



West Windsor-Plainsboro Regional School District

Grade 3 Mathematics

Updated August 2023

Math Equity Statement

ALL learners should have access to rigorous, high-level mathematical content in an environment where risk-taking, deep conceptual understanding, and growth mindset are the norm.

Catalyzing Change

Our District strategic goals lay the foundation for teaching and learning from a productive stance.

Catalyzing Change in Early Childhood and Elementary School Mathematics: Initiating Critical Conversations pushes us to consider equitable mathematics practices and move from deficit to productive beliefs (NCTM, 2020). Our goal is to have each student see themselves as doers, knowers, and sense makers of mathematics. Leveraging *Catalyzing Change*, we have three focused areas to understand our work to help each and every student develop a positive math identity and have agency within their learning.

The three areas of focus in our math learning continue to be:

1. *Build a mathematics community* through routines & structures (experience wonder, joy, and beauty in mathematics, while building agency through making conjectures, justifying thinking, and building on one another's ideas)
2. *Deepen mathematical understanding* to develop confident and capable learners through grade level appropriate goals.
3. *Develop strong foundational skills* emphasizing reasoning and sense making to ensure the highest-quality mathematics education for each and every child.

Math Workshop

Math workshop is a model of instruction that allows all students to be engaged in mathematics learning, provide space for reflection, and for all students to realize their abilities as mathematicians. Math workshop model provides the structures for student choice, problem solving, targeted small group instruction, time throughout the year to practice the critical concepts of the grade level (Lempp, 2017).

For students, our classrooms need to be places where they are comfortable taking intellectual risks. In *From Reading to Math*, Sienna (2009) outlines four values to support students in taking risks and creating discourse. The values are:

- Value the thinking process as well as correct answers.
- Value problems for which more than one answer is possible.
- Value inquisitive responses.
- Value tolerance for mistakes. (Sienna, 2009, p. 68).

Math workshop allows for these values to come through creating a supportive, collaborative learning environment for each and every student.

Number Sense Routines

We define a number sense routine as “an engaging, accessible, purposeful routine to begin your math class that promotes a community of positive mathematics and discussion” (Lempp, 2017, pg.146). It is usually done in the first 5-10 minutes of a math class. Number sense routines are the foundation of supporting social-emotional learning in mathematics. These routines invite all learners into the community while building positive math identity and sense making. It is where students begin to see themselves as doers, knowers, and sense-makers of mathematics.

Fluency

Fluency is the ability to apply procedures efficiently, flexibly, and accurately. Fluency is multifaceted and encompasses basic fact fluency, computational fluency and procedural fluency (Bay-Williams & SanGiovanni, 2021, p. 2). Bay-Williams and SanGiovanni (2021) define efficiency, flexibility, and accuracy as:

Efficiency: Solving a procedure in a reasonable amount of time by selecting an appropriate strategy and readily implementing that strategy

Flexibility: Knowing multiple procedures and applying or adapting strategies to solve procedural problems (Baroody & Dowker, 2003; Star, 2005 as cited by Bay-Williams & SanGiovanni, 2021, p.3).

Accuracy: Correctly solving a procedure. (Bay-Williams & SanGiovanni, 2021, p. 3)

Additionally, Jennifer Bay-Williams and John SanGiovanni state, “Because effective instruction of (real) fluency values actions such as selecting, understanding, and evaluating strategies, as well as flexibility and reasonableness, students are able to develop strategic competence and adaptive reasoning. *These competencies positively shape their mathematics identity, while also nurturing their mathematical agency*” (NCTM, Figuring Out Fluency Presentation, New Orleans, 2022).

Grade 3 Big Ideas & Standards

In Grade 3, instructional time should focus on four critical areas: (1) developing understanding of multiplication and division and strategies for multiplication and division within 100; (2) developing understanding of fractions, especially unit fractions (fractions with numerator 1); (3) developing understanding of the structure of rectangular arrays and of area; and (4) describing and analyzing two-dimensional shapes (NJDOE, NJSL-M, 2016).

A complete copy of the 2016 New Jersey Student Learning Standards for Grade 3 Mathematics may be found on the [NJDOE’s New Jersey Student Learning Standards for Mathematics webpage](#).

Unit 1: Addition and Subtraction Patterns	
Content Area: Elementary Mathematics	
Course & Grade Level: Mathematics, Grade 3	
Summary and Rationale	
Unit 1 helps us establish our rich learning communities so that students can see themselves as doers, knowers, and sense-makers of math by exploring the question: “What patterns exist in addition and subtraction?” Students will build upon skills learned in grade 2, such as number relationships, facts to 20, adding 10s to 2- and 3-digit numbers, and adding 2-digit numbers. The goal in third grade is to leverage these relationships and understanding of the operations to further develop strategies for multi-digit addition and subtraction. Students will extensively use the open number line (with measurement) and number rack.	
Recommended Pacing	
20 days	
New Jersey Student Learning Standards for Mathematics	
Standard: 3.NBT.A Use place value understanding and properties of operations to perform multi-digit arithmetic.	
CPI #	Cumulative Progress Indicator (CPI)
3.NBT.A.2	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
Standard 3.OA.D Solve problems involving the four operations, and identify and explain patterns in arithmetic.	
CPI #	Cumulative Progress Indicator (CPI)
3.OA.D.9	Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.
Standard: Standards for Mathematical Practice	
CPI #	Cumulative Progress Indicator (CPI)
3.MP.1	Make sense of problems and persevere in solving them.
3.MP.2	Reason abstractly and quantitatively.
3.MP.3	Construct viable arguments and critique the reasoning of others.
3.MP.4	Model with mathematics.
3.MP.5	Use appropriate tools strategically.
3.MP.6	Attend to precision.
3.MP.7	Look for and make use of structure.
3.MP.8	Look for and express regularity in repeated reasoning.
New Jersey Student Learning Standards for Career Readiness, Life Literacies, and Key Skills	
Standard: 9.4 Life Literacies and Key Skills: Creativity and Innovation:	
Collaboration with individuals with diverse perspectives can result in new ways of thinking and/or innovative solutions.	
CPI #	Cumulative Progress Indicator (CPI)
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.
9.4.5.CI.3	Participate in a brainstorming session with individuals with diverse perspectives to expand one’s thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a).
Standard: 9.4 Life Literacies and Key Skills: Critical Thinking and Problem-solving: The ability to solve problems effectively begins with gathering data, seeking resources, and applying critical thinking skills.	

