Wall Township Public Schools	Board Approval Date: 8/16/26
Course Title: Grade 4 - Mathematics	
Course Description: This course focuses on building fluency with multi-digit addition, subtraction, multiplication, and division; developing understanding of fractions and their equivalence; and applying concepts of area, perimeter, and measurement.. Aligned with the New Jersey Student Learning Standards, instruction emphasizes problem-solving, real-world applications, and mathematical reasoning to prepare students for success in upper elementary grades.	

Course Sequence & Pacing

Unit Title	MP/Weeks
Unit 1: Whole Numbers: Place Value, Comparison, Addition, and Subtraction Students develop place value understanding for multi-digit whole numbers by reading, writing, comparing, rounding, adding, and subtracting numbers through the millions. They apply place value concepts and efficient computation strategies to solve real-world problems and explain their mathematical reasoning.	MP 1 - Wks 1 - 6 (25 days)
Unit 2: Operations: Multiplication, Division, and Algebraic Thinking Students deepen their understanding of multiplication through multiplicative comparison, factors and multiples, number patterns, and multi-step problem solving. They apply multiplication concepts and mathematical reasoning to solve increasingly complex real-world situations.	MP 1-2 - Wks 7 - 11 (24 days)
Unit 3: Multi-Digit Operations and Measurement: Multiplication, Division, Perimeter, and Area Students develop fluency with multi-digit multiplication and division while applying these operations to measurement conversions, perimeter, area, and real-world problem solving. They strengthen computational efficiency and mathematical reasoning through authentic applications.	MP 2 - Wks 12 - 17 (26 days)
Unit 4: Fractions, Decimals, and Measurement: Addition, Subtraction, and Multiplication Students extend their understanding of fractions by identifying equivalent fractions, comparing fractions, adding and subtracting fractions and mixed numbers, multiplying fractions by whole numbers, and connecting fractions to decimals. They also solve problems involving time, money, measurement, and line plots using fractions and decimals.	MP 3 - Wks 18-28 (55 days)
Unit 5: Geometry and Measurement: Figures, Classification, and Symmetry Students investigate points, lines, rays, angles, and two-dimensional figures while measuring, classifying, and drawing geometric figures. They develop an understanding of angle measurement, angle addition, symmetry, and geometric relationships through mathematical reasoning and real-world applications.	MP 4 - Wks 28 - 33 (24 days)

Unit 1

Desired Results

Unit 1 Title: Whole Numbers: Place Value, Comparison, Addition, and Subtraction

Unit Summary: Students develop place value understanding for multi-digit whole numbers by reading, writing, comparing, rounding, adding, and subtracting numbers through the millions. They apply place value concepts and efficient computation strategies to solve real-world problems and explain their mathematical reasoning.

Learning Standards

NJSLS

- 4.NBT.A.1 - Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.
- 4.NBT.A.2: Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
- 4.NBT.A.3: Use place value understanding to round multi-digit whole numbers to any place.
- 4.NBT.B.4: With accuracy and efficiency, add and subtract multi-digit whole numbers using the standard algorithm.

Interdisciplinary Connections

Career Readiness, Life Literacies, & Key Skills

- 9.4.5.CT.1: Identify and gather relevant information to support problem solving.
- 9.4.5.CT.4: Apply critical thinking and problem-solving strategies to academic and real-world situations.

Computer Science & Design Thinking

- 8.1.5.DA.1: Collect, organize, and display data in multiple ways to support problem solving.
- 8.1.5.AP.2: Create algorithms and explain how they can be used to solve problems.

Interdisciplinary Connections:

NJSLS - ELA 2023

- RI.CR.4.1: Refer to details and examples in a text and make relevant connections when explaining what the text says explicitly and when drawing inferences.
- RI.IT.4.3:. Describe the impact of individuals and events throughout the course of a text, explaining events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on evidence in the text.
- SL.PI.4.4: Report on a topic or text, tell a story, or recount an experience in an organized manner using appropriate facts and relevant descriptive details.

- SL.PE.4.1:. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly.
- L.VL.4.6: Acquire and accurately use grade-appropriate general academic and domain-specific words and phrases.

NJSLS - SCIENCE 2026

- 4-ESS2-2: Analyze and interpret data from maps to describe patterns of Earth's features.
- 4-ESS3-1: Obtain and combine information to describe that energy and fuels are derived from natural resources and that their uses affect the environment.

Amistad Connection:

- Students use quantitative data to examine the contributions of African American mathematicians, scientists, engineers, and inventors whose work demonstrates mathematical reasoning, innovation, and perseverance. Opportunities may include analyzing historical data and exploring contributions to STEM fields.
- A strong connection is the Unit STEM Story featuring Richard Tapia, an internationally recognized mathematician whose work demonstrates perseverance, mathematical reasoning, and problem solving.

Asian American and Pacific Islander (AAPI) Connection:

- Students analyze numerical information while learning about the achievements of Asian American and Pacific Islander mathematicians, scientists, engineers, and innovators whose work relies on computation, problem solving, and data analysis.

Climate Change Connection:

Science - 4-ESS3-2

- Generate and compare multiple solutions to reduce the impacts of natural Earth processes and climate change on humans.

Mathematics - 4.OA.A.3

- Students analyze and compare environmental data sets using whole numbers, estimation, and multi-digit operations to support evidence-based decisions related to conservation, sustainability, and climate solutions.
- Activity Title: "Place Value for the Planet" - Students will explore real-world climate data (presented in age-appropriate, rounded numbers) to practice place value, number comparison, rounding, and multi-digit operations. The goal is to use math skills to understand changes in Earth's temperature, sea levels, and CO_2 emissions over time — and reflect on how math can help us make sense of environmental data.

DEI Connections

- Students engage in collaborative mathematical discourse, use multiple representations to solve problems, justify different solution strategies, and recognize that complex problems can often be solved in more than one valid way. Instruction promotes equitable access to mathematical reasoning, models, and tools for all learners.

Learning Targets

Unit Essential Questions:

- How does place value help us read, write, compare, and round whole numbers?
- How does understanding place value improve accuracy when adding and subtracting multi-digit numbers?
- Why is estimation an important tool for solving mathematical problems?
- How can mathematical reasoning and multiple representations help justify a solution?

Unit Enduring Understandings:

- Our base-ten number system allows numbers to be represented, compared, rounded, and computed efficiently.
- Place value relationships provide the foundation for understanding and performing multi-digit operations.
- Estimation and mathematical reasoning help determine whether solutions are reasonable.
- Multiple strategies and representations can be used to solve and explain mathematical problems.

Mathematical Vocabulary

- addend
- algorithm
- difference
- digit
- equal sign (=)
- estimate (noun)
- estimate (verb)
- expanded form
- equation
- expression
- inequality

Mathematical Vocabulary

- greater than symbol (>)
- less than symbol (<)
- period
- place value
- reasonable
- regroup
- round
- standard form
- sum
- word form
- variable

Academic Vocabulary

- clarify
- compare
- justify
- position
- represent

Additional Vocabulary

- benchmark number
- compose
- decompose
- multi-digit number
- number sentence
- operation
- order
- place-value chart
- reasonableness
- standard algorithm
- value

Students will be able to:

- Use a place-value chart to identify the value of each digit in a multi-digit whole number.
- Explain that the value of a digit is determined by its position in a number.
- Demonstrate that moving one place to the left represents a value ten times greater.
- Read and write multi-digit whole numbers in standard, word, and expanded forms.
- Compare multi-digit whole numbers using >, <, and = symbols.
- Solve word problems by comparing multi-digit whole numbers.
- Round multi-digit whole numbers to any place.
- Explain and justify the process used to round a whole number.
- Add two or more multi-digit whole numbers using place-value strategies.
- Use the standard algorithm to accurately add multi-digit whole numbers.

