

Eagleswood Township Elementary School District

Grade: 5	Content Area: Mathematics
----------	---------------------------

Standard Alignment September 2017	NJDOE Adoption Date September 2017
Revise December 2021	ETESD BOE Approved 1/2021

***Suggested Pacing Guide***

Unit	Unit Length
<b>Unit 1 Operations and Algebraic Thinking</b>	25 Days
<b>Unit 2 Number and Operations in Base Ten</b>	50 Days
<b>Unit 3 Number and Operations - Fractions</b>	50 Days
<b>Unit 4 Measurement and Data</b>	25 Days
<b>Unit 5 Geometry</b>	25 Days

## **Grade 5 Overview**

### **Operations and Algebraic Thinking**

- Write and interpret numerical expressions.
- Analyze patterns and relationships.

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

- Understand the place value system.
- Perform operations with multi-digit whole numbers and with decimals to hundredths.

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

- Use equivalent fractions as a strategy to add and subtract fractions.
- Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

### **Measurement and Data**

- Convert like measurement units within a given measurement system.
- Represent and interpret data.
- Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

### **Geometry**

- Graph points on the coordinate plane to solve real-world and mathematical problems.
- Classify two-dimensional figures into categories based on their properties.

## **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.

<b>Unit 1: Operations and Algebraic Thinking</b>	<b>Duration: 25</b>
--	---------------------

<u>Career Readiness, Life Literacies, and Key Skills Practices</u>	
Act as a responsible and contributing community members and employee.	Students understand the obligations and responsibilities of being a member of a community, and they demonstrate this understanding every day through their interactions with others. They are conscientious of the impacts of their decisions on others and the environment around them. They think about the near-term and long-term consequences of their actions and seek to act in ways that contribute to the betterment of their teams, families, community and workplace. They are reliable and consistent in going beyond the minimum expectation and in participating in activities that serve the greater good.
Consider the environmental, social and economic impacts of decisions.	Students understand the interrelated nature of their actions and regularly make decisions that positively impact and/or mitigate negative impact on other people, organization, and the environment. They are aware of and utilize new technologies, understandings, procedures, materials, and regulations affecting the nature of their work as it relates to the impact on the social condition, the environment and the profitability of the organization.

<p>Demonstrate creativity and innovation.</p>	<p>Students regularly think of ideas that solve problems in new and different ways, and they contribute those ideas in a useful and productive manner to improve their organization. They can consider unconventional ideas and suggestions as solutions to issues, tasks or problems, and they discern which ideas and suggestions will add greatest value. They seek new methods, practices, and ideas from a variety of sources and seek to apply those ideas to their own workplace. They take action on their ideas and understand how to bring innovation to an organization.</p>
<p>Utilize critical thinking to make sense of problems and persevere in solving them.</p>	<p>Students readily recognize problems in the workplace, understand the nature of the problem, and devise effective plans to solve the problem. They are aware of problems when they occur and take action quickly to address the problem; they thoughtfully investigate the root cause of the problem prior to introducing solutions. They carefully consider the options to solve the problem. Once a solution is agreed upon, they follow through to ensure the problem is solved, whether through their own actions or the actions of others.</p>
<p>Model integrity, ethical leadership and effective management.</p>	<p>Students consistently act in ways that align personal and community-held ideals and principles while employing strategies to positively influence others in the workplace. They have a clear understanding of integrity and act on this understanding in every decision. They use a variety of means to positively impact the directions and actions of a team or organization, and they apply insights into human behavior to change others' action, attitudes and/or beliefs. They recognize the near-term and long-term effects that management's actions and attitudes can have on productivity, morals and organizational culture.</p>

<p>Plan education and career paths aligned to personal goals.</p>	<p>Students take personal ownership of their own education and career goals, and they regularly act on a plan to attain these goals. They understand their own career interests, preferences, goals, and requirements. They have perspective regarding the pathways available to them and the time, effort, experience and other requirements to pursue each, including a path of entrepreneurship. They recognize the value of each step in the education and experiential process, and they recognize that nearly all career paths require ongoing education and experience. They seek counselors, mentors, and other experts to assist in the planning and execution of career and personal goals.</p>
<p>Use technology to enhance productivity, increase collaboration and communicate effectively.</p>	<p>Students find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring new technology. They are proficient with ubiquitous technology applications. They understand the inherent risks-personal and organizational-of technology applications, and they take actions to prevent or mitigate these risks.</p>
<p>Work productively in teams while using cultural/global competence.</p>	<p>Students positively contribute to every team, whether formal or informal. They apply an awareness of cultural difference to avoid barriers to productive and positive interaction. They find ways to increase the engagement and contribution of all team members. They plan and facilitate effective team meetings.</p>

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

**Addressed In This Unit**

9.1.2.CR.1: Recognize ways to volunteer in the classroom, school and community.

9.1.2. FI.1: Differentiate the various forms of money and how they are used (e.g., coins, bills, checks, debit and credit cards).

9.1.2.FP.2: Differentiate between financial wants and needs.

9.1.2.FP.2: Differentiate between financial wants and needs.

9.1.2.PB.2: Explain why an individual would choose to save money.

9.1.2.RM.1: Describe how valuable items might be damaged or lost and ways to protect them.

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

9.1.5.PB.1: Develop a personal budget and explain how it reflects spending, saving, and charitable contributions.

9.1.5.PB.2: Describe choices consumers have with money (e.g., save, spend, donate).

9.2.5.CAP.1: Evaluate personal likes and dislikes and identify careers that might be suited to personal likes.

9.4.5.CI.1: Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions (e.g., W.4.6, 3.MD.B.3,7.1.NM.IPERS.6)

9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process

9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2).

9.4.5.IML.1: Evaluate digital sources for accuracy, perspective, credibility and relevance (e.g., Social Studies Practice - Gathering and Evaluating Sources).

9.4.5.IML.2: Create a visual representation to organize information about a problem or issue (e.g., 4.MD.B.4, 8.1.5.DA.3).

9.4.5.IML.3: Represent the same data in multiple visual formats in order to tell a story about the data.

## Computer Science and Design Thinking

### ***Computing Systems***

#### ***By the end of grade 5***

Computing devices may be connected to other devices to form a system as a way to extend their capabilities.

Software and hardware work together as a system to accomplish tasks (e.g., sending, receiving, processing, and storing units of information)

Shared features allow for common troubleshooting strategies that can be effective for many systems.

### ***Networks and the Internet***

Information needs a physical or wireless path to travel to be sent and received.

Distinguishing between public and private information is important for safe and secure online interactions.

Information can be protected using various security measures (i.e., physical and digital)

### ***Impacts of Computing***

The development and modification of computing technology is driven by people's needs and wants and can affect individuals differently.

### ***Data & Analysis***

Data can be organized, displayed, and presented to highlight relationships

The type of data being stored affects the storage requirements.

Individuals can select, organize, and transform data into different visual representations and communicate insights gained

from the data.

Many factors influence the accuracy of inferences and predictions.

### ***Algorithms & Programming***

Different algorithms can achieve the same result.

Some algorithms are more appropriate for a specific use than others.

Programming languages provide variables, which are used to store and modify data.

A variety of control structures are used to change the flow of program execution (e.g., sequences, events, loops, conditionals)

Programs can be broken down into smaller parts to facilitate their design, implementation, and review. Programs can also be created by incorporating smaller portions of programs that already exist.

Individuals develop programs using an iterative process involving design, implementation, testing, and review.

### ***Engineering Design***

Engineering design is a systematic and creative process of communicating and collaborating to meet a design challenge.

Often, several design solutions exist, each better in some way than the others.

Engineering design requirements include desired features and limitations that need to be considered.

### ***Interaction of Technology and Humans***

Societal needs and wants determine which new tools are developed to address real-world problems.

A new tool may have favorable or unfavorable results as well as both positive and negative effects on society.



Technology spurs new businesses and careers.
<b><i>Nature of Technology</i></b>
Technology innovation and improvement may be influenced by a variety of factors.
Engineers create and modify technologies to meet people’s needs and wants; scientists ask questions about the natural world.
<b><i>Effects of Technology on the Natural World</i></b>
The technology developed for the human designed world can have unintended consequences for the environment.
Technology must be continually developed and made more efficient to reduce the need for nonrenewable resources.
<b>Ethics &amp; Culture</b>
Technological choices and opportunities vary due to factors such as differences in economic resources, location, and cultural values.

Correlation Key		
Holocaust	Amistad	Financial Literacy

<b>Unit 1: Operations and Algebraic Thinking</b>	<b>Duration:</b> Approximately 15 Days
<b>NJ Student Learning Standard: 5.OA</b>	
<b>Unit Summary</b>	
<ul style="list-style-type: none"> <li>• Write and interpret numerical expressions.</li> </ul>	

● **Analyze patterns and relationships.**

**Unit Summary:** Students will use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. They will write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. They will generate two numerical patterns using two given rules, identify apparent relationships between corresponding terms, form ordered pairs consisting of corresponding terms from, form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane.

<b>5.OA.A.1</b>	Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
<b>5.OA.A.2</b>	Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation "add 8 and 7, then multiply by 2" as $2 \times (8 + 7)$ . Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$ , without having to calculate the indicated sum or product.
<b>5.OA.B.3</b>	Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. <i>For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.</i>
<b>NJ Student Learning Standards for Introduction</b>	
<b>6.EE.A.2</b>	Write, read, and evaluate expressions in which letters stand for numbers.
<b>6.EE.A.2A</b>	Write expressions that record operations with numbers and with letters standing for numbers. For example, express the calculation "Subtract y from 5" as $5 - y$ .
<b>Interdisciplinary Skills</b>	
<b>SL.5.1.A</b>	Explicitly draw on previously read text or material and other information known about the topic to explore ideas under discussion.