CPI #	Cumulative Progress Indicator (CPI)
9.4.5.CT.1	Identify and gather relevant data that will aid in the problem-solving process.
9.4.5.CT.4	Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global.
New Jersey Student Learning Standards for Computer Science and Design Thinking	
Standard: 8.1 Computer Science: Data & Analysis: Data can be organized, displayed, and presented to highlight relationships.	
CPI #	Cumulative Progress Indicator (CPI)
8.1.5.DA.1	Collect, organize, and display data in order to highlight relationships or support a claim.
Standard: 8.2 Design Thinking: 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.	
8.2.5.ED.2	Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models.
Interdisciplinary Standards	
English Language Arts	
CPI #	Cumulative Progress Indicator (CPI)
RI.3.1	Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
SL.3.3	Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.
SL.3.4	Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.
SL.3.5	Use multimedia to demonstrate fluid reading at an understandable pace; add visual displays when appropriate to emphasize or enhance certain facts or details.
Science: Engineering Design	
CPI #	Cumulative Progress Indicator (CPI)
3-5-ETS1-2	Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
Social Studies	
Standard: 6.1 U.S. History: America in the World: Civics, Government, and Human Rights: Processes and Rules Rules, laws, and policies are designed to protect the rights of people, help resolve conflicts, and promote the common good.	
CPI #	Cumulative Progress Indicator (CPI)
6.1.5.Civics PR.3	Evaluate school and community rules, laws and/or policies and determine if they meet their intended purpose.
Instructional Focus	
Unit Enduring Understandings	
<ul style="list-style-type: none"> There are many mathematical strategies that help us efficiently add and subtract. 	
Unit Essential Questions	
<ul style="list-style-type: none"> How can patterns in arithmetic be used as tools to solve multi-step problems? How do you know if an answer is reasonable? 	
Objectives	
We are learning to/that:	
<ul style="list-style-type: none"> Identify patterns among basic addition facts. Identify patterns among basic subtraction facts. Write equations with a letter standing for the unknown quantity to represent one-step story problems. Determine whether two expressions are equal. 	

- Use strategies based on place value, properties of operations, or the relationship between addition and subtraction to add fluently with sums to 1,000.

Evidence of Learning

Assessment

The assessment plan may include teacher-designed formative and summative assessments, district common assessments, self-assessments, and analysis of standardized benchmark and interim assessment data. During each common, formative, and summative assessment, teachers will provide [accommodations](#) and alternative assessment opportunities that adhere to 504 and IEP requirements. Alternative assessments are individualized for the needs of all students. Throughout the unit, students will be engaged in activities that involve finding patterns, making generalizations, drawing conclusions, and communicating their ideas with others. Teachers will have many opportunities to observe students' growth in these areas, as well as with specific math skills and concepts throughout this unit.

Formative Assessment

Summative Assessment

Alternative Assessment

Benchmark

Resources

Foundational Text:

Bridges in Mathematics Grade 3 by The Math Learning Center

Instructional & Professional Resources:

- Exemplars, *Problem Solving for the 21st Century*
- K-5 Math Teaching Resources
- DreamBox Learning (Digital Tool)
- *Math in Practice: Teaching Third Grade Math* by Cheryl Akers, Susan O'Connell, & John SanGiovanni
- *Math Workshop: Five Steps to Implementing Guided Math, Learning Stations, Reflection, and More* by Jennifer Lempp
- *Mathematical Mindsets: Unleashing Students' Potential through Creative Math, Inspiring Messages and Innovative Teaching* by Jo Boaler
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Additional Supports

[WW-P Accommodations and Assessment](#) (Reference Tool and Glossary)

Unit 2: Introduction to Multiplication	
Content Area: Elementary Mathematics	
Course & Grade Level: Mathematics, Grade 3	
Summary and Rationale	
This unit teaches multiplication by engaging students in various multiplication scenarios. Students will use different models for multiplication, such as equal groups, arrays, number lines, and ratio tables, to solve problems in different contexts. They will also learn and apply the associative and distributive properties to develop efficient strategies for multiplication. Students will track their strategies on a multiplication table from 0 to 100 and use what they have learned to solve problems involving scaled graphs and multi-step story problems.	
Recommended Pacing	
20 days	
New Jersey Student Learning Standards for Mathematics	
Standard: 3.OA.A. Represent and solve problems involving multiplication and division.	
CPI #	Cumulative Progress Indicator (CPI)
3.OA.A.1	Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each. For example, describe and/or represent a context in which a total number of objects can be expressed as 5×7 .
3.OA.A.2	Interpret whole-number quotients of whole numbers, e.g., interpret $56 \div 8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe and/or represent a context in which a number of shares or a number of groups can be expressed as $56 \div 8$.
3.OA.A.3	Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities. e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
3.OA.A.4	Determine the unknown whole number in a multiplication or division equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations $8 \times ? = 48$, $5 = \heartsuit \div 3$, $6 \times 6 = ?$.
Standard: 3.OA.B. Understand properties of multiplication and the relationship between multiplication and division.	
CPI #	Cumulative Progress Indicator (CPI)
3.OA.B.5.	Apply properties of operations as strategies to multiply and divide. Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.)
3.OA.B.6	Understand division as an unknown-factor problem.
Standard: 3.OA.C. Multiply and divide within 100.	
CPI #	Cumulative Progress Indicator (CPI)
3.OA.C.7	Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
Standard: 3.OA.D Solve problems involving the four operations, and identify and explain patterns in arithmetic.	
CPI #	Cumulative Progress Indicator (CPI)

3.OA.D.8	Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
3.OA.D.9	Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.
Standard: 3.MD.B Represent and interpret data.	
CPI #	Cumulative Progress Indicator (CPI)
3.MD.B.3	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.
Standard: 3.MD.C Geometric measurement: understand concepts of area and relate area to multiplication and to addition.	
CPI #	Cumulative Progress Indicator (CPI)
3.MD.C.7	Relate area to the operations of multiplication and addition. a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. b. Multiply side lengths to find areas of rectangles with whole number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning. d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.
Standard: Standards for Mathematical Practice	
CPI #	Cumulative Progress Indicator (CPI)
3.MP.1	Make sense of problems and persevere in solving them.
3.MP.2	Reason abstractly and quantitatively.
3.MP.3	Construct viable arguments and critique the reasoning of others.
3.MP.4	Model with mathematics.
3.MP.5	Use appropriate tools strategically.
3.MP.6	Attend to precision.
3.MP.7	Look for and make use of structure.
3.MP.8	Look for and express regularity in repeated reasoning.
New Jersey Student Learning Standards for Career Readiness, Life Literacies, and Key Skills	
Standard: 9.4 Life Literacies and Key Skills: Creativity and Innovation: Collaboration with individuals with diverse perspectives can result in new ways of thinking and/or innovative solutions.	
CPI #	Cumulative Progress Indicator (CPI)
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.
9.4.5.CI.3	Participate in a brainstorming session with individuals with diverse perspectives to expand one’s thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a).

Standard: 9.4 Life Literacies and Key Skills: Critical Thinking and Problem-solving: The ability to solve problems effectively begins with gathering data, seeking resources, and applying critical thinking skills.	
CPI #	Cumulative Progress Indicator (CPI)
9.4.5.CT.1	Identify and gather relevant data that will aid in the problem-solving process.
9.4.5.CT.4	Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global.
New Jersey Student Learning Standards for Computer Science and Design Thinking	
Standard: 8.1 Computer Science: Data & Analysis: Data can be organized, displayed, and presented to highlight relationships.	
CPI #	Cumulative Progress Indicator (CPI)
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Standard: 8.2 Design Thinking: 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.	
8.2.5.ED.2	Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models.
Interdisciplinary Standards	
English Language Arts	
CPI #	Cumulative Progress Indicator (CPI)
RI.3.1	Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers
W.3.8	Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.
SL.3.3	Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.
SL.3.4	Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.
SL.3.5	Use multimedia to demonstrate fluid reading at an understandable pace; add visual displays when appropriate to emphasize or enhance certain facts or details.
Instructional Focus	
Unit Enduring Understandings	
<ul style="list-style-type: none"> ● Repeated addition and the use of arrays involve joining equal groups to solve multiplication equations. ● Two numbers can be multiplied in any order and the product remains the same. ● Some real world problems involving joining or separating equal groups or comparison can be solved using multiplication. ● Mathematical explanations can be given using words, pictures, numbers, or symbols. A good explanation should be correct, simple, complete, and easy to understand. 	
Unit Essential Questions	
<ul style="list-style-type: none"> ● What different strategies can be used to solve a multiplication equation? ● How are addition and multiplication related? ● When is multiplication used to solve an open ended math question? 	
Objectives	
We are learning to/that:	
<ul style="list-style-type: none"> ● Use and explain additive strategies to demonstrate an understanding of multiplication. ● Represent multiplication with objects, pictures, symbols and words. ● Interpret products of whole numbers. ● Write story problems or describe situations to match a multiplication expression or equation. ● Solve multiplication story problems with products to 100 involving situations of equal groups and arrays. ● Represent the product of two numbers as the area of a rectangle with side lengths equal to those two numbers, and find the area of the rectangle by multiplying the side lengths. 	

