Math
Grade 4

Course Description:

The grade 4 mathematics curriculum will be taught utilizing the Concrete Pictorial Abstract model of instruction. Starting with Concrete, students will utilize manipulatives for hands-on learning. Next with Pictorial, students will represent concepts visually using models. Lastly, students will utilize numbers and symbols to solidify their understanding of the concept. The curriculum is aligned with the New Jersey Student Learning Standards. Those standards focus on the following areas: place value, multiplication, division, fractions, and decimals.

The curriculum begins with place value where the students will expand on their understanding through the millions. Next, comes multiplication and division where the students will develop understanding with multi-digit multiplication and division to find quotients involving multi-digit dividends. The next in the curriculum is fractions and it ends with decimals. The students will develop an understanding of addition and subtraction of fractions with like denominators and multiplication of fractions by whole numbers. The calendar math unit will go throughout the year with each month focusing on the geometry and measurement and data standards. The students will understand that geometric figures can be analyzed and classified based on their attributes.

Course Sequence:

Unit Title	Pacing
Unit 1: Place Value	29 days
Unit 2: Multiplication	41 days
Unit 3: Division	31 days
Unit 4: Fractions	40 days
Unit 5: Decimals	16 days
Unit 6: Calendar Math	Full year
State Testing, SGO, Re-Teach, Field Trips, Assemblies, etc	26 days

Prerequisite: Grade 3 Math

Place Value Unit 1 Overview		
Content Area: Math		
Unit Title: Unit 1 Place Value		
Grade Level: 4		
Unit Summary: Students will be able to generalize their understanding of place value through 1,000,000. There will be an understanding of the relative sizes of numbers in each place value to recognize that a digit in one place represents ten times what it represents in the place to its right. Students will be able to use their general understanding of place value to read and write multi-digit numbers in standard, written, expanded form as well as expanded notation. Finally, students will use place value understanding and properties of operations to perform multi-digit arithmetic such as addition and subtraction.		

Place Value Unit 1 Standards		
Standards (Content and Technology)**:**		
CPI#:	**Statement:**	
NJSLS Standards		
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. For example, recognize that $700 \div 70 = 10$ by applying concepts of place value and division	
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	Fluently add and subtract multi-digit whole numbers using the standard algorithm.	
SMP.1	Make sense of problems and persevere in solving them.	
SMP.2	Reason abstractly and quantitatively.	
SMP.3	Construct viable arguments and critique the reasoning of others.	
SMP.4	Model with mathematics.	
SMP.5	Use appropriate tools strategically.	
SMP.6	Attend to precision.	
SMP.7	Look for and make use of structure.	
SMP.8	Look for and express regularity in repeated reasoning.	
21st century themes and skills		
9.1.4.E.2	Apply comparison shopping skills to purchasing decisions.	
Educational Technology Standards		
8.1.5.A.1	Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.	
8.1.5.A.3	Use a graphic organizer to organize information about problem or issue.	
Career Ready Practices		
CRP2	Apply appropriate academic and technical skills.	
CRP4	Communicate clearly and effectively and with reason.	
CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.	
CRP10	Plan education and career paths aligned to personal goals.	
CRP11	Use technology to enhance productivity	
CRP12	Work productively in teams while using cultural global competence	
Interdisciplinary Connection		
NJSLSA.SL1	Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.	
NJSLSA.SL4	Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.	
W.4.4	Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.	

Unit Essential Question(s):	Unit Enduring Understandings:
- How can you describe the value of a digit? - How can you read and write numbers through the millions? - How can you compare and order numbers? - How can you round numbers? - How can you estimate an answer? - How can you rename a whole number? - How can you add or subtract whole numbers?	Students will use patterns in place value to deepen their understanding of how to rename a whole number, compare and order numbers, and add and subtract whole numbers. Estimation will be used to check the reasonableness of an answer.

Unit Learning Targets/Objectives:
Students will…

- Read and write whole numbers through the millions.
- Demonstrate understanding of a digit in one place represents ten times what it represents in the place to its right.
- Read and write numbers using standard form, word form, expanded form, and expanded notation.
- Decompose and rename whole numbers.
- Students will be able to compare and order whole numbers using <, >, or = symbols.
- Students will be able to round multi-digit whole numbers to any place.
- Add and subtract multi-digit whole numbers.
- Utilize addition and subtraction skills to solve word problems.
- Create a model of 1 million.