<b>SL.5.1.B</b>	Follow agreed-upon rules for discussions and carry out assigned roles.
<b>SL.5.1.A</b>	Explicitly draw on previously read text or material and other information known about the topic to explore ideas under discussion.
<b>Computer Science and Design Thinking</b>	
<b>8.1.5.CS.1</b>	Model how computing devices connect to other components to form a system.
<b>8.1.5.CS.3</b>	Identify potential solutions for simple hardware and software problems using common troubleshooting strategies.
<b>8.1.5.NI.2:</b>	Describe physical and digital security measures for protecting sensitive personal information.
<b>8.1.5.DA.1</b>	Collect, organize, and display data in order to highlight relationships or support a claim.
<b>8.1.5.AP.4</b>	Break down problems into smaller, manageable sub-problems to facilitate program development.
<b>Evidence of Student Learning</b>	
<b>Essential Understandings</b>	<b>Essential Questions</b>
<p>Students will understand that...</p> <ul style="list-style-type: none"> <li>Any number, measure, numerical or algebraic expression, or equation can be represented in a variety of ways that have the same value.</li> <li>The four operations are interrelated, and the properties of each may be used to understand the others.</li> </ul>	<ul style="list-style-type: none"> <li>How are numerical expressions written and interpreted?</li> <li>What are ways to analyze patterns to identify relationship?</li> <li>In what order must operations be evaluated to find the solution of a problem?</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>
<ul style="list-style-type: none"> <li>Create a coordinate town</li> <li>Mathematical Me project using order of operations equations</li> </ul>	<b>Formative Assessments</b> <ul style="list-style-type: none"> <li>Oral Questioning</li> <li>Partners</li> </ul>

- Student Conference
- Self-Assessment
- Think-Pair-Share
- Hand Signals
- Peer Reflections
- Constructive Response
- Teacher Observation
- Exit Slip
- Class work
- Math journals

#### **Summative Assessments**

- Quizzes
- Tests
- Unit Projects
- Presentations
- District Benchmarks
- State Assessment

#### **Benchmark Assessment**

- GoMath Benchmark Assessment

#### **Alternative Assessments**

- Untimed Fact Practice Assessment
- Manipulative Driven Assessment
- Modified/Teacher Created Chapter Tests
- Modified/Teacher Created Mid-Chapter Quiz
- Visual Representation of Skills Assess
- Modified Classwork Assignments

	<ul style="list-style-type: none"> <li>● Modified Benchmarks</li> <li>● GoMath Reteach Activities and Worksheets</li> <li>● Project Based Assessments with Scoring Rubric</li> </ul>
<b>Vocabulary</b>	
Distributive Property   Numerical Expression   Evaluate   Order of Operations	
<b>Knowledge and Skills</b>	
<b>Content</b>	<b>Skills</b>
<p>Write and interpret numerical expressions.</p> <p>Analyze patterns and relationships.</p> <p>Students will know...</p> <ul style="list-style-type: none"> <li>● How to write and interpret numerical expressions.</li> <li>● How to analyze patterns and relationships.</li> </ul>	<p>Students will be able to ...</p> <ul style="list-style-type: none"> <li>● Use properties of operations to solve problems</li> <li>● Use order of operations to solve problems</li> <li>● Write and graph ordered pairs on a coordinate grid</li> </ul>
<b>Instructional Plan</b>	
<b>Suggested Activities</b>	<b>Resources</b>
<p>Grab and Go Centers</p> <ul style="list-style-type: none"> <li>● Blue activity card 11, A Drive Through History</li> <li>● Purple activity card 11, A Drive Through History, What's Left</li> <li>● Blue activity card 15, A Drive Through History</li> </ul>	1.3, 1.10, 1.11, 1.12, 9.5, 9.6, 9.7

<ul style="list-style-type: none"> <li>Orange activity card 19, Graphing Practice, It's a Toss Up</li> </ul>	
<p>Research African American mathematicians</p>	<p><a href="https://www.mashupmath.com/blog/famous-african-american-mathematicians">https://www.mashupmath.com/blog/famous-african-american-mathematicians</a></p>
<p><b>Websites</b></p>	
<p>Interactive arithmetic lessons  Online resources  Online videos  Interactive games  Games, powerpoint, instructional aides</p>	<p><a href="http://www.aaamath.com">www.aaamath.com</a>  <a href="https://www.education.com/resources/fifth-grade/math/">https://www.education.com/resources/fifth-grade/math/</a>  <a href="http://www.flocabulary.com">www.flocabulary.com</a>  <a href="http://www.kahoot.com">www.kahoot.com</a>  <a href="http://internet4classrooms.com/">http://internet4classrooms.com/</a></p>
<p><b>Suggested Options for Differentiation</b></p>	
<p>Basic Skills/Economically Disadvantaged/Students at Risk</p> <ul style="list-style-type: none"> <li>1:1 Instruction</li> <li>Grab and Go centers</li> <li>Repeating Directions</li> <li>Small Group</li> <li>Manipulatives</li> <li>Interactive Notes</li> <li>Reteach/Enrichment Pages for each lesson (RTI)</li> </ul> <p>Gifted and Talented</p> <ul style="list-style-type: none"> <li>PBL</li> <li>Enrichment Lesson</li> <li>Presentation</li> </ul> <p>ELL</p> <ul style="list-style-type: none"> <li>Elicit Prior Knowledge</li> <li>Rephrase</li> </ul>	

- Understand Context
- Scaffold Language
- Restate
- Cooperative Grouping

Special Education

- Follow all IEP modifications
- One on one instruction
- Adaptive devices
- Provide differentiated instruction as needed
- Provide manipulatives
- allow students to draw solution strategies

504

- Follow all 504 Plan modifications
- Seat the student away from distractions and in close proximity to the teacher
- Use simple, concise instructions with concrete steps
- Use a timer to assist student to focus on given task or number of problems in time allotted. Stress that problems need to be correctly done
- Pre-teach and/or re-teach important concepts
- Vary kind of instructional materials used
- Simplify and repeat instructions about in-class and homework assignments
- Vary instructional pace

**Unit 2 Number and Operations in Base Ten**

**Duration: 35**

[Career Readiness, Life Literacies, and Key Skills Practices](#)

<p>Act as a responsible and contributing community members and employee.</p>	<p>Students understand the obligations and responsibilities of being a member of a community, and they demonstrate this understanding every day through their interactions with others. They are conscientious of the impacts of their decisions on others and the environment around them. They think about the near-term and long-term consequences of their actions and seek to act in ways that contribute to the betterment of their teams, families, community and workplace. They are reliable and consistent in going beyond the minimum expectation and in participating in activities that serve the greater good.</p>
<p>Consider the environmental, social and economic impacts of decisions.</p>	<p>Students understand the interrelated nature of their actions and regularly make decisions that positively impact and/or mitigate negative impact on other people, organization, and the environment. They are aware of and utilize new technologies, understandings, procedures, materials, and regulations affecting the nature of their work as it relates to the impact on the social condition, the environment and the profitability of the organization.</p>
<p>Demonstrate creativity and innovation.</p>	<p>Students regularly think of ideas that solve problems in new and different ways, and they contribute those ideas in a useful and productive manner to improve their organization. They can consider unconventional ideas and suggestions as solutions to issues, tasks or problems, and they discern which ideas and suggestions will add greatest value. They seek new methods, practices, and ideas from a variety of sources and seek to apply those ideas to their own workplace. They take action on their ideas and understand how to bring innovation to an organization.</p>
<p>Utilize critical thinking to make sense of problems and persevere in solving them.</p>	<p>Students readily recognize problems in the workplace, understand the nature of the problem, and devise effective plans to solve the problem. They are aware of problems when they occur and take action quickly to address the problem; they thoughtfully investigate the root cause of the problem prior to introducing solutions. They carefully consider the options to solve the problem. Once a solution is agreed upon, they follow through to ensure the problem is solved, whether through their own actions or the actions of others.</p>



<p>Model integrity, ethical leadership and effective management.</p>	<p>Students consistently act in ways that align personal and community-held ideals and principles while employing strategies to positively influence others in the workplace. They have a clear understanding of integrity and act on this understanding in every decision. They use a variety of means to positively impact the directions and actions of a team or organization, and they apply insights into human behavior to change others' action, attitudes and/or beliefs. They recognize the near-term and long-term effects that management's actions and attitudes can have on productivity, morals and organizational culture.</p>
<p>Plan education and career paths aligned to personal goals.</p>	<p>Students take personal ownership of their own education and career goals, and they regularly act on a plan to attain these goals. They understand their own career interests, preferences, goals, and requirements. They have perspective regarding the pathways available to them and the time, effort, experience and other requirements to pursue each, including a path of entrepreneurship. They recognize the value of each step in the education and experiential process, and they recognize that nearly all career paths require ongoing education and experience. They seek counselors, mentors, and other experts to assist in the planning and execution of career and personal goals.</p>
<p>Use technology to enhance productivity, increase collaboration and communicate effectively.</p>	<p>Students find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring new technology. They are proficient with ubiquitous technology applications. They understand the inherent risks-personal and organizational-of technology applications, and they take actions to prevent or mitigate these risks.</p>
<p>Work productively in teams while using cultural/global competence.</p>	<p>Students positively contribute to every team, whether formal or informal. They apply an awareness of cultural difference to avoid barriers to productive and positive interaction. They find ways to increase the engagement and contribution of all team members. They plan and facilitate effective team meetings.</p>

*Career Readiness, Life Literacies, and Key Skills*

*Addressed In this Unit*

9.1.2.CR.1: Recognize ways to volunteer in the classroom, school and community.

9.1.2. FI.1: Differentiate the various forms of money and how they are used (e.g., coins, bills, checks, debit and credit cards).

9.1.2.FP.2: Differentiate between financial wants and needs.

9.1.2.FP.2: Differentiate between financial wants and needs.

9.1.2.PB.2: Explain why an individual would choose to save money.

9.1.2.RM.1: Describe how valuable items might be damaged or lost and ways to protect them.

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

9.1.5.PB.1: Develop a personal budget and explain how it reflects spending, saving, and charitable contributions.

9.1.5.PB.2: Describe choices consumers have with money (e.g., save, spend, donate).

9.2.5.CAP.1: Evaluate personal likes and dislikes and identify careers that might be suited to personal likes.

9.4.5.CI.1: Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions (e.g., W.4.6, 3.MD.B.3,7.1.NM.IPERS.6)

9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process

9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2).9.4.5.IML.1: Evaluate digital sources for accuracy, perspective, credibility and relevance (e.g., Social Studies Practice - Gathering and Evaluating Sources).

