate with after-school programs or clubs to extend learning opportunities.

Suggested Technological Innovations/ Use:

Suggested Technological Innovations/ Use:

8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

A. Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations.

B. Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology

C. Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

D: Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.

E: Critical thinking, problem solving, and decision making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

A. Design: The design process is a systematic approach to solving problems.

Cross Curricular/ 21st Century Connections:

9.1 21st Century Life and Career Skills: All students will demonstrate the creative, critical thinking, collaboration, and problem solving skills needed to function successfully as both global citizens and workers in diverse ethnic and organizational cultures

9.2 21st Century Life and Career Skills: Personal Financial Literacy: All students will develop skills and strategies that promote personal and financial responsibility related to financial planning, savings, investment, and charitable giving in the global economy.

9.3 21st Century Life and Career Skills: Career Awareness, Exploration, and Preparation: All students will apply knowledge about and engage in the process of career awareness, exploration, and preparation in order to

navigate the globally competitive work environment of the information age.

Unit 4: Time

Content Area: **Mathematics**
Course(s):   **Math**
Time Period: **2nd Marking Period**
Length: **5 Weeks**
Status: **Published**

Summary of Unit

Students will be able to define vocabulary associate with tMLing time and learn that time is measured and can be quantified using unit amounts (seconds, minutes, and hours). Students will also be able to tML time using digital and analog clocks, add and subtract time, and create timelines (daily, weekly, monthly, yearly, etc.).

Enduring Understanding

By the end of this unit students will know:

- Time Vocabulary
- Telling Time Using a Digital Clock
- Telling Time Using an Analog Clock
- Elapsed and Estimated Time
- Timelines and Scheduling

Essential Quesitons

- How can lengths of time be measured?
- Why is telling time important to everyday life?

Summative assessment to demonstrate mastery of the Unit.

• Performance Assessments

• Observations

• Written Assessment

Formative Assessment: To be administered at the close of each topic.

• Performance Assessments

• Observations

• Written Assessment

Unit Plan

Topic	Timeline	Objectives	Instructional Activities	NJSLS
Time Vocabulary	1 Week	Students will define digital clock, analog clock, hour hand, minute hand, hour, minute, quarter hour, and half hour. Students will discuss different times of day including morning, afternoon, evening and night. Students will define A.M. and P.M	Provide students with definitions of vocabulary. Use manipulatives to demonstrate vocabulary terms. Discuss daily activities and categorize events according to time of day they take place.	MA.1.MD.B.3 MA.2.MD.C.7
TMLing Time and Using a Digital Clock	1 Week	Students will tML time to the nearest minute using digital clocks.	Demonstrate how to find time to the nearest minute. Students will identify the hour and minute on the digital clock. Students will practice tMLing	MA.1.MD.B.3 MA.2.MD.C.7

			time on a digital clock to the nearest minute.	
TMLing Time Using an Analog Clock	1 Week	Students will tell time to the nearest minute using analog clocks.	Demonstrate how to find time to the nearest minute. Demonstrate how the hands move. Students will practice telling time on an analog clock to the nearest minute.	MA.1.MD.B.3 MA.2.MD.C.7
Elapsed and Estimated Time	1 Week	Students will find elapsed time in intervals of minutes. Students will estimate time.	Demonstrate how to find elapsed time using addition and subtraction. Have students practice counting hours and minutes. Pose various scenarios with start and end times and have students calculate the	MA.1.MD.B.3 MA.2.MD.C.7

			elapsed time.	
			Discuss the average amount of time it should take to perform daily tasks.	
			Have student estimate how long a simple task will take.	
			Lead a discussion about a reasonable amount of time verses and excessive amount of time.	

Timelines and Scheduling	1 Week	Students will identify how many minutes in an hour, hours in a day, days in a week. Students will perform simply conversions for units of time. Students will create daily/weekly schedules. Students will create timelines.	Provide students with a table of information including how many minutes in an hour, hours in a day, days in a week. Have students find how many minutes in a day, hours in 2 days, etc. using addition and multiplication. Provide students with an example of a schedule. Have students create a daily/weekly schedule. Provide students with an example of a timeline. Have students create a timeline. Have students put daily activities/events in chronological order.	MA.1.MD.B.3 MA.2.MD.C.7

MA.2.MD.C.7	TML and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
MA.1.MD.B.3	TML and write time in hours and half-hours using analog and digital clocks.

Summative Assessment and/or Summative Criteria

• Chapter Tests

• Short/Extended Constructed Response Items

• Multiple-Choice Items (where multiple answer choices may be correct)

• Quizzes

• Journal Entries/Reflections/Quick-Writes

• Projects

• Portfolio

Suggested Modifications for Students with Disabilities, Eligible ML, At Risk, and Gifted Students

• Consistent with individual plans, when appropriate.

