MOORESTOWN TOWNSHIP PUBLIC SCHOOLS
MOORESTOWN, NEW JERSEY

Moorestown Upper Elementary School
Mathematics

Mathematics
Grade 5

Date: August 2022
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Course Description and Fundamental Concepts

In Grade 5, instructional time should focus on three critical areas: (1) developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing fluency with whole number and decimal operations; and (3) developing understanding of volume.

(1) Students apply their understanding of fractions and fraction models to represent the addition and subtraction of fractions with unlike denominators as equivalent calculations with like denominators. They develop fluency in calculating sums and differences of fractions, and make reasonable estimates of them. Students also use the meaning of fractions, of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for multiplying and dividing fractions make sense. (Note: this is limited to the case of dividing unit fractions by whole numbers and whole numbers by unit fractions.)

(2) Students develop understanding of why division procedures work based on the meaning of base-ten numerals and properties of operations. They finalize fluency with multi-digit addition, subtraction, multiplication, and division. They apply their understandings of models for decimals, decimal notation, and properties of operations to add and subtract decimals to hundredths. They develop fluency in these computations, and make reasonable estimates of their results. Students use the relationship between decimals and fractions, as well as the relationship between finite decimals and whole numbers (i.e., a finite decimal multiplied by an appropriate power of 10 is a whole number), to understand and explain why the procedures for multiplying and dividing finite decimals make sense. They compute products and quotients of decimals to hundredths efficiently and accurately.

(3) Students recognize volume as an attribute of three-dimensional space. They understand that volume can be measured by finding the total number of same-size units of volume required to fill the space without gaps or overlaps. They understand that a 1-unit by 1-unit by 1-unit cube is the standard unit for measuring volume. They select appropriate units, strategies, and tools for solving problems that involve estimating and measuring volume. They decompose three-dimensional shapes and find volumes of right rectangular prisms by viewing them as decomposed into layers of arrays of cubes. They measure necessary attributes of shapes in order to determine volumes to solve real world and mathematical problems.

Grade 5 Overview

1. **Operations and Algebraic Thinking**
   ● Write and interpret numerical expressions.
   ● Analyze patterns and relationships.

2. **Number and Operations in Base Ten**
   ● Understand the place value system.
   ● Perform operations with multi-digit whole numbers and with decimals to hundredths.

3. **Number and Operations—Fractions**
   ● Use equivalent fractions as a strategy to add and subtract fractions.
   ● Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

4. **Measurement and Data**
   ● Convert like measurement units within a given measurement system.
   ● Represent and interpret data.
   ● Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

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

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

New Jersey Student Learning Standards (NJSLS)

Subject/Content Standards
Include grade appropriate subject/content standards that will be addressed

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5.OA Operations and Algebraic Thinking
 A. Write and interpret numerical expressions.
  1. Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
  2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation "add 8 and 7, then multiply by 2" as $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.
 B. Analyze patterns and relationships.
  3. Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.

5.NBT Number and Operations in Base Ten
 A. Understand the place value system.
  1. Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.
  2. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.
  3. Read, write, and compare decimals to thousandths.
   a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.
   b. Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.
  4. Use place value understanding to round decimals to any place.
 B. Perform operations with multi-digit whole numbers and with decimals to hundredths.
  5. Fluently multiply multi-digit whole numbers using the standard algorithm.
  6. Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.
  7. Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

5.NF Number and Operations—Fractions

A. Use equivalent fractions as a strategy to add and subtract fractions.

1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, $2/3 + 5/4 = 8/12 + 15/12 = 23/12$. (In general, $a/b + c/d = (ad + bc)/bd$.)

2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. For example, recognize an incorrect result $2/5 + 1/2 = 3/7$, by observing that $3/7 < 1/2$.

B. Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

3. Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. For example, interpret $3/4$ as the result of dividing 3 by 4, noting that $3/4$ multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size $3/4$. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?

4. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

   a. Interpret the product $(a/b) \times q$ as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations $a \times q \div b$. For example, use a visual fraction model to show $(2/3) \times 4 = 8/3$, and create a story context for this equation. Do the same with $(2/3) \times (4/5) = 8/15$. (In general, $(a/b) \times (c/d) = ac/bd$.)

   b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.

5. Interpret multiplication as scaling (resizing), by:

   a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.

   b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.

6. Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.

   a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for $(1/3) \div 4$, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that $(1/3) \div 4 = 1/12$ because $(1/12) \times 4 = 1/3$.

  b. Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for 4 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 × (1/5) = 4.

  c. Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3-cup servings are in 2 cups of raisins?

5.MD Measurement and Data

A. Convert like measurement units within a given measurement system.

 1. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

B. Represent and interpret data.

 2. Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally.

C. Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

 3. Recognize volume as an attribute of solid figures and understand concepts of volume measurement.

  a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume.

  b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.

 4. Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and non-standard units.

 5. Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.

  a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.

  b. Apply the formulas $V = l \times w \times h$ and $V = B \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole number edge lengths in the context of solving real world and mathematical problems.

  c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.

5.G Geometry

A. Graph points on the coordinate plane to solve real-world and mathematical problems.

 1. Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given

point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).

    2. Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

B. Classify two-dimensional figures into categories based on their properties.

    3. Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.

    4. Classify two-dimensional figures in a hierarchy based on properties.

Mathematical Practices
1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
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Career Awareness, Exploration, Preparation, and Training (Standard 9.2)
List appropriate units below for which standards will be addressed

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By Grade 5

Unit Addressed	Core Idea	Standard / Description
Units 1,2,3,4,5	An individual's passions, aptitude and skills can affect his/her employment and earning potential.	*9.2.5.CAP.1: Evaluate personal likes and dislikes and identify careers that might be suited to personal likes.* *9.2.5.CAP.2: Identify how you might like to earn an income.* *9.2.5.CAP.3: Identify qualifications needed to pursue traditional and non-traditional careers and occupations.* *9.2.5.CAP.4: Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.*

Units 1,2,3,4,5	Income and benefits can vary depending on the employer and type of job or career.	*9.2.5.CAP.5: Identify various employee benefits, including income, medical, vacation time, and lifestyle benefits provided by different types of jobs and careers.*
Units 1,2,3,4,5	There are a variety of factors to consider before starting a business.	*9.2.5.CAP.6: Compare the characteristics of a successful entrepreneur with the traits of successful employees. • 9.2.5.CAP.7: Identify factors to consider before starting a business.*
Units 1,2,3,4,5	Individuals can choose to accept inevitable risk or take steps to protect themselves by avoiding or reducing risk.	*9.2.5.CAP.8: Identify risks that individuals and households face. 9.2.5.CAP.9: Justify reasons to have insurance.*

Life Literacies and Key Skills ([Standard 9.4](#))
List appropriate units below for which standards will be addressed

By Grade 5		
Unit Addressed	**Core Idea**	**Standard / Description**
Units 1,2,3	**Creativity and Innovation**: Collaboration with individuals with diverse perspectives can result in new ways of thinking and/or innovative solutions.	*9.4.5.CI.1: Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions (e.g., W.4.6, 3.MD.B.3,7.1.NM.IPERS.6). 9.4.5.CI.2: Investigate a persistent local or global issue, such as climate change, and collaborate with individuals with diverse perspectives to improve upon current actions designed to address the issue (e.g., 6.3.5.CivicsPD.3, W.5.7).*
Units 1,2,3,5	**Creativity and Innovation**: Curiosity and a willingness to try new ideas (intellectual risk-taking) contributes to the development of creativity and innovation skills.	*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).*