9.4.5.IML.2: Create a visual representation to organize information about a problem or issue (e.g.,

4.MD.B.4, 8.1.5.DA.3). • 9.4.5.IML.3: Represent the same data in multiple visual formats in order to tell a story about the data.

## Computer Science and Design Thinking

### ***Computing Systems***

#### ***By the end of grade 5***

Computing devices may be connected to other devices to form a system as a way to extend their capabilities.

Software and hardware work together as a system to accomplish tasks (e.g., sending, receiving, processing, and storing units of information)

Shared features allow for common troubleshooting strategies that can be effective for many systems.

### ***Networks and the Internet***

Information needs a physical or wireless path to travel to be sent and received.

Distinguishing between public and private information is important for safe and secure online interactions.

Information can be protected using various security measures (i.e., physical and digital)

### ***Impacts of Computing***

The development and modification of computing technology is driven by people's needs and wants and can affect individuals differently.

### ***Data & Analysis***

Data can be organized, displayed, and presented to highlight relationships

The type of data being stored affects the storage requirements.

Individuals can select, organize, and transform data into different visual representations and communicate insights gained from the data.

Many factors influence the accuracy of inferences and predictions.

### ***Algorithms & Programming***

Different algorithms can achieve the same result.

Some algorithms are more appropriate for a specific use than others.

Programming languages provide variables, which are used to store and modify data.

A variety of control structures are used to change the flow of program execution (e.g., sequences, events, loops, conditionals)

Programs can be broken down into smaller parts to facilitate their design, implementation, and review. Programs can also be created by incorporating smaller portions of programs that already exist.

Individuals develop programs using an iterative process involving design, implementation, testing, and review.

### ***Engineering Design***

Engineering design is a systematic and creative process of communicating and collaborating to meet a design challenge.

Often, several design solutions exist, each better in some way than the others.

Engineering design requirements include desired features and limitations that need to be considered.

### ***Interaction of Technology and Humans***

Societal needs and wants determine which new tools are developed to address real-world problems.

A new tool may have favorable or unfavorable results as well as both positive and negative effects on society.

Technology spurs new businesses and careers.

### ***Nature of Technology***

Technology innovation and improvement may be influenced by a variety of factors.

Engineers create and modify technologies to meet people's needs and wants; scientists ask questions about the natural world.

### ***Effects of Technology on the Natural World***

The technology developed for the human designed world can have unintended consequences for the environment.

Technology must be continually developed and made more efficient to reduce the need for nonrenewable resources.

### ***Ethics & Culture***

Technological choices and opportunities vary due to factors such as differences in economic resources, location, and cultural values.

Correlation Key		
Holocaust	Amistad	Financial Literacy

<b>Unit 2: Number and Operations in Base Ten</b>	<b>Duration: 50 Days</b>
--	--------------------------

<b>NJ Student Learning Standard: 5.NBT</b>
--

<p><b>Unit Summary</b></p> <ul style="list-style-type: none"> <li>• Perform operations with multi-digit whole numbers and with decimals to hundredths.</li> <li>• Understand the place value system</li> </ul> <p><b>Unit Summary:</b> Students develop understanding of why division procedures work based on the meaning of base-ten numerals and properties of operations. They finalize fluency with multi-digit addition, subtraction, multiplication, and division. They apply their understandings of models for decimals, decimal notation, and properties of operations to add and subtract decimals to hundredths. They develop fluency in these computations, and make reasonable estimates of their results. Students use the relationship between decimals, fractions and percents, as well as the relationship between finite decimals and whole numbers (i.e., a finite decimal multiplied by an appropriate power of 10 is a whole number), to understand and explain why the procedures for multiplying and dividing finite decimals make sense. They compute products and quotients of decimals to hundredths efficiently and accurately.</p>
---

<b>5.NBT.A.1</b>	Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.
<b>5.NBT.A.2</b>	Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

<b>5.NBT.A.3</b>	Read, write, and compare decimals to thousandths.
<b>5.NBT.A.3.A</b>	Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$ .
<b>5.NBT.A.3.B</b>	Compare two decimals to thousandths based on meanings of the digits in each place, using $>$ , $=$ , and $<$ symbols to record the results of comparisons.
<b>5.NBT.A.4</b>	Use place value understanding to round decimals to any place.
<b>5.NBT.B.5</b>	Compare two decimals to thousandths based on meanings of the digits in each place, using $>$ , $=$ , and $<$ symbols to record the results of comparisons.
<b>5.NBT.B.6</b>	Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
<b>5.NBT.B.7</b>	Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.
	<b>NJ Student Learning Standards for Introduction</b>
<b>6.NS.C.5</b>	Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.

<b>6.NS.C.6</b>	Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.	
<b>Interdisciplinary Skills</b>		
<b>SL.5.1.A</b>	Explicitly draw on previously read text or material and other information known about the topic to explore ideas under discussion.	
<b>SL.5.1.B</b>	Follow agreed-upon rules for discussions and carry out assigned roles.	
<b>SL.5.1.A</b>	Explicitly draw on previously read text or material and other information known about the topic to explore ideas under discussion.	
<b>Computer Science and Design Thinking</b>		
<b>8.1.5.CS.1</b>	Model how computing devices connect to other components to form a system.	
<b>8.1.5.CS.3</b>	Identify potential solutions for simple hardware and software problems using common troubleshooting strategies.	
<b>8.1.5.NI.2:</b>	Describe physical and digital security measures for protecting sensitive personal information.	
<b>8.1.5.DA.1</b>	Collect, organize, and display data in order to highlight relationships or support a claim.	
<b>Essential Understandings</b>		<b>Essential Questions</b>
<p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>• numeric fluency includes both the understanding of and the ability to appropriately use numbers</li> <li>• Computational fluency includes understanding not only the meaning, but also the appropriate use of numerical operations and place value.</li> <li>• Formulate, represent and use algorithms to add, subtract, multiply and divide whole numbers, decimals and percents with accuracy and efficiency.</li> <li>• The magnitude of numbers affects the outcome of operations on them.</li> </ul>		<ul style="list-style-type: none"> <li>• How can place value understanding help us compare, order, and round whole numbers and decimals?</li> <li>• How can we apply and extend previous understandings of adding and subtracting decimals?</li> <li>• What algorithms are used to easily multiply and divide whole numbers and decimals?</li> <li>• How can we decide what operation to use when presented with a problem?</li> <li>• How can you describe the relationship between two place value positions?</li> </ul>



	<ul style="list-style-type: none"> <li>• How do you read, write and represent numbers?</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>Go Math Review Project: The Forester B7</p> <p>Go Math Review Project: Chef's Kitchen B1 (division)</p>	<p><b>Formative Assessments</b></p> <ul style="list-style-type: none"> <li>• Oral Questioning</li> <li>• Partners</li> <li>• Student Conference</li> <li>• Self-Assessment</li> <li>• Think-Pair-Share</li> <li>• Hand Signals</li> <li>• Peer Reflections</li> <li>• Constructive Response</li> <li>• Teacher Observation</li> <li>• Exit Slip</li> <li>• Class work</li> </ul> <p><b>Summative Assessments</b></p> <ul style="list-style-type: none"> <li>• Quizzes</li> <li>• Tests</li> <li>• Unit Projects</li> <li>• Presentations</li> <li>• District Benchmarks</li> <li>• State Assessment</li> </ul> <p><b>Benchmark Assessment</b></p> <ul style="list-style-type: none"> <li>• GoMath 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>● GoMath Reteach Activities and Worksheets</li> <li>● Project Based Assessments with Scoring Rubric</li> </ul>
<p><b>Vocabulary</b></p>	
<p>Period Base Exponents Inverse Operations Quotient Dividend Divisor Quotient Remainder Inverse Operations  Partial Quotients Compatible Numbers Estimates Thousandths Hundredths Tenths Place Value Round  Benchmark Sequence Term Decimal Multiplication Ones Pattern Product Expanded Form Decimal  Decimal Point Exponent Equivalent Fractions</p>	
<p><b>Knowledge and Skills</b></p>	
<p><b>Content</b></p>	<p><b>Skills</b></p>
<p>Understand the place value system.</p> <p>Perform operations with multi-digit whole numbers and with decimals to hundredths.</p> <p>Students will know...</p> <ul style="list-style-type: none"> <li>● To understand the place value system to the thousandths.</li> </ul>	<p>Students will be able to ...</p> <ul style="list-style-type: none"> <li>● Multiply multi-digit numbers and decimals</li> <li>● Divide and estimate quotients using whole numbers</li> <li>● Compare, round, add and subtract decimal to the thousandths place</li> <li>● Divide Decimals</li> </ul>

<ul style="list-style-type: none"> <li>• How to perform operations with multi-digit whole numbers and with decimals to hundredths.</li> </ul>	
<b>Instructional Plan</b>	
<b>Suggested Activities</b>	<b>Resources</b>
<p>Grab and Go Centers:</p> <ul style="list-style-type: none"> <li>• Orange/Purple activity cards 1</li> <li>• Orange activity card 4, Dewey and His Decimals</li> <li>• Blue activity card 4, Doubling Everyday</li> <li>• Purple activity card 11, A Drive Through History</li> <li>• Blue/Orange activity cards 11</li> <li>• Orange activity card 13, Doubling Everyday</li> <li>• Purple/Blue/Orange activity cards 5</li> <li>• Blue activity card 15, Niagara Falls Numbers, What's Left</li> <li>• Orange/Blue activity cards 17</li> </ul> <p>Create place value Styrofoam cups SCOOT game for place value</p> <ul style="list-style-type: none"> <li>• Research the contributions of Jewish Mathematicians</li> </ul>	<p>1.1, 1.2, 1.4-1.9, Chapter 2, Chapter 3, Chapter 4, Chapter 5</p> <p><a href="https://jewishjournal.com/jewish-contributions-to-humanity/315294/how-jewish-mathematicians-changed-the-course-of-history/">https://jewishjournal.com/jewish-contributions-to-humanity/315294/how-jewish-mathematicians-changed-the-course-of-history/</a> &amp; <a href="http://www.jinfo.org/Mathematics_Comp.html">http://www.jinfo.org/Mathematics_Comp.html</a></p>
<b>Websites</b>	
<p>Interactive arithmetic lessons Online resources Online videos</p>	<p><a href="http://www.aaamath.com">www.aaamath.com</a> <a href="https://www.education.com/resources/fifth-grade/math/">https://www.education.com/resources/fifth-grade/math/</a> <a href="http://www.flocabulary.com">www.flocabulary.com</a></p>

