Pacing Guide For Math Curriculum

Grade 4

Topic	Marking Period	Number of Days
Operations and Algebraic Thinking	MP1	12 weeks
Number and Operations in Base Ten	MP 1	12 weeks
Number and Operations- Fractions	MP 2	4 weeks
Measurement	MP 3	6 weeks
Data Literacy	MP 4	6 weeks
Geometry	MP 4	6 weeks

Alpha Public School
Math Curriculum Map

Grade: 4th grade

Unit: Operations and Algebraic Thinking	**Content Topic:** Use the four operations with whole numbers to solve problems.

Standard	Disciplinary Core Ideas / Essential Statement / Objective
4.OA.A.1	Interpret a multiplication equation as a comparison, e.g., interpret 35=5x7 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.
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.

Practices / Skills & Lesson / Learning Activities
● Use the four operations with whole numbers to solve problems ● Generalize place value understanding for multi-digit whole numbers ● Organized procedure to solve word / application problems ● Read and write multi-digit numbers in numerical, word, and expanded form ● Round multi-digit whole numbers ● Recognize and extend a number or shape pattern ● Identify and recognize the 5 multiplication properties and use them to solve equations ● Solve multi-step word problems involving multiplication and division of whole numbers Whole group- ● Introduction video stating objective ● Review / intro vocabulary (discuss real world connections) ● Review previous knowledge (background topics) ● Promote higher level thinking through direct instruction using Google Classroom Individual- ● Math fact practice ● Technology ● Review lower level topics not yet mastered ● Independent projects Small Groups- ● Center based practice ● Small group projects ● Mini lesson ● Partner work

Formative, Summative and	**Benchmark Assessments**	**Core Instructional and**

Alternative Assessments		Supplemental Materials (including various texts at each grade level)
Formative- ● Tests ● Quizzes ● Fluency sprints ● Homework ● Classwork ● Peer review ● Exit slips ● IXL modules ● Fluency Work Summative- ● Unit test ● IXL quizzes Alternative- ● Choice boards- projects ● Demonstration ● Journaling ● conferencing	● Unit assessments ● Beginning of Year / Mid year / End of year assessments ● IXL Diagnostic	● Anchor charts ● Manipulatives ● IXL ● Games ● Technology ● Prodigy ● Multiplication chart ● Division chart ● Deck of cards

Unit: Operations and Algebraic Thinking	**Content Topic:** Gain familiarity with factors and multiples

Standard	Disciplinary Core Ideas / Essential Statement / Objective	Practices / Skills & Lesson
4.OA.B.4	Find all factor pairs for a whole number in the range 1-144. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-144 is a multiple of a given one-number. Determine whether a given whole number in the range 1-144 is prime or composite.	● Use the four operations with whole numbers to solve problems ● Generalize place value understanding for multi-digit whole numbers ● Find all factor pairs for a whole number in the range 1-144 ● Define the terms: factors and multiples and prime and composite Whole group- ● Introduction video stating objective ● Review / intro vocabulary (discuss real world connections) ● Review previous knowledge (background topics) ● Promote higher level thinking through direct instruction using Google Classroom Individual- ● Math fact practice ● Technology ● Review lower level topics not yet mastered

		• Independent projects Small Groups- • Center based practice • Small group projects • Mini lesson • Partner work

Formative, Summative and Alternative Assessments	Benchmark Assessments	Core Instructional and Supplemental Materials (including various texts at each grade level)
Formative- • Tests • Quizzes • Fluency sprints • Homework • Classwork • Peer review • Exit slips • IXL Modules • Fluency Work Summative- • Unit test • IXL quizzes Alternative- • Choice boards- projects • Demonstration • Journaling • conferencing	• Unit assessments • Beginning of Year / Mid year / End of year assessments • IXL Diagnostic	• Anchor charts • Manipulatives • IXL • Games • Technology • Prodigy • Multiplication chart • Division chart • Deck of cards

Unit: Operations and Algebraic Thinking	**Content Topic:** Generate and analyze patterns

