Pacing Guide For Math Curriculum

Grade 2

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

Alpha Public School
Math Curriculum Map

Grade: 2nd grade

Unit: Operations and Algebraic Thinking	**Content Topic:** Represent and solve problems involving addition and subtraction

Standard	**Disciplinary Core Ideas / Essential Statement / Objective**	**Practices / Skills & Lesson**
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 objects, drawings, and equations with a symbol for the unknown number to represent the problem.	● Use place value understanding properties of operations to add and subtract ● Represent and solve problems involving addition and subtraction ● Add and subtract within 100 using a variety of strategies in order to solve problems ● Complete one and two step addition and subtraction word problems with missing variables beginning, middle and end Whole group: ● Read alouds related to addition, subtraction and place value ● Think, pair, share ● Total participation ● Model Lesson ● Guided practice ● Student whiteboards ● preTeach Vocabulary Individual: ● Independent practice ● Learning centers ● Math journals ● Prodigy / technology Small Groups: ● Guided practice ● Shared reading ● Paired problem ● Solving / critical thinking and reasoning ● Learning centers ● Prodigy / technology ● Smart board activities

Formative, Summative and Alternative Assessments	**Benchmark Assessments**	**Core Instructional and Supplemental Materials (including various texts at each grade level)**
Formative: ● Quizzes ● Classwork	● Beginning of Year Assessment ● Mid Year Assessment	● IXL ● Prodigy ● Math manipulatives

● Homework ● Exit tickets ● Total participation ● Math journals ● Teacher observation / anecdotal notes ● IXL Modules ● Fluency Work Summative: ● Project based learning ● Unit tests ● Midterms ● Finals ● Portfolios ● IXL Quizzes Alternative: ● Project based learning	● End of year assessment ● Unit Assessment ● IXL Diagnostic	● Base ten blocks ● Number rolls for place value ● Math games / centers

Unit: Operations and Algebraic Thinking	**Content Topic:** Add and subtract within 20

Standard	**Disciplinary Core Ideas / Essential Statement / Objective**	**Practices / Skills & Lesson**
2.OA.B.2	With accuracy and efficiency, add and subtract within 20 using mental strategies. By the end of grade 2, know from memory all sums of two one digit numbers.	● Use place value understanding properties of operations to add and subtract ● Add fluently within 20 ● Subtract fluently within 20 ● Use strategies to solve addition and subtraction problems ● Defining and identifying whole and parts ● Addition and subtraction fact fluency ● Addition strategies ● Double facts ● Doubles plus one ● Subtraction strategies ● Doubles minus one ● Plus and minus fact strategies Whole group: ● Read alouds related to addition, subtraction and place value ● Think, pair, share ● Total participation ● Model Lesson ● Guided practice ● Student whiteboards ● PreTeach Vocabulary Individual:

		• Independent practice • One on one reteach • Learning centers • Math journals • Prodigy / technology Small Groups: • Guided practice • Shared reading • Paired problem • Solving / critical thinking and reasoning • Learning centers • Prodigy / technology • Smart board activities

Formative, Summative and Alternative Assessments	**Benchmark Assessments**	**Core Instructional and Supplemental Materials (including various texts at each grade level)**
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Technology	**Crosscutting Concepts / Interdisciplinary Connections across grade levels and content areas (at least 1 must be in ELA)**
8.1.2.CS.1- Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences 8.1.2.DA.1- Collect and present data in various visual formats	ELA-SL.PE.1.2.A-Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. Follow agreed upon norms for discussions (e.g., listening to others with care, speaking about the topics and texts under discussion) Science-***2-ESS2-1-***because there is always more than one possible solution to a problem, it is useful to compare and test designs (ETS1.C)

8.1.2.DA.3- Identify and describe patterns in data visualizations 8.1.2.DA.4- Make predictions based on data using charts or graphs	

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	● 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

● 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: Operations and Algebraic Thinking	**Content Topic:** Work with equal groups of objects to gain foundations for multiplication

Standard	Disciplinary Core Ideas / Essential Statement / Objective
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.
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 equals addends.

