Pacing Guide For Math Curriculum

Grade 5

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: 5th grade

Unit: Operations and Algebraic Thinking	**Content Topic:** Write and interpret numerical expressions

Standard	**Disciplinary Core Ideas / Essential Statement / Objective**
5.OA.A.1	Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
5.OA.A.2	Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation "add 8 and 7, then multiply by 2" as 2 x (8+7). Recognize that 3 x (18932 + 921) is three times as large as 18932 + 921 without having to calculate the indicated sum or product.

Practices / Skills & Lesson / Learning Activities

- Write and interpret numerical expressions
- Use parentheses, brackets, or braces in numerical expressions and evaluate
- Write simple expressions and interpret numerical expressions
- Use two numerical patterns using two given rules, "in & out"

Whole Group-

- Introduction video stating objective
- Review / Intro vocabulary (discuss real world connections)
- Review previous knowledge (background topics)
- Promote higher level thinking through direction instruction

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)**
● Tests ● Quizzes ● Fluency Work ● Homework ● Classwork ● Peer review	● Unit assessments ● Beginning of Year / Mid year / End of year assessments ● IXL Diagnostic	● IXL ● Anchor charts ● Manipulatives ● Games ● Technology ● Prodigy

• Exit slips • White Board Participation • IXL Modules Summative- • Unit Test • IXL quizzes Alternative- • Checking for levels of understanding • Choice boards-projects • Demonstration • Journaling • Conferencing		• Deck of cards • Multiplication table • PEMDAS

Unit: Operations and Algebraic Thinking	**Content Topic:** Analyze patterns and relationships

Standard	**Disciplinary Core Ideas / Essential Statement / Objective**	**Practices / Skills & Lesson**
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. For example, given the rule, "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.	• Graph points on the coordinate plane to solve real-world and mathematical problems. • Write and interpret numerical expressions • Use parentheses, brackets, or braces in numerical expressions and evaluate • Write simple expressions and interpret numerical expressions • Use two numerical patterns using two given rules, "in & out" Whole Group- • Introduction video stating objective • Review / Intro vocabulary (discuss real world connections) • Review previous knowledge (background topics) • Promote higher level thinking through direction instruction 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.MF.5.6-Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, timelines, animations, or interactive elements on web pages) and explain how the information contributes to an understanding of the text in which it appears ELA-SL.PE.5.1.A-Explicitly draw on previously read text or material and other information known about a topic to explore ideas under discussion. 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 information allowing products (projects, timelines, demonstrations,	● 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: Number and Operations in Base Ten	**Content Topic:** Understand the place value system

Standard	**Disciplinary Core Ideas / Essential Statement / Objective**
5.NBT.A.1	Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $\frac{1}{10}$ of what it represents in the place to its left.
5.NBT.A.2	Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
5.NBT.A.3.a	Read, write, and compare decimals to thousandths. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g, 347.392= 3 x 100 + 4 x 10 + 7 x 1 + 3 x ($\frac{1}{10}$) +9x($\frac{1}{100}$) +2x($\frac{1}{1000}$).
5.NBT.A.3.b	Read, write and compare decimals to thousandths. Compare two decimals to thousandths based on meanings of the digits in each place using >, =, and < symbols to record the results of comparisons.
5.NBT.A.4	Use place value understanding to round decimals to any place.

Practices / Skills & Lesson / Learning Activities
● Understand the place value system ● Identify place value ● Compare decimals to thousandths ● Round decimals to any place within thousandths Whole group-

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Individual-

- Math fact practice
- Technology
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Small Group-

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Unit: Number and Operations in Base Ten	**Content Topic:** Perform operations with multi-digit whole numbers and with decimals to hundredths

Standard	Disciplinary Core Ideas / Essential Statement / Objective
5.NBT.B.5	With accuracy and efficiency, multiply multi-digit whole numbers using the standard algorithm.
5.NBT.B.6	Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and / or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and / or area models.