- Estimate sums to determine the reasonableness of answers.
- Subtract multi-digit whole numbers using place-value strategies.
- Use the standard algorithm to accurately subtract multi-digit whole numbers.
- Use addition to check subtraction.
- Estimate differences to determine the reasonableness of answers.
- Explain mathematical reasoning using equations, models, place-value understanding, and precise mathematical vocabulary.

Assessment Evidence

Formative Assessments:

Ongoing Classroom Assessments

- Self Check
- Build Your Vocabulary
- STEM Story: **Richard Tapia**
- Teacher observation
- Guided practice
- Math discourse and partner discussions
- Whiteboard responses
- Exit tickets
- Lesson Checks
- Digital Comprehension Checks
- Interactive Tutorials
- Interactive Practice

Center Activities

- The Value of a Digit
- Expanded Form and Place Value
- Use Place Value Vocabulary
- Comparing Numbers
- Rounding Whole Numbers
- Rounding to the Same Number
- Add Whole Numbers
- Find Sums
- Find Differences
- Subtract Whole Numbers

Enrichment Activities

- Mystery Number
- Let's Make a Comparison
- Addition Grids
- Planning a Trip

Math in Action Preparation

- Students build the skills needed to compare, round, estimate, add, and subtract multi-digit whole numbers while interpreting numerical information presented in tables and real-world contexts.

Summative Assessments:

- Vocabulary Review
- Unit Review and Performance Task
- Cumulative Practice
- Unit Assessment Form A
- Unit Assessment Form B
- Math in Action Performance Task
- Self Reflection

Math in Action Performance Task

- Blog Site Visitors
- Max's Summary |
- Yearly Blog Visits
- Blog Topics

Students apply place value, comparison, rounding, addition, subtraction, estimation, and data

Key Skills Assessed

- Understand whole numbers in different forms.
- Understand multi-digit addition.
- Understand rounding multi-digit numbers.
- Identify place values in multi-digit numbers.
- Round and add multi-digit

	interpretation to analyze information presented in tables and solve authentic real-world problems.	whole numbers. • Estimate a sum. • Compare and order multi-digit numbers. • Subtract multi-digit whole numbers. • Interpret information in a table.
Common Benchmark Assessments: BOY i-Ready Diagnostic, Universal Screener for Number Sense (USNS)		

Core Instructional & Supplemental Materials		
Resources **Teacher:** • i-Ready Classroom Mathematics Teacher Guide • Teacher Toolbox • Tools for Instruction • Lesson-Level Differentiation Resources • Build Your Vocabulary • STEM Story: **Richard Tapia** • Prerequisite Lessons • Center Activities • Enrichment Activities **Student**: • Student Worktext • Self Check • Vocabulary Review • Unit Review and Performance Task • Cumulative Practice	**Manipulatives** • Base-Ten Blocks • Number Line • Place Value Charts **Other Classroom Materials** • Whiteboards and dry-erase markers • Pencils • Chart paper • Place value charts • Anchor charts • Recording sheets	**Technology** • i-Ready Personalized Instruction • Interactive Tutorials • Interactive Practice and Reports • Unit and Lesson Comprehension Checks and Reports • Diagnostic Reports **Learning Games** • Hungry Fish • Match • Pizza • Zoom **Digital Math Tools** • Base-Ten Blocks • Number Line

Accommodations and Modifications:

Students with Disabilities, English Language Learners, Students at Risk of Failure, Students with 504s, Gifted & Talented Students

Specific Strategies and Practices that Support Students with Disabilities:

Students receiving Special Education programming have specific goals and objectives, as well as accommodations and modifications outlined within their Individualized Education Plans (IEP) due to an identified disability and/or diagnosis. In addition to exposure to the general education curriculum, the instruction is differentiated based upon the student's needs. The IEP acts as a supplemental curriculum guide inclusive of instructional strategies that support each learner.

- Small group/One to one
- Additional time - Review of directions
- Student restates information
- Space for movement or breaks
- Extra visual and verbal cues and prompts, Verbal and visual cues regarding directions and staying on task
- Preferential seating
- Follow a routine/schedule, Rest breaks
- Checklists, Immediate feedback

Specific Strategies and Practices that Support English Language Learners

English language learner (ELL) is a national-origin-minority student who is limited-English-proficient. This term is often preferred over limited-English-proficient (LEP) as it highlights accomplishments rather than deficits.

- Pre-teaching of vocabulary and concepts, Teacher modeling
- Personal Glossary
- Extended Time
- Simplified/Verbal Instructions
- Visual learning- including graphic organizers

Students at Risk of Failure

- Home/School Connection
- Alternative Assessments
- Learning Contracts
- Leveled Rubrics and Tiered Activities
- Work Alone Choice, Group Work Choice

Students with 504 Plans

- Teachers are responsible for implementing designated services and strategies identified on a student's 504 Plan.
- 504 plans are formal plans that schools develop to give kids the support they need and covers any condition that limits daily activities in a major way.
- Students' accommodations are outlined in their individual 504 plan.

Specific Strategies and Practices that Support Gifted & Talented Students

It is critical that all teachers are able to recognize a high-ability student who may need more depth and complexity in instruction.

- Homogeneous Grouping
- Small Group In-Depth Instruction
- Differentiated Online Practice
- Alternative Assessments
- Pre-Assess to provide Differentiated Instruction to Accelerate Learning
- Supplemental Reading
- Engaging projects

Unit 2

Desired Results

Unit 2 Title: Operations: Multiplication, Division, and Algebraic Thinking

Unit Summary: This unit develops students' understanding of multiplication, division, factors, multiples, and algebraic thinking. Students interpret multiplication as comparison, solve multiplication and division word problems, identify factors, multiples, prime and composite numbers, generate and analyze patterns, and solve multi-step problems using equations, estimation, and mathematical reasoning.

Learning Standards

NJSLS:

- 4.OA.A.1: Interpret a multiplication equation as a comparison, e.g., interpret as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
- 4.OA.A.2: Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.
- 4.OA.A.3: Solve multi-step word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
- 4.OA.B.4: Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.
- 4.OA.C.5: Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself.

Interdisciplinary Connections

Career Readiness, Life Literacies, & Key Skills

- 9.4.5.CT.1: Identify and gather relevant information to support problem solving.
- 9.4.5.CT.4: Apply critical thinking and problem-solving strategies to academic and real-world situations.

Computer Science & Design Thinking

- 8.1.5.AP.2: Create and test algorithms to solve computational problems efficiently.
- 8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim.

- 8.2.5 ED.1: Explain how the engineering design process supports solving problems through planning, testing, evaluating, and improving solutions.

Interdisciplinary Connections:

NJSLS – ELA 2023

- RI.CR.4.1: Refer to details and examples in a text and make relevant connections when explaining what the text says explicitly and when drawing inferences.
- RI.IT.4.3: Explain events, procedures, ideas, or concepts in historical, scientific, or technical texts using specific information.
- W.IW.4.2: Write informative/explanatory texts to examine a topic and clearly convey ideas and information.
- SL.PE.4.1:. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly.
- L.VL.4.6: Acquire and accurately use grade-appropriate general academic and domain-specific words and phrases.

NJSLS – SCIENCE 2026

- 4-ESS2-2: Analyze and interpret data from maps to describe patterns of Earth's features.
- 4-ESS3-1: Obtain and combine information to describe that energy and fuels are derived from natural resources and that their uses affect the environment.