<p>Interactive games Games, powerpoint, instructional aides <b>Several Math with Money Activities</b></p>	<p><a href="http://www.kahoot.com">www.kahoot.com</a> <a href="http://internet4classrooms.com/">http://internet4classrooms.com/</a> <a href="https://www.internet4classrooms.com/skill_builders/consumer_math_math_fifth_5th_grade.htm">https://www.internet4classrooms.com/skill_builders/consumer_math_math_fifth_5th_grade.htm</a></p>
---	---

**Suggested Options for Differentiation**

Basic Skills/Economically Disadvantaged/Students at Risk

- 1:1 Instruction
- Grab and Go centers
- Repeating Directions
- Small Group
- Manipulatives
- Interactive Notes
- Reteach/Enrichment Pages for each lesson (RTI)

Gifted and Talented

- PBL
- Enrichment Lesson
- Presentation

ELL

- Elicit Prior Knowledge
- Rephrase
- Understand Context
- Scaffold Language
- Restate
- Cooperative Grouping

Special Education

- Follow all IEP modifications
- One on one instruction
- Adaptive devices
- Provide differentiated instruction as needed
- Provide manipulatives
- allow students to draw solution strategies

504

- Follow all 504 Plan modifications
- Seat the student away from distractions and in close proximity to the teacher
- Use simple, concise instructions with concrete steps
- Use a timer to assist student to focus on given task or number of problems in time allotted. Stress that problems need to be correctly done
- Pre-teach and/or re-teach important concepts
- Vary kind of instructional materials used
- Simplify and repeat instructions about in-class and homework assignments
- Vary instructional pace

**Unit 3: Number and Operations-Fractions**

**Duration: 50**

[Career Readiness, Life Literacies, and Key Skills Practices](#)

<p>Act as a responsible and contributing community members and employee.</p>	<p>Students understand the obligations and responsibilities of being a member of a community, and they demonstrate this understanding every day through their interactions with others. They are conscientious of the impacts of their decisions on others and the environment around them. They think about the near-term and long-term consequences of their actions and seek to act in ways that contribute to the betterment of their teams, families, community and workplace. They are reliable and consistent in going beyond the minimum expectation and in participating in activities that serve the greater good.</p>
<p>Consider the environmental, social and economic impacts of decisions.</p>	<p>Students understand the interrelated nature of their actions and regularly make decisions that positively impact and/or mitigate negative impact on other people, organization, and the environment. They are aware of and utilize new technologies, understandings, procedures, materials, and regulations affecting the nature of their work as it relates to the impact on the social condition, the environment and the profitability of the organization.</p>
<p>Demonstrate creativity and innovation.</p>	<p>Students regularly think of ideas that solve problems in new and different ways, and they contribute those ideas in a useful and productive manner to improve their organization. They can consider unconventional ideas and suggestions as solutions to issues, tasks or problems, and they discern which ideas and suggestions will add greatest value. They seek new methods, practices, and ideas from a variety of sources and seek to apply those ideas to their own workplace. They take action on their ideas and understand how to bring innovation to an organization.</p>
<p>Utilize critical thinking to make sense of problems and persevere in solving them.</p>	<p>Students readily recognize problems in the workplace, understand the nature of the problem, and devise effective plans to solve the problem. They are aware of problems when they occur and take action quickly to address the problem; they thoughtfully investigate the root cause of the problem prior to introducing solutions. They carefully consider the options to solve the problem.</p>

	Once a solution is agreed upon, they follow through to ensure the problem is solved, whether through their own actions or the actions of others.
Model integrity, ethical leadership and effective management.	Students consistently act in ways that align personal and community-held ideals and principles while employing strategies to positively influence others in the workplace. They have a clear understanding of integrity and act on this understanding in every decision. They use a variety of means to positively impact the directions and actions of a team or organization, and they apply insights into human behavior to change others' action, attitudes and/or beliefs. They recognize the near-term and long-term effects that management's actions and attitudes can have on productivity, morals and organizational culture.
Plan education and career paths aligned to personal goals.	Students take personal ownership of their own education and career goals, and they regularly act on a plan to attain these goals. They understand their own career interests, preferences, goals, and requirements. They have perspective regarding the pathways available to them and the time, effort, experience and other requirements to pursue each, including a path of entrepreneurship. They recognize the value of each step in the education and experiential process, and they recognize that nearly all career paths require ongoing education and experience. They seek counselors, mentors, and other experts to assist in the planning and execution of career and personal goals.
Use technology to enhance productivity, increase collaboration and communicate effectively.	Students find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring new technology. They are proficient with ubiquitous technology applications. They understand the inherent risks-personal and organizational-of technology applications, and they take actions to prevent or mitigate these risks.

Work productively in teams while using cultural/global competence.	Students positively contribute to every team, whether formal or informal. They apply an awareness of cultural difference to avoid barriers to productive and positive interaction. They find ways to increase the engagement and contribution of all team members. They plan and facilitate effective team meetings.
--	--

*Career Readiness, Life Literacies, and Key Skills*

*Addressed In this Unit*

- 9.1.2.CR.1: Recognize ways to volunteer in the classroom, school and community.
- 9.1.2. FI.1: Differentiate the various forms of money and how they are used (e.g., coins, bills, checks, debit and credit cards).
- 9.1.2.FP.2: Differentiate between financial wants and needs.
- 9.1.2.FP.2: Differentiate between financial wants and needs.
- 9.1.2.PB.2: Explain why an individual would choose to save money.
- 9.1.2.RM.1: Describe how valuable items might be damaged or lost and ways to protect them.
- 9.1.5.CR.1: Compare various ways to give back and relate them to your strengths, interests, and other personal factors.
- 9.1.5.PB.1: Develop a personal budget and explain how it reflects spending, saving, and charitable contributions.
- 9.1.5.PB.2: Describe choices consumers have with money (e.g., save, spend, donate).
- 9.2.5.CAP.1: Evaluate personal likes and dislikes and identify careers that might be suited to personal likes.



9.4.5.CI.1: Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions (e.g., W.4.6, 3.MD.B.3,7.1.NM.IPERS.6)

9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process

9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2).9.4.5.IML.1: Evaluate digital sources for accuracy, perspective, credibility and relevance (e.g., Social Studies Practice - Gathering and Evaluating Sources).

9.4.5.IML.2: Create a visual representation to organize information about a problem or issue (e.g.,

4.MD.B.4, 8.1.5.DA.3). • 9.4.5.IML.3: Represent the same data in multiple visual formats in order to tell a story about the data.

## Computer Science and Design Thinking

### ***Computing Systems***

#### ***By the end of grade 5***

Computing devices may be connected to other devices to form a system as a way to extend their capabilities.

Software and hardware work together as a system to accomplish tasks (e.g., sending, receiving, processing, and storing units of information)

Shared features allow for common troubleshooting strategies that can be effective for many systems.

### ***Networks and the Internet***

Information needs a physical or wireless path to travel to be sent and received.

Distinguishing between public and private information is important for safe and secure online interactions.

Information can be protected using various security measures (i.e., physical and digital)

### ***Impacts of Computing***

The development and modification of computing technology is driven by people's needs and wants and can affect individuals differently.

### ***Data & Analysis***

Data can be organized, displayed, and presented to highlight relationships

The type of data being stored affects the storage requirements.

Individuals can select, organize, and transform data into different visual representations and communicate insights gained from the data.

Many factors influence the accuracy of inferences and predictions.

### ***Algorithms & Programming***

Different algorithms can achieve the same result.

Some algorithms are more appropriate for a specific use than others.

Programming languages provide variables, which are used to store and modify data.

A variety of control structures are used to change the flow of program execution (e.g., sequences, events, loops, conditionals)

Programs can be broken down into smaller parts to facilitate their design, implementation, and review. Programs can also be created by incorporating smaller portions of programs that already exist.

Individuals develop programs using an iterative process involving design, implementation, testing, and review.

### ***Engineering Design***

Engineering design is a systematic and creative process of communicating and collaborating to meet a design challenge.

Often, several design solutions exist, each better in some way than the others.

Engineering design requirements include desired features and limitations that need to be considered.

### ***Interaction of Technology and Humans***

Societal needs and wants determine which new tools are developed to address real-world problems.

A new tool may have favorable or unfavorable results as well as both positive and negative effects on society.

Technology spurs new businesses and careers.

### ***Nature of Technology***

Technology innovation and improvement may be influenced by a variety of factors.

Engineers create and modify technologies to meet people's needs and wants; scientists ask questions about the natural world.

### ***Effects of Technology on the Natural World***

The technology developed for the human designed world can have unintended consequences for the environment.

Technology must be continually developed and made more efficient to reduce the need for nonrenewable resources.

### ***Ethics & Culture***

Technological choices and opportunities vary due to factors such as differences in economic resources, location, and cultural values.