5.NBT.B.7	Add, subtract, multiply and divide decimals to hundredths, 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 and explain the reasoning used.

Practices / Skills & Lesson / Learning Activities

- Perform operations with multi-digit whole numbers and decimals to hundredths
- Add, subtract, multiply decimals to hundredths using concrete models or drawings and strategies based on place value, properties of operations and / or the relationship between addition and subtraction
- Fluently multiply multi-digit numbers using the standard algorithm.

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Unit: Number and Operation in Fractions	**Content Topic:** Use equivalent fractions as a strategy to add or subtract fractions

Standard	**Disciplinary Core Ideas / Essential Statement / Objective**
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. For example, $\frac{2}{3}+\frac{5}{4}+\frac{8}{12}+\frac{15}{12}=\frac{23}{12}$. [In general, $\frac{a}{b}+\frac{c}{d}=\frac{(ad+bc)}{bd}$].
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. For example, recognize an incorrect result $\frac{2}{5}+\frac{1}{2}=\frac{3}{7}$, by observing that $\frac{3}{7}<\frac{1}{2}$.

Practices / Skills & Lesson / Learning Activities
● Use equivalent fractions as a strategy to add and subtract fractions ● Apply and extend previous understandings of multiplication and division to multiply and divide fractions ● Understand that a fraction is another representation of a division problem ● Add and subtract fractions with unlike denominators, including mixed 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

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Unit: Number and Operations-Fractions	**Content Topic:** Apply and extend previous understandings of multiplication and division to multiply and divide fractions

Standard	Disciplinary Core Ideas / Essential Statement / Objective
5.NF.B.3	Interpret a fraction as division of the numerator by the denominator (i.e., $\frac{a}{b} = a \div b$). 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. For example, interpret $\frac{3}{4}$ as the result of dividing 3 by 4, noting that $\frac{3}{4}$ multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size $\frac{3}{4}$. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?
5.NF.B.4.a	Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. Interpret the product $(\frac{a}{b})$ x q as *a* parts of a partition of *q* into *b* equal parts; equivalently, as the result of a sequence of operations *a x q ÷ b.* For example, use a visual fraction model to show $(\frac{2}{3})$ x 4 = $\frac{8}{4}$, and create a story context for this equation. Do the same with $(\frac{2}{3})$ x $(\frac{4}{5})$ = 15. [In general, $(\frac{a}{b})$ x $(\frac{c}{d})$ =$(\frac{ab}{cd})$].
5.NF.B.4.b	Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fractions products as rectangular areas.
5.NF.B.5.a	Interpret multiplication as scaling (resizing), by: Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.
5.NF.B.5.b	Interpret multiplication as scaling (resizing), by: Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $\frac{a}{b} = \frac{(n \times a)}{(n \times b)}$ to the effect of multiplying $\frac{a}{b}$ by 1.

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.
5.NF.B.7.a.	Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for $(\frac{1}{3}) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(\frac{1}{3}) \div 4 = \frac{1}{12}$ because $\frac{1}{12} \times 4 = \frac{1}{3}$.
5.NF.B.7.b	Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for $4 \div (\frac{1}{5})$ and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $4 \div (\frac{1}{5}) = 20$ because $20 \times (\frac{1}{5}) = 4$.
5.NF.B.7.c	Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. For example, how much chocolate will each person get if 3 people share $\frac{1}{2}$ lb of chocolate equally? How many $\frac{1}{3}$ cup servings are in 2 cups of raisins?