- Use and explain multiplicative strategies to demonstrate an understanding of multiplication
- Solve for the unknown in a multiplication equation involving three whole numbers (a multiplicand, multiplier and a product).
- Multiply using the commutative and distributive property.
- Fluently multiply with products to 100 using strategies.
- Solve two-step story problems using addition, subtraction, and multiplication.
- Identify patterns among basic multiplication facts, including patterns in the multiplication table, and explain them by referring to properties of the operation.
- Make a scaled bar graph or picture graph to represent a data set with several categories.

Evidence of Learning

Assessment

The assessment plan may include teacher-designed formative and summative assessments, district common assessments, self-assessments, and analysis of standardized benchmark and interim assessment data. During each common, formative, and summative assessment, teachers will provide [accommodations](#) and alternative assessment opportunities that adhere to 504 and IEP requirements. Alternative assessments are individualized for the needs of all students. Throughout the unit, students will be engaged in activities that involve finding patterns, making generalizations, drawing conclusions, and communicating their ideas with others. Teachers will have many opportunities to observe students' growth in these areas, as well as with specific math skills and concepts throughout this unit.

Formative Assessment

Summative Assessment

Alternative Assessment

Benchmark

Resources

Foundational Text:

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Additional Supports

[WW-P Accommodations and Assessment \(Reference Tool and Glossary\)](#)

Unit 3: Multi-Digit Addition and Subtraction	
Content Area: Elementary Mathematics	
Course & Grade Level: Mathematics, Grade 3	
Summary and Rationale	
This unit reviews and extends students' thinking about place value, multi-digit addition and subtraction, and problem solving. The focus is additive thinking with the goal of helping students use numeric relationships and their understanding of the operations to further develop their multi-digit addition and subtraction strategies. Students learn to round 2- and 3-digit numbers to the nearest ten and hundred and use rounding to estimate and check the results of their computations. They also review and deepen their understanding of strategies from second grade and learn standard algorithms for adding and subtracting multi-digit numbers.	
Recommended Pacing	
20 days	
New Jersey Student Learning Standards for Mathematics	
Standard: 3.OA.D Solve problems involving the four operations, and identify and explain patterns in arithmetic.	
CPI #	Cumulative Progress Indicator (CPI)
3.OA.D.8	Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
Standard: 3.NBT.A Use place value understanding and properties of operations to perform multi-digit arithmetic.	
CPI #	Cumulative Progress Indicator (CPI)
3.NBT.A.1	Use place value understanding to round whole numbers to the nearest 10 or 100.
3.NBT.A.2	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
Standard: Standards for Mathematical Practice	
CPI #	Cumulative Progress Indicator (CPI)
3.MP.1	Make sense of problems and persevere in solving them.
3.MP.2	Reason abstractly and quantitatively.
3.MP.3	Construct viable arguments and critique the reasoning of others.
3.MP.4	Model with mathematics.
3.MP.5	Use appropriate tools strategically.
3.MP.6	Attend to precision.
3.MP.7	Look for and make use of structure.
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New Jersey Student Learning Standards for Career Readiness, Life Literacies, and Key Skills	
Standard: 9.4 Life Literacies and Key Skills: Creativity and Innovation:	
Collaboration with individuals with diverse perspectives can result in new ways of thinking and/or innovative solutions.	
CPI #	Cumulative Progress Indicator (CPI)
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.
9.4.5.CI.3	Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a).

Standard: 9.4 Life Literacies and Key Skills: Critical Thinking and Problem-solving: The ability to solve problems effectively begins with gathering data, seeking resources, and applying critical thinking skills.	
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8.2.5.ED.2	Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models.
Interdisciplinary Standards	
English Language Arts	
CPI #	Cumulative Progress Indicator (CPI)
RI.3.1	Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
SL.3.3	Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.
SL.3.4	Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.
SL.3.5	Use multimedia to demonstrate fluid reading at an understandable pace; add visual displays when appropriate to emphasize or enhance certain facts or details.
Instructional Focus	
Unit Enduring Understandings	
<ul style="list-style-type: none"> ● Two- and three- digit numbers can be rounded to the nearest ten or the nearest hundred. ● Rounding and computational estimation go hand in hand. Rounding numbers is useful in estimating the results of 2- and 3- digit addition and subtraction, as well as checking answers for reasonableness. ● Some situations call for exact answers, others call for estimates. ● There are a variety of strategies for adding and subtracting 2- and 3- digit numbers with accuracy, efficiency, and flexibility. 	
Unit Essential Questions	
<ul style="list-style-type: none"> ● How can I add hundreds and then add tens (and then add ones) for three-digit numbers ● How do I take apart and recombine numbers in a variety of ways for finding sums and differences? ● How can I estimate the answers for operations involving two and three digit numbers? 	
Objectives	
We are learning to/that:	
<ul style="list-style-type: none"> ● Solve one-step story problems using addition and subtraction. ● Solve two-step story problems using addition, subtraction, multiplication, and division. ● Write equations with a letter standing for the unknown quantity to represent two-step story problems. ● Assess the reasonableness of answers to story problems using mental computation. ● Round whole numbers to the nearest ten or the nearest hundred. ● Estimate sums and differences to approximate solutions to problems. ● Use strategies and algorithms based on place value, properties of operations, or the relationship between addition and subtraction to add and subtract fluently with sums and minuends to 1,000. 	
Evidence of Learning	

Assessment

The assessment plan may include teacher-designed formative and summative assessments, district common assessments, self-assessments, and analysis of standardized benchmark and interim assessment data. During each common, formative, and summative assessment, teachers will provide [accommodations](#) and alternative assessment opportunities that adhere to 504 and IEP requirements. Alternative assessments are individualized for the needs of all students. Throughout the unit, students will be engaged in activities that involve finding patterns, making generalizations, drawing conclusions, and communicating their ideas with others. Teachers will have many opportunities to observe students' growth in these areas, as well as with specific math skills and concepts throughout this unit.