Evidence of Learning

Formative Assessments: Entrance and exit slips, individual dry erase boards practice, small group work, homework collection, participation, and teacher observation.
Summative/Benchmark Assessment(s): Quizzes throughout the unit and end of unit test.
Alternative Assessments: Modified versions of formative and summative assessments and project-based assessments.
Resources/Materials: Curriculum binders and calendars, math textbook, SMART board, document camera, online resources (i.e. Reflex math, Xtra Math, IXL, Think Central), and math manipulatives such as base ten blocks.

Modifications:

- Special Education Student/504 -
    - Allow errors
    - Rephrase questions, directions, and explanations
    - Allow extended time to answer questions, and permit drawing, as an explanation
    - Accept participation at any level, even one word
    - Consult with Case Managers and follow IEP and 504 accommodations/modifications
- English Language Learners -
    - Assign a buddy, same language or English speaking
    - Allow errors in speaking
    - Rephrase questions, directions, and explanations
    - Allow extended time to answer questions
    - Accept participation at any level, even one word

- At-Risk Students -
    - Provide extended time to complete tasks
    - Consult with Guidance Counselors and follow I&RS procedures/action plans
    - Consult with classroom teacher(s) for specific behavior interventions
    - Provide rewards as necessary
- Gifted and Talented Students -
    - Provide extension activities
    - Build on students' intrinsic motivations
    - Consult with parents to accommodate students' interests in completing tasks at their level of engagement

Lesson Plans-Suggested Pacing

Lesson Name/Topic	Lesson Objective(s)	Time frame (day(s) to complete)
Place Value	Students will be able to - Read and write whole numbers through the millions. - Demonstrate understanding of a	11 days

	digit in one place represents ten times what it represents in the place to its right. ● Read and write numbers using standard form, word form, expanded form, and expanded notation. ● Decompose and rename whole numbers.	
Compare and Order	Students will be able to compare and order whole numbers using <, >, or = symbols.	2 days
Rounding	Students will be able to round multi-digit whole numbers to any place.	2 days
Add and Subtract	Students will be able to ● Add and subtract multi-digit whole numbers. ● Utilize addition and subtraction skills to solve word problems.	6 days
Quiz	Students will be able to add and subtract multi-digit whole numbers.	2 days
Unit 1 Test	Students will be able to demonstrate knowledge of the above objectives.	2 days
Build a Million	Students will be able to create a model of 1 million.	4 days
Teacher Notes: Build a million activity to hang in the hallway		
Additional Resources: The read aloud "How Much is a Million?" by David M. Schwartz and base-ten blocks for rounding.		

Multiplication Unit 2 Overview

Content Area: Math

Unit Title: Unit 2 Multiplication

Grade Level: 4

Unit Summary: Students will apply their understandings of models of multiplication, place value, and properties of operations to compute products of multi-digit whole numbers. Students will accurately apply appropriate methods to estimate or mentally calculate products. They will develop a fluency with procedures for multiplying whole numbers such as using area model, partial products, or the traditional method and will be able to explain why the procedures work based on place value and properties of operations. Students will then be able to take these procedures and apply their understanding to solve multi-step word problems. Students will be able to gain familiarity with factors and multiples to generate and analyze patterns. Finally, students will be able to use their knowledge of multiplication to solve for the area and perimeter of rectangles.

Multiplication Unit 2 Standards

Standards (Content and Technology)**:**

CPI#:	Statement:
NJSLS Standards	
4.OA.A.1	Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 \times 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.
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 multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
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.NBT.B.5	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.MD.A.3	Apply the area and perimeter formulas for rectangles in real world and mathematical problems. *For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.*
SMP.1	Make sense of problems and persevere in solving them.
SMP.2	Reason abstractly and quantitatively.
SMP.3	Construct viable arguments and critique the reasoning of others.
SMP.4	Model with mathematics.
SMP.5	Use appropriate tools strategically.
SMP.6	Attend to precision.
SMP.7	Look for and make use of structure.
SMP.8	Look for and express regularity in repeated reasoning.
21st century themes and skills	
9.1.4.E.2	Apply comparison shopping skills to purchasing decisions.
Educational Technology Standards	
8.1.5.A.1	Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.
8.1.5.A.3	Use a graphic organizer to organize information about problem or issue.
Career Ready Practices	
CRP2	Apply appropriate academic and technical skills.
CRP4	Communicate clearly and effectively and with reason.

CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.
CRP10	Plan education and career paths aligned to personal goals.
CRP11	Use technology to enhance productivity
CRP12	Work productively in teams while using cultural global competence
Interdisciplinary Connection	
NJSLSA.SL1	Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
NJSLSA.SL4	Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
W.4.4	Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.

Unit Essential Question(s):	**Unit Enduring Understandings:**
- How are factors and multiples related? - How can you tell whether a number is prime or composite? - How can you model multiplication comparisons? - How does understanding place value help you multiply tens, hundreds, and thousands? - How can you estimate products by rounding and determine if exact answers are reasonable? - How can you use mental math and properties to help you multiply numbers? - How can you multiply by a 1-digit number using area model, partial products, and traditional methods? - How can you multiply by a 2-digit number using area model, partial products, and traditional methods? - How can you use formulas to find the perimeter and area of a rectangle? - How can you find the area of composite figures? - How can you find the missing dimension of a rectangle when given the perimeter or area?	Students will use their knowledge of place value and basic fact fluency to solve problems involving tens, hundreds, and thousands. They will use rounding to estimate the reasonableness of an exact answer. When solving multi-digit multiplication problems, the students will explore different strategies to aid in their understanding. They will make use of structure to solve for perimeter and area and extend their knowledge to find missing dimensions and the area of composite figures.

Unit Learning Targets/Objectives:
Students will…

- Relate multiplication equations and comparison statements.
- Model and represent the concept of multiplication in three ways.
- List the multiples and factors of a given number.
- Identify the properties of multiplication.
- Multiply by tens, hundreds, and thousands.
- Estimate products to determine reasonableness of answer.
- Multiply two-digit numbers by one-digit numbers, three-digit numbers by one-digit numbers, and two-digit numbers by two digit numbers using the area model, partial products, and traditional methods.
- Solve multiplication word problems using the area model, partial products, and traditional methods.
- Create all possible arrays for the numbers 1-20.
- Identify prime and composite numbers from 1 to 100.
- Solve for the perimeter and area of rectangles and squares.
- Solve for the perimeter and area of irregular figures.
- Utilize area and perimeter to solve for a missing dimension.
- Utilize area and perimeter to solve real-world application problems.

Evidence of Learning

Formative Assessments: Entrance and exit slips, individual dry erase boards practice, small group work, homework collection, multiplication flashcards, participation, and teacher observation.

Summative/Benchmark Assessment(s): Quizzes throughout the unit and end of unit test.

Alternative Assessments: Modified versions of formative and summative assessments and project-based assessments.

Resources/Materials: Curriculum binders and calendars, math textbook, SMART board, document camera, online resources (i.e. Reflex math, Xtra Math, IXL, Think Central), and math manipulatives such as counters, cubes, and toothpicks.

Modifications:

- Special Education Student/504 -
    - Allow errors
    - Rephrase questions, directions, and explanations
    - Allow extended time to answer questions, and permit drawing, as an explanation
    - Accept participation at any level, even one word
    - Consult with Case Managers and follow IEP and 504 accommodations/modifications
- English Language Learners -
    - Assign a buddy, same language or English speaking
    - Allow errors in speaking
    - Rephrase questions, directions, and explanations
    - Allow extended time to answer questions
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- At-Risk Students -
    - Provide extended time to complete tasks
    - Consult with Guidance Counselors and follow I&RS procedures/action plans
    - Consult with classroom teacher(s) for specific behavior interventions
    - Provide rewards as necessary
- Gifted and Talented Students -
    - Provide extension activities
    - Build on students' intrinsic motivations
    - Consult with parents to accommodate students' interests in completing tasks at their level of engagement