Units 1,2,3,5	**Critical Thinking and Problem-solving:** The ability to solve problems effectively begins with gathering data, seeking resources, and applying critical thinking skills.	*9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).* *9.4.5.CT.2: Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem (e.g., 2.1.5.CHSS.1, 4-ESS3-1).* *9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.* *9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).*
Units 1,2,3,5	**Digital Citizenship:** Intellectual property rights exist to protect the original works of individuals. It is allowable to use other people's ideas in one's own work provided that proper credit is given to the original source.	*9.4.5.DC.1: Explain the need for and use of copyrights.* *9.4.5.DC.2: Provide attribution according to intellectual property rights guidelines using public domain or creative commons media.* *9.4.5.DC.3: Distinguish between digital images that can be reused freely and those that have copyright restrictions.*
Units 1,2,3,5	**Digital Citizenship:** Sending and receiving copies of media on the internet creates the opportunity for unauthorized use of data, such as personally owned video, photos, and music.	*9.4.5.DC.4: Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2).*
Units 1,2,3,5	**Digital Citizenship:** Digital identities must be managed in order to create a positive digital footprint.	*9.4.5.DC.5: Identify the characteristics of a positive and negative online identity and the lasting implications of online activity*
Units 1,2,3,5	**Digital Citizenship:** Digital tools have positively and negatively changed the way people interact socially.	*9.4.5.DC.6: Compare and contrast how digital tools have changed social interactions (e.g., 8.1.5.IC.1).* *9.4.5.DC.7: Explain how posting and commenting in social spaces can have positive or negative consequences.*
Units 1,2,3,5	**Digital Citizenship:** Digital engagement can improve the planning and delivery of climate change actions.	*9.4.5.DC.8: Propose ways local and global communities can engage digitally to participate in and promote climate action (e.g., 6.3.5.GeoHE.1).*

Units 1,2,3,4,5	**Global and Cultural Awareness:** Culture and geography can shape an individual's experiences and perspectives.	*9.4.5.GCA.1: Analyze how culture shapes individual and community perspectives and points of view (e.g., 1.1.5.C2a, RL.5.9, 6.1.5.HistoryCC.8).*
Units 1,2,3,4,5	**Information and Media Literacy:** Digital tools and media resources provide access to vast stores of information, but the information can be biased or inaccurate.	*9.4.5.IML.1: Evaluate digital sources for accuracy, perspective, credibility and relevance (e.g., Social Studies Practice - Gathering and Evaluating Sources).*
Units 1,2,3,4,5	**Information and Media Literacy:** Digital tools can be used to modify and display data in various ways that can be organized to communicate ideas.	*9.4.5.IML.2: Create a visual representation to organize information about a problem or issue (e.g., 4.MD.B.4, 8.1.5.DA.3).* *9.4.5.IML.3: Represent the same data in multiple visual formats in order to tell a story about the data.*
Units 1,2,3,4,5	**Information and Media Literacy:** Accurate and comprehensive information comes in a variety of platforms and formats and is the basis for effective decision-making.	*9.4.5.IML.4: Determine the impact of implicit and explicit media messages on individuals, groups, and society as a whole.* *9.4.5.IML.5: Distinguish how media are used by individuals, groups, and organizations for varying purposes. (e.g., 1.3A.5.R1a).*
Units 1,2,3,4,5	**Information and Media Literacy:** Specific situations require the use of relevant sources of information.	*9.4.5.IML.6: Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions (e.g., RI.5.7, 6.1.5.HistoryCC.7, 7.1.NM. IPRET.5).* *9.4.5.IML.7: Evaluate the degree to which information meets a need including social emotional learning, academic, and social (e.g., 2.2.5. PF.5).*
Units 1,2,3,4,5	**Technology Literacy:** Different digital tools have different purposes.	*9.4.5.TL.1: Compare the common uses of at least two different digital tools and identify the advantages and disadvantages of using each.* *9.4.5.TL.2: Sort and filter data in a spreadsheet to analyze findings.* *9.4.5.TL.3: Format a document using a word processing application to enhance text, change page formatting, and include appropriate images, graphics, or symbols.*

