



# Stafford Township School District

Mathematics Curriculum

Grade 4

Adopted: 08/17/2017

Updated: 01/06/2020, 8/3/2021, 8/22/2022 (enVisions), 09/12/2022 (revised 2020 NJSL Interdisciplinary Standards)

## Statement of Purpose

The New Jersey Student Learning Standards for Mathematics challenges us to ensure focus, coherence, and rigor in our mathematics curriculum across all elementary grade levels. Additionally, through the Standards for Mathematical Practice, students are encouraged to develop the application of math skills while solving real world problems.

To gain a greater focus, the standards place an emphasis on fewer skills, deepening and strengthening the foundations, thus providing students with the knowledge to apply the skills to situations inside and outside of the classroom. Grades 3 – 5 focus on concepts, skills and problem solving related to multiplication and division of whole numbers and fractions. Within our curriculum, focus is maintained by building students' conceptual skills while developing the deeper understanding and real world application.

Coherence is supported by the alignment of the curriculum, instruction, and assessments. The repeated domains, within the standards, progress through the elementary grades to allow for developmentally appropriate attainment of learning outcomes. The curriculum's suggested pacing allows for the important balance of developing conceptual understanding and procedural skills. Instructional decisions are guided by the use of Board approved resources, problem-based learning and real-world applications that incorporate technology and the 21st century skills.

Rigor, as addressed in the standards, has three main components: conceptual understanding, procedural skills and fluency, and application. The curriculum has been designed with this in mind; there is a progression of skills that guide students from the conceptual phase to the application component. Each understanding of the concepts applies to a relevant, real world experience. The Standards for Mathematical Practice guide educators in helping students develop "processes and proficiencies" through problem solving, reasoning and proof, communication, representations, and connections, adaptive reasoning, strategic competence, conceptual understanding (comprehension of mathematical concepts, operations and relations), procedural fluency (skill in carrying out procedures flexibly, accurately, efficiently and appropriately), and productive disposition. From these standards, each instructional cycle focuses on a few to enable students to develop deeper understanding.

The Standards for Mathematical Practice describe ways in which developing student practitioners, of the discipline of mathematics, increasingly promote engagement with the subject matter as they grow in mathematical maturity and expertise. This is supported through the scope and sequence of the curriculum.

**Primary Interdisciplinary Connections:** Science, Social Studies, Language Arts, Technology, and 21st Century Life and Careers. For further clarification see New Jersey Student Learning Standards at <http://www.nj.gov/education/cccs/>

**21st Century Themes:** Through instruction in life and career skills, all students acquire the knowledge and skills needed to prepare for life as citizens and workers in the 21st century. For further clarification, see <http://www.nj.gov/education/aps/cccs/career/>

## Grade 4 Overview

### **Operations and Algebraic Thinking**

- Use the four operations with whole numbers to solve problems
- Gain familiarity with factors and multiples
- Generate and analyze patterns

### **Number and Operations in Base Ten**

- Generalize place value understanding for multi-digit whole numbers
- Use place value understanding and properties of operations to perform multi-digit arithmetic

### **Number and Operations - Fractions**

- Extend understanding of fraction equivalence and ordering
- Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers
- Understand decimal notation for fractions, and compare decimal fractions

### **Measurement and Data**

- Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit
- Represent and interpret data
- Geometric measurement: understand concepts of angle and measure angles

### **Geometry**

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

## Mathematical Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

### Supporting Mathematical Practices through Questioning

<p><b>Practice 1:</b> Make sense of problems and persevere in solving them</p>	<ul style="list-style-type: none"> <li>● What is the problem asking?</li> <li>● How will you use that information?</li> <li>● What other information do you need?</li> <li>● Why did you choose that operation?</li> <li>● What is another way to solve that problem?</li> <li>● What did you do first? Why?</li> <li>● What can you do if you don't know how to solve a problem?</li> <li>● Have you solved a problem like this one?</li> <li>● When did you realize your first method would not work?</li> <li>● How do you know your answer makes sense?</li> </ul>
<p><b>Practice 2:</b> Reason abstractly and quantitatively</p>	<ul style="list-style-type: none"> <li>● What is a situation that could be represented by this equation?</li> <li>● What operation did you use to represent the situation</li> <li>● Why does that operation represent the situation?</li> <li>● What properties did you use to find the answer?</li> <li>● How do you know the answer is reasonable?</li> </ul>
<p><b>Practice 3:</b> Construct viable arguments and critique the reasoning of others</p>	<ul style="list-style-type: none"> <li>● Will that method always work?</li> <li>● How do you know?</li> <li>● What do you think about what the other student said?</li> <li>● Who can tell us about a different method?</li> <li>● What do you think will happen if ...?</li> <li>● When would that not be true?</li> <li>● Why do you agree/disagree with what the other student said?</li> <li>● What do you want to ask the other student about that method?</li> <li>● How does that drawing support your work?</li> </ul>
<p><b>Practice 4:</b> Model with mathematics</p>	<ul style="list-style-type: none"> <li>● Why is that a good model for this problem?</li> <li>● How can you use a simpler problem to help you find the answer?</li> <li>● What conclusions can you make from your model?</li> <li>● How would you change your model if...?</li> </ul>
<p><b>Practice 5:</b> Use appropriate tools strategically</p>	<ul style="list-style-type: none"> <li>● What could you use to help you solve the problem?</li> <li>● What strategy could you use to make the calculation easier?</li> <li>● How would estimation help you solve that problem?</li> </ul>

	<ul style="list-style-type: none"> <li>• Why did you decide to use...?</li> </ul>
<b>Practice 6:</b> Attend to precision	<ul style="list-style-type: none"> <li>• How do you know your answer is reasonable?</li> <li>• How can you use math vocabulary in your answer?</li> <li>• How do you know those answers are equivalent?</li> <li>• What does that mean?</li> </ul>
<b>Practice 7:</b> Look for and make use of structure	<ul style="list-style-type: none"> <li>• How did you discover the pattern?</li> <li>• What other patterns can you find?</li> <li>• What rule did you use to make this group?</li> <li>• Why can you use that property in this problem?</li> <li>• How is that like...?</li> </ul>
<b>Practice 8:</b> Look for and express regularity in repeated reasoning	<ul style="list-style-type: none"> <li>• What do you remember about...?</li> <li>• What happens when...?</li> <li>• What if you...instead of...?</li> <li>• What might be a shortcut for...?</li> </ul>

### Mathematical Practices Rubric

Mathematical Practice	4	3	2	1
<b>MP #1</b>	Made sense of problems, evaluated approaches, and persevered in solving them.	Made sense of problems and persevered in solving them.	Made sense of problems.	With support, made sense of problems.
<b>MP #2</b>	Dug deeply into a problem to analyze and reason abstractly and quantitatively.	Reasoned abstractly and quantitatively.	Represented a complex problem mathematically.	Represented a basic problem mathematically.
<b>MP #3</b>	Analyzed situations, breaking them into cases and building a logical argument with counter-examples. Communicated ideas and responded to others. Provided critique and feedback to others.	Constructed viable arguments and critique the reasoning of others.	Constructed viable arguments.	Compared arguments.
<b>MP #4</b>	Analyzed complex relationships mathematically to solve problems.	Made assumptions and approximations to simplify complex problems.	Applied reasoning to plan an event or solve a problem.	Wrote an equation to describe a situation.
<b>MP #5</b>	Used appropriate tools strategically to solve problems and display solutions.	Used appropriate tools strategically.	Identified available tools to solve a problem and when to use them.	Identified available tools to solve a problem.
<b>MP #6</b>	Attends to precision and details when calculating and communicating. Examined details of claims and made explicit use of definitions.	Attends to precision and details when calculating and communicating.	Where accurate when calculating and communicating.	Where clear when calculating and communicating.

<b>MP #7</b>	Recognized complex patterns and could see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. Applied patterns to solve problems.	Recognized complex patterns and used those to solve problems.	Recognized complex patterns.	Recognized patterns.
<b>MP #8</b>	Maintained oversight of the whole process while paying attention to details. Continued to evaluate the reasonableness of intermediate results.	Looked for and expressed regularity in repeated reasoning. Found general methods or shortcuts.	Found methods that can be used in multiple applications.	Identified efficient methods in solving some problems.

<b>Unit 1: Operations and Algebraic Thinking</b>		<b>Topics 6, 7, 14 Duration: End January/February, May 20 Days</b>
<b>Standards</b>		
<b>A.</b>	<b>Use the four operations with whole numbers to solve problems.</b>	
<b>4.OA.1</b>	Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.	
<b>4.OA.2</b>	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.	
<b>4.OA.3</b>	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	
<b>B.</b>	<b>Gain familiarity with factors and multiples.</b>	
<b>4.OA.4</b>	Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1– 100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.	
<b>C.</b>	<b>Generate and analyze patterns.</b>	
<b>4.OA.5</b>	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.	
<b>Interdisciplinary Connections</b>		
<b>Language Arts Standards</b>		
<b>SL.4.1.A</b>	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade 4 topics and texts</i> , building on others' ideas and expressing their own clearly.	
<b>SL.4.1.B</b>	Follow agreed-upon rules for discussions and carry out assigned roles.	
<b>SL.4.1.C</b>	Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others.	
<b>SL.4.1.D</b>	Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.	
<b><u>Computer Science &amp; Design Thinking (Technology)</u></b>		
<b>8.1 Computer Science</b>		



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.1: Collect, organize, and display data in order to highlight relationships or support a claim

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.5: Propose cause and effect relationships, predict outcomes, or communicate ideas using data.

8.1.5.IC.1: Identify computing technologies that have impacted how individuals live and work and describe the factors that influenced the changes.

### **8.2 Design Thinking**

8.2.5.ED.2: Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models.

8.2.5.ED.3: Follow step by step directions to assemble a product or solve a problem, using appropriate tools to accomplish the task.