Practices / Skills & Lesson / Learning Activities
● Mini Lesson- distribute 20 playing cards to a set group of students. Other groups will have 17 or 19 playing cards. Ask students to pretend they are playing "go fish" with their friends and they need to distribute the playing cards so that each person has the same number of cards. Walk around to ask if each partner received the same amount of playing cards. Discuss what would happen if each partner did not receive the same number of cards. Would it be fair? Why not? Review vocab: Even / odd (even- each partner had the same

number / odd- one partner didn't have enough cards)

- Teach- display pre-made google slides presentation to show examples of equal groups (circles and rows / columns) / unequal groups. Remind students that if the slides show equal groups, all circles will have the same number of dots in each circle. Review with rows / columns to show understanding. As slides are presented, ask students to share if groups are equal / unequal (hold up thumb for equal groups / thumb down for unequal). Explain how to use the information in equal groups to formulate a repeated addition sentence. Explain that a repeated addition sentence is adding the same number to itself more than one time
- Independent Lesson- Distribute printables that show equal groups. Have students write a repeated addition sentence to match each picture.
- Collaboration- students will be given a game board (with spinner). Each partner will take turns using the game board. The spinner will indicate how many dots to draw in pre-determined number of circles or how many rows/ columns to create. They will then write their addition sentence to match the picture. The player that had the biggest total that round wins the round.

Formative, Summative and Alternative Assessments	**Benchmark Assessments**	**Core Instructional and Supplemental Materials (including various texts at each grade level)**
Formative: ● Quizzes ● Classwork ● Homework ● Exit tickets ● Total participation ● Math journals ● Teacher observation / anecdotal notes ● IXL Modules ● Fluency Work Summative: ● Project based learning ● Unit tests ● Midterms ● Finals ● Portfolios ● IXL Quizzes Alternative: ● Project based learning	● Beginning of Year Assessment ● Mid Year Assessment ● End of year assessment ● Unit Assessment ● IXL Diagnostic	● IXL ● Prodigy ● Math manipulatives ● Base ten blocks ● Number rolls for place value ● Math games / centers

Technology	**Crosscutting Concepts / Interdisciplinary Connections across grade levels and content areas (at least 1 must be in ELA)**
8.1.2.CS.1- Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences 8.1.2.DA.1- Collect and present data in various visual formats 8.1.2.DA.3- Identify and describe patterns in data visualizations	ELA-SL.PE.1.2.A-Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. Follow agreed upon norms for discussions (e.g., listening to others with care, speaking about the topics and texts under discussion) Science-***2-ESS2-1-***because there is always more than one possible solution to a problem, it is useful to compare and test designs (ETS1.C)

8.1.2.DA.4- Make predictions based on data using charts or graphs	

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	● 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: Numbers and Operation in Base Ten	**Content Topic:** Understand place value

Standard	Disciplinary Core Ideas / Essential Statement / Objective
2.NBT.A.1.a	Understand that the three digits of a three digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases: a. 100 can be thought of as a bundle of ten tens- called a "hundred"
2.NBT.A.1.b	Understand that the three digits of a three digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones. Understand the following as special cases. The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).
2.NBT.A.2	Count within 1000; skip-count by 5s, 10s and 100s
2.NBT.A.3	Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.
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.

Practices / Skills & Lesson / Learning Activities

- Describe place value
- Understand that the 3 digits in a three-digit number represent the amounts of hundreds, tens, and ones
- Count within 1000 and skip count by 5s, 10s, and 100s
- Read and write numbers to 1000 using base ten numerals, number names and expanded form
- Compare two 3 digit numbers using <, > and = symbols and record the results of the comparisons

Whole group:

- Read alouds related to addition and subtraction
- Think, pair, share
- Calendar skills
- Model lesson
- Guided practice
- Student whiteboards
- Pre-teach vocabulary
- Addition and subtraction fact fluency
- Fact families
- Number stories
- Word problems

Individual:

- Independent practice
- One-on-one reteach
- Learning centers
- Math journals
- Prodigy / technology

Small groups:

- Guided practice
- Shared reading
- Paired problems
- Solving / critical thinking and reasoning
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● IXL Quizzes Alternative: ● Project based learning		

Unit: Number and Operation in Base Ten	**Content Topic:** Use place value understanding and properties of operations to add and subtract

Standard	Disciplinary Core Ideas / Essential Statement / Objective
2.NBT.B.5	With accuracy and efficiency, add and subtract within 100 using strategies based on place value, properties of operations, and / or relationship between addition and subtraction
2.NBT.B.6	Add up to four two-digit numbers using strategies based on place value and properties of operations
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
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
2.NBT.B.9	Explain why addition and subtraction strategies work, using place value and the properties of operations (Clarification: Explanations should be supported by drawings or objects).