Formative Assessment

Summative Assessment

Alternative Assessment

Benchmark

Resources**Foundational Text:**

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Additional Supports

WW-P Accommodations and Assessment (Reference Tool and Glossary)

Unit 4: Measurement & Fractions	
Content Area: Elementary Mathematics	
Course & Grade Level: Mathematics, Grade 3	
Summary and Rationale	
This unit focuses on measurement and fraction concepts and skills. Measurement and fractions move us away from discrete math (counting) to continuous thinking (spans). Students will estimate, measure, and compare the masses of different objects, then solve volume and measurement story problems. They explore fractions, using various models to build, compare, and investigate the relationships among unit and common fractions. Students will measure lengths to fractions of an inch and display measurement data on line plots. Students will also practice telling time to the minute and solving elapsed time problems.	
Recommended Pacing	
20 days	
New Jersey Student Learning Standards for Mathematics	
Standard 3.OA.D Solve problems involving the four operations, and identify and explain patterns in arithmetic.	
CPI #	Cumulative Progress Indicator (CPI)
3.OA.D.8	Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
Standard 3.NBT.A Use place value understanding and properties of operations to perform multi-digit arithmetic.	
CPI #	Cumulative Progress Indicator (CPI)
3.NBT.A.2	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
Standard 3.NF.A Develop understanding of fractions as numbers.	
CPI #	Cumulative Progress Indicator (CPI)
3.NF.A.1	Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size $1/b$.
3.NF.A.2	Understand a fraction as a number on the number line; represent fractions on a number line diagram. a. Represent a fraction $1/b$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size $1/b$ and that the endpoint of the part based at 0 locates the number $1/b$ on the number line. b. Represent a fraction a/b on a number line diagram by marking off a lengths $1/b$ from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.
3.NF.A.3	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. b. Recognize and generate simple equivalent fractions, e.g., $1/2 = 2/4$, $4/6 = 2/3$. Explain why the fractions are equivalent, e.g., by using a visual fraction model. c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. <i>Examples: Express 3 in the form $3 = 3/1$; recognize that $6/1 = 6$; locate $4/4$ and 1 at the same point of a number line diagram.</i> d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model.

Standard 3.MD.A Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects	
CPI #	Cumulative Progress Indicator (CPI)
3.MD.A.1	Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.
3.MD.A.2	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). ⁶ Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.
Standard 3.MD.B Represent and interpret data.	
CPI #	Cumulative Progress Indicator (CPI)
3.MD.B.4	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.
Standard 3.G.A Reason with shapes and their attributes.	
CPI #	Cumulative Progress Indicator (CPI)
3.G.A.2	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area, and describe the area of each part as $\frac{1}{4}$ of the area of the shape.
Standard: Standards for Mathematical Practice	
CPI #	Cumulative Progress Indicator (CPI)
3.MP.1	Make sense of problems and persevere in solving them.
3.MP.2	Reason abstractly and quantitatively.
3.MP.3	Construct viable arguments and critique the reasoning of others.
3.MP.4	Model with mathematics.
3.MP.5	Use appropriate tools strategically.
3.MP.6	Attend to precision.
3.MP.7	Look for and make use of structure.
3.MP.8	Look for and express regularity in repeated reasoning.
New Jersey Student Learning Standards for Career Readiness, Life Literacies, and Key Skills	
Standard: 9.4 Life Literacies and Key Skills: Creativity and Innovation: Collaboration with individuals with diverse perspectives can result in new ways of thinking and/or innovative solutions.	
CPI #	Cumulative Progress Indicator (CPI)
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.
9.4.5.CI.3	Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a).
Standard: 9.4 Life Literacies and Key Skills: Critical Thinking and Problem-solving: The ability to solve problems effectively begins with gathering data, seeking resources, and applying critical thinking skills.	
CPI #	Cumulative Progress Indicator (CPI)
9.4.5.CT.1	Identify and gather relevant data that will aid in the problem-solving process.
9.4.5.CT.4	Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global.

New Jersey Student Learning Standards for Computer Science and Design Thinking

Standard: 8.1 Computer Science: Data & Analysis: Data can be organized, displayed, and presented to highlight relationships.

CPI #	Cumulative Progress Indicator (CPI)
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8.1.5.DA.1	Collect, organize, and display data in order to highlight relationships or support a claim.
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Standard: 8.2 Design Thinking: 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.

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

English Language Arts

CPI #	Cumulative Progress Indicator (CPI)
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RI.3.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.
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W.3.4	With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose.
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W.3.6	With guidance and support from adults, use technology to produce and publish writing as well as to interact and collaborate with others.
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SL.3.3	Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.
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Instructional Focus

Unit Enduring Understandings

- Mass is the amount of matter in an object.
- Mass is measured in units of grams and kilograms.
- Volume is the space that an object or substance occupies.
- Liquid is measured in milliliters and liters.
- Time is measured in seconds, minutes, and hours, as well as larger units such as days, weeks, months, and years.
- Fractions involve a relationship between the numerator and the denominator.
- Numerators represent the distance from 0 to the unit fraction.
- Common fractions are fractions with a number other than 1 in the numerator.

Unit Essential Questions

- How can I use fractions in real life?
- How many ways can we use models to determine and compare equivalent fractions?
- What is the difference between length of time and time of day?
- What tools and units are used to measure the attributes of time?
- Why is telling time important?
- How do you use weight and measurement in your life?
- What tools and units are used to measure the attributes of an object?
- How do you decide which unit of measurement to use?

Objectives

We are learning to/that:

- Solve two-step story problems using the four operations.
- Demonstrate an understanding of a unit fraction $\frac{1}{b}$ as 1 of b equal parts into which a whole has been partitioned, and fraction $\frac{a}{b}$ as a equal parts, each of which $\frac{1}{b}$ of a whole.
- Locate fractions on a number line; place them in their correct positions on a number line.
- Show a unit fraction $\frac{1}{b}$ on a number line by defining the interval from 0 to 1 as the whole and then partitioning it into b equal parts.
- Show that if the interval from 0 to 1 on the number line is partitioned into b equal parts, each part is $\frac{1}{b}$ of the whole.

- Write a whole number as a fraction, recognize fractions that are equivalent to whole numbers.
- Tell and write time to the nearest minute.
- Estimate and measure mass in grams and kilograms; solve story problems involving addition and multiplication of mass measurements given in grams and kilograms.
- Estimate and measure liquid volume in milliliters and liters; solve story problems involving addition and multiplication of volume measurements given in milliliters and liters.
- Generate data by measuring lengths to the nearest half or fourth of an inch.
- Make a line plot to show measurement data with a horizontal scale marked in half inches and quarter inches.
- Partition shapes into parts with equal areas; express the area of each equal part of a whole as a unit fraction of the whole.

Evidence of Learning

Assessment

The assessment plan may include teacher-designed formative and summative assessments, district common assessments, self-assessments, and analysis of standardized benchmark and interim assessment data. During each common, formative, and summative assessment, teachers will provide [accommodations](#) and alternative assessment opportunities that adhere to 504 and IEP requirements. Alternative assessments are individualized for the needs of all students. Throughout the unit, students will be engaged in activities that involve finding patterns, making generalizations, drawing conclusions, and communicating their ideas with others. Teachers will have many opportunities to observe students' growth in these areas, as well as with specific math skills and concepts throughout this unit.