Units 1,2,3,4,5	**Technology Literacy:** Collaborating digitally as a team can often develop a better artifact than an individual working alone.	*9.4.5.TL.4: Compare and contrast artifacts produced individually to those developed collaboratively (e.g., 1.5.5.CR3a).* *9.4.5.TL.5: Collaborate digitally to produce an artifact (e.g., 1.2.5CR1d).*

Interdisciplinary Connections ([2020 NJSLS](#))
List any other content standards addressed as well as appropriate units. All arts integration connections may be listed within this chart.

Visual & Performing Arts Integration ([Standard 1](#))
List appropriate units below for which standards (1.1 through 1.5) may be addressed

Unit Addressed	Artistic Process	Anchor Standard
Units 1,2,3,4,5	**Creating**	*Anchor Standard 1: Generating and conceptualizing ideas.* *Anchor Standard 2: Organizing and developing ideas.* *Anchor Standard 3: Refining and completing products.*
Units 1,2,3,4,5	**Connecting**	*Anchor Standard 10: Synthesizing and relating knowledge and personal experiences to create products.* *Anchor Standard 11: Relating artistic ideas and works within societal, cultural, and historical contexts to deepen understanding.*
Units 1,2,3,4,5	**Performing/ Presenting/ Producing**	*Anchor Standard 4: Selecting, analyzing, and interpreting work.* *Anchor Standard 5: Developing and refining techniques and models or steps needed to create products.* *Anchor Standard 6: Conveying meaning through art.*
Units 1,2,3,4,5	**Responding**	*Anchor Standard 7: Perceiving and analyzing products.* *Anchor Standard 8: Applying criteria to evaluate products.* *Anchor Standard 9: Interpreting intent and meaning.*

Other Interdisciplinary Content Standards
List appropriate units below for any other content/standards that may be addressed

Unit Addressed	Content / Standard #	Standard Description
Units 1, 2, 4	5-ESS2-2	Describe and graph the amounts of saltwater and fresh water in various reservoirs to provide evidence about the distribution of water on Earth

Units 1, 2	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.
Units 1, 2, 3, 4, 5	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
Units 1, 2, 3, 4, 5	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
Units 1, 2, 3	5-PS1-2	Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved
Units 3, 4	5-PS1-3	Make observations and measurements to identify materials based on their properties
Units 1, 2, 4	5-ESS1-2	Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.
Unit 3	5-LS1-1	Support an argument that plants get the materials they need for growth chiefly from air and water.
Units 1, 2, 3, 4, 5	RI.5.1	Quote accurately from a text and make relevant connections when explaining what the text says explicitly and when drawing inferences from the text.
Units 1, 2, 3, 4, 5	RI.5.2	Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.
Units 1, 2, 3, 4, 5	RI.5.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.
Units 1, 2, 3, 4, 5	RI.5.7	Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.
Units 1, 2, 3, 4, 5	RF.5.3	Know and apply grade-level phonics and word analysis skills in decoding and encoding words.

Units 1, 2, 3, 4, 5	RF.5.4	Read with sufficient accuracy and fluency to support comprehension.
Units 1, 2, 3, 4, 5	W.5.2	Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
Units 1, 2, 3, 4, 5	W.5.4	Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.
Units 1, 2, 3, 4, 5	SL.5.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.
Units 1, 2, 3, 4, 5	SL.5.4	Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.
Units 1, 2, 3, 4, 5	L.5.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
Units 1, 2, 3, 4, 5	L.5.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies.
Units 1, 2	6.1.5.CivicsPD.3	Explain how and why it is important that people from diverse cultures collaborate to find solutions to community, state, national, and global challenges.
Unit 1	6.1.5.CivicsDP.3	Describe the role of religious freedom and participatory government in various North American colonies.
Units 1, 2, 3	6.1.5.GeoPP.2	Describe how landforms, climate and weather, and availability of resources have impacted where and how people live and work in different regions of New Jersey and the United States.
Units 1, 2	6.1.5.GeoPP.5	Describe how the migration and settlement patterns of Native American groups impacted different regions of the Western Hemisphere.
Units 1, 5	6.1.5.GeoSV.1	Identify the maps or types of maps most appropriate for specific purposes, (e.g., to locate physical and/or human features in a community, to determine the shortest route from one town to another town, to compare the number of people living at two or more locations).