Practices / Skills & Lesson / Learning Activities

- Describe place value
- Understand that the 3 digits in a three-digit number represent the amounts of hundreds, tens, and ones
- Count within 1000 and skip count by 5s, 10s, and 100s
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Whole group:

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Unit: Measurement	**Content Topic:** Measure and estimate lengths in standard units

Standard	Disciplinary Core Ideas / Essential Statement / Objective
2.M.A.1	Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks and measuring tapes
2.M.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
2.M.A.3	Estimate lengths using units of inches, feet, centimeters, and meters
2.M.A.4	Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit

Practices / Skills & Lesson / Learning Activities
● Measure and estimate lengths in standard units ● Relate addition and subtraction to length ● Select and use an appropriate tool to measure the length of an object (ruler, yardstick, meter stick, measuring tape) ● Measure an object using two different units of length and describe how they relate ● Estimate the length of objects (inches, feet, centimeters, meters)

- Measure to compare one object to another
- Solve word problems using length within 100
- Use a number line to show addition and subtraction of lengths
- Represent the length of objects on a line plot.

Whole Group-

- Read alouds related to addition, subtraction and place value
- Think, pair, share
- Model Lesson
- Guided practice
- Student whiteboards
- Teach vocabulary
- Vocabulary for measurement
- Measuring in inches, feet, yards
- Using a ruler, tape measure and a yard stick
- Estimating in inches, feet and yards
- Measuring in centimeters, meters
- Estimating in cm and meters
- One and two step word problems involving measurement

Individual Groups-

- Independent practice
- Learning centers
- Math journals
- Prodigy / technology

Small Groups-

- Guided practice
- Shared reading
- Paired problem
- Solving / critical thinking and reasoning
- Learning center
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● IXL Quizzes Alternative: ● Project based learning		

Unit: Measurement	**Content Topic:** Relate addition and subtraction to length

Standard	Disciplinary Core Ideas / Essential Statement / Objective
2.M.B.5	Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem
2.M.B.6	Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0,1,2,..., and represent whole-number sums and differences within 100 on a number line diagram

Practices / Skills & Lesson / Learning Activities

- Measure and estimate lengths in standard units
- Relate addition and subtraction to length
- Select and use an appropriate tool to measure the length of an object (ruler, yardstick, meter stick, measuring tape)
- Measure an object using two different units of length and describe how they relate
- Estimate the length of objects (inches, feet, centimeters, meters)
- Measure to compare one object to another
- Solve word problems using length within 100
- Use a number line to show addition and subtraction of lengths
- Represent the length of objects on a line plot.
- Represent and solve problems involving addition and subtraction
- Use place value understanding and properties of operations to add and subtract
- Mentally add or subtract 100 and multiples of 100 from a three digit number
- Regroup ones and tens to add three digit numbers
- Regroup numbers in the hundreds and tens to subtract three digit numbers
- Subtract numbers with 0 in the top number
- Solve word problems involving two three digit numbers
- Correctly line up two three digit numbers to add or subtract

Whole Group-

- Read alouds related to addition, subtraction and place value
- Think, pair, share
- Model Lesson
- Guided practice
- Student whiteboards
- Teach vocabulary
- Vocabulary for measurement
- Measuring in inches, feet, yards
- Using a ruler, tape measure and a yard stick
- Estimating in inches, feet and yards
- Measuring in centimeters, meters
- Estimating in cm and meters
- One and two step word problems involving measurement

- Review addition and subtraction strategies
- Introduction to three digit addition and subtraction
- Regrouping one and tens
- Three digit subtraction with and without regrouping
- Regrouping zero
- Three digit addition and subtraction word problems
- Higher order thinking problems

Individual Groups-

- Independent practice
- Learning centers
- Math journals
- Prodigy / technology

Small Groups-

- Guided practice
- Shared reading
- Paired problem
- Solving / critical thinking and reasoning
- Learning center
- Prodigy / technology
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Unit: Measurement	**Content Topic:** Work with time and Money

Standard	Disciplinary Core Ideas / Essential Statement / Objective
2.M.C.7	Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.
2.M.C.8	Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies using $ and cent symbols appropriately. Example: if you have 2 dimes and 3 pennies, how many cents do you have?