Formative Assessment

Summative Assessment

Alternative Assessment

Benchmark

Resources

Foundational Text:

Bridges in Mathematics Grade 3 by The Math Learning Center

Instructional & Professional Resources:

- Exemplars, *Problem Solving for the 21st Century*
- K-5 Math Teaching Resources
- DreamBox Learning (Digital Tool)
- *Math in Practice: Teaching Third Grade Math* by Cheryl Akers, Susan O'Connell, & John SanGiovanni
- *Math Workshop: Five Steps to Implementing Guided Math, Learning Stations, Reflection, and More* by Jennifer Lempp
- *Mathematical Mindsets: Unleashing Students' Potential through Creative Math, Inspiring Messages and Innovative Teaching* by Jo Boaler
- *Mindset Mathematics: Visualizing and Investigating Big Ideas, Grade 3* by Jo Boaler, Jen Munson, & Cathy Williams
- *Teaching Student Centered Mathematics: Developmentally Appropriate Instruction for Grades 3-5 (Volume II)* by John A. Van de Walle, Karen S. Karp, LouAnn H. Lovin, & Jennifer M. Bay-Williams

Additional Supports

[WW-P Accommodations and Assessment \(Reference Tool and Glossary\)](#)

Unit 5: Multiplication, Division, and Area	
Content Area: Elementary Mathematics	
Course & Grade Level: Mathematics, Grade 3	
Summary and Rationale	
This unit returns us to the study of multiplication, particularly its connection to division. Students will use arrays to model and solve division problems. Story problems are used to help students relate real-life situations to division concepts. Students will encounter two interpretations of division - sharing and grouping - while solving story problems. They will focus on fact families. At the end of the unit, students are introduced to the concept of area, which will be further explored in Unit 6.	
Recommended Pacing	
20 days	
New Jersey Student Learning Standards for Mathematics	
Standard: 3.OA.A Represent and solve problems involving multiplication and division.	
CPI #	Cumulative Progress Indicator (CPI)
3.OA.A.1	Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each. For example, describe and/or represent a context in which a total number of objects can be expressed as 5×7 .
3.OA.A.2	Interpret whole-number quotients of whole numbers, e.g., interpret $56 \div 8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe and/or represent a context in which a number of shares or a number of groups can be expressed as $56 \div 8$.
3.OA.A.3	Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g. by using drawings and equations with a symbol for the unknown number to represent the problem.
3.OA.A.4	Determine the unknown whole number in a multiplication or division equation relating three whole numbers. <i>For example, determine the unknown number that makes the equation true in each of the equations $8 \times ? = 48$, $5 = _ \div 3$, $6 \times 6 = ?$</i>
Standard 3.OA.B Understand properties of multiplication and the relationship between multiplication and division.	
3.OA.B.5	Apply properties of operations as strategies to multiply and divide. ² <i>Examples: If $6 \times 4 = 24$ is known, then $4 \times 6 = 24$ is also known. (Commutative property of multiplication.) $3 \times 5 \times 2$ can be found by $3 \times 5 = 15$, then $15 \times 2 = 30$, or by $5 \times 2 = 10$, then $3 \times 10 = 30$. (Associative property of multiplication.) Knowing that $8 \times 5 = 40$ and $8 \times 2 = 16$, one can find 8×7 as $8 \times (5 + 2) = (8 \times 5) + (8 \times 2) = 40 + 16 = 56$. (Distributive property.)</i>
3.OA.B.6	Understand division as an unknown-factor problem.
Standard: 3.OA.C Multiply and divide within 100.	
CPI #	Cumulative Progress Indicator (CPI)
3.OA.C.7	Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division or properties of operations.
Standard: 3.OA.D Solve problems involving the four operations, and identify and explain patterns in arithmetic.	
CPI #	Cumulative Progress Indicator (CPI)
3.OA.D.8	Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

3.OA.D.9	Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. <i>For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.</i>
Standard: 3.MD.C Geometric measurement: understand concepts of area and relate area to multiplication and to addition.	
CPI #	Cumulative Progress Indicator (CPI)
3.MD.C.5	Recognize area as an attribute of plane figures and understand concepts of area measurement. a. A square with side length 1 unit, called “a unit square,” is said to have “one square unit” of area, and can be used to measure area. b. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.
3.MD.C.6	Measure areas by counting unit squares (square cm, square cm, square in, square ft, and non-standard units).
3.MD.C.7	Relate area to the operations of multiplication and addition. a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. b. Multiply side lengths to find areas of rectangles with whole number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning. d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.
Standard: Standards for Mathematical Practice	
CPI #	Cumulative Progress Indicator (CPI)
3.MP.1	Make sense of problems and persevere in solving them.
3.MP.2	Reason abstractly and quantitatively.
3.MP.3	Construct viable arguments and critique the reasoning of others.
3.MP.4	Model with mathematics.
3.MP.5	Use appropriate tools strategically.
3.MP.6	Attend to precision.
3.MP.7	Look for and make use of structure.
3.MP.8	Look for and express regularity in repeated reasoning.
New Jersey Student Learning Standards for Career Readiness, Life Literacies, and Key Skills	
Standard: 9.4 Life Literacies and Key Skills: Creativity and Innovation: Collaboration with individuals with diverse perspectives can result in new ways of thinking and/or innovative solutions.	
CPI #	Cumulative Progress Indicator (CPI)
9.4.5.Cl.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.
9.4.5.Cl.3	Participate in a brainstorming session with individuals with diverse perspectives to expand one’s thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a).

Standard: 9.4 Life Literacies and Key Skills: Critical Thinking and Problem-solving: The ability to solve problems effectively begins with gathering data, seeking resources, and applying critical thinking skills.	
CPI #	Cumulative Progress Indicator (CPI)
9.4.5.CT.1	Identify and gather relevant data that will aid in the problem-solving process.
9.4.5.CT.4	Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global.
New Jersey Student Learning Standards for Computer Science and Design Thinking	
Standard: 8.1 Computer Science: Data & Analysis: Data can be organized, displayed, and presented to highlight relationships.	
CPI #	Cumulative Progress Indicator (CPI)
8.1.5.DA.1	Collect, organize, and display data in order to highlight relationships or support a claim.
Standard: 8.2 Design Thinking: 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.	
8.2.5.ED.2	Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models.
Interdisciplinary Standards	
English Language Arts	
CPI #	Cumulative Progress Indicator (CPI)
RI.3.1	Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers
W.3.8	Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories
SL.3.3	Ask and answer questions about information from a speaker, offering appropriate elaboration and detail
SL.3.4	Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace
SL.3.5	Use multimedia to demonstrate fluid reading at an understandable pace; add visual displays when appropriate to emphasize or enhance certain facts or details.
Instructional Focus	
Unit Enduring Understandings	
<ul style="list-style-type: none"> ● Students will understand the relationship between multiplication and division. ● Students will understand the two different interpretations of division; sharing and grouping. ● Students will understand the relationship between multiplication and area. 	
Unit Essential Questions	
<ul style="list-style-type: none"> ● What is the relationship between multiplication and division? ● What are the two different interpretations of division? ● What is the relationship between multiplication and area? 	
Objectives	
We are learning to/that:	
<ul style="list-style-type: none"> ● Estimate and Interpret products or quotients of whole numbers; write story problems or describe problem situations to match a multiplication or division expression or equation. ● Solve multiplication and division one and two-step story problems with products to 100 involving situations of equal groups, arrays, and measurement quantities. ● Solve for the unknown in a multiplication or division equation involving 3 whole numbers. ● Use a variety of strategies to solve basic multiplication and division facts with fluency (accuracy, efficiency, flexibility, and automaticity). ● Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. 	