Standard	Disciplinary Core Ideas / Essential Statement / Objective	Practices / Skills & Lesson
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.	• Use the four operations with whole numbers to solve problems • Generalize place value understanding for multi-digit whole numbers • Organized procedure to solve word / application problems • Read and write multi-digit numbers in numerical, word, and expanded form • Round multi-digit whole numbers • Recognize and extend a number or shape pattern • Identify and recognize the 5 multiplication properties and use them to solve equations • Solve multi-step word problems involving multiplication and division of whole numbers

		Whole group- ● Introduction video stating objective ● Review / intro vocabulary (discuss real world connections) ● Review previous knowledge (background topics) ● Promote higher level thinking through direct instruction using Google Classroom Individual- ● Math fact practice ● Technology ● Review lower level topics not yet mastered ● Independent projects Small Groups- ● Center based practice ● Small group projects ● Mini lesson ● Partner work

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Technology	**Crosscutting Concepts / Interdisciplinary Connections across grade levels and content areas (at least 1 must be in ELA)**
8.1.5.IC.1- Identify computing technologies that have impacted how individuals live and work and describe the factors that influenced the changes. 8.1.5.IC.2- Identify possible ways to improve the accessibility and usability of computing technologies to address the diverse needs and wants of users.	ELA-RI.IT.4.3-Describe the impact of individuals and events throughout the course of a text, explaining events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on evidence in the text ELA-RL.MF.4.6-Make connections between specific descriptions and directions in a text and a visual or oral representation of the text. ELA-W.AW.4.1.B-Provide reasons that are supported by facts from texts and

8.1.5.DA.3- Organize and present collected data visually to communicate insights gained from different views of the data. 8.1.5.DA.4- Organize and present data visually to highlight relationships or support a claim. 8.1.5.DA.5- Propose cause and effect relationships, predict outcomes, or communicate ideas using data. 8.1.5.AP.4- Break down problems into smaller, manageable sub-problems to facilitate program development.	/ or other sources. ELA-W.IW.4.3.E-Provide a conclusion related to the information or explanation presented. Science-***3-5-ETS1-3-***different solutions need to be tested in order to determine which of them best solves the problem, given the criteria, and the constraints (ETS1.C)

Differentiation (IEPs / 504s)	**Differentiation (ELL)**	**Differentiation (G &T)**
● Refer to IEPS for more specific accommodations and modifications for special education students ● Refer to 504 plans for more specific accommodations and modifications ● Printed copy of board work / notes provided ● Additional time for skill mastery ● Assistive technology ● Center-based instruction ● Check work frequently for understanding ● Computer or electronic divide utilization ● Extended time on tests / quizzes ● Have student repeat directions to check for understanding ● Modified assignment format ● Modified test format ● Modified test length ● Multiple test sessions ● Multi-sensory presentation ● Preferential seating ● Preview of content, concepts, and vocabulary ● Reduced / shortened written assignments ● Secure attention before giving ● Instruction / directions ● Shortened assignments	● Allow students to correct errors (looking for understanding) ● Teaching key aspects of a topic, eliminate nonessential information using videos, illustrations, pictures, and drawings to explain or clarify ● Allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slideshows, videos, etc) to demonstrate students learning ● Decreasing the amount of work presented or required ● Modifying tests to reflect selected objectives ● Reducing the number of answer choices on a multiple choice test ● Tutoring by peers ● Using true / false, matching, or fill in the blank tests in lieu of essay tests	● Alternative formatives and summative assessments ● Choice boards ● Games and tournaments ● Group investigations ● Independent research and projects interest groups ● Learning contracts ● Leveled rubrics ● Multiple intelligence options ● Personal agendas ● Project-based learning ● Problem-based learning ● Stations / centers ● Think-tac-toes ● Tiered activities / assignments ● Tiered products ● Varying organizers for instructions

● Student working with an assigned partner ● Teacher initiated weekly assignment sheet ● Choice of activities ● Exploration by interest ● Flexible grouping ● Goal setting with students ● Mini-workshops to reteach or extend skills ● Open ended activities ● Think-pair-share ● Varied supplemental materials ● Allowing students to correct errors (looking for understanding) ● Teaching key aspects of a topic eliminate nonessential information allowing products (projects, timelines, demonstrations, models, drawings, diorama, poster boards, charts, graphs, slideshows, videos, etc). To demonstrate students learning ● Collaborating (general education teacher and specialist) to modify vocabulary, omit or modify items to reflect objectives for the student, eliminate sections of the test, and determine how the grade will be determined prior to giving the test ● Decreasing the amount of work presented or required ● Making students' correct and acceptable work, not the mistakes		

Unit: Number and Operations in Base Ten	**Content Topic:** Generalize place value understanding for multi-digit whole numbers

Standard	Disciplinary Core Ideas / Essential Statement / Objective
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 the 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 the comparisons.
4.NBT.A.3	Use place value understanding to round multi-digit whole numbers to any place.