• Below-level learners can be provided with graphic organizers, vocabulary cards, study guides, printed notes, and leveled readers. Projects can be modified or leveled as needed.

• Design lessons using UDL principles

• Structure lessons around questions that are authentic, relate to students' interests, social/family background and knowledge of their community.

• Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling).

• Provide multiple grouping opportunities for students to share their ideas and to encourage work among various backgrounds and cultures (e.g. multiple representation and multimodal experiences).

• Provide ML students with multiple literacy strategies including websites with various language options.

• Collaborate with after-school programs or clubs to extend learning opportunities.

Suggested Technological Innovations/ Use:

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Unit 5: Measurement

Content Area: **Mathematics**
Course(s): **Math**
Time Period: **3rd Marking Period**
Length: **6 Weeks**
Status: **Published**

Summary of Unit

Students will be able to find, identify, estimate, compare, and convert various units of measure. Students will use these units of measure to find length, area, and perimeter and solve real world problems. Students will

learn that attributes of capacity, mass, and weight are measurable and applicable to their daily lives.

Enduring Understanding

By the end of this unit students will know:

- Units of Measure
- Comparing, Adding, and Subtracting Units of Measure
- Area and Perimeter
- Volume and Mass

Essential Quesitons

- Why is it important to know how to convert units of measure?
- How can you estimate types of measure?
- How are units of measure applicable to the real world?

Summative assessment to demonstrate mastery of the Unit.

• Performance Assessments

• Observations

• Written Assessment

Formative Assessment: To be administered at the close of each topic.

• Performance Assessments

• Observations

• Written Assessment

Unit Plan

Topic	Timeline	Objectives	Instructional Activities	NJSLS	

| Units of Measure | 2 Weeks | Students will record and define budgeting related vocabulary.

Students will categorize expenses into recurring, one time, and unexpected. | Students will define budget and restate importance.

Vocabulary flash cards, quizzes, and white board sorts.

Students will sort examples of expenses into 3 categories.

Students categorize things that can be bought into wants and needs. | MA.K.MD.A.1

MA.K.MD.A.2

MA.2.MD.A.1

MA.2.MD.A.2

MA.2.MD.A.3

MA.2.MD.A.4

MA.4.MD.A.1 |
|---|---|---|---|---|
| Comparing, Adding, and Subtracting Units of Measure | 1 Week | Students will use at least 2 tools to perform budgeting related tasks. | Students will use excel to complete calculations.

Students will use at least 1 other online resource.

Students may also use paperwork, peel and sticks, etc. | MA.1.MD.A.1

MA.1.MD.A.2

MA.5.MD.A.1 |

| Area and Perimeter | 1 Week | Students will use standard units to find the area and perimeter of a shape.

Students will select appropriate tools and units for finding area and perimeter.

Students will match shapes with given areas and perimeters.

Students will solve real world problems involving area and perimeter. | Define area and perimeter.

Demonstrate how to find area of rectangles using two methods (multiplying sides and counting boxes).

Demonstrate how to find perimeter using two methods (adding sides and counting lengths of sides)

Present students with various sized objects and discuss the appropriate measuring tool to use.

Have students find the area and perimeter of classroom objects.

Have students match various areas and perimeters of classroom objects.

Present students with daily applications of area and perimeter problems. | MA.3.MD.C.5

MA.3.MD.C.6

MA.3.MD.C.7

MA.3.MD.D.8

MA.4.MD.A.3 |
| Volume and Mass | 1 Week | Students will measure and estimate in cups, pints, quarts, and gallons using | Display various container and have students discuss everyday items that fit in each | MA.3.MD.A.1

MA.3.MD.A.2 |

| | | appropriate tools. Students will measure and estimate in milliliters and liters using appropriate tools. Students will measure and estimate using grams and kilograms using appropriate tools. Students will measure and estimate in ounces, pounds, ad tons using appropriate tools. Students will solve problems involving units of capacity and mass. | container.

Present students with various measuring tools and a table to classify the various forms of measure for volume and mass.

Display everyday items and ask students to discuss which measurement should be used.

Compare the mass of objects. Have students estimate various volumes and masses.

Discuss reasonable answers verse irrational suggestions.