Amistad Connection:

- Students apply multiplicative reasoning and problem-solving skills while examining quantitative data related to the achievements and contributions of African American mathematicians, scientists, engineers, and inventors. Opportunities may include analyzing historical data, inventions, and scientific discoveries through mathematical investigations.

Asian American and Pacific Islander (AAPI) Connection:

- Students explore mathematical patterns and quantitative reasoning while learning about the contributions of Asian American and Pacific Islander mathematicians, scientists, engineers, and innovators whose work relies on mathematical modeling, computation, and data analysis.
- Activity Title: "Mathematicians Who Made a Difference" - In this project-based activity, students take on the role of mathematician researchers to explore the lives and contributions of diverse figures in STEM, including individuals with disabilities and those from the LGBTQ+ community, in alignment with NJ Law S4021. Each student or group is assigned a historical or contemporary mathematician and completes a math challenge based on that person's real-world impact—such as calculating rocket trajectories like Katherine Johnson, analyzing patterns like Maryam Mirzakhani, or solving multiplicative comparisons inspired by Temple Grandin's animal science work. Students apply 4.OA skills through word problems, equations, factors, and patterns, then present their work in a "Mathematicians Who Made a Difference" showcase that highlights both their math reasoning and what they learned about their assigned figure's identity and legacy.

Climate Change Connection:

Mathematics – 4.OA.A.3

- Students solve multi-step word problems using authentic environmental data, such as energy consumption, recycling totals,

carbon emissions, and conservation efforts.

Science - 4-ESS3-2

- Generate and compare multiple solutions to reduce the impacts of natural Earth processes and climate change on humans.
- Activity Title: “Math for a Greener Future” - In this project-based activity, students act as “Eco-Data Analysts” for a fictional group called *Kidz for the Climate*, using math to explore real-world environmental issues. Through climate-related word problems involving tree planting, recycling, energy use, and pollution, students apply multiplication, division, multi-step problem solving, and pattern recognition. They distinguish between multiplicative and additive comparisons, represent problems with equations, and analyze number patterns and factors. The project concludes with a “Climate Math Report,” where students present their math-based findings and propose a realistic, numbers-driven action to help the environment.

DEI Connections

- Students engage in collaborative problem solving, compare multiple solution strategies, justify mathematical reasoning, and recognize that complex problems can be solved using a variety of valid approaches. Instruction promotes equitable participation and values diverse perspectives during mathematical discourse.
- Read and discuss Explore session Lesson 7, 8

Learning Targets

Unit Essential Questions:

- How can multiplication and division describe relationships between quantities?
- How do factors, multiples, and patterns help us better understand numbers?
- How can equations and mathematical models help solve multi-step problems?
- Why is estimation important when determining whether a solution is reasonable?

Unit Enduring Understandings:

- Multiplication and division describe relationships between quantities and can be used to solve real-world problems.
- Factors, multiples, and numerical patterns reveal important relationships among numbers.
- Multi-step problems require strategic thinking, mathematical reasoning, and appropriate operations.
- Mathematical models, equations, and estimation help justify solutions and determine whether answers are reasonable.

Mathematical Vocabulary

- composite number
- equation
- expression
- factor
- factor pair
- factors of a number

Mathematical Vocabulary

- multiplication
- multiply
- pattern
- prime number
- remainder
- rule

Academic Vocabulary

- alternate
- clarify
- confirm
- opinion
- repeat

Additional Vocabulary

- additive comparison
- array
- compare
- divide
- division
- equal groups

• multiple • multiplicative comparison	• symbol • unknown		• even number • multiplication equation • multiplication fact • number pattern • odd number • operation • order of operations • product • quotient • reasonableness • skip-count • word problem

Students will be able to:

- Use a multiplication equation to represent the relationship between two numbers as a multiplicative comparison.
- Identify a multiplication equation as showing two ways to describe a product as a comparison between two factors.
- Write an equation to represent a multiplicative comparison described in a word problem.
- Write a word problem using a multiplicative comparison to describe a given multiplication equation.
- Use drawings and symbols to represent a word problem involving multiplicative comparison.
- Use equations to solve for the unknown in multiplicative comparison problems.
- Solve word problems involving multiplicative comparisons by using multiplication or division.
- Distinguish between multiplicative comparison and additive comparison.
- Use basic multiplication facts to list all the factors of a number.
- Use basic multiplication facts to determine whether a number is a multiple of another number.
- Apply understanding of multiples and factors to solving problems.
- Identify a number as prime or composite. • Use rules to generate or extend a number pattern.
- Use manipulatives or drawings to show a shape pattern.
- Describe, analyze, and extend patterns in numbers and shapes.
- Use equations with a letter standing for the unknown to represent multi-step word problems and solve these equations.
- Interpret the remainder in a division word problem.
- Use estimation strategies to check that an answer is reasonable.
- Explain mathematical reasoning using equations, models, and precise mathematical vocabulary.

<table>
<tr><th colspan="3">Assessment Evidence</th></tr>
<tr><td colspan="3">Formative Assessments:</td></tr>
<tr>
<td>Ongoing Classroom Assessments
Self Check
Build Your Vocabulary
STEM Story: Annie Jump Cannon
Teacher observation
Guided practice
Math discourse and partner discussions
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Exit tickets
Lesson Checks
Digital Comprehension Checks
Interactive Tutorials
Interactive Practice
Math in Planning Activities</td>
<td>Center Activities
Writing Comparisons from Multiplication Equations
Writing Multiplication Equations
Multiplication Word Problems
Multiplication and Division Word Problems
Use Multiplication Vocabulary
Using Factors and Multiples
Use Pattern Vocabulary
Making Patterns
Modeling Multi-Step Problems
Solving Multi-Step Problems</td>
<td>Enrichment Activities
Creating Creatures
Mystery Marbles
Mystery Number
The Bead Machine
Silver Coins
Math in Action Planning Activities
Students apply multi-digit multiplication and division, measurement conversions, perimeter, area, factor pairs, and problem-solving strategies to authentic real-world situations involving birdcages, recycling, rainwater collection, and recycled robots.</td>
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<tr><td colspan="3">Summative Assessments:</td></tr>
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Unit Review and Performance Task
Cumulative Practice
Unit Assessment Form A
Unit Assessment Form B
Math in Action</td>
<td>Math in Action Performance Tasks
Birdcages
Recycle It
Rainwater Recycling
Recycled Robots</td>
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Understand multiplicative comparison.
Solve multiplication and division word problems.
Find factors and multiples of whole numbers.
Identify factor pairs.
Determine whether numbers are prime or composite.
Generate and extend number and shape patterns.
Solve multi-step problems involving the four operations.</td>
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</table>

Performance Task		• Represent unknown quantities using equations. • Interpret remainders in division problems. • Use estimation to determine the reasonableness of solutions.
Common Benchmark Assessments: BOY i-Ready Diagnostic, Universal Screener for Number Sense (USNS)		

Core Instructional & Supplemental Materials		
Resources **Teacher:** • i-Ready Classroom Mathematics Teacher Guide • Teacher Toolbox • Tools for Instruction • Build Your Vocabulary • STEM Story: **Annie Jump Cannon** • Lesson-Level Differentiation Resources • Prerequisite Lessons • Center Activities • Enrichment Activities **Student**: • Student Worktext • Self Check • Vocabulary Review • Unit Review and Performance Task • Cumulative Practice • Math in Action Performance Task • Self Reflection • Unit Assessment (Forms A & B)	**Manipulatives** • Base-Ten Blocks • Multiplication Models • Number Line • Counters • Arrays/Grid Paper • Area Models • Math Toolkit Manipulatives **Other Classroom Materials** • Whiteboards and dry-erase markers • Pencils • Chart paper • Anchor charts • Sticky notes • Recording sheets • Graph paper • Multiplication charts/hundreds charts	**Technology** • i-Ready Personalized Instruction • Interactive Tutorials • Interactive Practice and Reports • Unit and Lesson Comprehension Checks and Reports • Diagnostic Reports **Learning Games** • Cupcake • Pizza **Digital Math Tools** • Base-Ten Blocks • Multiplication Models • Number Line • Perimeter and Area

Accommodations and Modifications:
Students with Disabilities, English Language Learners,
Students at Risk of Failure, Students with 504s, Gifted & Talented Students

Specific Strategies and Practices that Support Students with Disabilities:

Students receiving Special Education programming have specific goals and objectives, as well as accommodations and modifications outlined within their Individualized Education Plans (IEP) due to an identified disability and/or diagnosis. In addition to exposure to the general education curriculum, the instruction is differentiated based upon the student's needs. The IEP acts as a supplemental curriculum guide inclusive of instructional strategies that support each learner.