Units 1, 3, 5	6.1.5.GeoSV.4	Use a variety of geographic representations to describe the similarities and differences between places in New Jersey, the United States and the world (e.g., maps, data visualizations, graphs, diagrams, aerial and other photographs, GPS).
Units 1, 2	6.1.5.GeoGI.3	Use geographic tools to determine factors that impacted emigration, settlement patterns, and regional identities of the US colonies.
Unit 3	6.1.5.EconNM.7	Describe the role and relationship among households, businesses, laborers, and governments within the economic system.
Units 1, 2, 4	6.1.5.HistoryCC.12	Determine the roles of religious freedom and participatory government in various North American colonies.

Pacing Guide (All Dates are approximate based on the school calendar)

Unit/ Topic	Month (w/Approx number of Teaching Days)
Number and Operations in Base Ten Place Value	**September** (~19 days)
Number and Operations in Base Ten Multiply Whole Numbers Divide by One-Digit Divisors	**October** (~19 days)
Number and Operations in Base Ten Divide by One-Digit Divisors Divide by Two-Digit Divisors	**November** (~16 days)
Number and Operations in Base Ten Add and Subtract Decimals	**December** (~15 days)
Number and Operations in Base Ten Multiply and Divide Decimals	**January** (~18 days)
Number and Operations - Fractions Fractions and Decimals Add and Subtract Fractions	**February** (~18 days)
Number and Operations - Fractions Add and Subtract Fractions Multiply and Divide Fractions	**March** (~15-20 days)
Number and Operations - Fractions Multiply and Divide Fractions	**April** (~15-20 days)
Measurement and Data Measurement	**April** (~15-20 days)
Geometry Geometry	**May** (~18 days)
Operations and Algebraic Thinking Expressions and Patterns	**June** (~15 days)

Unit 1: Number and Operations in Base Ten
Chapter 1 - Place Value
Chapter 2 - Multiplying Whole Numbers
Chapter 3 - Divide by a One-Digit Divisor
Chapter 4 - Divide by a Two-Digit Divisor
Chapter 5 - Add and Subtract Decimals
Chapter 6 - Multiply and Divide Decimals

Step 1 – Desired Results: What do I want my students to learn?

Standards

NJSLS - 5.NBT.A, 5.NBT.A.1, 5.NBT.A.2, 5.NBT.A.3, 5.NBT.A.3a, 5.NBT.A.3b, 5.NBT.A.3c, 5.NBT.A.4, 5.NBT.B, 5.NBT.B.5, 5.NBT.B.6, 5.NBT.B.7, MP1, MP2, MP3, MP4, MP5, M P6, MP7, MP8
NJSLS Career Awareness, Exploration, Preparation, and Training
NJSLS Life Literacies and Key Skills
NJSLS Interdisciplinary Connections

Unit Big Ideas:
(What Fundamental Concepts Should be Learned during this Unit?)