Have students solve problems by drawing pictures, tables, and diagrams. | |
|---|---|---|---|---|

MA.2.MD.A.1	Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.
MA.2.MD.A.2	Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen.
MA.K.MD.A.1	Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
MA.2.MD.A.3	Estimate lengths using units of inches, feet, centimeters, and meters.
MA.K.MD.A.2	Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference.
MA.2.MD.A.4	Measure to determine how much longer one object is than another, expressing the length

difference in terms of a standard length unit.

MA.1.MD.A.1	Order three objects by length; compare the lengths of two objects indirectly by using a third object.
MA.1.MD.A.2	Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps.
MA.3.MD.A.1	TML 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.
MA.3.MD.A.2	Measure and estimate liquid volumes and 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.
MA.5.MD.A.1	Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.
MA.4.MD.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.
MA.3.MD.C.5	Recognize area as an attribute of plane figures and understand concepts of area measurement.
MA.4.MD.A.3	Apply the area and perimeter formulas for rectangles in real world and mathematical problems.
MA.3.MD.C.5a	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.
MA.3.MD.C.6	Measure areas by counting unit squares (square cm, square m, square in, square ft, and non-standard units).
MA.3.MD.C.7	Relate area to the operations of multiplication and addition.
MA.3.MD.D.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.

Summative Assessment and/or Summative Criteria

• Chapter Tests

• Short/Extended Constructed Response Items

• Multiple-Choice Items (where multiple answer choices may be correct)

• Quizzes

• Journal Entries/Reflections/Quick-Writes

• Projects

• Portfolio

Suggested Modifications for Students with Disabilities, Eligible ML, At Risk, and Gifted Students

• Consistent with individual plans, when appropriate.

• Below-level learners can be provided with graphic organizers, vocabulary cards, study guides, printed notes, and leveled readers. Projects can be modified or leveled as needed.

• Design lessons using UDL principles

• Structure lessons around questions that are authentic, relate to students' interests, social/family background and knowledge of their community.

• Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling).

• Provide multiple grouping opportunities for students to share their ideas and to encourage work among various backgrounds and cultures (e.g. multiple representation and multimodal experiences).

• Provide ML students with multiple literacy strategies including websites with various language options.

• Collaborate with after-school programs or clubs to extend learning opportunities.

Suggested Technological Innovations/ Use:

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A. Design: The design process is a systematic approach to solving problems.

Cross Curricular/ 21st Century Connections:

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Unit 6: Money

Content Area: **Mathematics**
Course(s):   **Math**
Time Period: **3rd Marking Period**
Length: **4 Weeks**
Status: **Published**

Summary of Unit

Students will be able to identify each coin/bill and its value and determine the value of mixed coins and dollar bills. Students will demonstrate money amounts using various bill/coin combinations and solve problems involving money.

Enduring Understanding

By the end of the unit students will know:

- Identifying and Counting Coins
- Counting and Writing Dollars and Cents

- Representing Amounts in Various Ways
- Operations with Money

Essential Quesitons

- How can a specific money amount be represented in various ways?
- Why is it important to be able to calculate change and totals?

Summative assessment to demonstrate mastery of the Unit.

• Performance Assessments

• Observations

• Written Assessment

Formative Assessment: To be administered at the close of each topic.

• Performance Assessments

• Observations

• Written Assessment

Unit Plan

Topic	Timeline	Objectives	Instructional Activities	NJSLS
Identifying and Counting Coins	1 Week	Students will identify the value of coins separately and in groups. Students will order and find the sum of coin.	Display and discuss attributes and values of each coin. Demonstrate order and grouping of coins from greatest to least value. Demonstrate adding of coins to find a total using ordering and/or grouping and/or skip counting.	MA.2.MD.C.8 MA.4.MD.A.2

Counting and Writing Dollars and Cents	1 Week	Students will count money amounts greater than one dollar and write the amount using a dollar sign and a decimal point.	Show a group of money using bills and coins. Model ordering and counting money from greatest to leave value. Demonstrate the proper use of a dollar sign and a decimal point to represent cents. Model adding bills and coins to find a total using ordering and/or grouping and/or skip counting.	MA.2.MD.C.8

MA.4.MD.A.2 |
| **Representing Amounts in Various Ways** | 1 Week | Students will group different sets of coins and bills to show the same amount of money. | Display a set of coins/bills and count its value.

Demonstrate how a coin/bill can be replaced by other coins/bills, and the value does not change.

Have students create the same monetary values using different coins and bills. | MA.2.MD.C.8

MA.4.MD.A.2 |
| **Operations with Money** | 1 Week | Students will calculate the sum of money amounts with dollars and cents.

Students will calculate the different of money amounts using | Create real world situations in which students would use arithmetic operations involving money.