- Find the area of a rectangle by multiplying its side lengths; represent the product of two numbers as the area of a rectangle with side lengths equal to those two numbers.
- Demonstrate an understanding that unit squares can be used to measure the areas of other plane figures using a variety of strategies.

Evidence of Learning

Assessment

The assessment plan may include teacher-designed formative and summative assessments, district common assessments, self-assessments, and analysis of standardized benchmark and interim assessment data. During each common, formative, and summative assessment, teachers will provide [accommodations](#) and alternative assessment opportunities that adhere to 504 and IEP requirements. Alternative assessments are individualized for the needs of all students. Throughout the unit, students will be engaged in activities that involve finding patterns, making generalizations, drawing conclusions, and communicating their ideas with others. Teachers will have many opportunities to observe students’ growth in these areas, as well as with specific math skills and concepts throughout this unit.

Formative Assessment

Summative Assessment

Alternative Assessment

Benchmark

Resources

Core Text:

Foundational Text:

Bridges in Mathematics Grade 3 by The Math Learning Center

Instructional & Professional Resources:

- Exemplars, *Problem Solving for the 21st Century*
- K-5 Math Teaching Resources
- DreamBox Learning (Digital Tool)
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- *Math Workshop: Five Steps to Implementing Guided Math, Learning Stations, Reflection, and More* by Jennifer Lempp
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- *Mindset Mathematics: Visualizing and Investigating Big Ideas, Grade 3* by Jo Boaler, Jen Munson, & Cathy Williams
- *Teaching Student Centered Mathematics: Developmentally Appropriate Instruction for Grades 3-5 (Volume II)* by John A. Van de Walle, Karen S. Karp, LouAnn H. Lovin, & Jennifer M. Bay-Williams

Additional Supports

WW-P Accommodations and Assessment (Reference Tool and Glossary)

Unit 6: Geometry	
Content Area: Elementary Mathematics	
Course & Grade Level: Mathematics, Grade 3	
Summary and Rationale	
<p>This unit focuses on describing, classifying, and making generalizations about two-dimensional shapes, focusing on quadrilaterals. The goal is to have students become more precise in describing, sorting, and classifying shapes. Students will creatively explore polygons. They will create polygons and special quadrilaterals to understand how shared attributes define larger categories. Students combine geometry and measurement by calculating perimeters and areas of polygons. Finally, students will apply their knowledge of quadrilaterals and area in the context of fractions.</p>	
Recommended Pacing	
20 days	
New Jersey Student Learning Standards for Mathematics	
Standard: 3.OA.A Represent and solve problems involving multiplication and division.	
CPI #	Cumulative Progress Indicator (CPI)
3.OA.A.3	Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities.
Standard: 3.NF.A Develop understanding of fractions as numbers	
CPI #	Cumulative Progress Indicator (CPI)
3.NF.A.1	Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a part of size $1/b$.
3.NF.A.3	<p>Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.</p> <p>b. Recognize and generate simple equivalent fractions, e.g., $1/2 = 2/4$, $4/6 = 2/3$). Explain why the fractions are equivalent, e.g., by using a visual fraction model.</p> <p>c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. Examples: Express 3 in the form $3 = 3/1$; recognize that $6/1 = 6$; locate $4/4$ and 1 at the same point of a number line diagram.</p> <p>d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model.</p>
Standard: 3.MD.C Geometric measurement: understand concepts of area and relate area to multiplication and to addition.	
3.MD.C.5	<p>Recognize area as an attribute of plane figures and understand concepts of area measurement.</p> <p>a. A square with side length 1 unit, called “a unit square,” is said to have “one square unit” of area, and can be used to measure area.</p> <p>b. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.</p>
3.MD.C.7	<p>Relate area to the operations of multiplication and addition.</p> <p>a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.</p> <p>b. Multiply side lengths to find areas of rectangles with whole number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.</p>

	<p>c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.</p> <p>d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.</p>
Standard 3.MD.D Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.	
3.MD.D.8	Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.
Standard 3.G.A Reason with shapes and their attributes.	
3.G.A.1	Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.
3.G.A.2	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area, and describe the area of each part as $1/4$ of the area of the shape.
Standard: Standards for Mathematical Practice	
CPI #	Cumulative Progress Indicator (CPI)
3.MP.1	Make sense of problems and persevere in solving them.
3.MP.2	Reason abstractly and quantitatively.
3.MP.3	Construct viable arguments and critique the reasoning of others.
3.MP.4	Model with mathematics.
3.MP.5	Use appropriate tools strategically.
3.MP.6	Attend to precision.
3.MP.7	Look for and make use of structure.
3.MP.8	Look for and express regularity in repeated reasoning.
New Jersey Student Learning Standards for Career Readiness, Life Literacies, and Key Skills	
Standard: 9.4 Life Literacies and Key Skills: Creativity and Innovation: Collaboration with individuals with diverse perspectives can result in new ways of thinking and/or innovative solutions.	
CPI #	Cumulative Progress Indicator (CPI)
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.
9.4.5.CI.3	Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a).
Standard: 9.4 Life Literacies and Key Skills: Critical Thinking and Problem-solving: The ability to solve problems effectively begins with gathering data, seeking resources, and applying critical thinking skills.	
CPI #	Cumulative Progress Indicator (CPI)
9.4.5.CT.1	Identify and gather relevant data that will aid in the problem-solving process.
9.4.5.CT.4	Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global.
New Jersey Student Learning Standards for Computer Science and Design Thinking	
Standard: 8.1 Computer Science: Data & Analysis: Data can be organized, displayed, and presented to highlight relationships.	

CPI #	Cumulative Progress Indicator (CPI)
8.1.5.DA.1	Collect, organize, and display data in order to highlight relationships or support a claim.
Standard: 8.2 Design Thinking: 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.	
8.2.5.ED.2	Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models.
Interdisciplinary Standards	
English Language Arts	
CPI #	Cumulative Progress Indicator (CPI)
RI.3.1	Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers
W.3.8	Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories
SL.3.3	Ask and answer questions about information from a speaker, offering appropriate elaboration and detail
SL.3.4	Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace
SL.3.5	Use multimedia to demonstrate fluid reading at an understandable pace; add visual displays when appropriate to emphasize or enhance certain facts or details.
Instructional Focus	
Unit Enduring Understandings	
<ul style="list-style-type: none"> • Shapes can be described and classified based on their attributes. • All shapes have an area and perimeter. • The area and perimeter of any shape can be calculated. • Parts of a whole shape can be represented as fractions. 	
Unit Essential Questions	
<ul style="list-style-type: none"> • How do you describe, classify and make generalizations about two-dimensional shapes? • How do you calculate area and perimeter? • How do you represent fractions as parts of a whole shape? 	
Objectives	
We are learning to/that:	
<ul style="list-style-type: none"> • Find the area of a rectangle by multiplying its side lengths; represent the product of two numbers as the area of a rectangle with side lengths equal to those two numbers. • Find the area of a figure that can be decomposed into non-overlapping rectangles, and solve related story problems. • Find the perimeter of a polygon, given its side lengths and with one side length unknown. • Create rectangles with the same perimeter but different areas, as well as rectangles with the same area but different perimeters, and solve related story problems. • Identify rhombuses, rectangles, and squares as quadrilaterals. • Identify shared attributes of shapes in different categories. • Group shapes in different categories according to shared attributes that define broader categories. • Partition shapes into parts with equal areas; express the area of each equal part of a whole as a unit fraction of the whole. • Solve word problems including, dollar bills, quarters, dimes, nickels, and pennies using dollar and cent notation appropriately. 	
Evidence of Learning	
Assessment	
The assessment plan may include teacher-designed formative and summative assessments, district common assessments, self-assessments, and analysis of standardized benchmark and interim assessment data. During each	

common, formative, and summative assessment, teachers will provide [accommodations](#) and alternative assessment opportunities that adhere to 504 and IEP requirements. Alternative assessments are individualized for the needs of all students. Throughout the unit, students will be engaged in activities that involve finding patterns, making generalizations, drawing conclusions, and communicating their ideas with others. Teachers will have many opportunities to observe students' growth in these areas, as well as with specific math skills and concepts throughout this unit.