Practices / Skills & Lesson / Learning Activities
● Generalize place value understanding for multi-digit whole numbers ● Identify and recognize the 5 multiplication properties and use them to solve equations ● Organized procedure to solve word / application problems ● Read and write multi-digit numbers in numerical, word, and expanded form ● Round multi-digit whole numbers Whole group- ● Introduction video stating objective ● Review / intro vocabulary (discuss real world connections) ● Review previous knowledge (background topics) ● Promote higher level thinking through direct instruction using Google Classroom Individual- ● Math fact practice ● Technology ● Review lower level topics not yet mastered ● Independent projects Small Groups- ● Center based practice ● Small group projects ● Mini lesson

Formative, Summative and Alternative Assessments	**Benchmark Assessments**	**Core Instructional and Supplemental Materials (including various texts at each grade level)**
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Alpha Public School
Math Curriculum Map

Unit: Number and Operation in Base Ten	**Content Topic:** Use place value understanding and properties of operations to perform multi-digit arithmetic

Standard	Disciplinary Core Ideas / Essential Statement / Objective
4.NBT.A.4	With accuracy and efficiency, add and subtract multi-digit whole numbers using the standard algorithm.
4.NBT.A.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.A.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 model.

Practices / Skills & Lesson / Learning Activities

- Use place value understanding and standard properties of operations to perform multi-digit arithmetic
- Fluently multiply and divide whole numbers using the standard algorithms
- Solve multi-step word problems involving multiplication and division of whole numbers

Whole group-

- Introduction video stating objective
- Review / intro vocabulary (discuss real world connections)
- Review previous knowledge (background topics)
- Promote higher level thinking through direct instruction using Google Classroom

Individual-

- Math fact practice
- Technology
- Review lower level topics not yet mastered
- Independent projects

Small Groups-

- Center based practice
- Small group projects
- Mini lesson

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Unit: Number and Operations- Fractions	**Content Topic:** Extend understanding of fractions equivalence and ordering

Standard	Disciplinary Core Ideas / Essential Statement / Objective
4.NF.A.1	Explain why a fraction $\frac{a}{b}$ is equivalent to a fraction $\frac{(nxa)}{(nxb)}$ 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 $\frac{1}{2}$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols, >, =, <, and justify the conclusions, e.g., by using a visual fraction model.

Practices / Skills & Lesson / Learning Activities
● Extend understanding of fraction equivalence and ordering ● Understand decimal notation for fractions and compare decimal fractions ● Identify, read, write and model fractions and equivalent fractions ● Compare and order both fractions and decimals ● Identify the direct relationship between fractions and decimals Whole group- ● Introduction video stating objective ● Review / intro vocabulary (discuss real world connections) ● Review previous knowledge (background topics) ● Promote higher level thinking through direct instruction using google classroom Individual- ● Math fact practice ● Technology ● Review lower level topics not yet mastered ● Independent projects Small group- ● Center based practice ● Small group projects ● Mini lesson ● Partner work