- Small group/One to one
- Additional time - Review of directions
- Student restates information
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- Preferential seating
- Follow a routine/schedule, Rest breaks
- Checklists, Immediate feedback

Specific Strategies and Practices that Support English Language Learners

English language learner (ELL) is a national-origin-minority student who is limited-English-proficient. This term is often preferred over limited-English-proficient (LEP) as it highlights accomplishments rather than deficits.

- Pre-teaching of vocabulary and concepts, Teacher modeling
- Personal Glossary
- Extended Time
- Simplified/Verbal Instructions
- Visual learning- including graphic organizers

Students at Risk of Failure

- Home/School Connection
- Alternative Assessments
- Learning Contracts
- Leveled Rubrics and Tiered Activities
- Work Alone Choice, Group Work Choice

Students with 504 Plans

- Teachers are responsible for implementing designated services and strategies identified on a student's 504 Plan.
- 504 plans are formal plans that schools develop to give kids the support they need and covers any condition that limits daily activities in a major way.
- Students' accommodations are outlined in their individual 504 plan.

Specific Strategies and Practices that Support Gifted & Talented Students

It is critical that all teachers are able to recognize a high-ability student who may need more depth and complexity in instruction.

- Homogeneous Grouping
- Small Group In-Depth Instruction
- Differentiated Online Practice
- Alternative Assessments
- Pre-Assess to provide Differentiated Instruction to Accelerate Learning
- Supplemental Reading
- Engaging projects

Unit 3

Desired Results

Unit 3 Title: Multi-Digit Operations and Measurement

Unit Summary: This unit develops students' fluency with multi-digit multiplication and division while applying these operations to measurement conversions, perimeter, and area. Students use place value, properties of operations, area models, partial products, partial quotients, and formulas to solve real-world mathematical problems involving multiplication, division, measurement, and geometry.

Learning Standards

NJSLS:

- 4.NBT.B.5: With accuracy and efficiency, multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
- 4.NBT.B.6: Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, area models, and/or partial quotients.
- 4.M.A.1: Know relative sizes of measurement units within one system of units, including km, m, cm; kg, g; lb, oz.; L, mL; hr., min., sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.
- 4.M.A.2: Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit.
- 4.M.A.3: Apply the area and perimeter formulas for rectangles in real-world and mathematical problems.

Interdisciplinary Connections

Career Readiness, Life Literacies, & Key Skills

- 9.4.5.CT.1: Identify and gather relevant information to support problem solving.
- 9.4.5.CT.4: Apply critical thinking and problem-solving strategies to academic and real-world situations.

Computer Science & Design Thinking

- 8.1.5.AP.2: Create and test algorithms to solve computational problems efficiently.
- 8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim.

Interdisciplinary Connections:

NJSLS - ELA 2023

- RI.CR.4.1: Refer to details and examples in a text and make relevant connections when explaining what the text says explicitly and when drawing inferences.
- RI.T.4.3: Explain events, procedures, ideas, or concepts in scientific or technical texts using specific information.
- W.IW.4.2: Write informative/explanatory texts to examine a topic and clearly convey ideas and information.
- SL.PE.4.1:. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly.
- L.VL.4.6: Acquire and accurately use grade-appropriate general academic and domain-specific words and phrases.

NJSLS - SCIENCE 2026

- 4-ESS2-1: Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.
- 4-ESS2-2: Analyze and interpret data from maps to describe patterns of Earth's features.
- 4-ESS3-1: Obtain and combine information to describe that energy and fuels are derived from natural resources and that their uses affect the environment.

Amistad Connection:

- Students apply measurement, mathematical modeling, and problem-solving skills while examining quantitative information related to the achievements and contributions of African American mathematicians, engineers, scientists, architects, and inventors.
- The unit's STEM Story featuring **Lonnie Johnson** provides an authentic connection to engineering design, innovation, and applied mathematics.

Asian American and Pacific Islander (AAPI) Connection:

- Students use mathematical models, measurement, and computation while exploring the contributions of Asian American and Pacific Islander scientists, engineers, mathematicians, and innovators whose work relies on quantitative reasoning and problem solving.
- Activity Title: "Mathematicians Who Made a Difference" - In this project-based activity, students take on the role of mathematician researchers to explore the lives and contributions of diverse figures in STEM, including individuals with disabilities and those from the LGBTQ+ community, in alignment with NJ Law S4021. Each student or group is assigned a historical or contemporary mathematician and completes a math challenge based on that person's real-world impact—such as calculating rocket trajectories like Katherine Johnson, analyzing patterns like Maryam Mirzakhani, or solving multiplicative comparisons inspired by Temple Grandin's animal science work. Students apply 4.OA skills through word problems, equations, factors, and patterns, then present their work in a "Mathematicians Who Made a Difference" showcase that highlights both their math reasoning and what they learned about their assigned figure's identity and legacy.

Climate Change Connection:

Mathematics - 4.M.A.2

- Students may convert and compare measurements while analyzing authentic environmental data such as rainfall, water

conservation, recycling totals, energy consumption, habitat restoration, and land use.

Science - 4-ESS3-2

- Generate and compare multiple solutions to reduce the impacts of natural Earth processes and climate change on humans.
- Students apply multiplication, division, measurement, perimeter, and area to analyze environmental data and compare sustainable solutions.

DEI Connections

- Students engage in collaborative problem solving, use multiple mathematical representations, justify different solution strategies, and recognize that mathematical reasoning benefits from diverse perspectives and experiences. Instruction promotes equitable access to mathematical tools, models, and discourse.

Learning Targets

Unit Essential Questions:

- How do place value and the properties of operations support efficient multiplication and division?
- Why are standard units and measurement conversions important in solving real-world problems?
- How do perimeter and area formulas help solve authentic mathematical situations?
- How can mathematical models, estimation, and reasoning help determine whether solutions are reasonable?

Unit Enduring Understandings:

- Efficient multiplication and division strategies build computational fluency and support solving complex real-world problems.
- Standard units and measurement conversions allow quantities to be compared, communicated, and applied accurately.
- Formulas provide efficient methods for determining perimeter and area in mathematical and real-world situations.
- Mathematical models, estimation, and precise communication help justify solutions and determine whether answers are reasonable.