Correlation Key		
Holocaust	Amistad	Financial Literacy

<b>Unit 3: Number and Operations-Fractions</b>	<b>Duration: 50 days</b>
<b>NJ Student Learning Standard: 5.NF</b>	
<p><b>Unit Summary</b></p> <ul style="list-style-type: none"> <li>• Use equivalent fractions as a strategy to add and subtract fractions.</li> <li>• Apply and extend previous understandings of multiplication and division to multiply and divide fractions.</li> </ul> <p><b>Unit Summary:</b> Students apply their understanding of fractions and fraction models to represent the addition and subtraction of fractions with unlike denominators as equivalent calculations with like denominators. They develop fluency in calculating sums and differences of fractions, and make reasonable estimates of them. Students also use the meaning of fractions, of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for multiplying and dividing fractions make sense. (Note: this is limited to the case of dividing unit fractions by whole numbers and whole numbers by unit fractions.)</p>	

<b>5.NF.A.1</b>	Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. <i>For example, <math>\frac{2}{3} + \frac{5}{4} = \frac{8}{12} + \frac{15}{12} = \frac{23}{12}</math>. (In general, <math>\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}</math>.)</i>
<b>5.NF.A.2</b>	Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. <i>For example, recognize an incorrect result <math>\frac{2}{5} + \frac{1}{2} = \frac{3}{7}</math>, by</i>

	<i>observing that <math>3/7 &lt; 1/2</math>.</i>
<b>5.NF.B.3</b>	Interpret a fraction as division of the numerator by the denominator ( $a/b = a \div b$ ). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. <i>For example, interpret <math>3/4</math> as the result of dividing 3 by 4, noting that <math>3/4</math> multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size <math>3/4</math>. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?</i>
<b>5.NF.B.4</b>	Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.
<b>5.NF.B.4A</b>	Interpret the product $(a/b) \times q$ as $a$ parts of a partition of $q$ into $b$ equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$ . <i>For example, use a visual fraction model to show <math>(2/3) \times 4 = 8/3</math>, and create a story context for this equation. Do the same with <math>(2/3) \times (4/5) = 8/15</math>. (In general, <math>(a/b) \times (c/d) = ac/bd</math>.)</i>
<b>5.NF.B.4B</b>	Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.
<b>5.NF.B.5</b>	Interpret multiplication as scaling (resizing), by:
<b>5.NF.B.5.A</b>	Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.given number in a specified set makes an equation or inequality true
<b>5.NF.B.5.B</b>	Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying $a/b$ by 1.
<b>5.NF.B.5.B.6</b>	Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

<b>5.NF.B.5.B.7</b>	Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions, such inequalities on number line diagrams.
<b>5.NF.B.5.B.7.A</b>	Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. <i>For example, create a story context for <math>(1/3) \div 4</math>, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that <math>(1/3) \div 4 = 1/12</math> because <math>(1/12) \times 4 = 1/3</math>.</i>
<b>5.NF.B.5.B.7.B</b>	Interpret division of a whole number by a unit fraction, and compute such quotients. <i>For example, create a story context for <math>4 \div (1/5)</math>, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that <math>4 \div (1/5) = 20</math> because <math>20 \times (1/5) = 4</math>.</i>
<b>5.NF.B.5.B.7.C</b>	Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. <i>For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?</i>
<b>NJ Student Learning Standard for Introduction</b>	
<b>6.RP</b>	Students' prior knowledge of and skill with multiplication, division and fractions contribute to their study of ratios, proportional relationships and unit rates.
<b>Interdisciplinary Skills</b>	
<b>SL.5.1.A</b>	Explicitly draw on previously read text or material and other information known about the topic to explore ideas under discussion.
<b>SL.5.1.B</b>	Follow agreed-upon rules for discussions and carry out assigned roles.
<b>SL.5.1.A</b>	Explicitly draw on previously read text or material and other information known about the topic to explore ideas under discussion.
<b>Computer Science and Design Thinking</b>	
<b>8.1.5.CS.1</b>	Model how computing devices connect to other components to form a system.
<b>8.1.5.CS.3</b>	Identify potential solutions for simple hardware and software problems using common troubleshooting strategies.
<b>8.1.5.NI.2:</b>	Describe physical and digital security measures for protecting sensitive personal information.
<b>8.1.5.DA.1</b>	Collect, organize, and display data in order to highlight relationships or support a claim.
<b>8.1.5.AP.4</b>	Break down problems into smaller, manageable sub-problems to facilitate program development.
<b>Essential Understandings</b>	
<b>Essential Questions</b>	

<p><b>Students will understand that...</b></p> <ul style="list-style-type: none"> <li>● Fractions, decimals, and percentages express the relationship between two numbers.</li> <li>● Fractions are a part of a whole, part of a set, part of an area, and locations on the number line.</li> <li>● Fractions can be read, written, ordered, compared, modeled, and computed in a variety of ways, including equivalents, improper, and mixed numbers.</li> </ul>	<ul style="list-style-type: none"> <li>● How can fractions be modeled, compared, and ordered?</li> <li>● How are common fractions and decimals alike and different?</li> <li>● How is computation with rational numbers similar and different to whole number computation?</li> <li>● How can you make reasonable estimates of fraction sums, differences, products and quotients?</li> <li>● How can you add, subtract, multiply and divide fractions?</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>Go Math: Review Project Designing Backpacks (B11)  Literature Recipe Project Card  Recipe Project (see attached)</p>	<p><b>Formative Assessments</b></p> <ul style="list-style-type: none"> <li>● Oral Questioning</li> <li>● Partners</li> <li>● Student Conference</li> <li>● Self-Assessment</li> <li>● Think-Pair-Share</li> <li>● Hand Signals</li> <li>● Peer Reflections</li> <li>● Constructive Response</li> <li>● Teacher Observation</li> <li>● Exit Slip</li> <li>● Class work</li> </ul>

	<p><b>Summative Assessments</b></p> <ul style="list-style-type: none"> <li>● Quizzes</li> <li>● Tests</li> <li>● Unit Projects</li> <li>● Presentations</li> <li>● District Benchmarks</li> <li>● State Assessment</li> <li>● National/State/District Wide Assessments</li> </ul> <p><b>Benchmark Assessment</b></p> <ul style="list-style-type: none"> <li>● GoMath 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>● GoMath Reteach Activities and Worksheets</li> <li>● Project Based Assessments with Scoring Rubric</li> </ul>
<b>Vocabulary</b>	
Sum, Difference, Benchmark, Common Denominator, Common Multiples, Equivalent Fractions, Simplest Form, Mixed Numbers Denominator Numerator Product Dividend Fraction Quotient Whole Number Equation	



<b>Knowledge and Skills</b>	
<b>Content</b>	<b>Skills</b>
<p>Use equivalent fractions as a strategy to add and subtract fractions.</p> <p>Apply and extend previous understandings of multiplication and division to multiply and divide fractions.</p> <p>Students will know how...</p> <ul style="list-style-type: none"> <li>● To use equivalent fractions as a strategy to add and subtract fractions.</li> <li>● To apply and extend previous understandings of multiplication and division to multiply and divide fractions.</li> </ul>	<p>Students will be able to ...</p> <ul style="list-style-type: none"> <li>● Add and subtract fractions/mixed numbers</li> <li>● Multiply fractions/mixed numbers</li> <li>● Divide Fractions</li> </ul>
<b>Instructional Plan</b>	
<b>Suggested Activities</b>	<b>Resources</b>
<p>Grab and Go Centers:</p> <ul style="list-style-type: none"> <li>● Orange/Blue/Purple activity cards 8</li> <li>● Blue/Orange activity cards 6</li> <li>● Literature 6, Cranking Out the Numbers</li> </ul>	<p>Chapter 6, Chapter 7, Chapter 8</p>
<p><i>Holocaust facts and Figures Math activities that tie into Holocaust education.</i></p>	<p><a href="https://www.teachervision.com/holocaust/holocaust-facts-figures">https://www.teachervision.com/holocaust/holocaust-facts-figures</a></p>
<b>Websites</b>	

<p>Interactive arithmetic lessons  Online resources  Online videos  Interactive games  Games, powerpoint, instructional aides  <b>Several Math With Money Activities</b></p>	<p><a href="http://www.aaamath.com">www.aaamath.com</a>  <a href="https://www.education.com/resources/fifth-grade/math/">https://www.education.com/resources/fifth-grade/math/</a>  <a href="http://www.flocabulary.com">www.flocabulary.com</a>  <a href="http://www.kahoot.com">www.kahoot.com</a>  <a href="http://internet4classrooms.com/">http://internet4classrooms.com/</a>  <a href="https://www.internet4classrooms.com/skill_builders/sumer_math_math_fifth_5th_grade.htm">https://www.internet4classrooms.com/skill_builders/sumer_math_math_fifth_5th_grade.htm</a></p>
<p><b>Suggested Options for Differentiation</b></p>	
<p>Basic Skills/Economically Disadvantaged/Students at Risk</p> <ul style="list-style-type: none"> <li>● 1:1 Instruction</li> <li>● Grab and Go centers</li> <li>● Repeating Directions</li> <li>● Small Group</li> <li>● Manipulatives</li> <li>● Interactive Notes</li> <li>● Reteach/Enrichment Pages for each lesson (RTI)</li> </ul> <p>Gifted and Talented</p> <ul style="list-style-type: none"> <li>● PBL</li> <li>● Enrichment Lesson</li> <li>● Presentation</li> </ul> <p>ELL</p> <ul style="list-style-type: none"> <li>● Elicit Prior Knowledge</li> <li>● Rephrase</li> <li>● Understand Context</li> <li>● Scaffold Language</li> <li>● Restate</li> <li>● Cooperative Grouping</li> </ul>	

### Special Education

- Follow all IEP modifications
- One on one instruction
- Adaptive devices
- Provide differentiated instruction as needed
- Provide manipulatives
- allow students to draw solution strategies

### 504

- Follow all 504 Plan modifications
- Seat the student away from distractions and in close proximity to the teacher
- Use simple, concise instructions with concrete steps
- Use a timer to assist student to focus on given task or number of problems in time allotted. Stress that problems need to be correctly done
- Pre-teach and/or re-teach important concepts
- Vary kind of instructional materials used
- Simplify and repeat instructions about in-class and homework assignments
- Vary instructional pace

**Unit 4: Measurement and Data**

**Duration: 35**

[Career Readiness, Life Literacies, and Key Skills Practices](#)