### **Career Readiness, Life Literacies, and Key Skills**

This outlines concepts and skills necessary for New Jersey's students to thrive in an ever-changing world. Intended for integration throughout all K-12 academic and technical content areas, the 2020 New Jersey Student Learning Standards — Career Readiness, Life Literacies, and Key Skills (NJSLS-CLKS) provides the framework for students to learn the concepts, skills, and practices essential to the successful navigation of career exploration and preparation, personal finances and digital literacy.

<https://www.nj.gov/education/standards/clicks/index.shtml>

### **9.1 Personal Financial Literacy**

This standard outlines the important fiscal knowledge, habits, and skills that must be mastered in order for students to make informed decisions about personal finance. Financial literacy is an integral component of a student's college and career readiness, enabling students to achieve fulfilling, financially-secure, and successful careers.

### **9.2 Career Awareness**

This standard outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.

### **9.3 Career and Technical Education**

This standard outlines what students should know and be able to do upon completion of a CTE Program of Study.

### **9.4 Life Literacies and Key Skills**

This standard outlines key literacies and technical skills such as critical thinking, global and cultural awareness, and technology literacy that are critical for students to develop to live and work in an interconnected global economy.

<b><u>Career Readiness, Life Literacies, and Key Skills</u></b>	
<p>9.1.5.CR.1: Compare various ways to give back and relate them to your strengths, interests, and other personal factors.</p> <p>9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).</p> <p>9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.</p> <p>9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3)</p>	
<b>Essential Understandings</b>	<b>Essential Questions</b>
<p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>• Numbers can be compared abstractly and quantitatively</li> <li>• Knowing their multiplication facts can help in real life situations</li> <li>• Different symbols are used to compare numbers</li> <li>• By identifying patterns helps reinforce facts and develop fluency with operations</li> </ul>	<ul style="list-style-type: none"> <li>• How can numbers be expressed, ordered, and compared?</li> <li>• How can place value understanding help us with comparing, ordering, and rounding?</li> <li>• Why is it important to have a quick recall of multiplication and division?</li> <li>• What symbols can be used to compare numbers?</li> <li>• Why is it important to identify patterns?</li> </ul>
<b>Evidence of Student Learning</b>	
<b>Performance Tasks:</b> <i>Activities to provide evidence for student learning of content and cognitive skills.</i>	<b>Other Assessments</b>
<p><b><u>Food In Space</u></b>  <i>Student Directions:</i> You need to find out how much food will be needed for the mission to Mars. Use the important facts to create your plan. Find the total number of days. Find the amount of food needed for 1 astronaut for the entire mission. Find the total amount of food needed for all astronauts for the entire mission.</p> <p><b><u>Road Trip</u></b>  <i>Student Directions:</i> Math comes in handy when traveling and shows up in various ways from estimating the amount of fuel you'll need to plan out a trip based on miles per hour and distance traveled. Calculating fuel usage is crucial to long distance travel. Without it, you may find yourself stranded without</p>	<p><b>Formative Assessments</b></p> <ul style="list-style-type: none"> <li>• Performance assessment</li> <li>• Teacher Observation</li> <li>• Exit slips/Slate Assessments</li> <li>• Games (technology/manipulative-based)</li> <li>• Pre-assessments</li> <li>• Anecdotal Records</li> <li>• Oral Assessments/Conferencing</li> <li>• Portfolio/Math Journals</li> <li>• Daily Classwork</li> </ul> <p><b>Summative Assessments</b></p> <ul style="list-style-type: none"> <li>• Tests</li> </ul>

<p>gas or on the road for much longer than anticipated. You may also use math throughout the trip by paying for tolls, counting exit numbers, checking tire pressure, etc.</p> <p>Start your travels at home and have students map a car route to their final location. They will need to determine how long it will take to get there (based on miles/hr) how much they will need to spend on gas, and how many stops they will need to make.</p>	<ul style="list-style-type: none"> <li>● Quizzes</li> <li>● District Wide Assessments</li> <li>● BOY Benchmark</li> </ul> <p><b>Benchmark Assessment</b></p> <ul style="list-style-type: none"> <li>● I-Ready</li> <li>● enVision Benchmark Assessment</li> </ul> <p><b>Alternative Assessments</b></p> <ul style="list-style-type: none"> <li>● Untimed Fact Practice Assessment</li> <li>● Manipulative Driven Assessment</li> <li>● Modified/Teacher Created Chapter Tests</li> <li>● Modified/Teacher Created Mid-Chapter Quiz</li> <li>● Visual Representation of Skills Assess</li> <li>● Modified Classwork Assignments</li> <li>● Modified Benchmarks</li> <li>● Project Based Assessments with Scoring Rubric</li> </ul>
<b>Mathematical Practice</b>	
<p>MP. 4 Model with mathematics.  MP.5 Use appropriate tools strategically.  MP.7 Look for and make use of structure.</p>	
<b>Vocabulary</b>	
<p>product, associative property, commutative property, identity property, distributive property, quotient, factors, multiple, prime, composite, array, area model, divisor, dividend, breaking apart, compensation, counting on, inverse operations</p>	
<b>Knowledge and Skills</b>	
<b>Content</b>	<b>Skills</b>
<p>Cluster:</p> <ul style="list-style-type: none"> <li>● Use the four operations with whole numbers to solve problems</li> <li>● Gain familiarity with factors and multiples</li> <li>● Generate and analyze patterns</li> </ul> <p><i>Students will know...</i></p> <ul style="list-style-type: none"> <li>● How to solve multi-step word problems with whole numbers using the four operations</li> <li>● How to write an algebraic expression</li> </ul>	<p><i>Students will be able to ...</i></p> <ul style="list-style-type: none"> <li>● Solve multi-step word problems with whole numbers using the four operations</li> <li>● Write an algebraic expression</li> <li>● Find all factor pairs for a whole number less than 100</li> <li>● Identify patterns and apply rule</li> <li>● Identify and verbalize which quantity is being multiplied and which number tells how many times</li> <li>● Use mental computation and estimation strategies to check the reasonableness of their answer</li> </ul>

<ul style="list-style-type: none"> <li>• How to find all factor pairs for a whole number less than 100</li> <li>• How to identify patterns and apply the rule</li> </ul>	<ul style="list-style-type: none"> <li>• Determine whether a number is prime or composite</li> <li>• Investigate different patterns to find rules, identify features in the patterns, and justify the reason for those features</li> <li>• Solve multi-step word problems involving multiplication and division of whole numbers</li> <li>• Use an organized procedure to solve word/application problems</li> </ul>
<b>Instructional Plan</b>	
<b>Suggested Activities</b>	<b>Resources</b>
<p><b>Around the world with facts</b> - Students will answer multiplication facts. First, two students pair up and compete to correctly answer the multiplication fact first. The student with the correct answer moves to pair up with the next student. This process continues until one student moves all around the classroom back to their seat.</p>	Flashcards
<p><b>Multiplication War</b> - Students will each evenly share a set of cards with numbers 0 through 12 or playing cards with a partner. Students will each draw two cards from their deck. He/she will multiply their two numbers together. The partner with the larger product wins and collects all four cards. If the students have a tie and have the same product, both students place four cards face down on the table. Then, each student flips over their first two cards and finds the product of those numbers. The person with the higher product wins and collects all cards. If there is a second tie, the student continue to flip over two more cards to find the product. The winner is the person who collects all of the cards.</p>	Playing cards (Ace is 0, Jack is 11, Queen is 12, and King is any number) or cards with numbers 0 through 12
<p><b>Math Fact Bump</b> - Students will use a multiplication bump board and will roll dice to try to get as many of their pieces on the board as they can. Students roll two dice and multiply the numbers on the dice together. The student then places their game piece on the product of their two dice. Next, the student's partner does the same thing, and they continue to take turns for the given amount of time they have. The student with the most number of pieces on the board wins when the time is up.</p>	Bump Boards, dice (2 six-sided or 2 ten-sided), timer (to set how long students will play with their partner)

<p><b>Array Boxes</b> - Students will create arrays on graph paper with a partner. One partner will roll two dice and then draw an array on graph paper based on these two numbers. In the middle of their array, they write the product of those two numbers and colors in their array in their color. The next partner chooses a different color and follows the same steps. The students can make their arrays touch on the graph paper. Once the graph paper is full, students count up to see who covered most of the graph paper.</p>	<p>Graph paper, dice</p>
<p><b>Fly Swat Multiplication</b> - Students will use fly swatters to correctly answer the multiplication problem first. To assemble this game, products of multiplication problems are written on board. Students will cut all out problem. A player from each team tries to swat answer first. The team that gets the answer correct first gets a point for their team. The team with the most points wins.</p>	<p>2 fly swatters, whiteboard and dry erase marker for displaying products</p>
<p><b>Kahoot Quizzes</b> - Students will take a Kahoot quiz on <a href="#">multi-step word problems</a> or <a href="#">Place value</a> to practice multi-step word problems or place value skills.</p>	<p>Chromebooks</p>
<p><b>Money Math</b> - In small groups, students will utilize food store flyers to accomplish different objectives (how many of a certain item can they buy with a given amount of money, buy foods for a party, spend as close to \$25 as possible, etc.). Students will record their word and describe how they used their money to accomplish the given task.</p>	<p>Supermarket flyers, paper for recording results</p>
<p><b>Math Literature</b></p>	
<p>Textbook: <i>enVision Mathematics Common Core</i>, Savvas Learning Company LLC., 2020</p> <p><u>Multiplication:</u></p> <ul style="list-style-type: none"> <li>● <i>Amanda Beans Amazing Dream</i> by Marilyn Burns</li> <li>● <i>The Best of Times</i> by Greg Tong</li> <li>● <i>Multiplication Menace</i> by Pam Calvert</li> <li>● <i>One Grain of Rice</i> by Demi</li> </ul> <p><u>Patterns:</u></p> <ul style="list-style-type: none"> <li>● <i>Chasing Vermeer</i> by Blue Balliet</li> </ul>	
<p><b>Websites</b></p>	
<p><a href="https://learnzillion.com/resources/64178-exploring-multiples-and-factors">https://learnzillion.com/resources/64178-exploring-multiples-and-factors</a></p>	<p>Learn Zillion</p>