Mathematical Vocabulary

- area
- area formula
- convert
- customary system
- dividend
- divisor
- estimate (noun)
- estimate (verb)
- factor

Mathematical Vocabulary

- formula
- metric system
- multiple
- multiplication
- partial products
- partial quotients
- perimeter
- product
- quotient

Academic Vocabulary

- label
- partial
- process
- reasonable
- reasonableness
- remain
- row

Additional Vocabulary

- area model
- conversion table
- equation
- equivalent measurements
- multiply
- place value
- properties of operations
- rectangular array
- standard algorithm

• factors of a number	• remainder		• unit conversion • whole-number quotient

Students will be able to:

- Multiply whole numbers of up to four digits by one-digit whole numbers.
- Multiply two-digit numbers by two-digit numbers.
- Use arrays, area models, and partial products to multiply.
- Estimate products to determine whether answers are reasonable.
- Identify relative sizes of customary and metric measurement units.
- Convert measurements from larger units to smaller units within the same measurement system.
- Use conversion tables to solve measurement problems.
- Divide three-digit dividends by one-digit divisors, including problems with remainders.
- Divide four-digit dividends by one-digit divisors, including problems with remainders.
- Use rectangular arrays, area models, and partial quotients to divide.
- Use place value understanding and the properties of operations to solve multiplication and division problems.
- Use the relationship between multiplication and division to estimate and determine quotients.
- Use the perimeter formula for rectangles to solve real-world and mathematical problems.
- Use the area formula for rectangles to solve real-world and mathematical problems.
- Explain mathematical reasoning using equations, models, formulas, and precise mathematical vocabulary.

Assessment Evidence

Formative Assessments:

Ongoing Classroom Assessments

- Self Check
- Build Your Vocabulary
- STEM Story: **Lonnie Johnson**
- Teacher observation
- Guided practice
- Math discourse and partner discussions
- Whiteboard responses
- Exit tickets
- Lesson Checks
- Digital Comprehension Checks
- Interactive Tutorials
- Interactive Practice

Center Activities

- Multiplying by One-Digit Numbers
- Multiplying by Two-Digit Numbers
- Using Tables to Convert Measurements
- Measurement Conversions
- Dividing by One-Digit Numbers
- Division Methods
- Use Perimeter and Area Vocabulary
- Perimeter and Area Problems

Enrichment Activities

- Favorite Photos
- Display of Cans
- Race Training
- Packing Boxes
- Number Strips
- Designing a Yard

Math in Action Preparation

- Students develop the skills needed to multiply and divide multi-digit whole numbers, convert measurements, solve perimeter and area problems, and apply these concepts to authentic real-world situations involving data, design, and measurement.

Summative Assessments:

Vocabulary Review

- Unit Review and Performance Task
- Cumulative Practice
- Unit Assessment Forms A & B
- Math in Action Performance Task

Math in Action Performance Task Options

- Pine Cones and Needles
- Numbers in Nature
- G.O.'s Planting Project
- Plant Sale

Skills Assessed

Students will:

- Understand area.
- Understand the perimeter formula.
- Understand factor pairs.
- Know the area formula.
- Find factor pairs.
- Use a formula to find perimeter.
- Multiply by a multiple of 10.
- Multiply a three-digit number by a one-digit number.
- Multiply two two-digit numbers.

		• Divide a four-digit number by a one-digit number. • Divide a three-digit number by a one-digit number. • Interpret remainders. • Add and subtract multi-digit numbers.
Common Benchmark Assessments: BOY i-Ready Diagnostic, Universal Screener for Number Sense (USNS)		

Core Instructional & Supplemental Materials		
Resources **Teacher:** • i-Ready Classroom Mathematics Teacher Guide • Teacher Toolbox • Tools for Instruction • Build Your Vocabulary • STEM Story: **Annie Jump Cannon** • Lesson-Level Differentiation Resources • Prerequisite Lessons • Center Activities • Enrichment Activities **Student**: • Student Worktext • Self Check • Vocabulary Review • Unit Review and Performance Task • Cumulative Practice • Math in Action Performance Task • Self Reflection • Unit Assessment (Forms A & B)	**Manipulatives** • Base-Ten Blocks • Multiplication Models • Number Line • Counters • Arrays/Grid Paper • Area Models • Math Toolkit Manipulatives **Other Classroom Materials** • Whiteboards and dry-erase markers • Pencils • Chart paper • Anchor charts • Sticky notes • Recording sheets • Graph paper • Multiplication charts/hundreds charts	**Technology** • i-Ready Personalized Instruction • Interactive Tutorials • Interactive Practice and Reports • Unit and Lesson Comprehension Checks and Reports • Diagnostic Reports **Learning Games** • Cupcake • Pizza **Digital Math Tools** • Base-Ten Blocks • Multiplication Models • Number Line • Perimeter and Area

Accommodations and Modifications:
Students with Disabilities, English Language Learners,
Students at Risk of Failure, Students with 504s, Gifted & Talented Students

Specific Strategies and Practices that Support Students with Disabilities:

Students receiving Special Education programming have specific goals and objectives, as well as accommodations and modifications outlined within their Individualized Education Plans (IEP) due to an identified disability and/or diagnosis. In addition to exposure to the general education curriculum, the instruction is differentiated based upon the student's needs. The IEP acts as a supplemental curriculum guide inclusive of instructional strategies that support each learner.

- Small group/One to one
- Additional time - Review of directions
- Student restates information
- Space for movement or breaks
- Extra visual and verbal cues and prompts, Verbal and visual cues regarding directions and staying on task
- Preferential seating
- Follow a routine/schedule, Rest breaks
- Checklists, Immediate feedback

Specific Strategies and Practices that Support English Language Learners

English language learner (ELL) is a national-origin-minority student who is limited-English-proficient. This term is often preferred over limited-English-proficient (LEP) as it highlights accomplishments rather than deficits.

- Pre-teaching of vocabulary and concepts, Teacher modeling
- Personal Glossary
- Extended Time
- Simplified/Verbal Instructions
- Visual learning- including graphic organizers

Students at Risk of Failure

- Home/School Connection
- Alternative Assessments
- Learning Contracts
- Leveled Rubrics and Tiered Activities
- Work Alone Choice, Group Work Choice

Students with 504 Plans

- Teachers are responsible for implementing designated services and strategies identified on a student's 504 Plan.
- 504 plans are formal plans that schools develop to give kids the support they need and covers any condition that limits daily activities in a major way.
- Students' accommodations are outlined in their individual 504 plan.

Specific Strategies and Practices that Support Gifted & Talented Students

It is critical that all teachers are able to recognize a high-ability student who may need more depth and complexity in instruction.

- Homogeneous Grouping
- Small Group In-Depth Instruction
- Differentiated Online Practice
- Alternative Assessments
- Pre-Assess to provide Differentiated Instruction to Accelerate Learning
- Supplemental Reading
- Engaging projects

Unit 4

Desired Results

Unit 4 Title: Fractions, Decimals and Measurement

Unit Summary: This unit extends students' understanding of fractions by developing equivalence, comparison, addition, subtraction, multiplication, and decimal concepts. Students represent, compare, and operate with fractions and decimals, interpret fractional data displayed on line plots, solve measurement, time, money, and real-world problems, and apply mathematical reasoning using models, equations, and multiple representations.

Learning Standards

NJSLS:

- 4.NF.A.1: Explain why a fraction is equivalent to a fraction by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.
- 4.NF.A.2: Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as . Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.
- 4.NF.B.3: Understand a fraction a/b with a > 1 as a sum of fractions 1/b and use this understanding to:
  - add and subtract fractions with like denominators;
  - decompose fractions into sums of unit fractions;
  - solve word problems involving addition and subtraction of fractions referring to the same whole.
- 4.NF.B.4: Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.
- 4.NF.C.5: Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators of 10 and 100.
- 4.NF.C.6: Use decimal notation for fractions with denominators of 10 or 100.
- 4.NF.C.7: Compare two decimals to hundredths by reasoning about their size and record the results using >, <, and = symbols.
- 4.M.A.1: Know relative sizes of measurement units within one system of units, including km, m, cm; kg, g; lb, oz.; L, mL; hr., min., sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table.