Formative Assessment

Summative Assessment

Alternative Assessment

Benchmark

Resources

Foundational Text:

Bridges in Mathematics Grade 3 by The Math Learning Center

Instructional & Professional Resources:

- Exemplars, *Problem Solving for the 21st Century*
- K-5 Math Teaching Resources
- DreamBox Learning (Digital Tool)
- *Math in Practice: Teaching Third Grade Math* by Cheryl Akers, Susan O'Connell, & John SanGiovanni
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Additional Supports

[WW-P Accommodations and Assessment](#) (Reference Tool and Glossary)

Unit 7: Extending Multiplication and Fractions	
Content Area: Elementary Mathematics	
Course & Grade Level: Mathematics, Grade 3	
Summary and Rationale	
Get those egg cartons ready! This unit allows students to consolidate and extend their learning of multiplication and fractions one more time. Students learn how to multiply single digits by multiples of 10. They then progress to building and sketching 1-digit by 2-digit multiplication. This unit also allows for review of the commutative, distributive, and associative properties of multiplication. Additionally, students use linear and area models to explore fractions as parts of a set and as parts of a whole. Data collection, representation, and interpretation set the stage for the work with measurement and data in Unit 8.	
Recommended Pacing	
20 days	
New Jersey Student Learning Standards for Mathematics	
Standard 3.OA.B Understand properties of multiplication and the relationship between multiplication and division.	
CPI #	Cumulative Progress Indicator (CPI)
3.OA.B.5	Apply properties of operations as strategies to multiply and divide.
Standard: 3.OA.D Solve problems involving the four operations, and identify and explain patterns in arithmetic.	
CPI #	Cumulative Progress Indicator (CPI)
3.OA.D.8	Solve two-step word problems using the four operations.
Standard: 3.NBT.A Use place value understanding and properties of operations to perform multi-digit arithmetic.	
CPI #	Cumulative Progress Indicator (CPI)
3.NBT.A.3	Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9×80 , 5×60) using strategies based on place value and properties of operations.
Standard: 3.NF.A Develop understanding of fractions as numbers.	
CPI #	Cumulative Progress Indicator (CPI)
3.NF.A.1	Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a part of size $1/b$.
3.NF.A.2	Understand a fraction as a number on the number line; represent fractions on a number line diagram. 2a. Represent a fraction $1/b$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has the size $1/b$ and the endpoint of the part based at 0 locates the number $1/b$ on the number line. 2b. Represent a fraction a/b on a number line diagram by marking off a lengths $1/b$ from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.
3.NF.A.3	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line. b. Recognize and generate simple equivalent fractions, e.g., $1/2 = 2/4$, $4/6 = 2/3$. Explain why the fractions are equivalent, e.g., by using a visual fraction model.
Standard: 3.MD.B Represent and interpret data.	
CPI #	Cumulative Progress Indicator (CPI)

3.MD.B.3	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs.
Standard: 3.MD.C Geometric measurement: understand concepts of area and relate area to multiplication and to addition.	
CPI #	Cumulative Progress Indicator (CPI)
Standard: 3.G.A Reason with shapes and their attributes.	
CPI #	Cumulative Progress Indicator (CPI)
3.G.A.2	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.
Standard: Standards for Mathematical Practice	
CPI #	Cumulative Progress Indicator (CPI)
3.MP.1	Make sense of problems and persevere in solving them.
3.MP.2	Reason abstractly and quantitatively.
3.MP.3	Construct viable arguments and critique the reasoning of others.
3.MP.4	Model with mathematics.
3.MP.5	Use appropriate tools strategically.
3.MP.6	Attend to precision.
3.MP.7	Look for and make use of structure.
3.MP.8	Look for and express regularity in repeated reasoning.
New Jersey Student Learning Standards for Career Readiness, Life Literacies, and Key Skills	
Standard: 9.4 Life Literacies and Key Skills: Creativity and Innovation: Collaboration with individuals with diverse perspectives can result in new ways of thinking and/or innovative solutions.	
CPI #	Cumulative Progress Indicator (CPI)
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.
9.4.5.CI.3	Participate in a brainstorming session with individuals with diverse perspectives to expand one’s thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a).
Standard: 9.4 Life Literacies and Key Skills: Critical Thinking and Problem-solving: The ability to solve problems effectively begins with gathering data, seeking resources, and applying critical thinking skills.	
CPI #	Cumulative Progress Indicator (CPI)
9.4.5.CT.1	Identify and gather relevant data that will aid in the problem-solving process.
9.4.5.CT.4	Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global.
New Jersey Student Learning Standards for Computer Science and Design Thinking	
Standard: 8.1 Computer Science: Data & Analysis: Data can be organized, displayed, and presented to highlight relationships.	
CPI #	Cumulative Progress Indicator (CPI)
8.1.5.DA.1	Collect, organize, and display data in order to highlight relationships or support a claim.
Standard: 8.2 Design Thinking: 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.	
8.2.5.ED.2	Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models.
Interdisciplinary Standards	
English Language Arts	
CPI #	Cumulative Progress Indicator (CPI)

RI.3.1	Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers
W.3.8	Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories
SL.3.3	Ask and answer questions about information from a speaker, offering appropriate elaboration and detail
SL.3.4	Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace
SL.3.5	Use multimedia to demonstrate fluid reading at an understandable pace; add visual displays when appropriate to emphasize or enhance certain facts or details.
Instructional Focus	
Unit Enduring Understandings	
<ul style="list-style-type: none"> Fractions are parts of a whole and parts of a collection or set. We can solve a wide variety of story problems that involve multiplication as well as other operations, and write equations to represent two-step story problems. We can use the properties of multiplication to help us multiply. 	
Unit Essential Questions	
<ul style="list-style-type: none"> How do we multiply single-digit numbers by multiples of 10? How do we multiply single-digit numbers by two digit numbers? How do we compare fractions? How do we find equivalent fractions? How do we solve problems involving fractions? 	
Objectives	
<p>We are learning to/that:</p> <ul style="list-style-type: none"> Use a variety of strategies to develop computational fluency with basic multiplication facts. Proficiently multiply single-digit numbers by multiples of 10. Estimate and solve a wide variety of story problems that involve multiplication as well as other operations, and write equations to represent two-step story problems. Use the commutative and distributive properties of multiplication and discover the importance of the associative property of multiplication. Understand that fractions are parts of a whole and as parts of a collection or set; focusing primarily on halves, thirds, fourths, sixths, eighths and twelfths. Build models to compare and add fractions, and explore equivalent fractions. Solve word problems including, dollar bills, quarters, dimes, nickels, and pennies using dollar and cent notation appropriately. 	
Evidence of Learning	
Assessment	
<p>The assessment plan may include teacher-designed formative and summative assessments, district common assessments, self-assessments, and analysis of standardized benchmark and interim assessment data. During each common, formative, and summative assessment, teachers will provide accommodations and alternative assessment opportunities that adhere to 504 and IEP requirements. Alternative assessments are individualized for the needs of all students. Throughout the unit, students will be engaged in activities that involve finding patterns, making generalizations, drawing conclusions, and communicating their ideas with others. Teachers will have many opportunities to observe students' growth in these areas, as well as with specific math skills and concepts throughout this unit.</p>	
<input checked="" type="checkbox"/> Formative Assessment	
<input checked="" type="checkbox"/> Summative Assessment	
<input checked="" type="checkbox"/> Alternative Assessment	
<input checked="" type="checkbox"/> Benchmark	