<a href="https://home.xtramath.org/">https://home.xtramath.org/</a>	Xtra Math
<a href="https://www.flocabulary.com/topics/numbers-operations/">https://www.flocabulary.com/topics/numbers-operations/</a>	Flocabulary
<a href="https://www.mathsisfun.com/algebra/index.html">https://www.mathsisfun.com/algebra/index.html</a>	Math is Fun
<a href="http://www.brainpop.com/math">http://www.brainpop.com/math</a>	Brain Pop
<a href="http://prodigygame.com">http://prodigygame.com</a>	Prodigy
<a href="http://www.sheppardsoftware.com/math.htm">http://www.sheppardsoftware.com/math.htm</a>	Sheppard Software
<a href="http://www.aaamath.com/grade4.htm">http://www.aaamath.com/grade4.htm</a>	AAA Math
<a href="https://www.ixl.com/math/grade-4">https://www.ixl.com/math/grade-4</a>	IXL Math
<a href="https://www.varsitytutors.com/aplusmath">https://www.varsitytutors.com/aplusmath</a>	APlus Math
<a href="https://www.khanacademy.org/math/cc-fourth-grade-math/cc-4th-fact-mult-topic">https://www.khanacademy.org/math/cc-fourth-grade-math/cc-4th-fact-mult-topic</a>	Khan Academy
<a href="https://www.khanacademy.org/math/cc-fourth-grade-math/cc-4th-mult-div-topic">https://www.khanacademy.org/math/cc-fourth-grade-math/cc-4th-mult-div-topic</a>	Khan Academy
<a href="https://www.illustrativemathematics.org/4">https://www.illustrativemathematics.org/4</a>	Real World Math Word Problems By Standard
<a href="https://www.savvas.com/index.cfm?locator=PS38Dv">https://www.savvas.com/index.cfm?locator=PS38Dv</a>	enVision Math - Textbook Resources
<b>Accommodations &amp; Modifications</b>	
<b>Basic Skills</b> <ul style="list-style-type: none"> <li>● Multiplication tables</li> <li>● Provide a checklist</li> <li>● Response to intervention</li> <li>● 2 -digit by one factors</li> <li>● Intensive Intervention</li> <li>● Provide place value chart</li> <li>● Reteach packet</li> </ul>	
<b>Economically Disadvantaged</b> <ul style="list-style-type: none"> <li>● Multiplication tables</li> <li>● Provide a checklist</li> <li>● Response to intervention</li> <li>● 2 -digit by one factors</li> <li>● Intensive Intervention</li> <li>● Provide place value chart</li> </ul>	
<b>English Language Learners</b> <ul style="list-style-type: none"> <li>● Multiplication table</li> <li>● 2-digit by one factors</li> <li>● Language Support Handbook</li> <li>● Provide place value chart</li> </ul>	

**Gifted and Talented**

- Envision STEAM Project
- Envision STEAM Activity
- Envision Problems in Practice
- Math and Science in Today's Challenge
- Enrichment Packet

**Students with IEPs**

- One on one instruction
- Adaptive devices
- Provide differentiated instruction as needed
- Follow all IEP
- Provide manipulatives or the opportunity to draw solution strategies
- Pre-teach lesson, vocabulary, and skills to support and build student background knowledge
- Restate, reword, and clarify directions and questions
- Use graphic organizers and visual displays to help students organize information and have a reference tool to refer to
- Shorten assignments to focus on mastery of skill and quality over quantity
- Accountable Talk Stems and Sentence Starters to Engage Students in Group and Peer Conversations
- Provide Additional Time to Complete Assignments and Projects
- Use of enVision Math Diagnosis and Intervention System and materials
- Provide students with reteach opportunities using resources, such as, enVision Reteach to Build Understanding Practice pages

**Students with 504 plan**

- One on one instruction
- Adaptive devices
- Provide differentiated instruction as needed
- Follow all 504 plan modifications
- Provide manipulatives or the opportunity to draw solution strategies
- Pre-teach lesson, vocabulary, and skills to support and build student background knowledge
- Restate, reword, and clarify directions and questions
- Use graphic organizers and visual displays to help students organize information and have a reference tool to refer to
- Shorten assignments to focus on mastery of skill and quality over quantity
- Accountable Talk Stems and Sentence Starters to Engage Students in Group and Peer Conversations
- Provide Additional Time to Complete Assignments and Projects
- Use of enVision Math Diagnosis and Intervention System and materials
- Provide students with reteach opportunities using resources, such as, enVision Reteach to Build Understanding Practice pages

**Students at Risk of Failure:**

- Ensure child has access to all appropriate academic resources both in school and at home
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<b>Unit 2: Number and Operations in Base Ten</b>		<b>Topics 1-5 Duration: September-December 51 Days</b>
<b>Standards</b>		
<b>A.</b>	<b>Generalize place value understanding for multi-digit whole numbers.</b>	
<b>4.NBT.1</b>	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 $700 \div 70 = 10$ by applying concepts of place value and division.	
<b>4.NBT.2</b>	Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$ , $=$ , and $<$ symbols to record the results of comparisons.	
<b>4.NBT.3</b>	Use place value understanding to round multi-digit whole numbers to any place.	
<b>B.</b>	<b>Use place value understanding and properties of operations to perform multi-digit arithmetic.</b>	
<b>4.NBT.4</b>	Fluently add and subtract multi-digit whole numbers using the standard algorithm.	
<b>4.NBT.5</b>	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.	
<b>4.NBT.6</b>	Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	
<b>Interdisciplinary Connections</b>		
<b>Language Arts Standards</b>		
SL.4.1.A	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade 4 topics and texts</i> , building on others' ideas and expressing their own clearly.	
SL.4.1.B	Follow agreed-upon rules for discussions and carry out assigned roles.	
SL.4.1.C	Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others.	
SL.4.1.D	Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.	
<b>Computer Science &amp; Design Thinking (Technology)</b>		
<b>8.1 Computer Science</b>		
8.1.5.IC.1: Identify computing technologies that have impacted how individuals live and work and describe the factors that influenced the changes.		
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8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim		
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.5: Propose cause and effect relationships, predict outcomes, or communicate ideas using data.  
8.1.5.IC.1: Identify computing technologies that have impacted how individuals live and work and describe the factors that influenced the changes.

### **8.2 Design Thinking**

8.2.5.ED.2: Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models.

8.2.5.ED.3: Follow step by step directions to assemble a product or solve a problem, using appropriate tools to accomplish the task.

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9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).

9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.

9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3)	
<b>Essential Understandings</b> <i>Students will understand that...</i>	<b>Essential Questions</b>
<ul style="list-style-type: none"> <li>• Place value is based on groups of ten</li> <li>• Numbers will represent quantity, position, location, and relationships</li> <li>• Estimation is a way to get an approximate answer</li> <li>• Computation involves taking apart and combining numbers using a variety of approaches</li> </ul>	<ul style="list-style-type: none"> <li>• How can place value properties aid computation?</li> <li>• How can numbers be expressed, ordered, and compared?</li> <li>• What are strategies to make a reasonable estimate?</li> <li>• How do I know when an answer is reasonable?</li> <li>• What makes a strategy for computing effective and efficient?</li> </ul>
<b>Evidence of Student Learning</b>	
<b>Performance Tasks:</b> <i>Activities to provide evidence for student learning of content and cognitive skills.</i>	<b>Other Assessments</b>
<p><b><u>Dream Vacation</u></b> <i>Student Directions:</i> Using a budget of \$15,000, you get to create your dream vacation. You need to research the hotel cost, travel costs, food, and activities. Make sure not to go over your budget.</p>	<p><b>Formative Assessments</b></p> <ul style="list-style-type: none"> <li>• Performance Assessment</li> <li>• Teacher Observation</li> <li>• Exit Slips/Slate Assessments</li> <li>• Games (technology/manipulative-based)</li> <li>• Pre-assessments</li> <li>• Anecdotal Records</li> <li>• Portfolio/Math Journals</li> <li>• Daily Classwork</li> </ul> <p><b>Summative Assessments</b></p> <ul style="list-style-type: none"> <li>• Tests</li> <li>• Quizzes</li> <li>• District Assessments</li> </ul> <p><b>Benchmark Assessment</b></p> <ul style="list-style-type: none"> <li>• I-Ready</li> <li>• enVision Benchmark Assessment</li> </ul> <p><b>Alternative Assessments</b></p> <ul style="list-style-type: none"> <li>• Untimed Fact Practice Assessment</li> <li>• Manipulative Driven Assessment</li> <li>• Modified/Teacher Created Chapter Tests</li> </ul>

	<ul style="list-style-type: none"> <li>● Modified/Teacher Created Mid-Chapter Quiz</li> <li>● Visual Representation of Skills Assess</li> <li>● Modified Classwork Assignments</li> <li>● Modified Benchmarks</li> <li>● Project Based Assessments with Scoring Rubric</li> </ul>
<b>Mathematical Practice</b>	
MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.3 Construct viable arguments and critique the reasoning of others. MP. 4 Model with mathematics. MP.6 Attend to precision MP.8 Look for and express regularity in repeated reasoning.	
<b>Vocabulary</b>	
numeral, period, standard form, word form, expanded form, greater than, less than, equal, tenth, hundredth, decimal point, place of a digit, value of a digit, digit, difference, subtraction, associative property, commutative property, sum, whole number, operations, remainder, estimate, round, divisor, dividend, quotient, fact family, compatible numbers, reasonableness, variable, algebraic expression	
<b>Knowledge and Skills</b>	
<b>Content:</b>	<b>Skills:</b>
Cluster: <ul style="list-style-type: none"> <li>● Generalize place value understanding for multi-digit whole numbers</li> <li>● Use place value understanding and properties of operations to perform multi-digit arithmetic</li> </ul> <i>Students will know...</i> <ul style="list-style-type: none"> <li>● That in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right</li> <li>● Use place value understanding to round multi-digit whole numbers to any place</li> </ul>	<i>Students will be able to ...</i> <ul style="list-style-type: none"> <li>● Model the 10-to-1 relationship among place-value positions in the base-ten number system</li> <li>● Read and write whole numbers in standard form, word form, and expanded form</li> <li>● Compare and order whole numbers based on the values of the digits in each number</li> <li>● Round a whole number to any place</li> <li>● Rename whole numbers by regrouping</li> <li>● Add whole numbers and determine whether solutions to addition problems are reasonable</li> </ul>