Demonstrate how to find the sum, difference, product, and | MA.2.MD.C.8

MA.4.MD.A.2 |

		dollar and cents. Students will calculate the product of money amounts using dollar and cents. Students will calculate the quotient of money amounts using dollar and cents.	quotient of money amounts.	

MA.2.MD.C.8	Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately.
MA.4.MD.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.

Summative Assessment and/or Summative Criteria

• Chapter Tests

• Short/Extended Constructed Response Items

• Multiple-Choice Items (where multiple answer choices may be correct)

• Quizzes

• Journal Entries/Reflections/Quick-Writes

• Projects

• Portfolio

Suggested Modifications for Students with Disabilities, Eligible ML, At Risk, and Gifted Students

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• Design lessons using UDL principles

• Structure lessons around questions that are authentic, relate to students' interests, social/family background and knowledge of their community.

• Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling).

• Provide multiple grouping opportunities for students to share their ideas and to encourage work among various backgrounds and cultures (e.g. multiple representation and multimodal experiences).

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Unit 7: Budgeting and Bookkeeping

Content Area: **Mathematics**
Course(s): **Math**
Time Period: **4th Marking Period**
Length: **6 Weeks**
Status: **Published**

Summary of Unit

Students will analyze personal investment planning strategies to make sound financial decisions. Students will be able to understand relevant financial skills including budgeting basics, calculating percentages, setting financial goals, tracking spending, determining expenses, paying bills, and managing bank accounts/credit cards

Enduring Understanding

By the end of this unit students will know:

- How is creating a personal budget a lifelong process?
- Can you be financially savvy and not have a budget?
- How can having credit good/bad impact your life?

Essential Quesitons

- How is creating a personal budget a lifelong process?
- Can you be financially savvy and not have a budget?
- How can having credit good/bad impact your life?

Summative assessment to demonstrate mastery of the Unit.

• Performance Assessments

• Observations

• Written Assessment

Formative Assessment: To be administered at the close of each topic

• Performance Assessments

• Observations

• Written Assessment

Unit Plan

Topic	Timeline	Objectives	Instructional Activities	NJSLS
Understanding Expenses	2 Weeks	Students will calculate costs of living. Students will research daily live expenses. Students will calculate interest. Students will write checks, pay bills online, and abide by due dates.	Discuss budgeting vocabulary. Create reasonable limits on available spending money based on personal income. Discuss loans and interest rates. Have students purchase a big-ticket item (car, house, student loan) with a loan. Calculate the total cost of the item over the length of the loan.	PFL.9.1.8.EG WRK.9.2.12.CAP.10

			Demonstrate how to write checks, pay bills online, and set payment dates.	
		Students will demonstrate an understanding of credit.	Set "payment" dates for students within the classroom.	
			Charge students a "fee" if they do not have "insufficient funds" or "pay late".	
			Discuss credit and how to keep financial documents organized.	
Setting Financial Goals	2 Weeks	Students will create a personal financial plan.	Have students create financial goals.	PFL.9.1.8.EG WRK.9.2.12.CAP.10
		Students will analyze and create various budgets.	Demonstrate good and bad budgeting. Research real spending habits and create individualized budgets.	
Researching Employment Opportunities	2 Weeks	Students will discuss potential career opportunities.	Have students create a presentation on their potential career.	PFL.9.1.8.EG WRK.9.2.12.CAP.10
		Students will complete job applications.	Discuss the skills needed to do various jobs.	

		Students will create a budget based on their selected potential career.	Discuss part-time verse full time jobs. Have students participate in daily tasks related to their potential job. Discuss the rights of the employee.	

PFL.9.1.8.EG   Economic and Government Influences

WRK.9.2.12.CAP.10   Identify strategies for reducing overall costs of postsecondary education (e.g., tuition assistance, loans, grants, scholarships, and student loans).

Summative Assessment and/or Summative Criteria

• Chapter Tests

• Short/Extended Constructed Response Items

• Multiple-Choice Items (where multiple answer choices may be correct)

• Quizzes

• Journal Entries/Reflections/Quick-Writes

• Projects

• Portfolio

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Unit 8: Navigation

Content Area: **Mathematics**
Course(s):   **Math**
Time Period: **4th Marking Period**
Length: **4 Weeks**
Status: **Published**

Summary of Unit

Students will use the coordinate plane in order to provide directions. Students will read maps and use GPS systems to get from one point to another. Students will discuss public transportation and how to safely use it as wML as how to budget time when traveling.

Enduring Understanding

By the end of this unit students will know:

- The Coordinate Plane
- Reading a Physical Map and Using a GPS
- Public Transportation
- Calculating Travel Time

Essential Quesitons

- Can you give directions from point A to point B given a GPS or physical map? (Supermarket, pharmacy, train station, etc.)