<p>Act as a responsible and contributing community members and employee.</p>	<p>Students understand the obligations and responsibilities of being a member of a community, and they demonstrate this understanding every day through their interactions with others. They are conscientious of the impacts of their decisions on others and the environment around them. They think about the near-term and long-term consequences of their actions and seek to act in ways that contribute to the betterment of their teams, families, community and workplace. They are reliable and consistent in going beyond the minimum expectation and in participating in activities that serve the greater good.</p>
<p>Consider the environmental, social and economic impacts of decisions.</p>	<p>Students understand the interrelated nature of their actions and regularly make decisions that positively impact and/or mitigate negative impact on other people, organization, and the environment. They are aware of and utilize new technologies, understandings, procedures, materials, and regulations affecting the nature of their work as it relates to the impact on the social condition, the environment and the profitability of the organization.</p>
<p>Demonstrate creativity and innovation.</p>	<p>Students regularly think of ideas that solve problems in new and different ways, and they contribute those ideas in a useful and productive manner to improve their organization. They can consider unconventional ideas and suggestions as solutions to issues, tasks or problems, and they discern which ideas and suggestions will add greatest value. They seek new methods, practices, and ideas from a variety of sources and seek to apply those ideas to their own workplace. They take action on their ideas and understand how to bring innovation to an organization.</p>
<p>Utilize critical thinking to make sense of problems and persevere in solving them.</p>	<p>Students readily recognize problems in the workplace, understand the nature of the problem, and devise effective plans to solve the problem. They are aware of problems when they occur and take action quickly to address the problem; they thoughtfully investigate the root cause of the problem prior to introducing solutions. They carefully consider the options to solve the problem.</p>

	Once a solution is agreed upon, they follow through to ensure the problem is solved, whether through their own actions or the actions of others.
Model integrity, ethical leadership and effective management.	Students consistently act in ways that align personal and community-held ideals and principles while employing strategies to positively influence others in the workplace. They have a clear understanding of integrity and act on this understanding in every decision. They use a variety of means to positively impact the directions and actions of a team or organization, and they apply insights into human behavior to change others' action, attitudes and/or beliefs. They recognize the near-term and long-term effects that management's actions and attitudes can have on productivity, morals and organizational culture.
Plan education and career paths aligned to personal goals.	Students take personal ownership of their own education and career goals, and they regularly act on a plan to attain these goals. They understand their own career interests, preferences, goals, and requirements. They have perspective regarding the pathways available to them and the time, effort, experience and other requirements to pursue each, including a path of entrepreneurship. They recognize the value of each step in the education and experiential process, and they recognize that nearly all career paths require ongoing education and experience. They seek counselors, mentors, and other experts to assist in the planning and execution of career and personal goals.
Use technology to enhance productivity, increase collaboration and communicate effectively.	Students find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring new technology. They are proficient with ubiquitous technology applications. They understand the inherent risks-personal and organizational-of technology applications, and they take actions to prevent or mitigate these risks.

<p>Work productively in teams while using cultural/global competence.</p>	<p>Students positively contribute to every team, whether formal or informal. They apply an awareness of cultural difference to avoid barriers to productive and positive interaction. They find ways to increase the engagement and contribution of all team members. They plan and facilitate effective team meetings.</p>
---	---

*Career Readiness, Life Literacies, and Key Skills*  
*Addressed In this Unit*

- 9.1.2.CR.1: Recognize ways to volunteer in the classroom, school and community.
- 9.1.2. FI.1: Differentiate the various forms of money and how they are used (e.g., coins, bills, checks, debit and credit cards).
- 9.1.2.FP.2: Differentiate between financial wants and needs.
- 9.1.2.FP.2: Differentiate between financial wants and needs.
- 9.1.2.PB.2: Explain why an individual would choose to save money.
- 9.1.2.RM.1: Describe how valuable items might be damaged or lost and ways to protect them.
- 9.1.5.CR.1: Compare various ways to give back and relate them to your strengths, interests, and other personal factors.
- 9.1.5.PB.1: Develop a personal budget and explain how it reflects spending, saving, and charitable contributions.
- 9.1.5.PB.2: Describe choices consumers have with money (e.g., save, spend, donate).
- 9.2.5.CAP.1: Evaluate personal likes and dislikes and identify careers that might be suited to personal likes.
- 9.4.5.CI.1: Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions (e.g., W.4.6, 3.MD.B.3,7.1.NM.IPERS.6)

9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process  
 9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2).9.4.5.IML.1: Evaluate digital sources for accuracy, perspective, credibility and relevance (e.g., Social Studies Practice - Gathering and Evaluating Sources).  
 9.4.5.IML.2: Create a visual representation to organize information about a problem or issue (e.g., 4.MD.B.4, 8.1.5.DA.3). • 9.4.5.IML.3: Represent the same data in multiple visual formats in order to tell a story about the data.

## **Computer Science and Design Thinking**

### ***Computing Systems***

#### ***By the end of grade 5***

Computing devices may be connected to other devices to form a system as a way to extend their capabilities.

Software and hardware work together as a system to accomplish tasks (e.g., sending, receiving, processing, and storing units of information)

Shared features allow for common troubleshooting strategies that can be effective for many systems.

### ***Networks and the Internet***

Information needs a physical or wireless path to travel to be sent and received.

Distinguishing between public and private information is important for safe and secure online interactions.

Information can be protected using various security measures (i.e., physical and digital)

### ***Impacts of Computing***

The development and modification of computing technology is driven by people's needs and wants and can affect individuals differently.

### ***Data & Analysis***

Data can be organized, displayed, and presented to highlight relationships

The type of data being stored affects the storage requirements.

Individuals can select, organize, and transform data into different visual representations and communicate insights gained from the data.

Many factors influence the accuracy of inferences and predictions.

### ***Algorithms & Programming***

Different algorithms can achieve the same result.

Some algorithms are more appropriate for a specific use than others.

Programming languages provide variables, which are used to store and modify data.

A variety of control structures are used to change the flow of program execution (e.g., sequences, events, loops, conditionals)

Programs can be broken down into smaller parts to facilitate their design, implementation, and review. Programs can also be created by incorporating smaller portions of programs that already exist.

Individuals develop programs using an iterative process involving design, implementation, testing, and review.

### ***Engineering Design***



Engineering design is a systematic and creative process of communicating and collaborating to meet a design challenge.

Often, several design solutions exist, each better in some way than the others.

Engineering design requirements include desired features and limitations that need to be considered.

### ***Interaction of Technology and Humans***

Societal needs and wants determine which new tools are developed to address real-world problems.

A new tool may have favorable or unfavorable results as well as both positive and negative effects on society.

Technology spurs new businesses and careers.

### ***Nature of Technology***

Technology innovation and improvement may be influenced by a variety of factors.

Engineers create and modify technologies to meet people's needs and wants; scientists ask questions about the natural world.

### ***Effects of Technology on the Natural World***

The technology developed for the human designed world can have unintended consequences for the environment.

Technology must be continually developed and made more efficient to reduce the need for nonrenewable resources.

### ***Ethics & Culture***

Technological choices and opportunities vary due to factors such as differences in economic resources, location, and cultural values.

Correlation Key		
Holocaust	Amistad	Financial Literacy

<b>Unit 4: Measurement and Data</b>	<b>Duration: 25</b>
<b>NJ Student Learning Standard: 5.MD</b>	
<p><b>Unit Summary</b></p> <ul style="list-style-type: none"> <li>Convert like measurement units within a given measurement system. Represent and interpret data. Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.</li> </ul> <p><b>Unit Summary:</b> Students will apply their understanding of measurement to convert to like units. Students will be able to represent and interpret data through the use of surveys, plots, and graphs.</p>	

<b>5.MD.A.1</b>	Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.
<b>5.MD.B.2</b>	Make a line plot to display a data set of measurements in fractions of a unit ( $\frac{1}{2}$ , $\frac{1}{4}$ , $\frac{1}{8}$ ). Use operations on fractions for this grade to solve problems involving information presented in line plots. <i>For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.</i>
<b>5.MD.C.3</b>	Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
<b>5.MD.C.3.A</b>	A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume.
<b>5.MD.C.3.B</b>	A solid figure which can be packed without gaps or overlaps using $n$ unit cubes is said to have a volume of $n$ cubic units.

<b>5.MD.C.4</b>	Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.
<b>5.MD.C.5</b>	Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.
<b>5.MD.C.5.A</b>	Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.
<b>5.MD.C.5.B</b>	Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.
<b>5.MD.C.5.C</b>	Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.
	<b>NJ Student Learning Standard for Introduction</b>
<b>6.G.A.2</b>	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = l w h$ and $V = b h$ to find volumes of right ms.
	<b>Interdisciplinary Skills</b>
<b>SL.5.1.A</b>	Explicitly draw on previously read text or material and other information known about the topic to explore ideas under discussion.
<b>SL.5.1.B</b>	Follow agreed-upon rules for discussions and carry out assigned roles.
<b>SL.5.1.A</b>	Explicitly draw on previously read text or material and other information known about the topic to explore ideas under discussion.
	<b>Computer Science and Design Thinking</b>
<b>8.1.5.CS.1</b>	Model how computing devices connect to other components to form a system.
<b>8.1.5.CS.3</b>	Identify potential solutions for simple hardware and software problems using common troubleshooting strategies.