<ul style="list-style-type: none"> <li>Fluently add and subtract multi-digit whole numbers using the standard algorithm</li> </ul>	<ul style="list-style-type: none"> <li>Subtract whole numbers and determine whether solutions to subtraction problems are reasonable</li> <li>Use the strategy draw a diagram to solve comparison problems with addition and subtraction</li> <li>Multiply tens, hundreds, and thousands by whole numbers through 10</li> <li>Estimate products by rounding and determine if exact answers to multiplication problems are reasonable</li> <li>Use strategies to multi digit number by a 1-digit number</li> <li>Read and write multi-digit numbers using numerals, word, and in expanded forms</li> <li>Recognize that in multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right</li> <li>Round multi-digit whole numbers</li> <li>Compare and contrast numbers using various strategies</li> <li>Create a pattern that follows a given rule</li> <li>Identify and recognize the 5 multiplication properties and use them to solve equations</li> <li>Find all factor pairs for a whole number in the range 1-100</li> <li>Define the terms: factors and multiples and prime and composite</li> <li>Fluently multiply and divide whole numbers using the standard algorithms.</li> </ul>
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**Instructional Plan**

<b>Suggested Activities</b>	<b>Resources</b>
<b>Place Value</b> - Students will roll the largest number partner activity	Dice
Place Value Yahtzee- Students roll 2 dice and whoever has the higher number when added together takes the cards for the round.	Dice
Swat It Place Value- Students draw three cards and the first student to swat the highest value card wins this round. Student takes all cards for this round.	Swatters

<b>Place Value Stomp</b> - Index Cards with numbers are laid out on the floor in front of each student. Teacher or student leader names a place value and the student needs to stomp of the place value called and say the number in that place value.	Index cards with numbers
<b>Human Place Value</b> - Have students hold cards and move around and practice reading the number with each place value.	Index cards with numbers
<b>Math Literature</b>	
Textbook: <i>enVision Mathematics Common Core</i> , Savvas Learning Company LLC., 2020	
<u>Multiplication:</u>	
<ul style="list-style-type: none"> <li>● <i>Amanda Beans Amazing Dream</i> by Marilyn Burns</li> <li>● <i>The Best of Times</i> by Greg Tong</li> <li>● <i>Multiplication Menace</i> by Pam Calvert</li> <li>● <i>One Grain of Rice</i> by Demi</li> </ul>	
<u>Place Value:</u>	
<ul style="list-style-type: none"> <li>● <i>How much is a Million?</i> by David Schwartz</li> <li>● <i>If You Made a Million</i> by David Schwartz</li> <li>● <i>One Hundred Hungry Ants</i> by Elinor Pinczes</li> <li>● <i>The King's Commissioners</i> by Marilyn Burns</li> <li>● <i>The M &amp; M Counting Book</i></li> <li>● <i>The Math Curse</i> by Jon Scieszka</li> <li>● <i>Two Ways to Count to Ten</i> by Ryby Dee</li> </ul>	
<b>Websites</b>	
<a href="https://www.ixl.com/math/grade-4">https://www.ixl.com/math/grade-4</a>	IXL Math
<a href="https://www.varsitytutors.com/aplusmath/flashcards">https://www.varsitytutors.com/aplusmath/flashcards</a>	APlus Math - Flashcards
<a href="https://www.varsitytutors.com/aplusmath/games">https://www.varsitytutors.com/aplusmath/games</a>	APlus Math - Games
<a href="http://www.aaamath.com/">http://www.aaamath.com/</a>	AAA Math
<a href="https://home.xtramath.org/">https://home.xtramath.org/</a>	Xtra Math
<a href="http://www.sheppardsoftware.com/math.htm#basicoperations">http://www.sheppardsoftware.com/math.htm#basicoperations</a>	Sheppard Software
<a href="http://www.sheppardsoftware.com/math.htm#placevalue">http://www.sheppardsoftware.com/math.htm#placevalue</a>	Sheppard Software Place Value
<a href="https://www.flocabulary.com/topics/multiplication-division/">https://www.flocabulary.com/topics/multiplication-division/</a>	Flocabulary
<a href="http://www.explorelearning.com/index.cfm?method=cResource.dspDetail&amp;ResourceID=1024">http://www.explorelearning.com/index.cfm?method=cResource.dspDetail&amp;ResourceID=1024</a>	Rounding Whole Numbers (Number Line)

<a href="https://www.khanacademy.org/math/cc-fourth-grade-math/cc-4th-mult-div-topic">https://www.khanacademy.org/math/cc-fourth-grade-math/cc-4th-mult-div-topic</a>	Khan Academy
<a href="https://www.khanacademy.org/math/cc-fourth-grade-math/cc-4th-place-value-rounding">https://www.khanacademy.org/math/cc-fourth-grade-math/cc-4th-place-value-rounding</a>	Khan Academy
<a href="https://www.illustrativemathematics.org/4">https://www.illustrativemathematics.org/4</a>	Real World Math Word Problems By Standard
<a href="https://www.savvas.com/index.cfm?locator=PS38Dv">https://www.savvas.com/index.cfm?locator=PS38Dv</a>	enVision Math - Textbook Resources
<b>Accommodations &amp; Modifications</b>	
<b>Basic Skills</b>	
<ul style="list-style-type: none"> <li>● Multiplication table</li> <li>● 2-digit by one factors</li> <li>● Reteach packet</li> <li>● Provide place value chart</li> </ul>	
<b>Economically Disadvantaged</b>	
<ul style="list-style-type: none"> <li>● Multiplication table</li> <li>● 2-digit by one factors</li> <li>● Provide place value chart</li> </ul>	
<b>English Language Learners</b>	
<ul style="list-style-type: none"> <li>● Multiplication table</li> <li>● 2-digit by one factors</li> <li>● Language Support Handbook</li> <li>● Bilingual Math Boards</li> <li>● ELL Activity Guide</li> </ul>	
<b>Gifted and Talented</b>	
<ul style="list-style-type: none"> <li>● Envision STEAM Project</li> <li>● Envision STEAM Activity</li> <li>● Envision Problems in Practice</li> <li>● Math and Science in Today's Challenge</li> <li>● Enrichment packet</li> </ul>	
<b>Students with IEPs</b>	
<ul style="list-style-type: none"> <li>● One on one instruction</li> <li>● Adaptive devices</li> <li>● Provide differentiated instruction as needed</li> <li>● Follow all IEP</li> <li>● Provide manipulatives or the opportunity to draw solution strategies</li> </ul>	

- Pre-teach lesson, vocabulary, and skills to support and build student background knowledge
- Restate, reword, and clarify directions and questions
- Use graphic organizers and visual displays to help students organize information and have a reference tool to refer to
- Shorten assignments to focus on mastery of skill and quality over quantity
- Accountable Talk Stems and Sentence Starters to Engage Students in Group and Peer Conversations
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- Use of enVision Math Diagnosis and Intervention System and materials
- Provide students with reteach opportunities using resources, such as, enVision Reteach to Build Understanding Practice pages

**Students with 504 plan**

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- Adaptive devices
- Provide differentiated instruction as needed
- Follow all 504 plan modifications
- Provide manipulatives or the opportunity to draw solution strategies
- Pre-teach lesson, vocabulary, and skills to support and build student background knowledge
- Restate, reword, and clarify directions and questions
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<b>Unit 3: Number and Operations-Fractions</b>		<b>Topics 8-10; 12 Duration: Mid-February-Mid-March; April; 37 Days</b>
<b>Standards</b>		
<b>A.</b>	<b>Extend understanding of fraction equivalence and ordering.</b>	
<b>4.NF.1</b>	Explain why a fraction $a/b$ is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.	
<b>4.NF.2</b>	Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$ . Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$ , $=$ , or $<$ , and justify the conclusions, e.g., by using a visual fraction model.	
<b>B.</b>	<b>Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.</b>	
<b>4.NF.3</b>	<p>Understand a fraction <math>a/b</math> with <math>a &gt; 1</math> as a sum of fractions <math>1/b</math>.</p> <p>a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.</p> <p>b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. Examples: <math>3/8 = 1/8 + 1/8 + 1/8</math>; <math>3/8 = 1/8 + 2/8</math>; <math>2 \frac{1}{8} = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8</math>.</p> <p>c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.</p> <p>d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.</p>	
<b>4.NF.4</b>	<p>Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.</p> <p>a. Understand a fraction <math>a/b</math> as a multiple of <math>1/b</math>. For example, use a visual fraction model to represent <math>5/4</math> as the product <math>5 \times (1/4)</math>, recording the conclusion by the equation <math>5/4 = 5 \times (1/4)</math>.</p> <p>b. Understand a multiple of <math>a/b</math> as a multiple of <math>1/b</math>, and use this understanding to multiply a fraction by a whole number. For example, use a visual fraction model to express <math>3 \times (2/5)</math> as <math>6 \times (1/5)</math>, recognizing this product as <math>6/5</math>. (In general, <math>n \times (a/b) = (n \times a)/b</math>.)</p> <p>c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat <math>3/8</math> of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?</p>	
<b>C.</b>	<b>Understand decimal notation for fractions, and compare decimal fractions</b>	