Practices / Skills & Lesson / Learning Activities

- Tell and write time to the nearest half hour and hour (i.e., am/pm, digital, and analog
- Tell and write time to the nearest quarter hour (i.e., am/pm, digital and analog)
- Tell and write time to the nearest 5 minute interval (i.e., am /pm, digital and analog)
- Use A.M. and P.M. when telling and writing time
- Identify coins by their attributes
- Skip count to find the value of pennies, nickels, dimes and quarters.
- Skip count to find the value of $1, $5, and $10 bills
- Solve word problems using coins and dollar bills

Whole group-

- Model lesson
- Guided practice
- Student whiteboards
- Pre-teach vocabulary
- Introduce time, quarter past, half past, quarter to, half past,
- Time to the nearest 5 minute
- Digital / analog
- Time word problems- one step / multi-step
- AM / PM
- Introduce coins and their values- pennies, nickels, dimes, quarters
- Counting coins
- Mixed coins
- Dollars
- Dollar and cent notation
- One step and multi-step word problems with money

Individual-

- Independent practice
- One on one reteach
- Learning centers
- Math journals
- Prodigy / technology

Small groups-

- Guided practice
- Shared reading
- Paired problem
- Solving / critical thinking and reasoning
- Learning centers
- Prodigy / technology
- Smart board activities

Formative, Summative and Alternative Assessments	Benchmark Assessments	Core Instructional and Supplemental Materials

		(including various texts at each grade level)
● Quizzes ● Classwork ● Homework ● Exit tickets ● Math journals ● Teacher observation / anecdotal notes ● IXL Modules ● Fluency Work Summative- ● Project based learning ● Unit tests ● Midterms ● Finals ● Portfolios ● IXL Quizzes Alternative- ● Project based learning	● Beginning of Year Assessment ● Mid Year Assessment ● End of year assessment ● Unit Assessment ● IXL Diagnostic	● IXL ● Prodigy ● Math manipulatives ● Judy clocks ● Money- coins, bills, magnetic money ● Money poem ● 100 chart ● Math games ● Centers ● NJCTl ● Base ten blocks ● Place value charts / mats

Technology	**Crosscutting Concepts / Interdisciplinary Connections across grade levels and content areas (at least 1 must be in ELA)**
8.1.2.CS.1- Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences 8.1.2.DA.1- Collect and present data in various visual formats 8.1.2.DA.3- Identify and describe patterns in data visualizations 8.1.2.DA.4- Make predictions based on data using charts or graphs	ELA-SL.PE.1.2.A-Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. Follow agreed upon norms for discussions (e.g., listening to others with care, speaking about the topics and texts under discussion) Science-***2-ESS2-1-***because there is always more than one possible solution to a problem, it is useful to compare and test designs (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	● 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,	● 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

● 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 eliminates 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	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	● Problem-based learning ● Stations / centers ● Think-tac-toes ● Tiered activities / assignments ● Tiered products ● Varying organizers for instructions

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:** Understand concepts of data

Standard	Disciplinary Core Ideas / Essential Statement / Objective
2.DL.A.1	Understand that people collect data to answer questions. Understand that data can vary.
2.DL.A.2	Identify what could count as data (e.g, visuals, sounds, numbers)

Practices / Skills & Lesson / Learning Activities

- Represent and interpret data
- Use place value understanding of properties of operations to add and subtract
- Draw a picture graph to represent data with up to four categories
- Draw a bar graph to represent data with up to four categories
- Solve problems using bar graphs
- Add and subtract within 1000 using concrete models or drawings

Whole Group-

- Model lesson
- Guided practice
- Student whiteboards
- Pre-teach vocabulary
- Collect, organize, and interpret data using graphs
- Construct pictograph, bar graph
- Use tally marks to graph information
- Solve simple put-together, take-apart word problems using graphs
- Compare numbers using information in a graph
- Solve one and two step word problems

Individual-

- Independent practice
- one-on -one reteach
- Learning centers
- Math journals
- Prodigy / technology

Small Groups-

- Guided practice
- Paired problem
- Solving / critical thinking and reasoning
- Learning centers
- Prodigy / technology
- Smart board activities