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Unit: Number and Operations- Fractions	**Content Topic:** Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Standard	Disciplinary Core Ideas / Essential Statement / Objective
4.NF.B.3.a	Understand a fraction $\frac{a}{b}$ with $a > 1$ as a sum of fractions $\frac{1}{b}$. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.
4.NF.B.3.b	Understand a fraction $\frac{a}{b}$ with $a > 1$ as a sum of fractions $\frac{1}{b}$. 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 model. Examples: $\frac{3}{8} = \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$; $\frac{3}{8} = \frac{1}{8} + \frac{2}{8}$; $2\frac{1}{8} = 1 + 1 + \frac{1}{8} = \frac{8}{8} + \frac{8}{8} + \frac{1}{8}$.
4.NF.B.3.c	Understand a fraction $\frac{a}{b}$ with $a > 1$ as a sum of fractions $\frac{1}{b}$. 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.
4.NF.B.3.d	Understand a fraction $\frac{a}{b}$ with $a > 1$ as a sum of fractions $\frac{1}{b}$. 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.a	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. Understand a fraction $\frac{a}{b}$ as a multiple of $\frac{1}{b}$. For example, use a visual fraction model to represent $\frac{5}{4}$ as the product 5 x $\frac{1}{4}$, recording the conclusion by the equation $\frac{5}{4}$ = 5 x ($\frac{1}{4}$).
4.NF.B.4.b	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. Understand a multiple of $\frac{a}{b}$ as a multiple of $\frac{1}{b}$. For example, use a visual fraction model to express 3 x ($\frac{2}{5}$) as 6 x ($\frac{1}{5}$), recognizing this product as $\frac{6}{5}$. In general, *n* x ($\frac{a}{b}$) = $\frac{(n\ x\ a)}{b}$.
4.NF.B.4.c	Apply and extend previous understandings of multiplication to multiply a fraction by a whole number. 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 ⅜ of a pound of 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?

Practices / Skills & Lesson / Learning Activities

- Build fractions from unit fractions by applying and extending previous understanding of operations on whole numbers
- Use models to represent mixed numbers and improper fractions
- Add and subtract fractions with like denominators. They will also correctly multiply fractions by whole numbers

Whole group-
- Introduction video stating objective
- Review / intro vocabulary (discuss real world connections)
- Review previous knowledge (background topics)
- Promote higher level thinking through direct instruction using google classroom

Individual-
- Math fact practice
- Technology
- Review lower level topics not yet mastered
- Independent projects

Small group-
- Center based practice
- Small group projects
- Mini lesson
- Partner work

Formative, Summative and Alternative Assessments	Benchmark Assessments	Core Instructional and Supplemental Materials (including various texts at each grade level)
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Unit: Numbers and Operations- Fractions	**Content Topic:** Understand decimal notation for fractions and compare decimal fractions

Standard	Disciplinary Core Ideas / Essential Statement / Objective
4.NF.C.5	Express a fraction with a denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. For example, express $\frac{3}{10}$ as $\frac{30}{100}$ and add $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$. (Clarification: 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.)
4.NF.C.6	Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as $\frac{62}{100}$; 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.

Practices / Skills & Lesson / Learning Activities

- Extend understanding of fraction equivalence and ordering
- Understand decimal notation for fractions and compare decimal fractions
- Identify, read, write and model fractions and equivalent fractions
- Compare and order both fractions and decimals
- Identify the direct relationship between fractions and decimals

Whole group-

- Introduction video stating objective
- Review / intro vocabulary (discuss real world connections)
- Review previous knowledge (background topics)
- Promote higher level thinking through direct instruction using google classroom

Individual-

- Math fact practice
- Technology
- Review lower level topics not yet mastered
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- Small group projects
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Technology	Crosscutting Concepts / Interdisciplinary Connections across grade levels and content areas (at least 1 must be in ELA)
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8.1.5.AP.4- Break down problems into smaller, manageable sub-problems to facilitate program development.	

Differentiation (IEPs / 504s)	Differentiation (ELL)	Differentiation (G &T)
● Refer to IEPS for more specific accommodations and modifications for special education students ● Refer to 504 plans for more specific accommodations and modifications ● Printed copy of board work / notes provided ● Additional time for skill mastery ● Assistive technology ● Center-based instruction ● Check work frequently for understanding ● Computer or electronic divide utilization ● Extended time on tests / quizzes ● Have student repeat directions to check for understanding ● Modified assignment format ● Modified test format ● Modified test length ● Multiple test sessions ● Multi-sensory presentation ● Preferential seating ● Preview of content, concepts, and vocabulary ● Reduced / shortened written assignments ● Secure attention before giving ● Instruction / directions ● Shortened assignments ● Student working with an assigned partner ● Teacher initiated weekly assignment sheet ● Choice of activities ● Exploration by interest ● Flexible grouping ● Goal setting with students ● Mini-workshops to reteach or extend skills ● Open ended activities ● Think-pair-share ● Varied supplemental	● Allow students to correct errors (looking for understanding) ● Teaching key aspects of a topic, eliminate nonessential information using videos, illustrations, pictures, and drawings to explain or clarify ● Allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slideshows, videos, etc) to demonstrate students learning ● Decreasing the amount of work presented or required ● Modifying tests to reflect selected objectives ● Reducing the number of answer choices on a multiple choice test ● Tutoring by peers ● Using true / false, matching, or fill in the blank tests in lieu of essay tests	● Alternative formatives and summative assessments ● Choice boards ● Games and tournaments ● Group investigations ● Independent research and projects interest groups ● Learning contracts ● Leveled rubrics ● Multiple intelligence options ● Personal agendas ● Project-based learning ● Problem-based learning ● Stations / centers ● Think-tac-toes ● Tiered activities / assignments ● Tiered products ● Varying organizers for instructions