Practices / Skills & Lesson / Learning Activities

- Apply and extend previous understandings of multiplication and division to multiply and divide fractions
- Develop an understanding for multiplication of whole numbers by fractions as well as fractions by fractions
- Develop an understanding of division of a fraction by a unit fraction and a fraction by a unit fraction by using a concrete model
- Create line plots involving fractional units

Whole group-

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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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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 information allowing products (projects, timelines, demonstrations,	● 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: Measurement	**Content Topic:** Convert like measurement units within a given measurement system

Standard	Disciplinary Core Ideas / Essential Statement / Objective	Practices / Skills & Lesson
5.M.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.	● Convert measurements within a given system 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: Measurement	**Content Topic:** Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

Standard	Disciplinary Core Ideas / Essential Statement / Objective
5.M.B.2.a	Recognize volume as an attribute of solid figures and understand concepts of volume measurement. A cube with side length 1 unit, called a "unit cube" is said to have "one cubic unit" of volume, and can be used to measure volume.
5.M.B.2.b	Recognize volume as an attribute of solid figures and understand concepts of volume measurement. A solid figure which can be packed without gaps or overlaps using *n* unit cubes is said to have a volume of *n* cubic units.
5. M.B.3	Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and non-standard units.
5.M.B.4.a	Relate volume to the operations of multiplication and addition and solve real world and mathematical problems using volume. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.
5.M.B.4.b	Relate volume to the operations of multiplication and addition and solve real world and mathematical problems using volume. Apply the formulas $V = l$ x w x h and $V = B$ x h for rectangular prisms to find volumes of right rectangular prisms with whole number edge lengths in the context of solving real world and mathematical problems.
5.M.B.4.c	Relate volume to the operations of multiplication and addition and solve real world and mathematical problems using volume. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of non-overlapping parts, applying this technique to solve real world problems.

Practices / Skills & Lesson / Learning Activities
● Understand concepts of volume and relate volume to multiplication and to addition ● Convert measurements within a given system ● Develop an understanding of volume of solids through solving word problems 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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● 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	● 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

● 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 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:** Understand and analyze data visualizations

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

5.DL.A.1	Understand how different visualizations can highlight different aspects of data. Ask questions and interpret data visualizations to describe and analyze patterns.
5.DL.A.2	Develop strategies to collect, organize, and represent data of various types and from various sources. Communicate results digitally through a data visual (e.g., chart, storyboard, video presentation).
5.DL.A.3	Collect and clean data to be analyzable (e.g, make sure each entry is formatted correctly, deal with missing or incomplete data).
5.DL.A.4	Using appropriate visualizations (i.e., double line plot, double bar graph), analyze data across samples

Practices / Skills & Lesson / Learning Activities

- Discuss the importance of data visualizations in understanding information.
- Define key terms: data, data visualization, graph, chart, plot.
- Show examples of different types of visualizations (bar graph, line plot, pie chart, etc.).
- Present a data set with a bar graph and a line plot representing the same data.
- Ask students to identify similarities and differences in what each visualization emphasizes.
- Guide a discussion on how different visualizations can highlight different aspects of the same data
- Divide students into small groups.
- Provide each group with a different set of data (e.g., survey results, weather data).
- Instruct groups to choose an appropriate visualization type (e.g., bar graph, double bar graph, line plot) to represent their data.
- Each group should sketch out their visualization on paper.
- Have each group present their chosen data set and the visualization they created.
- Discuss why they chose that specific type of visualization and how it effectively represents their data.
- Introduce double line plots and double bar graphs.
- Provide examples and explain when each is used (comparing data across two categories or samples).
- Provide students with two sets of related data (e.g., rainfall in two different cities over months).
- Instruct students to create a double line plot or double bar graph to compare the data sets.
- Have students present their double visualizations.
- Guide a discussion on how these visualizations help in comparing data across different samples or categories.
- Have students explore online tools for creating digital data visualizations (e.g., Google Sheets, online graphing tools).
- Allow them to create a digital data visual to represent a given data set from the lesson.