Alpha Public School
Math Curriculum Map

Formative, Summative and Alternative Assessments	Benchmark Assessments	Core Instructional and Supplemental Materials (including various texts at each grade level)
● Quizzes ● Classwork ● Homework ● Exit tickets ● Math journals ● Teacher observation / anecdotal notes ● IXL Modules ● Fluency Work Summative- ● Project based learning ● Unit tests ● Midterms ● Finals ● Portfolios ● IXL Quizzes Alternative- ● Project based learning	● Beginning of Year Assessment ● Mid Year Assessment ● End of year assessment ● Unit Assessment ● IXL Diagnostic	● IXL ● Prodigy ● Math manipulatives ● Math games ● Centers ● Base ten blocks ● Place value charts / mats

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

Standard	Disciplinary Core Ideas / Essential Statement / Objective
2.DL.B.3	Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.
2.DL.B.4	Draw a picture graph and a bar graph (with single unit scale) to represent a data set with up to four categories. Solve simple put together, take apart and compare problems using information presented in a bar graph.

Practices / Skills & Lesson / Learning Activities
● Represent and interpret data ● Use place value understanding of properties of operations to add and subtract ● Draw a picture graph to represent data with up to four categories ● Draw a bar graph to represent data with up to four categories ● Solve problems using bar graphs ● Add and subtract within 1000 using concrete models or drawings Whole Group- ● Model lesson ● Guided practice ● Student whiteboards ● Pre-teach vocabulary ● Collect, organize, and interpret data using graphs

- Construct pictograph, bar graph
- Use tally marks to graph information
- Solve simple put-together, take-apart word problems using graphs
- Compare numbers using information in a graph
- Solve one and two step word problems

Individual-

- Independent practice
- one-on -one reteach
- Learning centers
- Math journals
- Prodigy / technology

Small Groups-

- Guided practice
- Paired problem
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Technology	**Crosscutting Concepts / Interdisciplinary Connections across grade levels and content areas (at least 1 must be in ELA)**
8.1.2.CS.1- Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences 8.1.2.DA.1- Collect and present data in various visual formats	ELA-SL.PE.1.2.A-Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. Follow agreed upon norms for discussions (e.g., listening to others with care, speaking about the topics and texts under discussion) Science-***2-ESS2-1-***because there is always more than one possible solution to a problem, it is useful to compare and test designs (ETS1.C)

8.1.2.DA.3- Identify and describe patterns in data visualizations 8.1.2.DA.4- Make predictions based on data using charts or graphs	ELA-W.WR.2.5-Generate questions about a topic and locate related information from a reference source to obtain information on that topic through shared and independent research.

Differentiation (IEPs / 504s)	Differentiation (ELL)	Differentiation (G &T)
● 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 content ● 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	● 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:** Reason with shapes and their attributes

Standard	Disciplinary Core Ideas / Essential Statement / Objective
2.G.A.1	Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Identify triangles, quadrilaterals, pentagons, hexagons, and cubes. (Clarification: sizes are compared directly or visually, not compared by measuring)
2.G.A.2	Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.
2.G.A.3	Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape. For example, students partition a rectangle (i.e. the whole) into three equal shares, identify each of the shares as a "third" and describe the rectangle as three thirds.

Practices / Skills & Lesson / Learning Activities
● Reason with shapes and their attributes ● Work with equal groups of objects to gain a foundation for multiplication ● Identify triangles, quadrilaterals, pentagons, hexagons and cubes ● Recognize and draw shapes based on number of angles or faces ● Divide a rectangle into rows and columns (i.e. area) ● Divide circles and rectangles into two, three, and four equal shares (i.e. fractions)

- Use rectangular arrays to express addition sums, within 25

Whole group-
- Model lesson
- Guided practice
- Student whiteboards
- Pret-each vocabulary
- 2D and 3D shapes
- Attributes and properties of 3D shapes
- Vertices, sides, edges, angles, faces
- Area using arrays, columns and rows
- Perimeter
- Fractions
- Equal parts
- One and two step word problems

Individual-
- Independent practice
- One-one one research
- Learning centers
- Math journals
- Prodigy / technology

Small groups-
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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 management. CRP11. Use technology to enhance productivity CRP12. Work productively in teams while using cultural global competence	