<b>4.NF.5</b>	Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.4 For example, express $\frac{3}{10}$ as $\frac{30}{100}$ , and add $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$ .
<b>4.NF.6</b>	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.
<b>4.NF.7</b>	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.
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9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3)

<b>Essential Understandings</b> <i>Students will understand that ...</i>	<b>Essential Questions</b>
<ul style="list-style-type: none"><li>● Fractions and decimals express a relationship between two numbers</li><li>● Fractions and decimals are parts of whole numbers</li></ul>	<ul style="list-style-type: none"><li>● How to make a visual representation of a fraction or decimal?</li><li>● How are common fractions and decimals alike and different?</li></ul>

<ul style="list-style-type: none"> <li>• An improper fraction represents a number greater than one</li> <li>• A given mixed number is equivalent to its improper fractions.</li> </ul>	<ul style="list-style-type: none"> <li>• How is computation with rational numbers similar and different to whole number computation?</li> <li>• How can an improper fraction be expressed as a mixed number?</li> </ul>
<b>Evidence of Student Learning</b>	
<b>Performance Tasks:</b> <i>Activities to provide evidence for student learning of content and cognitive skills.</i>	<b>Other Assessments</b>
<p style="text-align: center;"><b><u>Bake Sale</u></b></p> <p><b><u>Student Directions:</u></b> You are planning and baking for a bake sale at your school to raise money for your favorite charity. You are using your favorite recipe, but you need to make enough for the bake sale. Write your original recipe, and then determine how many batches you want to make, how many of each ingredient you will need, and how much time it will take. How much will each item at the sale cost? If you sell all of your goods, how much will you have raised for your charity?</p>	<p><b>Formative Assessments</b></p> <ul style="list-style-type: none"> <li>• Performance Assessment</li> <li>• Teacher Observation</li> <li>• Exit Slips/Slate Assessments</li> <li>• Games (technology/manipulative- based)</li> <li>• Pre-assessments</li> <li>• Anecdotal Records</li> <li>• Oral Assessments/Conferencing</li> <li>• Portfolio/Math Journals</li> <li>• Daily Classwork</li> </ul> <p><b>Summative Assessments</b></p> <ul style="list-style-type: none"> <li>• Tests</li> <li>• Quizzes</li> <li>• District Assessments</li> </ul> <p><b>Benchmark Assessment</b></p> <ul style="list-style-type: none"> <li>• I-Ready</li> <li>• enVision Benchmark Assessment</li> </ul> <p><b>Alternative Assessments</b></p> <ul style="list-style-type: none"> <li>• Untimed Fact Practice Assessment</li> <li>• Manipulative Driven Assessment</li> <li>• Modified/Teacher Created Chapter Tests</li> <li>• Modified/Teacher Created Mid-Chapter Quiz</li> <li>• Visual Representation of Skills Assess</li> <li>• Modified Classwork Assignments</li> <li>• Modified Benchmarks</li> <li>• Project Based Assessments with Scoring Rubric</li> </ul>

<b>Mathematical Practice</b>	
MP.1 Make sense of problems and persevere in solving them MP.3 Construct viable arguments and critique the reasoning of others. MP. 4 Model with mathematics. MP.6 Attend to precision. MP.8 Look for and express regularity in repeated reasoning.	
<b>Vocabulary</b>	
numerator, denominator, benchmark fractions, whole, equivalent fractions, mixed number, proper fraction, improper fraction, tenth, hundredth, simplest form	
<b>Knowledge and Skills</b>	
<b>Content</b>	<b>Skills</b>
<p>Cluster:</p> <ul style="list-style-type: none"> <li>● Extend understanding of fraction equivalence and ordering</li> <li>● Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers</li> <li>● Understand decimal notation for fractions, and compare decimal fractions</li> </ul> <p><i>Students will know...</i></p> <ul style="list-style-type: none"> <li>● Compare two decimals up to hundredths using the <math>&gt;</math>, <math>&lt;</math>, and <math>=</math> symbols</li> <li>● Identify the direct relationship between fractions and decimals</li> <li>● Location of decimals on a number line in relation to a fraction</li> </ul>	<p><i>Students will be able to ...</i></p> <ul style="list-style-type: none"> <li>● Make a visual representation of a fraction or decimal</li> <li>● Make computations with fractions</li> <li>● Understand fractions as division of two whole numbers</li> <li>● Read and write symbolic notation for fractions</li> <li>● Identify fractions as part of a whole, part of a set, part of an area, and locations on the number line</li> <li>● Recognize and name equivalent fractions</li> <li>● Order fractions (improper and mixed numbers)</li> <li>● Multiply a unit of fraction (numerator of 1) by a whole number</li> <li>● Multiply a fraction with a numerator greater than one by a whole number</li> <li>● Solve word problems that involve multiplying a fraction by a whole number</li> <li>● Rewrite a fraction that has a denominator of 10 as an equivalent fraction with a denominator of 100</li> <li>● Rewrite a fraction that has a denominator of 100 as an equivalent fraction with a denominator of 10. Add two fractions with denominators of 10 or 100</li> <li>● Create a model that depicts a fraction's value</li> <li>● Determine if given fractions are equivalent</li> </ul>

	<ul style="list-style-type: none"> <li>• Use multiple strategies to identify equivalent fractions</li> <li>• Use symbols (<math>&gt;</math>, <math>&lt;</math>, <math>=</math>) to compare fractions with the same denominator and different numerators</li> <li>• Use benchmark fractions to compare fractions</li> <li>• Use fraction models to add and subtract fractions with like denominators</li> <li>• Use fraction models, number lines, and equations to represent word problems</li> <li>• Write a decomposed fraction using an equation</li> </ul>
<b>Instructional Plan</b>	
<b>Suggested Activities</b>	<b>Resources</b>
<b>Fraction War</b> Students will draw 2 cards. With these 2 cards, students will make a fraction. Higher fraction takes cards.	Playing cards
<b>Dice roll create largest decimal-</b> Students will roll dice 5 times and create the largest number using a decimal.	Dice
<b>Playdough Fraction Pies-</b> Students create fraction pies by cutting the playdough into equal pieces.	Playdough
Students will use this website: Fractions in Real Life Cooking Webquest, to learn how to convert fractions in real life cooking situations.	Chromebooks <a href="http://zunal.com/webquest.php?w=18355">http://zunal.com/webquest.php?w=18355</a>
<b>Math Literature</b>	
Textbook: <i>enVision Mathematics Common Core</i> , Savvas Learning Company LLC., 2020 <u>Fractions:</u> <ul style="list-style-type: none"> <li>• <i>A Melody in Fraction</i></li> <li>• <i>Sleeping Half the Day Away</i></li> <li>• <i>The Hershey's Milk Chocolate Fractions Book</i> by Jerry Pallotta</li> <li>• <i>A Remainder of One</i> by Elinor Pinczes</li> <li>• <i>Each Orange Had 8 Slices</i> by Paul Giganti</li> <li>• <i>Little House in the Big Woods</i> by Laura Ingalls Wilder</li> <li>• <i>Piece = Part = Portion: Fraction = Decimals = Percents</i> by Scott Gifford</li> <li>• <i>If You Hopped Like a Frog</i> by David M. Schwartz</li> <li>• <i>Fraction = Trouble</i> by Claudia Mills</li> </ul>	

<b>Websites</b>	
<a href="https://www.flocabulary.com/topics/numbers-operations/">https://www.flocabulary.com/topics/numbers-operations/</a>	Flocabulary
<a href="http://www.aaamath.com/fra.htm">http://www.aaamath.com/fra.htm</a>	AAA Math
<a href="https://www.ixl.com/math/grade-4">https://www.ixl.com/math/grade-4</a>	IXL Math - Fraction Equivalence and Ordering Add & Subtract Fractions with Like Denominators Add & Subtract Fractions with Unlike Denominators Multiply Fractions
<a href="https://home.xtramath.org/">https://home.xtramath.org/</a>	Xtra Math
<a href="https://www.turtlediary.com/games/fourth-grade/fractions.html">https://www.turtlediary.com/games/fourth-grade/fractions.html</a>	TurtleDiary
<a href="http://www.sheppardsoftware.com/math.htm#fractions">http://www.sheppardsoftware.com/math.htm#fractions</a>	Sheppard Software
<a href="https://www.brainpop.com/math/">https://www.brainpop.com/math/</a>	Brain Pop
<a href="https://www.prodigygame.com">https://www.prodigygame.com</a>	Prodigy
<a href="https://www.khanacademy.org/math/cc-fourth-grade-math/cc-4th-fractions-topic">https://www.khanacademy.org/math/cc-fourth-grade-math/cc-4th-fractions-topic</a>	Khan Academy
<a href="https://www.savvas.com/index.cfm?locator=PS38Dv">https://www.savvas.com/index.cfm?locator=PS38Dv</a>	enVision Math - Textbook Resources
<b>Accommodations &amp; Modifications</b>	
<b>Basic Skills</b>	
<ul style="list-style-type: none"> <li>● Multiplication table</li> <li>● 2-digit by one factors</li> <li>● Reteach Packet</li> <li>● Provide fraction strips</li> </ul>	
<b>Economically Disadvantaged</b>	
<ul style="list-style-type: none"> <li>● Multiplication table</li> <li>● 2-digit by one factors</li> <li>● Provide fraction strips</li> </ul>	
<b>English Language Learners</b>	
<ul style="list-style-type: none"> <li>● Multiplication table</li> <li>● 2-digit by one factors</li> <li>● Language Support Handbook</li> <li>● Provide fraction strips</li> </ul>	
<b>Gifted and Talented</b>	
<ul style="list-style-type: none"> <li>● Envision STEAM Project</li> <li>● Envision STEAM Activity</li> <li>● Envision Problems in Practice</li> </ul>	