- 4.M.A.2: Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit.

Interdisciplinary Connections

Career Readiness, Life Literacies, & Key Skills

- 9.4.5.CT.1: Identify and gather relevant information to support problem solving.
- 9.4.5.CT.4: Apply critical thinking and problem-solving strategies to academic and real-world situations.

Computer Science & Design Thinking

- 8.1.5.AP.2: Create and test algorithms to solve computational problems efficiently.
- 8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim.

Interdisciplinary Connections:

NJSLS - ELA 2023

- RI.CR.4.1: Refer to details and examples in a text and make relevant connections when explaining what the text says explicitly and when drawing inferences.
- RI.T.4.3: Explain events, procedures, ideas, or concepts in scientific or technical texts using specific information.
- W.IW.4.2: Write informative/explanatory texts to examine a topic and clearly convey ideas and information.
- SL.PE.4.1:. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly.
- L.VL.4.6: Acquire and accurately use grade-appropriate general academic and domain-specific words and phrases.

NJSLS - SCIENCE 2026

- 4-ESS2-1: Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.
- 4-ESS3-1: Obtain and combine information to describe that energy and fuels are derived from natural resources and that their uses affect the environment.

Amistad Connection:

- Students analyze quantitative information while learning about the contributions of African American mathematicians, engineers, scientists, and inventors. The unit's STEM Story featuring **Sylvia Acevedo** provides an opportunity to discuss diverse leadership in STEM, engineering, and space exploration while applying mathematical reasoning.
- Activity Title: "Fractions Through Freedom Quilts" - This project engages students in exploring fraction concepts through the historical context of the Underground Railroad, aligning with NJ Law 18A:35-28. Students will study traditional quilt patterns believed to have been used as signals for freedom, then use fraction skills to recreate these patterns on grid paper and in fabric or paper quilt squares. Throughout the activity, students will generate and identify equivalent fractions (4.NF.A.1), compare fractions (4.NF.A.2), decompose fractions (4.NF.B.3b), and solve fraction addition, subtraction, and multiplication problems (4.NF.B.3–4). They

will integrate decimals (4.NF.C.6–7) and measurement conversions (4.M.A.2) when calculating fabric dimensions, area, and perimeter for their quilt designs. This cross-curricular project blends mathematics, history, and art to deepen understanding of fractions while honoring African American heritage and the resilience of those who sought freedom.

Asian American and Pacific Islander (AAPI) Connection:

- Students apply fractions, decimals, measurement, and data analysis while examining the achievements of Asian American and Pacific Islander scientists, mathematicians, engineers, and innovators whose work depends on precision, measurement, and quantitative reasoning.

Climate Change Connection:

Mathematics - 4.M.A.1

- Students analyze, compare, and interpret fractional and decimal measurements related to rainfall, water conservation, recycling, energy use, and other environmental data.

Science - 4-ESS3-2

- Generate and compare multiple solutions to reduce the impacts of natural Earth processes and climate change on humans.
- Students analyze environmental data presented as fractions, decimals, and measurements to evaluate possible solutions and communicate evidence-based conclusions.
- Activity: "Design a Sustainable School Garden" - Students will design a model of a sustainable school garden that helps the environment through native plants, composting, and water collection. Using fractions, they will plan the garden layout by dividing the space into sections, finding equivalent fractions, and comparing sizes. They will add, subtract, and multiply fractions to figure out planting areas, seed amounts, and garden rows, and convert fractions to decimals for ordering supplies. Measurement problems will include distances, soil volume, and water needs. This project connects math skills to real-world climate action by showing how gardens can reduce emissions, save resources, and support wildlife.

DEI Connections

- Students use multiple representations, collaborate during mathematical discourse, justify different solution strategies, and recognize that mathematical problems can often be solved in more than one valid way. Instruction promotes equitable participation and values diverse approaches to mathematical thinking.
- Read and discuss the STEM Story Spotlight on Sylvia Acevedo
- Read and discuss Explore session Lesson 25, 28
- Read and discuss Develop session Lesson 18, 24

Learning Targets	
Unit Essential Questions: • How can models help us understand equivalent fractions and decimal relationships?	**Unit Enduring Understandings:** • Fractions and decimals are different representations of the same quantities and can be compared, modeled, and used to solve real-world problems.

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- How do fractions and decimals help us describe and solve real-world problems?
- Why is it important to compare and represent fractions and decimals in different ways?
- How can mathematical models, data displays, and measurement help us make informed decisions?

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- Equivalent fractions represent the same value even though they look different.
- Visual models, number lines, equations, and data displays help explain mathematical relationships.
- Fractions, decimals, and measurement provide efficient ways to represent and solve authentic problems involving time, money, data, and measurement.

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Mathematical Vocabulary

- benchmark fraction
- common denominator
- decimal
- decimal point
- denominator
- equivalent fraction
- fraction
- line plot

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Mathematical Vocabulary

- mixed number
- numerator
- product
- tenths
- hundredths
- unit fraction
- weight

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Academic Vocabulary

- altogether
- batch
- compare
- confidence
- connection
- construct
- counterexample
- discuss
- farther
- given
- location
- model (noun)
- model (verb)
- occur
- rest
- shade

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Additional Vocabulary

- common numerator
- decompose
- equation
- expression
- improper fraction
- like denominators
- measurement conversion
- number line
- simplify
- whole number

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Students will be able to:

- Explain why two fractions are equivalent using visual fraction models.
- Generate equivalent fractions by multiplying or dividing the numerator and denominator by the same number.
- Compare fractions with different numerators and denominators using benchmark fractions, common denominators, and visual models.
- Explain why fractions must refer to the same whole when making comparisons.
- Add and subtract fractions with like denominators.

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- Decompose fractions into sums of unit fractions in more than one way.
- Add and subtract mixed numbers with like denominators.
- Represent fraction addition and subtraction using models, number lines, and equations.
- Interpret and solve word problems involving fraction addition and subtraction.
- Construct and interpret line plots using fractional units.
- Solve addition and subtraction problems using data displayed on line plots.
- Multiply a unit fraction and a non-unit fraction by a whole number.
- Solve real-world problems involving multiplication of fractions by whole numbers.
- Write fractions with denominators of 10 as equivalent fractions with denominators of 100.
- Explain the relationship between tenths and hundredths.
- Add fractions with denominators of 10 and 100.
- Write fractions as decimals and decimals as fractions with denominators of 10 or 100.
- Compare decimals to the hundredths using >, <, and =.
- Solve real-world problems involving time, money, length, liquid volume, mass, and weight.
- Convert larger units to smaller units to solve measurement problems.
- Explain mathematical reasoning using models, equations, line plots, and precise mathematical vocabulary.
- Explain mathematical reasoning using equations, models, formulas, and precise mathematical vocabulary.

Assessment Evidence		
Formative Assessments:		
Ongoing Classroom Assessments • Self Check • Build Your Vocabulary • STEM Story: **Sylvia Acevedo** • Teacher observation • Guided practice • Math discourse and partner discussions • Whiteboard responses • Exit tickets • Lesson Checks • Digital Comprehension Checks • Interactive Tutorials • Interactive Practice	**Center Activities** • Find Equivalent Fractions • Find the Missing Number in Equivalent Fractions • Use Fraction Vocabulary • Comparing Fractions • Match It! • Make a Whole! • Different Ways to Show Sums • Add and Subtract Mixed Numbers • Line Plots • Using Line Plots • Multiplying with Fractions • Fraction Word Problems • Tenths to Hundredths • Adding Tenths and Hundredths • Modeling Decimals and Fractions	**Enrichment Activities** • Water Stations • Colorful Quilts • Relay Race • Addition Grids • Filling a Tank • How Much Fabric? • Mystery Equation • Fill in the Blanks • How Much Farther? • What's the Cost? • Mystery Comparisons • Carnival • Mass Matters **Math in Action Preparation** • Students develop the skills needed to represent, compare, add, subtract, and multiply fractions; relate fractions and decimals; interpret fractional data on line plots; compare decimals; and solve real-world problems involving measurement, time, money, mass, liquid volume, and weight.