- how the position of a digit in a number relates to its value
- strategies that can be used to multiply whole numbers
- strategies used to divide whole numbers
- strategies used to divide a 2-digit divisor
- how to use place value and properties to add and subtract decimals
- how multiplying and dividing decimals is similar to multiplying and dividing whole numbers

Objectives

Students will be able to…
- read and write whole numbers through millions
- compare and order whole numbers through millions
- use models to relate decimals to fractions
- represent fractions that name tenths, hundredths, and thousandths as decimals -understand place value in decimal numbers
- read and write decimals in standard, expanded, and word form
- compare decimals
- order whole numbers and decimals
- solve problems using the four-step plan
- find the prime factorization of numbers
- explore patterns in prime factorization
- use powers and exponents in expressions
- use basic facts and patterns to multiply multiples of 10, 100, and 1,000 mentally
- make a table to solve problems
- explore multiplication by using area models

- use the Distributive Property to multiply mentally
- estimate products by using rounding and compatible numbers
- multiply up to a 3-digit number by a 1-digit number
- multiply up to a 3-digit number by a 2-digit number
- understand how division and multiplication are related
- explore division using models -carry out division with and without remainders
- estimate quotients by using rounding and compatible numbers
- explore division with greater numbers using models
- divide using the Distributive Property and partial quotients
- divide up to a 4-digit number by a 1-digit number
- understand how to place the first digit in a quotient
- solve division problem that result in quotients that have zeroes
- explore how to interpret the remainder in a division problem
- interpret the remainder in a division problem
- identify extra or missing information needed to solve a problem
- estimate quotients with 2-digit divisors
- explore dividing by 2-digit divisors using models
- divide up to a 3-digit number by a 2-digit divisor
- adjust the quotient when the estimated digit is too high or too low
- divide greater numbers by multi-digit divisors
- solve problems by solving a simpler problem
- estimate products of whole numbers and decimals
- explore multiplying decimals by whole numbers
- multiply decimals by whole numbers
- explore using decimal models to multiply decimals
- multiply decimals by decimals
- multiply decimals by powers of ten
- solve problems by looking for a pattern
- use the Associative, Commutative, and Identity properties to multiply mentally
- estimate quotients of decimals and whole numbers
- explore dividing decimals by whole numbers
- divide decimals by whole numbers
- explore using models to divide decimals by whole numbers
- divide decimals by decimals
- divide decimals by powers of ten

Unit 2: Number and Operations- Fractions
Chapter 8 - Fractions and Decimals
Chapter 9 - Add and Subtract Fractions
Chapter 10 - Multiply and Divide Fractions

Step 1 – Desired Results: What do I want my students to learn?

Standards

NJSLS - 5.NF.A, 5.NF.A.1, 5.NF.A.2, 5.NF.B, 5.NF.B.3, 5.NF.B.4, 5.NF.B.4a, 5.NF.B.4b, 5.NF.B.5, 5.NF.B.5a, 5.NF.B.5b, 5.NF.B.6, 5.NF.B.7, 5.NF.B.7a, 5.NF.B.7b, 5.NF.B.7c, MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8

NJSLS Career Awareness, Exploration, Preparation, and Training
NJSLS Life Literacies and Key Skills
NJSLS Interdisciplinary Connections

Unit Big Ideas:
(What Fundamental Concepts Should be Learned during this Unit?)

- How are factors and multiples helpful in solving problems?
- How do equivalent fractions help to add and subtract fractions?
- Strategies that can be used to multiply and divide fractions

Objectives

Students will be able to…
- solve word problems by interpreting a fraction as division of the numerator by the denominator
- determine the common factors and greatest common factor of a set of numbers
- generate equivalent fractions by writing a fraction in simplest form
- guess, check, and revise to solve problems
- determine the common multiples and the least common multiple of a set of numbers
- compare fractions by using the least common denominator
- explore how to use models and fraction equivalents to write fractions as decimals
- use fraction equivalents to write fractions as decimals
- use number lines and benchmark fractions, such as ½, to round fractions
- add like fractions and solve word problems involving the addition of like fractions
- subtract like fractions and solve word problems involving the subtraction of like fractions
- use models to add unlike fractions
- add unlike fractions and solve word problems involving the addition of unlike fractions
- use models to subtract unlike fractions
- subtract unlike fractions and solve word problems involving the subtraction of unlike fractions
- solve problems by determining reasonable answers
- use number sense and benchmark fractions to estimate sums and differences
- explore adding mixed numbers using models
- add mixed numbers and solve word problems involving the addition of mixed numbers