- Why is it important to always verify services when using public transportation?

Summative assessment to demonstrate mastery of the Unit.

• Performance Assessments

• Observations

• Written Assessment

Formative Assessment: To be administered at the close of each topic.

• Performance Assessments

• Observations

• Written Assessment

Unit Plan

Topic	Timeline	Objectives	Instructional Activities	NJSLS	
The Coordinate Plane	1 Week	Students will identify the x and y axis and each quadrant. Students will plot points accurately. Students will name points accurately. Students will identify and	Provide students with a labeled coordinate plane. Have students plot and identify points on the coordinate plane. Create a life-size coordinate plane within the classroom and ask students to label locations of	MA.5.OA.B.3 MA.5.G.A.1 MA.5.G.A.2 MATH.6.NS.C.6.b MATH.6.NS.C.6.c MA.6.NS.C.8	

		analyze coordinate planes within the real world.	objects. Using a map of the school, town, etc. create a coordinate plane and ask students to identify locations and "directions" to specific locations.	
Reading Physical Map and Using a GPS	1 Week	Student will read a physical map. Students will provide and follow directions from a physical map. Students will use a GPS. Students will provide and follow directions from a physical map.	Provide students with vocabulary associated with maps and GPS systems. Have students give simple directions (left, right, etc.) within the classroom, within the school, within the town. Have students give directions using landmarks. Have students use GPS systems to get from one location to the next. Have students follow verbal directions.	Standards for Mathematical Practice 4

		Have students follow written directions	
Public Transportation	1 Week	Students will read bus and train schedules. Students will locate the appropriate train/bus stations to use when given directions. Students will demonstrate an understanding of using and the safety involved with a Taxi/Uber/Life. Students will identify the appropriate type of public transportation to use.	Provide students with vocabulary associated with public transportation. Have students read train and bus schedules. Have students plan a trip using public transportation. Have students identify the proper form of public transportation when traveling to various locations. Provide students with safety measures they should follow when using public transportation.	Standards for Mathematical Practice 4

Calculating Travel Time	1 Week	Students will use calculate travel time in order to follow a schedule.	Provide students with scenarios where they are required to travel from point A to point B and get to their destination at a specific time. Students should "budget" their time in order to plan an appropriate schedule.	Standards for Mathematical Practice 4

MA.5.OA.B.3	Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane.
MATH.6.NS.C.6.b	Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.
MATH.6.NS.C.6.c	Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.
MA.6.NS.C.8	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.
MA.5.G.A.1	Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).

Summative Assessment and/or Summative Criteria

• Chapter Tests

• Short/Extended Constructed Response Items

• Multiple-Choice Items (where multiple answer choices may be correct)

• Quizzes

• Journal Entries/Reflections/Quick-Writes

• Projects

• Portfolio

Suggested Modifications for Students with Disabilities, Eligible ML, At Risk, and Gifted Students

• Consistent with individual plans, when appropriate.

• Below-level learners can be provided with graphic organizers, vocabulary cards, study guides, printed notes, and leveled readers. Projects can be modified or leveled as needed.

• Design lessons using UDL principles

• Structure lessons around questions that are authentic, relate to students' interests, social/family background and knowledge of their community.

• Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling).

• Provide multiple grouping opportunities for students to share their ideas and to encourage work among various backgrounds and cultures (e.g. multiple representation and multimodal experiences).

• Provide ML students with multiple literacy strategies including websites with various language options.

• Collaborate with after-school programs or clubs to extend learning opportunities.

Suggested Technological Innovations/ Use:

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8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

A. Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations.

B. Creativity and Innovation: Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology

C. Communication and Collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of

others.

D: Research and Information Fluency: Students apply digital tools to gather, evaluate, and use information.

E: Critical thinking, problem solving, and decision making: Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

A. Design: The design process is a systematic approach to solving problems.

Cross Curricular/ 21st Century Connections:

9.1 21st Century Life and Career Skills: All students will demonstrate the creative, critical thinking, collaboration, and problem-solving skills needed to function successfully as both global citizens and workers in diverse ethnic and organizational cultures

9.2 21st Century Life and Career Skills: Personal Financial Literacy: All students will develop skills and strategies that promote personal and financial responsibility related to financial planning, savings, investment, and charitable giving in the global economy.

9.3 21st Century Life and Career Skills: Career Awareness, Exploration, and Preparation: All students will apply knowledge about and engage in the process of career awareness, exploration, and preparation in order to navigate the globally competitive work environment of the information age.