<b>8.1.5.NI.2:</b>	Describe physical and digital security measures for protecting sensitive personal information.
<b>8.1.5.DA.1</b>	Collect, organize, and display data in order to highlight relationships or support a claim.
<b>Essential Understandings</b>	<b>Essential Questions</b>
<p><b>Students will understand that...</b></p> <ul style="list-style-type: none"> <li>• They will build on their prior knowledge of related measurement units to determine equivalent measurements.</li> <li>• Prior to making actual conversions, they examine the units to be converted, determine if the converted amount will be more or less units than the original unit, and explain their reasoning.</li> <li>• They use several strategies to convert measurements. When converting metric measurement, students apply their understanding of place value and decimals.</li> </ul>	<ul style="list-style-type: none"> <li>• What types of problems are solved with measurement and what tools would be used?</li> <li>• How do units within a system relate to each other?</li> <li>• When is an estimate more appropriate than an actual measurement?</li> <li>• How can you compare and convert customary and metric units of length, capacity, and weight?</li> <li>• How can you identify, describe, and classify three-dimensional figures?</li> <li>• How can you find the volume of a rectangular prism using a formula?</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>Go Math Review Project: A Space Capsule Critical Area: Develop an understanding of volume</p> <p>Go Math Review Project: Space Architecture (volume) B5</p> <p>Measurement Scavenger Hunt- Indoor Activities</p> <p>Measurement Chain- Who Has? I Have?</p>	<p><b>Formative Assessments</b></p> <ul style="list-style-type: none"> <li>• Oral Questioning</li> <li>• Partners</li> <li>• Student Conference</li> <li>• Self-Assessment</li> <li>• Think-Pair-Share</li> <li>• Hand Signals</li> <li>• Peer Reflections</li> <li>• Constructive Response</li> </ul>

- Teacher Observation
- Exit Slip
- Class work

**Summative Assessments**

- Quizzes
- Tests
- Unit Projects
- Presentations
- District Benchmarks
- State Assessment

**Benchmark Assessment**

- GoMath Benchmark Assessment

**Alternative Assessments**

- Untimed Fact Practice Assessment
- Manipulative Driven Assessment
- Modified/Teacher Created Chapter Tests
- Modified/Teacher Created Mid-Chapter Quiz
- Visual Representation of Skills Assess
- Modified Classwork Assignments
- Modified Benchmarks
- GoMath Reteach Activities and Worksheets
- Project Based Assessments with Scoring Rubric

**Vocabulary**

<p>Data Line Plot Foot Inch Mile Yard Capacity Cup Fluid Ounce Gallon Pint Quart Ounce Pound Ton  Weight Dekameter Centimeter Decimeter Gram Kilogram Kilometer Liter Mass Meter Milligram Milliliter  Millimeter  Elapsed Time Base Decagonal Prism Hexagonal Prism Lateral Face Octagonal Prism Pentagonal Prism  Pentagonal Pyramid Polyhedron Prism Pyramid Unit Cubed Cubic Unit Volume</p>	
<b>Knowledge and Skills</b>	
<b>Content</b>	<b>Skills</b>
<p>Convert like measurement units within a given measurement system. Represent and interpret data.</p> <p>Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.</p> <p>Students will know...</p> <ul style="list-style-type: none"> <li>● the difference between various standard units of measurement</li> <li>● how to create visual displays of data</li> <li>● how to recognize and apply concepts related to volume</li> </ul>	<p>Students will be able to ...</p> <ul style="list-style-type: none"> <li>● Use and create a line plot to find the average in a set of data</li> <li>● Compare and convert Customary Units and Metric of capacity, length, and weight</li> <li>● Investigate and measure volume and relate it to multiplication and division and solve real world problems</li> <li>● Identify, describe and classify 3D figures</li> </ul>
<b>Instructional Plan</b>	
<b>Suggested Activities</b>	<b>Resources</b>

<p>Grab and Go Centers:</p> <ul style="list-style-type: none"> <li>• Blue/Orange Activity Card 6</li> <li>• Blue/Orange/Purple Activity Card 2</li> <li>• Literature, A Math Mix-Up</li> <li>• Game-2 Steps Forward, 1 Step Back/</li> <li>• Blue/Orange Activity Cards 12</li> <li>• Blue/Orange Activity Cards 14</li> </ul> <p>Metric Conversions Metric Song and Capacity Song by Numbers Rock Literature: "Meet the Meters"</p>	<p>9.1, Chapter 10, 11.4, 11.5, 11.6, 11.7 11.8, 11.9, 11.10, 11.11</p>
<p><i>Voices into Action</i></p>	<p><a href="https://static1.squarespace.com/static/55195819e4b07ea6d2890691/t/552c1c27e4b0d3f1848504ad/1428954173928/Voices+into+Action+-+Unit+5.pdf">https://static1.squarespace.com/static/55195819e4b07ea6d2890691/t/552c1c27e4b0d3f1848504ad/1428954173928/Voices+into+Action+-+Unit+5.pdf</a></p>
<p><b>Websites</b></p>	
<p>Interactive arithmetic lessons Online resources Online videos Interactive games Games, powerpoint, instructional aides</p>	<p><a href="http://www.aaamath.com">www.aaamath.com</a> <a href="https://www.education.com/resources/fifth-grade/math/">https://www.education.com/resources/fifth-grade/math/</a> <a href="http://www.flocabulary.com">www.flocabulary.com</a> <a href="http://www.kahoot.com">www.kahoot.com</a> <a href="http://internet4classrooms.com/">http://internet4classrooms.com/</a></p>
<p><b>Suggested Options for Differentiation</b></p>	
<p>Basic Skills/Economically Disadvantaged/Students at Risk</p> <ul style="list-style-type: none"> <li>• 1:1 Instruction</li> <li>• Grab and Go centers</li> <li>• Repeating Directions</li> <li>• Small Group</li> </ul>	

- Manipulatives
- Interactive Notes
- Reteach/Enrichment Pages for each lesson (RTI)

#### Gifted and Talented

- PBL
- Enrichment Lesson
- Presentation

#### ELL

- Elicit Prior Knowledge
- Rephrase
- Understand Context
- Scaffold Language
- Restate
- Cooperative Grouping

#### Special Education

- Follow all IEP modifications
- One on one instruction
- Adaptive devices
- Provide differentiated instruction as needed
- Provide manipulatives
- allow students to draw solution strategies

#### 504

- Follow all 504 Plan modifications
- Seat the student away from distractions and in close proximity to the teacher
- Use simple, concise instructions with concrete steps
- Use a timer to assist student to focus on given task or number of problems in time allotted. Stress that problems need to be correctly done
- Pre-teach and/or re-teach important concepts



- Vary kind of instructional materials used
- Simplify and repeat instructions about in-class and homework assignments
- Vary instructional pace

**Unit 5: Geometry**

**Duration: 35**

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

Act as a responsible and contributing community members and employee.

Students understand the obligations and responsibilities of being a member of a community, and they demonstrate this understanding every day through their interactions with others. They are conscientious of the impacts of their decisions on others and the environment around them. They think about the near-term and long-term consequences of their actions and seek to act in ways that contribute to the betterment of their teams, families, community and workplace. They are reliable and consistent in going beyond the minimum expectation and in participating in activities that serve the greater good.

Consider the environmental, social and economic impacts of decisions.

Students understand the interrelated nature of their actions and regularly make decisions that positively impact and/or mitigate negative impact on other people, organization, and the environment. They are aware of and utilize new technologies, understandings, procedures, materials, and regulations affecting the nature of their work as it relates to the impact on the social condition, the environment and the profitability of the organization.

<p>Demonstrate creativity and innovation.</p>	<p>Students regularly think of ideas that solve problems in new and different ways, and they contribute those ideas in a useful and productive manner to improve their organization. They can consider unconventional ideas and suggestions as solutions to issues, tasks or problems, and they discern which ideas and suggestions will add greatest value. They seek new methods, practices, and ideas from a variety of sources and seek to apply those ideas to their own workplace. They take action on their ideas and understand how to bring innovation to an organization.</p>
<p>Utilize critical thinking to make sense of problems and persevere in solving them.</p>	<p>Students readily recognize problems in the workplace, understand the nature of the problem, and devise effective plans to solve the problem. They are aware of problems when they occur and take action quickly to address the problem; they thoughtfully investigate the root cause of the problem prior to introducing solutions. They carefully consider the options to solve the problem. Once a solution is agreed upon, they follow through to ensure the problem is solved, whether through their own actions or the actions of others.</p>
<p>Model integrity, ethical leadership and effective management.</p>	<p>Students consistently act in ways that align personal and community-held ideals and principles while employing strategies to positively influence others in the workplace. They have a clear understanding of integrity and act on this understanding in every decision. They use a variety of means to positively impact the directions and actions of a team or organization, and they apply insights into human behavior to change others' action, attitudes and/or beliefs. They recognize the near-term and long-term effects that management's actions and attitudes can have on productivity, morals and organizational culture.</p>

<p>Plan education and career paths aligned to personal goals.</p>	<p>Students take personal ownership of their own education and career goals, and they regularly act on a plan to attain these goals. They understand their own career interests, preferences, goals, and requirements. They have perspective regarding the pathways available to them and the time, effort, experience and other requirements to pursue each, including a path of entrepreneurship. They recognize the value of each step in the education and experiential process, and they recognize that nearly all career paths require ongoing education and experience. They seek counselors, mentors, and other experts to assist in the planning and execution of career and personal goals.</p>
<p>Use technology to enhance productivity, increase collaboration and communicate effectively.</p>	<p>Students find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring new technology. They are proficient with ubiquitous technology applications. They understand the inherent risks-personal and organizational-of technology applications, and they take actions to prevent or mitigate these risks.</p>
<p>Work productively in teams while using cultural/global competence.</p>	<p>Students positively contribute to every team, whether formal or informal. They apply an awareness of cultural difference to avoid barriers to productive and positive interaction. They find ways to increase the engagement and contribution of all team members. They plan and facilitate effective team meetings.</p>

**Career Readiness, Life Literacies, and Key Skills**  
**Addressed In This Unit**

9.1.2.CR.1: Recognize ways to volunteer in the classroom, school and community.

9.1.2. FI.1: Differentiate the various forms of money and how they are used (e.g., coins, bills, checks, debit and credit cards).

9.1.2.FP.2: Differentiate between financial wants and needs.

9.1.2.FP.2: Differentiate between financial wants and needs.

9.1.2.PB.2: Explain why an individual would choose to save money.

9.1.2.RM.1: Describe how valuable items might be damaged or lost and ways to protect them.

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

9.1.5.PB.1: Develop a personal budget and explain how it reflects spending, saving, and charitable contributions.

9.1.5.PB.2: Describe choices consumers have with money (e.g., save, spend, donate).

9.2.5.CAP.1: Evaluate personal likes and dislikes and identify careers that might be suited to personal likes.

9.4.5.CI.1: Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions (e.g., W.4.6, 3.MD.B.3,7.1.NM.IPERS.6)

9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process

9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2).

9.4.5.IML.1: Evaluate digital sources for accuracy, perspective, credibility and relevance (e.g., Social Studies Practice - Gathering and Evaluating Sources).

9.4.5.IML.2: Create a visual representation to organize information about a problem or issue (e.g., 4.MD.B.4, 8.1.5.DA.3). • 9.4.5.IML.3: Represent the same data in multiple visual formats in order to tell a story about the data.

## Computer Science and Design Thinking

### ***Computing Systems***

#### ***By the end of grade 5***

Computing devices may be connected to other devices to form a system as a way to extend their capabilities.