- subtract mixed numbers and solve word problems involving the subtraction of mixed numbers
- use fraction equivalence to subtract with renaming
- explore how to find part of a number
- estimate products of fractions using compatible numbers and rounding
- explore multiplying whole numbers and fractions using models
- multiply whole numbers and fractions
- explore using models to multiply a fraction by a fraction
- multiply fractions
- multiply mixed numbers
- interpret multiplication of fractions as scaling
- divide whole numbers by unit fractions using models
- use bar diagrams to divide whole numbers by unit fractions
- use bar diagrams to divide unit fractions by whole numbers
- solve problems by drawing a diagram

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Unit 3: Measurement and Data
Chapter 11- Measurement

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Step 1 – Desired Results: What do I want my students to learn?

Standards

Unit Big Ideas:
(What Fundamental Concepts Should be Learned during this Unit?)

- How can you use measurement conversions to solve real world problems?

Objectives

Students will be able to…
- measure length to the nearest ½ inch and ¼ inch
- convert measurements of length within the customary system
- solve problems by using logical reasoning
- estimate the weight of objects and use a balance to measure the weight of objects
- convert measurements of weight within the customary system
- estimate and measure the capacity of liquids
- convert measurements of capacity within the customary system
- display measurement data in fractions of a unit on a line plot and solve real-world problems
- measure the length of objects to the nearest centimeter and millimeter
- convert measurements of length within the metric system
- estimate the mass of objects and use a balance to measure the objects
- convert measurements of mass within the metric system
- convert measurements of capacity within the metric system

Unit 4: Geometry
Chapter 12- Geometry

Step 1 – Desired Results: What do I want my students to learn?

Standards

NJSLS - 5.G.A, 5.G.A.1, 5.G.A.2, 5.G.B, 5.G.B.3, 5.G.B.4, MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8
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Unit Big Ideas:
(What Fundamental Concepts Should be Learned during this Unit?)

● How does geometry help solve problems in everyday life?

Objectives

Students will be able to…
● classify two-dimensional figures based on properties
● measure the sides and angles of triangles
● classify triangles based on attributes such as side measures and angle measures
● measure the sides and angles of quadrilaterals
● classify quadrilaterals based on attributes, such as congruent sides, parallel sides, and right angles
● build nets and explore properties of three-dimensional figures
● describe properties of three-dimensional figures
● use models to find the volume of rectangular prisms
● use volume formulas to find volume of rectangular prisms
● use models to build composite figures and find the volume of composite figures
● find the volume of composite figures by relating volume to the operations of multiplication and addition
● make a model to solve problems

Unit 5: Operations and Algebraic Thinking
Chapter 7 - Expressions and Patterns

Step 1 – Desired Results: What do I want my students to learn?

Standards

NJSLS - 5.OA.A, 5.OA.A.1, 5.OA.A.2, 5.OA.B, 5.OA.B.3, MP1, MP2, MP3, MP4, MP5, MP6, MP7, MP8
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NJSLS Interdisciplinary Connections

Unit Big Ideas:
(What Fundamental Concepts Should be Learned during this Unit?)

- How are patterns used to solve problems?

Objectives

Students will be able to…
- write and evaluate numerical expressions
- use the order of operations to evaluate expressions
- use numbers and operation symbols to write verbal phrases as numerical expressions
- solve problems by working backward
- generate numerical patterns and identify pattern relationships
- identify and extend patterns and sequences
- plot points on a grid to solve real-world problems
- graph points on a coordinate plane to solve real-world and mathematical problems
- graph ordered pairs on a coordinate plane to solve problems involving two numerical problems

Please contact content supervisor for any questions.