materials ● Allowing students to correct errors (looking for understanding) ● Teaching key aspects of a topic eliminate nonessential information allowing products (projects, timelines, demonstrations, models, drawings, diorama, poster boards, charts, graphs, slideshows, videos, etc). To demonstrate students learning ● Collaborating (general education teacher and specialist) to modify vocabulary, omit or modify items to reflect objectives for the student, eliminate sections of the test, and determine how the grade will be determined prior to giving the test ● decreasing the amount of work presented or required ● Making students' correct and acceptable work, not the mistakes		

Unit: Measurement	**Content Topic:** Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

Standard	Disciplinary Core Ideas / Essential Statement / Objective
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 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 length, by viewing the area formula as a multiplication equation with an unknown factor.

Practices / Skills & Lesson / Learning Activities
● Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit ● Convert measurements within a system ● Measure to collect data to make a fraction line plot ● Solve problems involving various measurement situations. Whole group- ● Introduction video stating objective ● Review / intro vocabulary (discuss real world connections) ● Review previous knowledge (background topics) ● Promote higher level thinking through direct instruction using google classroom Individual- ● Math fact practice ● Technology ● Review lower level topics not yet mastered ● Independent projects Small Groups- ● Center based practice ● Small group projects ● Mini lesson ● Partner work

Formative, Summative and Alternative Assessments	**Benchmark Assessments**	**Core Instructional and Supplemental Materials (including various texts at each grade level)**
Formative- ● Tests ● Quizzes ● Fluency sprints ● Homework ● Classwork ● Peer review ● Exit slips ● IXL Modules ● Fluency Work Summative- ● Unit test ● IXL quizzes Alternative- ● Choice boards- projects ● Demonstration ● Journaling ● conferencing	● Unit assessments ● Beginning of Year / Mid year / End of year assessments ● IXL Diagnostic	● Anchor charts ● Manipulatives ● IXL ● Games ● Technology ● Prodigy ● Multiplication chart ● Division chart ● Deck of cards

Unit: Measurement	**Content Topic:** Geometric measurement: understand concepts of angle and measure angles

Standard	**Disciplinary Core Ideas / Essential Statement / Objective**

4.M.B.4.a	Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement; An angle is measure 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 $\frac{1}{360}$th of a circle is called a "one-degree angle," and can be used to measure angles.
4.M.B.4.b	Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement; An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees.
4.M.B.5	Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
4.M.B.6	Recognize angle measures as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measure 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.

Practices / Skills & Lesson / Learning Activities
● Draw and identify lines and angles, and classify shapes by properties of their lines and angles ● Understand concepts of angle and measure angles ● Use area and perimeter formulas for rectangles ● Identify and describe parallel, perpendicular, and intersecting lines ● Recognize and draw lines of symmetry Whole group- ● Introduction video stating objective ● Review / intro vocabulary (discuss real world connections) ● Review previous knowledge (background topics) ● Promote higher level thinking through direct instruction using google classroom Individual- ● Math fact practice ● Technology ● Review lower level topics not yet mastered ● Independent projects Small group- ● Center based practice ● Small group projects ● Mini lesson ● Partner work

Formative, Summative and Alternative Assessments	**Benchmark Assessments**	**Core Instructional and Supplemental Materials (including various texts at each grade level)**
Formative- ● Tests ● Quizzes ● Fluency sprints ● Homework ● Classwork ● Peer review	● Unit assessments ● Beginning of Year / Mid year / End of year assessments ● IXL Diagnostic	● Anchor charts ● Manipulatives ● IXL ● Games ● Technology ● Prodigy ● Multiplication chart