	• Decimals and Fractions on a Number Line • Comparing Decimals • Greater Than and Less Than • Multi-Step Money Problems • Distance Problems •	

Summative Assessments:		
Vocabulary Review • Vocabulary Review • Unit Review and Performance Task • Cumulative Practice • Unit Assessment Form A & B • Math in Action Performance Task • Self Reflection	**Math in Action Performance Task Options** • Sand Jars • Coin Purses • Hair Ribbons • Picture Frame	**Skills Assessed** Students will: • Understand decimals as fractions. • Understand comparing fractions. • Write fractions as decimals. • Compare decimals. • Add and subtract like fractions. • Find the perimeter of a rectangle. • Add and subtract mixed numbers with like denominators. • Subtract fractions from whole numbers. • Multiply a fraction by a whole number. • Write a mixed number as a fraction.
Common Benchmark Assessments: BOY i-Ready Diagnostic, Universal Screener for Number Sense (USNS)		

Core Instructional & Supplemental Materials		
Resources **Teacher:** • i-Ready Classroom Mathematics Teacher Guide	**Manipulatives** • Fraction Models • Number Line • Base-Ten Blocks	**Technology** • i-Ready Personalized Instruction • Interactive Tutorials • Interactive Practice and Reports

• Teacher Toolbox • Tools for Instruction • Lesson-Level Differentiation Resources • Prerequisite Lessons • Build Your Vocabulary • STEM Story: **Sylvia Acevedo** • Center Activities • Enrichment Activities **Student**: • Student Worktext • Self Check • Vocabulary Review • Unit Review and Performance Task • Cumulative Practice • Math in Action Performance Task • Self Reflection • Unit Assessment (Forms A and B)	**Other Classroom Materials** • Fraction strips or fraction circles • Decimal grids (10 × 10) • Number lines • Rulers and measuring tools • Coins and play money • Clocks • Whiteboards and dry-erase markers • Chart paper • Recording sheets • Line plot templates	• Unit and Lesson Comprehension Checks and Reports • Diagnostic Reports **Learning Games** • Bounce • Cloud Machine • Cupcake • Match • Zoom **Digital Math Tools** • Base-Ten Blocks • Fraction Models • Number Line

Accommodations and Modifications:
Students with Disabilities, English Language Learners,
Students at Risk of Failure, Students with 504s, Gifted & Talented Students

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- Pre-Assess to provide Differentiated Instruction to Accelerate Learning
- Supplemental Reading
- Engaging projects

Unit 5

Desired Results

Unit 5 Title: Geometry & Measurement

Unit Summary: This unit develops students' understanding of geometric figures, angle measurement, classification of two-dimensional shapes, and symmetry. Students identify and draw points, lines, rays, line segments, and angles; measure and construct angles using a protractor; solve problems involving angle measurement; classify polygons and triangles based on their attributes; and identify and draw lines of symmetry. Students apply geometric reasoning to solve real-world problems using mathematical vocabulary, models, and precise measurement.

Learning Standards

NJSLS:

- 4.G.A.1: Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
- 4.G.A.2 : Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category and identify right triangles.
- 4.G.A.3: Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.
- 4.M.C.5: Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
- 4.M.C.6: Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.
- 4.M.C.7: Recognize angle measure as additive. Solve addition and subtraction problems to find unknown angle measures on a diagram in real-world and mathematical problems.

Interdisciplinary Connections

Career Readiness, Life Literacies, & Key Skills

- 9.4.5.CT.1: Identify and gather relevant information to support problem solving.
- 9.4.5.CT.4: Apply critical thinking and problem-solving strategies to academic and real-world situations.

Computer Science & Design Thinking

- 8.1.5.AP.2: Create and test algorithms to solve computational problems efficiently.
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Interdisciplinary Connections:

NJSLS - ELA 2023

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- SL.PE.4.1:. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly.
- L.VL.4.6: Acquire and accurately use grade-appropriate general academic and domain-specific words and phrases.

NJSLS - SCIENCE 2026

- 4-LS-1: Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.
- 4-PS-4: Generate and compare multiple solutions that use patterns to transfer information.

Amistad Connection:

- Students examine the contributions of African American scientists, engineers, mathematicians, and innovators through the unit's STEM Story featuring **Fred Begay**, a Navajo physicist whose work demonstrates the importance of scientific inquiry, geometry, measurement, and problem solving in STEM fields. Students also analyze geometric patterns and structures found in engineering and design.
- Activity Title: "Fractions Through Freedom Quilts" - This project engages students in exploring fraction concepts through the historical context of the Underground Railroad, aligning with NJ Law 18A:35-28. Students will study traditional quilt patterns believed to have been used as signals for freedom, then use fraction skills to recreate these patterns on grid paper and in fabric or paper quilt squares. Throughout the activity, students will generate and identify equivalent fractions (4.NF.A.1), compare fractions (4.NF.A.2), decompose fractions (4.NF.B.3b), and solve fraction addition, subtraction, and multiplication problems (4.NF.B.3–4). They will integrate decimals (4.NF.C.6–7) and measurement conversions (4.M.A.2) when calculating fabric dimensions, area, and perimeter for their quilt designs. This cross-curricular project blends mathematics, history, and art to deepen understanding of fractions while honoring African American heritage and the resilience of those who sought freedom.

Asian American and Pacific Islander (AAPI) Connection:

- Activity Title: "Geometry Through Culture" In this lesson, students will explore the rich cultural contributions of Asian American and Pacific Islander communities through their traditional art and architecture, aligning with NJ Law S4021. They will analyze images of AAPI-inspired designs to identify and classify geometric elements such as points, lines, angles (right, acute, obtuse), parallel and perpendicular lines, and lines of symmetry. Using protractors, students will measure and sketch angles, solve problems involving angle addition and subtraction, and apply their knowledge by creating their own AAPI-inspired geometric designs. This lesson integrates cultural appreciation with key 4th-grade geometry standards, fostering both mathematical skills and awareness of AAPI heritage.

Climate Change Connection:

Science - 4-ESS3-2

- Generate and compare multiple solutions to reduce the impacts of natural Earth processes and climate change on humans.
- Students apply geometric reasoning, angle measurement, and spatial design to evaluate and communicate solutions for environmental and engineering challenges.
- Activity Title: “Design a Solar-Powered Community Park” - In this project, students will become environmental engineers tasked with designing a solar-powered community park that promotes sustainability and climate resilience. Using geometry skills, they will draw and label lines, angles, and shapes; classify two-dimensional figures; identify symmetry; and measure angles to create an accurate and functional park layout. Students will incorporate features such as solar panel stations, garden beds, bike paths, and shaded rest areas, applying measurement and design principles to ensure their park is both practical and eco-friendly. By presenting their final designs, students will demonstrate how renewable energy, efficient land use, and sustainable planning can help address climate change while reinforcing their understanding of key geometry and measurement concepts.