- Math and Science in Today's Challenge
- Enrichment Packet

**Students with IEPs**

- One on one instruction
- Adaptive devices
- Provide differentiated instruction as needed
- Follow all IEP
- Provide manipulatives or the opportunity to draw solution strategies
- Pre-teach lesson, vocabulary, and skills to support and build student background knowledge
- Restate, reword, and clarify directions and questions
- Use graphic organizers and visual displays to help students organize information and have a reference tool to refer to
- Shorten assignments to focus on mastery of skill and quality over quantity
- Accountable Talk Stems and Sentence Starters to Engage Students in Group and Peer Conversations
- Provide Additional Time to Complete Assignments and Projects
- Use of enVision Math Diagnosis and Intervention System and materials
- Provide students with reteach opportunities using resources, such as, enVision Reteach to Build Understanding Practice pages

**Students with 504 plan**

- One on one instruction
- Adaptive devices
- Provide differentiated instruction as needed
- Follow all 504 plan modifications
- Provide manipulatives or the opportunity to draw solution strategies
- Pre-teach lesson, vocabulary, and skills to support and build student background knowledge
- Restate, reword, and clarify directions and questions
- Use graphic organizers and visual displays to help students organize information and have a reference tool to refer to
- Shorten assignments to focus on mastery of skill and quality over quantity
- Accountable Talk Stems and Sentence Starters to Engage Students in Group and Peer Conversations
- Provide Additional Time to Complete Assignments and Projects
- Use of enVision Math Diagnosis and Intervention System and materials
- Provide students with reteach opportunities using resources, such as, enVision Reteach to Build Understanding Practice pages

**Students at Risk of Failure:**

- Ensure child has access to all appropriate academic resources both in school and at home
- Provide structure and adhere to a consistent daily routine with clear and concise rules
- Facilitate successful experiences



- Provide tutoring if needed
- Allow students to complete assignments in school
- Do not penalize for late or missing assignments/materials
- Offer encouragement and understanding
- Give choice to provide a sense of control

<b>Unit 4: Measurement and Data</b>		<b>Topics 11, 13 and 15; Duration: March-May 26 Days</b>
<b>Standards</b>		
<b>A.</b>	<b>Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.</b>	
<b>4.MD.1</b>	Know relative sizes of measurement units within one system of units including km, m, cm. mm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...	
<b>4.MD.2</b>	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.	
<b>4.MD.3</b>	Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor	
<b>B.</b>	<b>Represent and interpret data.</b>	
<b>4.MD.4</b>	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.	
<b>C.</b>	<b>Geometric measurement: understand concepts of angle and measure angles.</b>	
<b>4.MD.5</b>	Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement: a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through $\frac{1}{360}$ of a circle is called a “one degree angle,” and can be used to measure angles. b. An angle that turns through n one-degree angles is said to have an angle measure of n degrees.	
<b>4.MD.6</b>	Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.	
<b>4.MD.7</b>	Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.	
<b>Interdisciplinary Connections</b>		
<b>Language Arts Standards</b>		

SL.4.1.A	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade 4 topics and texts</i> , building on others' ideas and expressing their own clearly.
SL.4.1.B	Follow agreed-upon rules for discussions and carry out assigned roles.
SL.4.1.C	Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others.
SL.4.1.D	Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.
	<p style="text-align: center;"><b><u>Computer Science &amp; Design Thinking (Technology)</u></b></p> <p><b>8.1 Computer Science</b>  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.1: Collect, organize, and display data in order to highlight relationships or support a claim  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.5: Propose cause and effect relationships, predict outcomes, or communicate ideas using data.  8.1.5.IC.1: Identify computing technologies that have impacted how individuals live and work and describe the factors that influenced the changes.</p> <p><b>8.2 Design Thinking</b>  8.2.5.ED.2: Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models.  8.2.5.ED.3: Follow step by step directions to assemble a product or solve a problem, using appropriate tools to accomplish the task.</p> <p style="text-align: center;"><b><u>Career Readiness, Life Literacies, and Key Skills</u></b></p> <p>This outlines concepts and skills necessary for New Jersey's students to thrive in an ever-changing world. Intended for integration throughout all K-12 academic and technical content areas, the 2020 New Jersey Student Learning Standards — Career Readiness, Life Literacies, and Key Skills (NJSL-CLKS) provides the framework for students to learn the concepts, skills, and practices essential to the successful navigation of career exploration and preparation, personal finances and digital literacy.</p> <p><a href="https://www.nj.gov/education/standards/clicks/index.shtml">https://www.nj.gov/education/standards/clicks/index.shtml</a></p> <p><b>9.1 Personal Financial Literacy</b>  This standard outlines the important fiscal knowledge, habits, and skills that must be mastered in order for students to make informed decisions about personal finance. Financial literacy is an integral component of a student's college and career readiness, enabling students to achieve fulfilling, financially-secure, and successful careers.</p>

<p><b>9.2 Career Awareness</b> This standard outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.</p> <p><b>9.3 Career and Technical Education</b> This standard outlines what students should know and be able to do upon completion of a CTE Program of Study.</p> <p><b>9.4 Life Literacies and Key Skills</b> This standard outlines key literacies and technical skills such as critical thinking, global and cultural awareness, and technology literacy that are critical for students to develop to live and work in an interconnected global economy.</p> <p style="text-align: center;"><b><u>Career Readiness, Life Literacies, and Key Skills</u></b></p> <p>9.1.5.CR.1: Compare various ways to give back and relate them to your strengths, interests, and other personal factors.</p> <p>9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).</p> <p>9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.</p> <p>9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3)</p>	
<p><b>Essential Understandings</b> <i>Students will understand that ...</i></p> <ul style="list-style-type: none"> <li>● Objects have distinct attributes that can be measured</li> <li>● Standard units provide common language for communication measurements</li> <li>● The choice of measurement tools depends on the measurable attribute and the degree of precision desired</li> <li>● Graphs convey data in a concise way</li> </ul>	<p><b>Essential Questions</b></p> <ul style="list-style-type: none"> <li>● What types of problems are solved with measurement?</li> <li>● What are the tools of measurement and how are they used?</li> <li>● How do units within a system relate to each other?</li> <li>● How can information be gathered, recorded and organized?</li> </ul>
<p><b>Evidence of Student Learning</b></p>	
<p><b>Performance Tasks:</b> <i>Activities to provide evidence for student learning of content and cognitive skills.</i></p>	<p><b>Other Assessments</b></p>
<p style="text-align: center;"><b><u>Dream House</u></b></p> <p><b><u>Student Directions:</u></b> Create your dream house using graph paper. Write the perimeter and area of each room.</p>	<p><b>Formative Assessments</b></p> <ul style="list-style-type: none"> <li>● Performance Assessment</li> <li>● Teacher Observation</li> <li>● Exit Slips/Slate Assessments</li> <li>● Games (technology/manipulative-based)</li> </ul>

	<ul style="list-style-type: none"> <li>● Pre-assessments</li> <li>● Anecdotal Records</li> <li>● Oral Assessments/Conferencing</li> <li>● Portfolio/Math Journals</li> <li>● Daily Classwork</li> </ul> <p><b>Summative Assessments</b></p> <ul style="list-style-type: none"> <li>● Tests</li> <li>● Quizzes</li> <li>● District Assessments</li> </ul> <p><b>Benchmark Assessment</b></p> <ul style="list-style-type: none"> <li>● I-Ready</li> <li>● enVision Benchmark Assessment</li> </ul> <p><b>Alternative Assessments</b></p> <ul style="list-style-type: none"> <li>● Untimed Fact Practice Assessment</li> <li>● Manipulative Driven Assessment</li> <li>● Modified/Teacher Created Chapter Tests</li> <li>● Modified/Teacher Created Mid-Chapter Quiz</li> <li>● Visual Representation of Skills Assess</li> <li>● Modified Classwork Assignments</li> <li>● Modified Benchmarks</li> <li>● Project Based Assessments with Scoring Rubric</li> </ul>
<b>Mathematical Practice</b>	
MP.2 Reason abstractly and quantitatively. MP.5 Attend to precision MP.6 Attend to precision. MP.7 Look for and make use of structure.	
<b>Vocabulary</b>	
kilometer, meter, centimeter, kilogram, gram, pound, ounce, milliliter, liter, hour, minute, second, feet, inches, area, perimeter, line plot, bar graph, line graph, pictograph, polygon, quadrilateral, trapezoid, rhombus, parallelogram, rectangle, square, rectangular prism, cube, sphere, cone, cylinder, rectangular pyramid	
<b>Knowledge and Skills</b>	
<b>Content</b>	<b>Skills</b>