● Exit slips ● IXL Modules ● Fluency Work Summative- ● Unit test ● IXL quizzes Alternative- ● Choice boards- projects ● Demonstration ● Journaling ● conferencing		● Division chart ● Deck of cards

Technology	Crosscutting Concepts / Interdisciplinary Connections across grade levels and content areas (at least 1 must be in ELA)
8.1.5.IC.1- Identify computing technologies that have impacted how individuals live and work and describe the factors that influenced the changes. 8.1.5.IC.2- Identify possible ways to improve the accessibility and usability of computing technologies to address the diverse needs and wants of users. 8.1.5.DA.3- Organize and present collected data visually to communicate insights gained from different views of the data 8.1.5.DA.4- Organize and present data visually to highlight relationships or support a claim 8.1.5.DA.5- Propose cause and effect relationships, predict outcomes, or communicate ideas using data 8.1.5.AP.4- Break down problems into smaller, manageable sub-problems to facilitate program development.	ELA-RI.IT.4.3-Describe the impact of individuals and events throughout the course of a text, explaining events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on evidence in the text ELA-RL.MF.4.6-Make connections between specific descriptions and directions in a text and a visual or oral representation of the text ELA-W.AW.4.1.B-Provide reasons that are supported by facts from texts and / or other sources ELA-W.IW.4.3.E-Provide a conclusion related to the information or explanation presented. Science-***3-5-ETS1-3-***different solutions need to be tested in order to determine which of them best solves the problem, given the criteria, and the constraints (ETS1.C)

Differentiation (IEPs / 504s)	Differentiation (ELL)	Differentiation (G &T)
● Refer to IEPS for more specific accommodations and modifications for special education students ● Refer to 504 plans for more specific accommodations and modifications ● Printed copy of board work / notes provided ● Additional time for skill	● Allow students to correct errors (looking for understanding) ● Teaching key aspects of a topic, eliminate nonessential information using videos, illustrations, pictures, and drawings to explain or clarify ● Allowing products (projects,	● Alternative formatives and summative assessments ● Choice boards ● Games and tournaments ● Group investigations ● Independent research and projects interest groups ● Learning contracts ● Leveled rubrics ● Multiple intelligence

mastery ● Assistive technology ● Center-based instruction ● Check work frequently for understanding ● Computer or electronic divide utilization ● Extended time on tests / quizzes ● Have student repeat directions to check for understanding ● Modified assignment format ● Modified test format ● Modified test length ● Multiple test sessions ● Multi-sensory presentation ● Preferential seating ● Preview of content, concepts, and vocabulary ● Reduced / shortened written assignments ● Secure attention before giving ● Instruction / directions ● Shortened assignments ● Student working with an assigned partner ● Teacher initiated weekly assignment sheet ● Choice of activities ● Exploration by interest ● Flexible grouping ● Goal setting with students ● Mini-workshops to reteach or extend skills ● Open ended activities ● Think-pair-share ● Varied supplemental materials ● Allowing students to correct errors (looking for understanding) ● Teaching key aspects of a topic eliminate nonessential information allowing products (projects, timelines, demonstrations, models, drawings, diorama, poster boards, charts, graphs, slideshows, videos, etc). To demonstrate students learning ● Collaborating (general education teacher and specialist) to modify vocabulary, omit or modify items to reflect objectives	timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slideshows, videos, etc) to demonstrate students learning ● Decreasing the amount of work presented or required ● Modifying tests to reflect selected objectives ● Reducing the number of answer choices on a multiple choice test ● Tutoring by peers ● Using true / false, matching, or fill in the blank tests in lieu of essay tests	options ● Personal agendas ● Project-based learning ● Problem-based learning ● Stations / centers ● Think-tac-toes ● Tiered activities / assignments ● Tiered products ● Varying organizers for instructions

for the student, eliminate sections of the test, and determine how the grade will be determined prior to giving the test ● decreasing the amount of work presented or required ● Making students' correct and acceptable work, not the mistakes		

Unit: Data Literacy	**Content Topic:** Organize data and understand data visualizations

Standard	Disciplinary Core Ideas / Essential Statement / Objective
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 the 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.