Resources

Foundational Text:

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Additional Supports

WW-P Accommodations and Assessment (Reference Tool and Glossary)

Unit 8: Bridge Design, Data Collection & Analysis

Content Area: Elementary Mathematics

Course & Grade Level: Mathematics, Grade 3

Summary and Rationale

In the final unit of the year, students learn about different kinds of bridges by reading nonfiction, looking at pictures, doing research, and building their own model bridges. This unit integrates mathematics and science with a primary focus on designing and building model bridges, which are then tested in systematic ways to collect data. Students graph and analyze the data, finding the range and mean, to make conjectures and draw conclusions about effective bridge design and construction.

Recommended Pacing

15 days

New Jersey Student Learning Standards for Mathematics

Standard 3.MD.A Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects

CPI #	Cumulative Progress Indicator (CPI)
3.MD.A.1	Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.
3.MD.A.2	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). 6 Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.

Standard: 3.MD.B Represent and interpret data.

CPI #	Cumulative Progress Indicator (CPI)
3.MD.B.3	Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs. For example, draw a bar graph in which each square in the bar graph might represent 5 pets.
3.MD.B.4	Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.

Standard: 3.MD.C Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

CPI #	Cumulative Progress Indicator (CPI)
3.MD.C.6	Measure areas by counting unit squares (square cm, square cm, square in, square ft, and non-standard units).
3.MD.C.7	Relate area to the operations of multiplication and addition. a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. b. Multiply side lengths to find areas of rectangles with whole number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.

	d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.
Standard 3.MD.D Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.	
3.MD.D.8	Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.
Standard 3.NF.A Develop understanding of fractions as numbers.	
CPI #	Cumulative Progress Indicator (CPI)
3.NF.A.1	Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size $1/b$.
Standard 3.G.A Reason with shapes and their attributes.	
3.G.A.1	Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.
3.G.A.2	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area, and describe the area of each part as $1/4$ of the area of the shape.
Standard: Standards for Mathematical Practice	
CPI #	Cumulative Progress Indicator (CPI)
3.MP.1	Make sense of problems and persevere in solving them.
3.MP.2	Reason abstractly and quantitatively.
3.MP.3	Construct viable arguments and critique the reasoning of others.
3.MP.4	Model with mathematics.
3.MP.5	Use appropriate tools strategically.
3.MP.6	Attend to precision.
3.MP.7	Look for and make use of structure.
3.MP.8	Look for and express regularity in repeated reasoning.
New Jersey Student Learning Standards for Career Readiness, Life Literacies, and Key Skills	
Standard: 9.4 Life Literacies and Key Skills: Creativity and Innovation: Collaboration with individuals with diverse perspectives can result in new ways of thinking and/or innovative solutions.	
CPI #	Cumulative Progress Indicator (CPI)
9.4.5.CI.3	Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a).
9.4.5.CI.4	Research the development process of a product and identify the role of failure as a part of the creative process (e.g., W.4.7, 8.2.5.ED.6).
Standard: 9.4 Life Literacies and Key Skills: Critical Thinking and Problem-solving: The ability to solve problems effectively begins with gathering data, seeking resources, and applying critical thinking skills.	
CPI #	Cumulative Progress Indicator (CPI)
9.4.5.CT.1	Identify and gather relevant data that will aid in the problem-solving process.
9.4.5.CT.4	Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global.
New Jersey Student Learning Standards for Computer Science and Design Thinking	

Standard: 8.1 Computer Science: Data & Analysis: Data can be organized, displayed, and presented to highlight relationships.	
CPI #	Cumulative Progress Indicator (CPI)
8.1.5.DA.1	Collect, organize, and display data in order to highlight relationships or support a claim.
Standard: 8.2 Design Thinking: 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.	
8.2.5.ED.2	Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models.
Interdisciplinary Standards	
English Language Arts	
CPI #	Cumulative Progress Indicator (CPI)
RI.3.1	Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers
W.3.8	Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories
SL.3.3	Ask and answer questions about information from a speaker, offering appropriate elaboration and detail
SL.3.5	Use multimedia to demonstrate fluid reading at an understandable pace; add visual displays when appropriate to emphasize or enhance certain facts or details.
Science: Engineering Design	
CPI #	Cumulative Progress Indicator (CPI)
3-5-ETS1-1	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
3-5-ETS1-2	Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
3-5-ETS1-3	Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.
Instructional Focus	
Unit Enduring Understandings	
<ul style="list-style-type: none"> We can investigate the many variables that influence the length and strength of bridge design. As we investigate these variables, we estimate and measure the spans of our bridges in inches or centimeters, and the strength of our bridges in grams, kilograms, milliliters, and liters. We can determine how different shapes influence the strength and structure of bridges and apply this understanding to our designs. We will organize our data using line plots, picture graphs, and bar graphs, then analyze the results to determine the factors that influence bridge strength. 	
Unit Essential Questions	
<ul style="list-style-type: none"> How do we use our knowledge of measurement to design the best length for our bridge? How do we use our knowledge of weight and mass to test the strength of our bridge? How do different shapes influence the strength and structure of bridges? How do we organize data using line plots, picture graphs, and bar graphs, then analyze the results to determine the factors that influence bridge strength? 	
Objectives	
We are learning to/that:	
<ul style="list-style-type: none"> Use research to create a plan to design and build a model bridge. Design a bridge to meet specific criteria. Test their design and make improvements. Generate measurement data by measuring lengths to the nearest half or fourth of an inch, and make a line plot to show the data. 	

- Use all of the math skills learned this year to develop the best bridge possible.

Evidence of Learning

Assessment

The assessment plan may include teacher-designed formative and summative assessments, district common assessments, self-assessments, and analysis of standardized benchmark and interim assessment data. During each common, formative, and summative assessment, teachers will provide [accommodations](#) and alternative assessment opportunities that adhere to 504 and IEP requirements. Alternative assessments are individualized for the needs of all students. Throughout the unit, students will be engaged in activities that involve finding patterns, making generalizations, drawing conclusions, and communicating their ideas with others. Teachers will have many opportunities to observe students' growth in these areas, as well as with specific math skills and concepts throughout this unit.

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Additional Supports

WW-P Accommodations and Assessment (Reference Tool and Glossary)

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