<p>Cluster:</p> <ul style="list-style-type: none"> <li>• Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit</li> <li>• Represent and interpret data Geometric measurement: understand concepts of angles and measure angles</li> </ul> <p><i>Students will know:</i> Use and read a variety of measurement tools, such as thermometers, rulers, tape measures, and scales</p>	<p><i>Students will be able to ...</i></p> <ul style="list-style-type: none"> <li>• Measure angles using a protractor</li> <li>• Create and analyze tables and graphs to record data</li> <li>• Calculate elapsed time in word problems</li> <li>• Describe temperature with thermometers</li> <li>• Determine length/height with rulers and measuring tapes</li> <li>• Measure weight with variety of scales</li> <li>• Find area of rectangles using formula</li> <li>• Calculate perimeter of polygons</li> <li>• Record with customary and metric units</li> <li>• Communicate measurements</li> <li>• Understand the relationships between and among units</li> <li>• Carry out conversions with units of time and money</li> <li>• Carry out conversions of customary and metric units of length, weight and volume</li> <li>• Convert measurements within a system using a chart</li> <li>• Estimate, measure, compare and order varying units of measurement</li> <li>• Choose appropriate units of measure and justify choice</li> <li>• Choose appropriate tools to measure length, weight and capacity</li> <li>• Measure to collect data to make a fraction line plot</li> <li>• Apply the formulas for area and perimeter in real world and mathematical problems</li> <li>• Solve problems involving various measurement situations</li> </ul>
<b>Instructional Plan</b>	
<b>Suggested Activities</b>	<b>Resources</b>
Students will be given a sheet of paper with different measurements on it. They will have to search the classroom for specific items that match the measurement.	Rulers, tape measure, yardstick
<b>Measuring our World:</b> Students will bring in all different sizes of cardboard boxes (cereal, crackers, oatmeal, etc.). Students will	Boxes, rulers

measure the length, width, and height. Then, they can find the area of each side of the box or the volume.	
Students will use protractors to construct angles. Students should indicate whether the angles is acute, obtuse, or right, after measuring with the protractor.	Protractors, paper
Students will measure angles on a clock using protractors in a group.	Face clock, protractors
<b>Angle Park</b> - Students will create a playground park using a specific number of right, acute, and obtuse angles. They also need to label these angles.	Paper, ruler, protractor, coloring utensils
<b>Math Literature</b>	
Textbook: <i>enVision Mathematics Common Core</i> , Savvas Learning Company LLC., 2020	
<u>Measurement</u>	
<ul style="list-style-type: none"> <li>● <i>The Librarian Who Measured the Earth</i> by Kathryn Lasby</li> <li>● <i>How Big is a Foot?</i> by Rolf Myller (length)</li> <li>● <i>Measuring Penny</i> by Loreen Leedy</li> <li>● <i>The Light Princess</i> by George MacDonald (weight/mass)</li> <li>● <i>Actual Size</i> by Steve Jenkins (length)</li> <li>● <i>Purple Climbing Days</i> by Patricia Giff (liquid volume)</li> <li>● <i>Spaghetti and Meatballs</i> by Marilyn Burns (perimeter and area)</li> </ul>	
<b>Websites</b>	
<a href="https://learnzillion.com/resources/57241-4th-grade-measurement-and-data">https://learnzillion.com/resources/57241-4th-grade-measurement-and-data</a>	Learn Zillion
<a href="https://www.turtlediary.com/games/fourth-grade/units-of-measurement.html">https://www.turtlediary.com/games/fourth-grade/units-of-measurement.html</a>	TurtleDiary
<a href="http://www.aaamath.com/mea.htm">http://www.aaamath.com/mea.htm</a>	AAA Math
<a href="https://home.xtramath.org/">https://home.xtramath.org/</a>	Xtra Math
<a href="https://www.brainpop.com/math/">https://www.brainpop.com/math/</a>	Brain Pop
<a href="https://www.ixl.com/math/grade-4">https://www.ixl.com/math/grade-4</a>	IXL Math - Data & Graphs Units of Measurement Angles
<a href="https://www.prodigygame.com">https://www.prodigygame.com</a>	Prodigy
<a href="https://www.khanacademy.org/math/cc-fourth-grade-math/cc-4th-measurement-topic">https://www.khanacademy.org/math/cc-fourth-grade-math/cc-4th-measurement-topic</a>	Khan Academy

<a href="https://www.flocabulary.com/topics/geometry-measurement/">https://www.flocabulary.com/topics/geometry-measurement/</a>	Flocabulary
<a href="https://www.illustrativemathematics.org/4">https://www.illustrativemathematics.org/4</a>	Real World Math Word Problems By Standard
<a href="https://www.savvas.com/index.cfm?locator=PS38Dv">https://www.savvas.com/index.cfm?locator=PS38Dv</a>	enVision Math - Textbook Resources
<b>Accommodations &amp; Modifications</b>	
<b>Basic Skills</b>	
<ul style="list-style-type: none"> <li>● Multiplication table</li> <li>● 2-digit by one factors</li> <li>● Reteach packet</li> <li>● Provide a ruler</li> <li>● Provide a paper with angle chart</li> <li>● Provide peer support</li> </ul>	
<b>Economically Disadvantaged</b>	
<ul style="list-style-type: none"> <li>● Multiplication table</li> <li>● 2-digit by one factors</li> <li>● Provide a ruler</li> <li>● Provide a paper with angle chart</li> <li>● Provide peer support</li> </ul>	
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<b>Gifted and Talented</b>	
<ul style="list-style-type: none"> <li>● Envision STEAM Project</li> <li>● Envision STEAM Activity</li> <li>● Envision Problems in Practice</li> <li>● Math and Science in Today's Challenge</li> <li>● Enrichment Packet</li> </ul>	
<b>Students with IEPs</b>	
<ul style="list-style-type: none"> <li>● One on one instruction</li> <li>● Adaptive devices</li> <li>● Provide differentiated instruction as needed</li> <li>● Follow all IEP</li> </ul>	



- Provide manipulatives or the opportunity to draw solution strategies
- Pre-teach lesson, vocabulary, and skills to support and build student background knowledge
- Restate, reword, and clarify directions and questions
- Use graphic organizers and visual displays to help students organize information and have a reference tool to refer to
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- Use of enVision Math Diagnosis and Intervention System and materials
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**Students with 504 plan**

- One on one instruction
- Adaptive devices
- Provide differentiated instruction as needed
- Follow all 504 plan modifications
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- Restate, reword, and clarify directions and questions
- Use graphic organizers and visual displays to help students organize information and have a reference tool to refer to
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- Provide structure and adhere to a consistent daily routine with clear and concise rules
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- Allow students to complete assignments in school
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<b>Unit 5: Geometry</b>		<b>Topic 16: Duration: June 8 Days</b>
<b>Standards</b>		
<b>A.</b>	Draw and identify lines and angles, and classify shapes by properties of their lines and angles	
<b>4.G.1</b>	Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.	
<b>4.G.2</b>	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.	
<b>4.G.3</b>	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.	
<b>Interdisciplinary Connections</b>		
<b>Language Arts Standards</b>		
SL.4.1.A	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade 4 topics and texts</i> , building on others' ideas and expressing their own clearly.	
SL.4.1.B	Follow agreed-upon rules for discussions and carry out assigned roles.	
SL.4.1.C	Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others.	
SL.4.1.D	Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.	
<b><u>Computer Science &amp; Design Thinking (Technology)</u></b>		
<b>8.1 Computer Science</b>		
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.1: Collect, organize, and display data in order to highlight relationships or support a claim		
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.5: Propose cause and effect relationships, predict outcomes, or communicate ideas using data.		
8.1.5.IC.1: Identify computing technologies that have impacted how individuals live and work and describe the factors that influenced the changes.		
<b>8.2 Design Thinking</b>		
8.2.5.ED.2: Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models.		

8.2.5.ED.3: Follow step by step directions to assemble a product or solve a problem, using appropriate tools to accomplish the task.

**Career Readiness, Life Literacies, and Key Skills**

This outlines concepts and skills necessary for New Jersey’s students to thrive in an ever-changing world. Intended for integration throughout all K-12 academic and technical content areas, the 2020 New Jersey Student Learning Standards — Career Readiness, Life Literacies, and Key Skills (NJSL-CLKS) provides the framework for students to learn the concepts, skills, and practices essential to the successful navigation of career exploration and preparation, personal finances and digital literacy.

<https://www.nj.gov/education/standards/clicks/index.shtml>

**9.1 Personal Financial Literacy**

This standard outlines the important fiscal knowledge, habits, and skills that must be mastered in order for students to make informed decisions about personal finance. Financial literacy is an integral component of a student's college and career readiness, enabling students to achieve fulfilling, financially-secure, and successful careers.

**9.2 Career Awareness**

This standard outlines the importance of being knowledgeable about one's interests and talents, and being well informed about postsecondary and career options, career planning, and career requirements.

**9.3 Career and Technical Education**

This standard outlines what students should know and be able to do upon completion of a CTE Program of Study.

**9.4 Life Literacies and Key Skills**

This standard outlines key literacies and technical skills such as critical thinking, global and cultural awareness, and technology literacy that are critical for students to develop to live and work in an interconnected global economy.

**Career Readiness, Life Literacies, and Key Skills**

9.1.5.CR.1: Compare various ways to give back and relate them to your strengths, interests, and other personal factors.

9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).

9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.

9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3)

**Essential Understandings**

*Students will understand that ...*

**Essential Questions**

<ul style="list-style-type: none"> <li>● Geometry and spatial sense offer ways to interpret and reflect on our physical environment</li> <li>● Analyzing geometric relationships develops reasoning and justification skills</li> </ul>	<ul style="list-style-type: none"> <li>● How can understanding geometric vocabulary assist with drawing points, lines, line segments, rays, and angles?</li> <li>● How do geometric relationships help us solve problems?</li> <li>● Why is it helpful to classify things like angles or shapes?</li> <li>● How are geometric shapes and objects classified?</li> </ul>
<b>Evidence of Student Learning</b>	
<b>Performance Tasks:</b> <i>Activities to provide evidence for student learning of content and cognitive skills.</i>	<b>Other Assessments</b>
<p style="text-align: center;"><b><u>Quilting Bee</u></b></p> <p><i>Student Directions:</i> Make your own pattern for a quilt. Include a pair of parallel line segments, a pair of perpendicular line segments, two kinds of quadrilaterals, and an obtuse triangle. Include any other shapes you choose. Explain your pattern in words.</p> <p style="text-align: center;"><b><u>Landscape Architects</u></b></p> <p><i>Student Directions:</i> Decide on the features for your city garden. Imagine yourself sitting in the garden. What things would you like to be able to see? Write the number of square units that you think you will use for each feature. Use the grid to make a map of your garden. Put the measurement of each item in the garden. Label each feature on the grid.</p>	<p><b>Formative Assessments</b></p> <ul style="list-style-type: none"> <li>● Performance Assessments</li> <li>● Teacher Observation</li> <li>● Exit Slips/Slate Assessments</li> <li>● Games (technology/manipulative-based)</li> <li>● Pre-assessments</li> <li>● Anecdotal Records</li> <li>● Oral Assessments/Conferencing</li> <li>● Portfolio/Math Journals</li> <li>● Daily Classwork</li> </ul> <p><b>Summative Assessments</b></p> <ul style="list-style-type: none"> <li>● Tests</li> <li>● Quizzes</li> <li>● District Assessments</li> <li>● EOY Benchmark</li> </ul> <p><b>Benchmark Assessment</b></p> <ul style="list-style-type: none"> <li>● I-Ready</li> <li>● enVision Benchmark Assessment</li> </ul> <p><b>Alternative Assessments</b></p> <ul style="list-style-type: none"> <li>● Untimed Fact Practice Assessment</li> <li>● Manipulative Driven Assessment</li> <li>● Modified/Teacher Created Chapter Tests</li> <li>● Modified/Teacher Created Mid-Chapter Quiz</li> <li>● Visual Representation of Skills Assess</li> </ul>