Practices / Skills & Lesson / Learning Activities

- Measure to collect data to make a fraction line plot
- Solve problems involving various measurement situations.

Whole group-

- Introduction video stating objective
- Review / intro vocabulary (discuss real world connections)
- Review previous knowledge (background topics)
- Promote higher level thinking through direct instruction using google classroom

Individual-

- Math fact practice
- Technology
- Review lower level topics not yet mastered
- Independent projects

Small Groups-

- Center based practice
- Small group projects
- Mini lesson
- Partner work

Formative, Summative and Alternative Assessments	Benchmark Assessments	Core Instructional and Supplemental Materials (including various texts at

		each grade level)
Formative- ● Tests ● Quizzes ● Fluency sprints ● Homework ● Classwork ● Peer review ● Exit slips ● IXL Modules ● Fluency Work Summative- ● Unit test ● IXL quizzes Alternative- ● Choice boards- projects ● Demonstration ● Journaling ● conferencing	● Unit assessments ● Beginning of Year / Mid year / End of year assessments ● IXL Diagnostic	● Anchor charts ● Manipulatives ● IXL ● Games ● Technology ● Prodigy ● Multiplication chart ● Division chart ● Deck of cards

Unit: Data Literacy	**Content Topic:** Represent and interpret measurement data

Standard	**Disciplinary Core Ideas / Essential Statement / Objective**
4.DL.B.5	Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}, \frac{1}{4}, \frac{1}{8}$). 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.

Practices / Skills & Lesson / Learning Activities
● Measure to collect data to make a fraction line plot ● Solve problems involving various measurement situations. Whole group- ● Introduction video stating objective ● Review / intro vocabulary (discuss real world connections) ● Review previous knowledge (background topics) ● Promote higher level thinking through direct instruction using google classroom Individual- ● Math fact practice ● Technology ● Review lower level topics not yet mastered ● Independent projects Small Groups- ● Center based practice ● Small group projects ● Mini lesson ● Partner work

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Technology	Crosscutting Concepts / Interdisciplinary Connections across grade levels and content areas (at least 1 must be in ELA)
8.1.5.IC.1- Identify computing technologies that have impacted how individuals live and work and describe the factors that influenced the changes. 8.1.5.IC.2- Identify possible ways to improve the accessibility and usability of computing technologies to address the diverse needs and wants of users. 8.1.5.DA.3- Organize and present collected data visually to communicate insights gained from different views of the data 8.1.5.DA.4- Organize and present data visually to highlight relationships or support a claim 8.1.5.DA.5- Propose cause and effect relationships, predict outcomes, or communicate ideas using data 8.1.5.AP.4- Break down problems into smaller, manageable sub-problems to facilitate program development.	ELA-RI.IT.4.3-Describe the impact of individuals and events throughout the course of a text, explaining events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on evidence in the text ELA-RL.MF.4.6-Make connections between specific descriptions and directions in a text and a visual or oral representation of the text ELA-W.AW.4.1.B-Provide reasons that are supported by facts from texts and / or other sources ELA-W.IW.4.3.E-Provide a conclusion related to the information or explanation presented. Science-***3-5-ETS1-3***-different solutions need to be tested in order to determine which of them best solves the problem, given the criteria, and the constraints (ETS1.C)