Formative, Summative and Alternative Assessments	Benchmark Assessments	Core Instructional and Supplemental Materials (including various texts at each grade level)
• Tests • Quizzes • Fluency Work • Homework • Classwork • Peer review • Exit slips • White Board Participation • IXL Modules Summative- • Unit Test	• Unit assessments • Beginning of Year / Mid year / End of year assessments • IXL Diagnostic	• IXL • Anchor charts • Manipulatives • Games • Technology • Prodigy • Deck of cards • Multiplication table • PEMDAS • Computers or tablets with internet access

• IXL quizzes Alternative- • Checking for levels of understanding • Choice boards-projects • Demonstration • Journaling • Conferencing		• Projector or smartboard • Data sets for activities • Graphing software (optional, depending on availability) • Handouts: Data sets, worksheet for activities

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

Standard	Disciplinary Core Ideas / Essential Statement / Objective	Practices / Skills & Lesson
5.DL.B.5	Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Use operations on fractions for this grade to solve problems involving information presented in line plots. For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.	• **Data Set Presentation:** Present the data set: measurements in fractions of a unit - 12/16, 14/16, 18/16. • Show students how to set up a number line labeled from 0 to 2 (since the fractions are out of 16, representing a whole as 16/16). • Mark each measurement on the line plot, demonstrating how to place X's above the appropriate values on the number line. • Have students create their own line plots on paper using the same data set. **Redistribution Scenario:** Pose a problem: "If the total amount of liquid in all the beakers (12/16, 14/16, and 18/16) were redistributed equally among three beakers, how much liquid would each beaker contain?" • **Discuss Strategy:** Guide students to think about adding fractions with like denominators to find the total amount of liquid and then divide by the number of beakers. • Add 12/16 + 14/16 + 18/16 to find the total amount of liquid. • Divide the total by 3 (since there are three beakers) to find the amount each beaker would contain. • Provide additional challenging problems involving fractions and line plots for students who demonstrate proficiency early

Formative, Summative and Alternative Assessments	Benchmark Assessments	Core Instructional and Supplemental Materials (including various texts at each grade level)
• Tests • Quizzes	• Unit assessments • Beginning of Year / Mid	• IXL • Anchor charts

● Fluency Work ● Homework ● Classwork ● Peer review ● Exit slips ● White Board Participation ● IXL Modules Summative- ● Unit Test ● IXL quizzes Alternative- ● Checking for levels of understanding ● Choice boards-projects ● Demonstration ● Journaling ● Conferencing	year / End of year assessments ● IXL Diagnostic	● Manipulatives ● Games ● Technology ● Prodigy ● Deck of cards ● Multiplication table ● PEMDAS

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.MF.5.6-Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, timelines, animations, or interactive elements on web pages) and explain how the information contributes to an understanding of the text in which it appears ELA-SL.PE.5.1.A-Explicitly draw on previously read text or material and other information known about a topic to explore ideas under discussion. 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	● Allow students to correct errors (looking for understanding) ● Teaching key aspects of a	● Alternative formatives and summative assessments ● Choice boards ● Games and tournaments

● 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 information allowing products (projects, timelines, demonstrations, models, drawings, diorama, poster boards, charts, graphs, slideshows, videos, etc). To demonstrate	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	● 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:** Graph points on the coordinate plane to solve real-world and mathematical problems

Standard	Disciplinary Core Ideas / Essential Statement / Objective
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).
5.G.A.2	Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

Practices / Skills & Lesson / Learning Activities
● Graph points on the coordinate plane understanding that the first coordinate is the x value and the second coordinate is the second value ● Use the coordinate grid to visualize algebraic relationships 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: Geometry	**Content Topic:** Classify two-dimensional figures into categories based on their properties

Standard	Disciplinary Core Ideas / Essential Statement / Objective
5.G.B.3	Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.
5.G.B.4	Classify two-dimensional figures in a hierarchy based on properties.

Practices / Skills & Lesson / Learning Activities
• Classify two-dimensional figures into categories based on their properties • Categorize and classify geometric figures 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-

- Center based practice
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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	-Business Management & Administration -Education & Training -Finance -Information Technology -Manufacturing -Marketing -Science, Technology, Engineering & Mathematics (STEM) -Transportation, Distribution & Logistics

Technology) Literacy <u>SKILLS:</u> 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	