DEI Connections

- Students collaborate to classify figures, justify mathematical reasoning, compare multiple solution strategies, and recognize that geometry is represented across cultures, architecture, engineering, and the natural world. Instruction values multiple perspectives and promotes equitable participation in mathematical discourse.
- Read and discuss the STEM Story Spotlight on Fred Begay
- Read and discuss Explore session Lesson 33
- Read and discuss Develop session Lesson 34

Learning Targets

Unit Essential Questions:

- How do the attributes of geometric figures help us classify and describe shapes?
- How can angles be measured, constructed, and combined to solve mathematical problems?
- Why is symmetry an important property in mathematics, nature, engineering, and design?
- How does geometric reasoning help us solve real-world problems?

Unit Enduring Understandings:

- Geometric figures can be identified, classified, and compared using their defining attributes.
- Angles are measurable geometric figures whose measures can be estimated, measured, combined, and decomposed.
- Lines of symmetry describe balanced geometric designs and can be used to classify figures.
- Geometric reasoning, measurement, and spatial thinking help solve real-world problems involving design, engineering, and architecture.

Mathematical Vocabulary	Mathematical Vocabulary	Academic Vocabulary	Additional Vocabulary
• acute angle • acute triangle • angle • degree (°) • equilateral triangle • hexagon • isosceles triangle • line • line of symmetry • line segment • obtuse angle • obtuse triangle	• parallel lines • perpendicular lines • point • polygon • protractor • ray • right angle • right triangle • scalene triangle • trapezoid (exclusive) • trapezoid (inclusive) • vertex	• assumption • at least • characteristic • exactly • in common • line up • relationship • section	• angle measure • compose • decompose • endpoint • geometric figure • intersecting lines • plane figure • quadrilateral • right turn • straight angle • two-dimensional figure

Students will be able to:

- Identify and draw points, lines, line segments, rays, and angles.
- Recognize an angle as a geometric figure formed by two rays sharing a common endpoint.
- Identify and classify acute, right, and obtuse angles.
- Identify and draw parallel and perpendicular lines.
- Measure angles using a protractor.
- Estimate angle measures using benchmark angles.
- Draw angles of specified measures.
- Recognize that angle measure is additive.
- Decompose and compose angles to solve for unknown angle measures.
- Solve addition and subtraction problems involving angle measures.
- Classify two-dimensional figures based on the presence or absence of parallel lines, perpendicular lines, and specific angle types.
- Classify triangles as equilateral, isosceles, or scalene.
- Classify triangles as acute, right, or obtuse.
- Identify and draw lines of symmetry in two-dimensional figures.
- Explain geometric reasoning using diagrams, models, measurements, and precise mathematical vocabulary.

Assessment Evidence		
Formative Assessments:		
Ongoing Classroom Assessments • Self Check • Build Your Vocabulary • STEM Story: **Fred Begay** • Teacher observation • Guided practice • Math discourse and partner discussions • Whiteboard responses • Exit tickets • Lesson Checks • Digital Comprehension Checks • Interactive Tutorials • Interactive Practice	**Center Activities** • Geometry Vocabulary Match • Drawing for Geometry • Angle Vocabulary Match • Angles and Circles • Measuring Angles • Drawing Angles • Adding Angles • Unknown Angle Measures • Triangle Vocabulary Match • Classifying Shapes • Recognizing Lines of Symmetry • Drawing Lines of Symmetry • Decimals and Fractions on a Number Line • Comparing Decimals • Greater Than and Less Than • Multi-Step Money Problems • Distance Problems	**Enrichment Activities** • New Roads • Angles in Shapes • Angles in Triangles • Which One Is Different? • Mystery Shapes **Math in Action Preparation** • Students develop the skills needed to represent, compare, add, subtract, and multiply fractions; relate fractions and decimals; interpret fractional data on line plots; compare decimals; and solve real-world problems involving measurement, time, money, mass, liquid volume, and weight.

Summative Assessments:		
• Vocabulary Review • Unit Review and Performance Task • Cumulative Practice • Unit Assessment Form A & B • Math in Action Performance Task • Self Reflection	**Math in Action Performance Task Options** Wood Scraps Symmetry Mosaic Mosaic Art Angle Cuts	**Skills Assessed** Students will: • Understand that shapes can be classified by their properties. • Identify parallel and perpendicular sides and 90° angles. • Classify shapes based on their properties. • Draw shapes with one or more lines of symmetry. • Identify geometric shapes that compose larger figures. • Draw shapes with parallel sides. • Add angle measures. • Draw angles of a given measure. • Measure angles using a protractor.
Common Benchmark Assessments: BOY i-Ready Diagnostic, Universal Screener for Number Sense (USNS)		

Core Instructional & Supplemental Materials		
Resources **Teacher:** • i-Ready Classroom Mathematics Teacher Guide • Teacher Toolbox • Tools for Instruction • Lesson-Level Differentiation Resources • Prerequisite Lessons • Build Your Vocabulary • STEM Story: **Fred Begay** • Center Activities • Enrichment Activities **Student**: • Student Worktext	**Manipulatives** • Protractors • Rulers • Geometric Shapes • Pattern Blocks • Geoboards **Other Classroom Materials** • Whiteboards and dry-erase markers • Pencils • Chart paper • Geometry templates • Straightedges • Pattern blocks • Grid paper	**Technology** • i-Ready Personalized Instruction • Interactive Tutorials • Interactive Practice and Reports • Unit and Lesson Comprehension Checks and Reports • Diagnostic Reports **Learning Games** • Geometry and angle games within i-Ready Personalized Instruction **Digital Math Tools** • Geometry drawing tools • Protractor tool • Angle measurement tools

• Self Check • Vocabulary Review • Unit Review and Performance Task • Cumulative Practice • Math in Action Performance Task • Self Reflection • Unit Assessment (Forms A and B)	• Mirrors for symmetry investigations • Recording sheets • Anchor charts on geometric vocabulary	

Accommodations and Modifications:
Students with Disabilities, English Language Learners,
Students at Risk of Failure, Students with 504s, Gifted & Talented Students

Specific Strategies and Practices that Support Students with Disabilities:
Students receiving Special Education programming have specific goals and objectives, as well as accommodations and modifications outlined within their Individualized Education Plans (IEP) due to an identified disability and/or diagnosis. In addition to exposure to the general education curriculum, the instruction is differentiated based upon the student's needs. The IEP acts as a supplemental curriculum guide inclusive of instructional strategies that support each learner.

- Small group/One to one
- Additional time - Review of directions
- Student restates information
- Space for movement or breaks
- Extra visual and verbal cues and prompts, Verbal and visual cues regarding directions and staying on task
- Preferential seating
- Follow a routine/schedule, Rest breaks
- Checklists, Immediate feedback

Specific Strategies and Practices that Support English Language Learners
English language learner (ELL) is a national-origin-minority student who is limited-English-proficient. This term is often preferred over limited-English-proficient (LEP) as it highlights accomplishments rather than deficits.

- Pre-teaching of vocabulary and concepts, Teacher modeling
- Personal Glossary
- Extended Time
- Simplified/Verbal Instructions
- Visual learning- including graphic organizers

Students at Risk of Failure

- Home/School Connection

- Alternative Assessments
- Learning Contracts
- Leveled Rubrics and Tiered Activities
- Work Alone Choice, Group Work Choice

Students with 504 Plans

- Teachers are responsible for implementing designated services and strategies identified on a student's 504 Plan.
- 504 plans are formal plans that schools develop to give kids the support they need and covers any condition that limits daily activities in a major way.
- Students' accommodations are outlined in their individual 504 plan.

Specific Strategies and Practices that Support Gifted & Talented Students

It is critical that all teachers are able to recognize a high-ability student who may need more depth and complexity in instruction.

- Homogeneous Grouping
- Small Group In-Depth Instruction
- Differentiated Online Practice
- Alternative Assessments
- Pre-Assess to provide Differentiated Instruction to Accelerate Learning
- Supplemental Reading
- Engaging projects