Differentiation (IEPs / 504s)	Differentiation (ELL)	Differentiation (G &T)
● Refer to IEPS for more specific accommodations and modifications for special education students ● Refer to 504 plans for more specific accommodations and modifications ● Printed copy of board work / notes provided ● Additional time for skill mastery ● Assistive technology ● Center-based instruction ● Check work frequently for understanding ● Computer or electronic divide utilization ● Extended time on tests / quizzes ● Have student repeat directions to check for understanding ● Modified assignment format ● Modified test format ● Modified test length ● Multiple test sessions ● Multi-sensory presentation ● Preferential seating ● Preview of content, concepts, and vocabulary ● Reduced / shortened written assignments ● Secure attention before giving ● Instruction / directions ● Shortened assignments ● Student working with an assigned partner ● Teacher initiated weekly assignment sheet ● Choice of activities ● Exploration by interest ● Flexible grouping ● Goal setting with students ● Mini-workshops to reteach or extend skills ● Open ended activities ● Think-pair-share ● Varied supplemental materials ● Allowing students to correct errors (looking for understanding) ● Teaching key aspects of a topic eliminate nonessential	● Allow students to correct errors (looking for understanding) ● Teaching key aspects of a topic, eliminate nonessential information using videos, illustrations, pictures, and drawings to explain or clarify ● Allowing products (projects, timelines, demonstrations, models, drawings, dioramas, poster boards, charts, graphs, slideshows, videos, etc) to demonstrate students learning ● Decreasing the amount of work presented or required ● Modifying tests to reflect selected objectives ● Reducing the number of answer choices on a multiple choice test ● Tutoring by peers ● Using true / false, matching, or fill in the blank tests in lieu of essay tests	● Alternative formatives and summative assessments ● Choice boards ● Games and tournaments ● Group investigations ● Independent research and projects interest groups ● Learning contracts ● Leveled rubrics ● Multiple intelligence options ● Personal agendas ● Project-based learning ● Problem-based learning ● Stations / centers ● Think-tac-toes ● Tiered activities / assignments ● Tiered products ● Varying organizers for instructions

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Unit: Geometry	**Content Topic:** Draw and identify lines and angles, and classify shapes by properties of their lines and angles

Standard	Disciplinary Core Ideas / Essential Statement / Objective
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.

Practices / Skills & Lesson / Learning Activities
● Draw and identify lines and angles, and classify shapes by properties of their lines and angles ● Understand concepts of angle and measure angles ● Use area and perimeter formulas for rectangles ● Identify and describe parallel, perpendicular, and intersecting lines ● Recognize and draw lines of symmetry Whole group- ● Introduction video stating objective ● Review / intro vocabulary (discuss real world connections)

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Technology	Crosscutting Concepts / Interdisciplinary Connections across grade levels and content areas (at least 1 must be in ELA)
8.1.5.IC.1- Identify computing technologies that have impacted how individuals live and work and describe the factors that influenced the changes. 8.1.5.IC.2- Identify possible ways to improve the accessibility and usability of computing technologies to address the diverse needs and wants of users. 8.1.5.DA.3- Organize and present collected data visually to communicate insights gained from different views of the data	ELA-RI.IT.4.3-Describe the impact of individuals and events throughout the course of a text, explaining events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on evidence in the text ELA-RL.MF.4.6-Make connections between specific descriptions and directions in a text and a visual or oral representation of the text ELA-W.AW.4.1.B-Provide reasons that are supported by facts from texts and / or other sources ELA-W.IW.4.3.E-Provide a conclusion related to the information or explanation presented.

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● Exploration by interest ● Flexible grouping ● Goal setting with students ● Mini-workshops to reteach or extend skills ● Open ended activities ● Think-pair-share ● Varied supplemental materials ● Allowing students to correct errors (looking for understanding) ● Teaching key aspects of a topic eliminate nonessential information allowing products (projects, timelines, demonstrations, models, drawings, diorama, poster boards, charts, graphs, slideshows, videos, etc). To demonstrate students learning ● Collaborating (general education teacher and specialist) to modify vocabulary, omit or modify items to reflect objectives for the student, eliminate sections of the test, and determine how the grade will be determined prior to giving the test ● decreasing the amount of work presented or required ● Making students' correct and acceptable work, not the mistakes		

For all Math units:

21st Century Education (NJSLS Standard 9)	**Career Education**
<u>THEMES:</u> Global Awareness Financial, Economic, Business and Entrepreneurial Literacy Critical Thinking Problem Solving Communication Collaboration Information Literacy ICT (Information, Communication and Technology) Literacy	-Business Management & Administration -Education & Training -Finance -Information Technology -Manufacturing -Marketing -Science, Technology, Engineering & Mathematics (STEM) -Transportation, Distribution & Logistics

SKILLS: CRP2. Apply appropriate academic and technical skills CRP3. Attend to personal health and financial well-being CRP4. Communicate clearly and effectively with reason 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 managment. CRP11. Use technology to enhance productivity CRP12. Work productively in teams while using cultural global competence	