Software and hardware work together as a system to accomplish tasks (e.g., sending, receiving, processing, and storing units of information)

Shared features allow for common troubleshooting strategies that can be effective for many systems.

### ***Networks and the Internet***

Information needs a physical or wireless path to travel to be sent and received.

Distinguishing between public and private information is important for safe and secure online interactions.

Information can be protected using various security measures (i.e., physical and digital)

### ***Impacts of Computing***

The development and modification of computing technology is driven by people's needs and wants and can affect individuals differently.

### ***Data & Analysis***

Data can be organized, displayed, and presented to highlight relationships

The type of data being stored affects the storage requirements.

Individuals can select, organize, and transform data into different visual representations and communicate insights gained

from the data.

Many factors influence the accuracy of inferences and predictions.

### ***Algorithms & Programming***

Different algorithms can achieve the same result.

Some algorithms are more appropriate for a specific use than others.

Programming languages provide variables, which are used to store and modify data.

A variety of control structures are used to change the flow of program execution (e.g., sequences, events, loops, conditionals)

Programs can be broken down into smaller parts to facilitate their design, implementation, and review. Programs can also be created by incorporating smaller portions of programs that already exist.

Individuals develop programs using an iterative process involving design, implementation, testing, and review.

### ***Engineering Design***

Engineering design is a systematic and creative process of communicating and collaborating to meet a design challenge.

Often, several design solutions exist, each better in some way than the others.

Engineering design requirements include desired features and limitations that need to be considered.

### ***Interaction of Technology and Humans***

Societal needs and wants determine which new tools are developed to address real-world problems.

A new tool may have favorable or unfavorable results as well as both positive and negative effects on society.

Technology spurs new businesses and careers.
<b><i>Nature of Technology</i></b>
Technology innovation and improvement may be influenced by a variety of factors.
Engineers create and modify technologies to meet people’s needs and wants; scientists ask questions about the natural world.
<b><i>Effects of Technology on the Natural World</i></b>
The technology developed for the human designed world can have unintended consequences for the environment.
Technology must be continually developed and made more efficient to reduce the need for nonrenewable resources.
<b>Ethics &amp; Culture</b>
Technological choices and opportunities vary due to factors such as differences in economic resources, location, and cultural values.

Correlation Key		
Holocaust	Amistad	Financial Literacy

<b>Unit 5: Geometry</b>	<b>Duration: Approximately 25 Days</b>
<b>NJ Student Learning Standard: 5.G</b>	
<b>Unit Summary</b>	

- Graph points on the coordinate plane to solve real-world and mathematical problems.
- Classify two-dimensional figures into categories based on their properties.

**Unit Summary:** Mathematically proficient students communicate precisely by engaging in discussion about their reasoning using appropriate mathematical language with increasing precision (i.e. coordinate system, coordinate plane, first quadrant, points, lines, points, lines, axis/axes, x-axis, y-axis, horizontal, vertical, intersection of lines, origin, ordered pairs, coordinates, x-coordinate, y- coordinate). They reference real-world and mathematical problems, including the traveling from one point to another and identifying the coordinates of missing points in geometric figures. Mathematically proficient students also classify two-dimensional figures based on their properties.

<b>5.G.A.1</b>	Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).
<b>5.G.A.2</b>	Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.
<b>5.G.B.3</b>	Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.
<b>5.G.B.4</b>	Classify two-dimensional figures in a hierarchy based on properties.
	<b>NJ Student Learning Standard for Introduction</b>
<b>6.G.A.1</b>	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.
	<b>Interdisciplinary Skills</b>



<b>SL.5.1.A</b>	Explicitly draw on previously read text or material and other information known about the topic to explore ideas under discussion.
<b>SL.5.1.B</b>	Follow agreed-upon rules for discussions and carry out assigned roles.
<b>SL.5.1.A</b>	Explicitly draw on previously read text or material and other information known about the topic to explore ideas under discussion.
<b>Computer Science and Design Thinking</b>	
<b>8.1.5.CS.1</b>	Model how computing devices connect to other components to form a system.
<b>8.1.5.CS.3</b>	Identify potential solutions for simple hardware and software problems using common troubleshooting strategies.
<b>8.1.5.NI.2:</b>	Describe physical and digital security measures for protecting sensitive personal information.
<b>8.1.5.DA.1</b>	Collect, organize, and display data in order to highlight relationships or support a claim.
<b>8.1.5.AP.4</b>	Break down problems into smaller, manageable sub-problems to facilitate program development.
<b>Evidence of Student Learning</b>	
<p><b>Essential Understandings</b></p> <p><i>Students will understand that...</i></p> <ul style="list-style-type: none"> <li>● coordinate geometry can be used to represent and verify geometric/algebraic relationships</li> <li>● Geometric properties can be used to construct geometric figures.</li> </ul>	<p><b>Essential Questions</b></p> <ul style="list-style-type: none"> <li>● How can geometric/algebraic relationships best be represented and verified?</li> <li>● How do geometric relationships help us to solve problems and/or make sense of phenomena?</li> </ul>
<b>Evidence of Student Learning</b>	
<p><b>Performance Tasks:</b> <i>Activities to provide evidence for student learning of content and cognitive skills.</i></p>	<p style="text-align: center;"><b>Other Assessments</b></p> <p><b>Formative Assessments</b></p> <ul style="list-style-type: none"> <li>● Oral Questioning</li> <li>● Partners</li> <li>● Student Conference</li> </ul>

- Self-Assessment
- Think-Pair-Share
- Hand Signals
- Peer Reflections
- Constructive Response
- Teacher Observation
- Exit Slip
- Class work

#### **Summative Assessments**

- Quizzes
- Tests
- Unit Projects
- Presentations
- District Benchmarks
- State Assessment

#### **Benchmark Assessment**

- GoMath Benchmark Assessment

#### **Alternative Assessments**

- Untimed Fact Practice Assessment
- Manipulative Driven Assessment
- Modified/Teacher Created Chapter Tests
- Modified/Teacher Created Mid-Chapter Quiz
- Visual Representation of Skills Assess
- Modified Classwork Assignments
- Modified Benchmarks

	<ul style="list-style-type: none"> <li>• GoMath Reteach Activities and Worksheets</li> <li>• Project Based Assessments with Scoring Rubric</li> </ul>
<b>Vocabulary</b>	
<p style="text-align: center;">Congruent Heptagon Nonagon Polygon Regular Polygon Decagon Hexagon Octagon Pentagon          Quadrilateral</p> <p style="text-align: center;">Equilateral Triangle Isosceles Triangle Scalene Triangle Acute Triangle Obtuse Triangle Right Triangle Ordered          Pair X/Y Coordinate X/Y Axis Degrees Fahrenheit Interval Line Graph Scale</p>	
<b>Knowledge and Skills</b>	
<b>Content</b>	<b>Skills</b>
<p>Graph points on the coordinate plane to solve real-world and mathematical problems.</p> <p>Classify two-dimensional figures into categories based on their properties.</p> <p>Students will know...</p> <ul style="list-style-type: none"> <li>• how to classify two-dimensional figures</li> <li>• that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category</li> </ul>	<p>Students will be able to ...</p> <ul style="list-style-type: none"> <li>• Classify and Identify polygons</li> <li>• Identify and plot points on a coordinate grid</li> <li>• Use a line graph to analyze real world data</li> </ul>
<b>Instructional Plan</b>	
<b>Suggested Activities</b>	<b>Resources</b>
<p>Grab and Go Centers:</p> <ul style="list-style-type: none"> <li>• Blue/Purple activity cards 16</li> <li>• Blue activity card 20</li> <li>• Purple/Orange activity cards 19</li> </ul>	9.2, 9.3, 9.4 11.1, 11.2, 11.3

<p>Literature:</p> <ul style="list-style-type: none"> <li>● Greedy Math Triangle</li> </ul> <p>Geoboards for polygons  Polygon SCOOT  Grandfather's Tang Story with tangrams</p>	
<b>Websites</b>	
<p>Interactive arithmetic lessons  Online resources  Online videos  Interactive games  Games, powerpoint, instructional aides</p>	<p><a href="http://www.aaamath.com">www.aaamath.com</a>  <a href="https://www.education.com/resources/fifth-grade/math/">https://www.education.com/resources/fifth-grade/math/</a>  <a href="http://www.flocabulary.com">www.flocabulary.com</a>  <a href="http://www.kahoot.it">www.kahoot.it</a>  <a href="http://www.internet4classrooms.com">www.internet4classrooms.com</a></p>
<p>Patterns, shapes, and stories found in African American Quilts</p>	<p><a href="https://www.blackartinamerica.com/index.php/2018/11/09/the-quilting-tradition/">https://www.blackartinamerica.com/index.php/2018/11/09/the-quilting-tradition/</a></p>
<b>Suggested Options for Differentiation</b>	
<p>Basic Skills/Economically Disadvantaged/Students at Risk</p> <ul style="list-style-type: none"> <li>● 1:1 Instruction</li> <li>● Grab and Go centers</li> <li>● Repeating Directions</li> <li>● Small Group</li> <li>● Manipulatives</li> <li>● Interactive Notes</li> <li>● Reteach/Enrichment Pages for each lesson (RTI)</li> </ul> <p>Gifted and Talented</p> <ul style="list-style-type: none"> <li>● PBL</li> <li>● Enrichment Lesson</li> <li>● Presentation</li> </ul>	

## ELL

- Elicit Prior Knowledge
- Rephrase
- Understand Context
- Scaffold Language
- Restate
- Cooperative Grouping

## Special Education

- Follow all IEP modifications
- One on one instruction
- Adaptive devices
- Provide differentiated instruction as needed
- Provide manipulatives
- allow students to draw solution strategies

## 504

- Follow all 504 Plan modifications
- Seat the student away from distractions and in close proximity to the teacher
- Use simple, concise instructions with concrete steps
- Use a timer to assist student to focus on given task or number of problems in time allotted. Stress that problems need to be correctly done
- Pre-teach and/or re-teach important concepts
- Vary kind of instructional materials used
- Simplify and repeat instructions about in-class and homework assignments
- Vary instructional pace