	<ul style="list-style-type: none"> <li>● Modified Classwork Assignments</li> <li>● Modified Benchmarks</li> <li>● Project Based Assessments with Scoring Rubric</li> </ul>
<b>Mathematical Practice</b>	
MP.5 Use appropriate tools strategically. MP.6 Attend to precision. MP.7 Look for and make use of structure	
<b>Vocabulary</b>	
protractor, point, line, line segment, intersecting, ray, angle, acute angle, obtuse angle, right angle, straight angle, complementary angles, supplementary angles, perpendicular, parallel, symmetry, endpoint, rotation, scalene triangle, isosceles triangle, equilateral triangle, right triangle, polygon, quadrilateral, trapezoid, rhombus, parallelogram, rectangle, square, rectangular prism, cube, sphere, cone, cylinder, rectangular pyramid, degree, side, vertex	
<b>Knowledge and Skills</b>	
<b>Content:</b>	<b>Skills:</b>
Cluster: <ul style="list-style-type: none"> <li>● Draw and identify lines and angles, and classify shapes by properties of their lines and angles</li> </ul> <i>Students will know...</i> <ul style="list-style-type: none"> <li>● How to draw classify points, lines, line segments, rays, and angles with the appropriate tools</li> </ul>	<i>Students will be able to ...</i> <ul style="list-style-type: none"> <li>● Explain the difference between parallel and perpendicular lines</li> <li>● Identify symmetry in a two-dimensional shape</li> <li>● Draw and classify points, lines, line segments, rays, and angles with appropriate tools</li> <li>● Identify that two lines are perpendicular when they intersect in right angles</li> <li>● Identify and describe symmetry in two-dimensional geometric shapes</li> <li>● Identify two dimensional geometric shapes based on their properties</li> <li>● Identify, classify, describe, and create 2D figures (square, triangle, and quadrilaterals, hexagon, octagon) according to the measure of their sides and angles</li> <li>● Recognize a line of symmetry for a 2D figure</li> </ul>

	<ul style="list-style-type: none"> <li>● Identify and classify triangles by their sides and angles (right, obtuse, acute, scalene, equilateral, isosceles)</li> <li>● Investigate 2D and 3D geometric shapes from different perspectives and their attributes (e.g, bases, faces)</li> <li>● Identify line segments, rays, and lines as perpendicular, intersecting, and parallel</li> <li>● Identify, classify, and draw acute, right, and obtuse angles and relate them to the real- world examples</li> </ul>
<b>Instructional Plan</b>	
<b>Suggested Activities</b>	<b>Resources</b>
Students will use pattern blocks to demonstrate lines of symmetry by tracing patterns on a sheet of paper and drawing lines to indicate lines of symmetry.	Pattern blocks, paper
Students will demonstrate their understanding of angles by identifying types of angles in their classroom and replicating them with toothpick or popsicle sticks. Students will glue the replicated angle on construction paper and label which type of angle it is and where in the classroom they found it.	Popsicle sticks or toothpicks, construction paper, glue
Students will take turns being "Simon" in the game Simon says. Students will be listening carefully to directions and creating specific angles with specific body parts.	Prior knowledge of angles
Students will use paper and create polygons of their choice. Challenge students to see how many lines of symmetry they can create.	Paper, markers
Students will use a geoboard to demonstrate their understanding of lines and polygons. Students will be asked to create specific shapes, lines, and patterns.	Geoboards, rubber bands
<b>Angle Name Writing:</b> Have students write their name in print using capital letters on graph paper. Students will measure the angles between the lines for each of the letters in their name.	Graph paper, pencils, protractors

<a href="http://www.rundesroom.com/2016/06/5-activities-for-teaching-angles.html?utm_source=bloglovin.com&amp;utm_medium=feed&amp;utm_campaign=Feed:+blogspot/torar+(Runde's+Room)">http://www.rundesroom.com/2016/06/5-activities-for-teaching-angles.html?utm_source=bloglovin.com&amp;utm_medium=feed&amp;utm_campaign=Feed:+blogspot/torar+(Runde's+Room)</a> (example)	
<b>Angle Scavenger Hunt:</b> Students can hunt around the classroom or school and measure the angles they see. Students could also hunt and measure angles to find a specific measure of your choice.	Protractors, note recording sheet
Have students use a ruler as their line of symmetry. Then, students can use pattern blocks to create a symmetric shape with the ruler as their line of symmetry in the middle.	Ruler, pattern blocks
<b>Math Literature</b>	
Textbook: <i>enVision Mathematics Common Core</i> , Savvas Learning Company LLC., 2020	
<u>Shapes</u>	
<ul style="list-style-type: none"> <li>● <i>The Greedy Triangle</i> by Marilyn Burns</li> <li>● <i>Three Pigs, One Wolf, and Seven Magic Shapes</i> by Grace Maccarone</li> <li>● <i>Shape Up!</i> by David A. Adler</li> <li>● <i>Ed Emberley's Picture Pie: A Circle Drawing Book</i> by Ed Emberley</li> <li>● <i>Shadows and Reflections</i> by Tana Hoban</li> <li>● <i>Castle</i> by David Macaulay</li> <li>● <i>Sir Cumference and the Great Knight of Angleland</i> by Cindy Neuschwander</li> <li>● <i>Mummy Math: An Adventure in Geometry</i> by Cindy Neuschwander</li> </ul>	
<u>Lines</u>	
<ul style="list-style-type: none"> <li>● <i>The Dot and the Line</i> by Norton Juster</li> <li>● <i>Spaghetti and Meatballs</i> by Marilyn Burns</li> <li>● <i>Grandfather Tang's Story</i> by Ann Tampert</li> <li>● <i>The Straight Line Wonder</i> by Mem Rox</li> <li>● <i>There's No Place Like Space</i> by Tish Rabe</li> <li>● <i>Straight Lines, Parallel Lines, Perpendicular Lines</i> by Mannis Charosh</li> </ul>	
<b>Websites</b>	
<a href="https://www.khanacademy.org/math/cc-fourth-grade-math/cc-4th-geometry-topic">https://www.khanacademy.org/math/cc-fourth-grade-math/cc-4th-geometry-topic</a>	Khan Academy
<a href="http://www.sheppardsoftware.com/mathgames/menus/geometry.htm">http://www.sheppardsoftware.com/mathgames/menus/geometry.htm</a>	Sheppard Software
<a href="https://www.turtlediary.com/games/fourth-grade/geometry.html">https://www.turtlediary.com/games/fourth-grade/geometry.html</a>	TurtleDiary - Geometry Games
<a href="https://www.flocabulary.com/topics/geometry-measurement/">https://www.flocabulary.com/topics/geometry-measurement/</a>	Flocabulary

<a href="https://www.ixl.com/math/grade-4">https://www.ixl.com/math/grade-4</a>	IXL Math - Two-dimensional & Three-dimensional Figures Triangles and Quadrilaterals Symmetry & Angles
<a href="http://www.aaamath.com/geo.htm">http://www.aaamath.com/geo.htm</a>	AAA Math
<a href="https://www.brainpop.com/math/">https://www.brainpop.com/math/</a>	Brain Pop
<a href="https://www.varsitytutors.com/aplusmath/geometry">https://www.varsitytutors.com/aplusmath/geometry</a>	APlus Math
<a href="https://home.xtramath.org/">https://home.xtramath.org/</a>	Xtra Math
<a href="https://www.prodigygame.com">https://www.prodigygame.com</a>	Prodigy
<a href="https://www.illustrativemathematics.org/4">https://www.illustrativemathematics.org/4</a>	Real World Math Word Problems By Standard
<a href="https://www.savvas.com/index.cfm?locator=PS38Dv">https://www.savvas.com/index.cfm?locator=PS38Dv</a>	enVision Math - Textbook Resources
<b>Accommodations &amp; Modifications</b>	
<b>Basic Skills</b>	
<ul style="list-style-type: none"> <li>● Multiplication table</li> <li>● 2-digit by one factors</li> <li>● Reteach Packet</li> <li>● Provide students with examples of angles</li> <li>● Provide students with rulers to help write the letters in their name</li> <li>● Provide the student will a list of angles they can use</li> <li>● Limit the number of patterns blocks students use for beginning learners</li> </ul>	
<b>Economically Disadvantaged</b>	
<ul style="list-style-type: none"> <li>● Multiplication table</li> <li>● 2-digit by one factors</li> <li>● Provide students with examples of angles</li> <li>● Provide students with rulers to help write the letters in their name</li> <li>● Provide the student will a list of angles they can use</li> <li>● Limit the number of patterns blocks students use for beginning learners</li> </ul>	
<b>English Language Learners</b>	
<ul style="list-style-type: none"> <li>● Multiplication table</li> <li>● 2-digit by one factors</li> <li>● Language Support Handbook</li> <li>● Provide students with examples of angles</li> <li>● Provide students with pictures and examples of each angle to help them create each angle if needed</li> <li>● Provide the student will a list of angles they can use</li> </ul>	



**Gifted and Talented**

- Envision STEAM Project
- Envision STEAM Activity
- Envision Problems in Practice
- Math and Science in Today's Challenge
- Enrichment Packet

**Students with IEPs**

- One on one instruction
- Adaptive devices
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- Follow all IEP
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