Lesson Plans-Suggested Pacing		
Lesson Name/Topic	**Lesson Objective(s)**	**Time frame (day(s) to complete)**
Introduction	Students will be able to ● Relate multiplication equations and comparison statements ● Model and represent the concept of multiplication in three ways ● List the multiples and factors of a given number	3 days
Properties	Students will be able to identify the properties of multiplication.	3 days
Estimation	Students will be able to ● Multiply by tens, hundreds, and thousands ● Estimate products to determine reasonableness of answer	3 days
Review and Quiz	Students will be able to demonstrate knowledge of the above objectives.	2 days
Multiplication	Students will be able to multiply two-digit numbers by one-digit numbers, three-digit numbers by one-digit numbers, and two-digit numbers by two digit numbers using the area model, partial products, and	10 days

	traditional methods.	
Multiplication	Students will be able to solve multiplication word problems using the area model, partial products, and traditional methods.	3 days
Review and Quiz	Students will be able to demonstrate knowledge of the above objectives.	2 days
Arrays	Students will be able to create all possible arrays for the numbers 1-20.	4 days
Prime and Composite	Students will be able to identify prime and composite numbers from 1 to 100.	2 days
Perimeter and Area	Students will be able to ● Solve for the perimeter and area of rectangles and squares ● Solve for the perimeter and area of irregular figures ● Utilize area and perimeter to solve for a missing dimension ● Utilize area and perimeter to solve real-world application problems	7 days
Review and Quiz	Students will be able to demonstrate knowledge of the above objectives.	2 days

Teacher Notes: Use cubes to model groups of things. Make arrays for the numbers 1-20. When teaching multi-digit multiplication, teach area model first, then partial products, and traditional last. Utilize toothpicks to model perimeter of a rectangle. Read aloud book for area and perimeter.

Additional Resources: Cubes, counters, chart paper, and toothpicks. Read aloud book "Spaghetti and Meatballs for All!" by Marilyn Burns.

Division Unit 3 Overview

Content Area: Math

Unit Title: Unit 3 Division

Grade Level: 4

Unit Summary: Students will be able to apply their understanding of models for division, place value, and properties of operations, as well as the relationship between multiplication and division as they use procedures to find quotients with multi-digit dividends. They will accurately apply appropriate methods to estimate and mentally calculate quotients and will interpret remainders based upon the context of a word problem.

Division Unit 3 Standards

Standards (Content and Technology)**:**

CPI#:	Statement:
NJSLS Standards	
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, and/or area models.
SMP.1	Make sense of problems and persevere in solving them.
SMP.2	Reason abstractly and quantitatively.
SMP.3	Construct viable arguments and critique the reasoning of others.
SMP.4	Model with mathematics.
SMP.5	Use appropriate tools strategically.
SMP.6	Attend to precision.
SMP.7	Look for and make use of structure.
SMP.8	Look for and express regularity in repeated reasoning.
21ˢᵗ century themes and skills	
9.1.4.E.2	Apply comparison shopping skills to purchasing decisions.
Educational Technology Standards	
8.1.5.A.1	Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.
8.1.5.A.3	Use a graphic organizer to organize information about problem or issue.
Career Ready Practices	
CRP2	Apply appropriate academic and technical skills.
CRP4	Communicate clearly and effectively and with reason.
CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.
CRP10	Plan education and career paths aligned to personal goals.
CRP11	Use technology to enhance productivity
CRP12	Work productively in teams while using cultural global competence
Interdisciplinary Connection	
NJSLSA.SL1	Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
NJSLSA.SL4	Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
W.4.4	Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.

Unit Essential Question(s):	Unit Enduring Understandings:
- How can you tell whether one number is a factor of another number? - How can you use fair share and equal groups to model division? - How can you divide numbers through the thousands by whole numbers to ten?	Students will attend to precision when dividing multi-digit dividends by 1-digit divisors. They will also understand what remainders represent and how to interpret them in order to give accurate solutions to problems.

- How can you use multiples and compatible numbers to estimate quotients?
- How can you use models to divide whole numbers that do not divide evenly?
- How can you use remainders in division problems?
- How can you use tower up and traditional methods to divide multi-digit dividends by 1-digit divisors?

Unit Learning Targets/Objectives:
Students will…

- Utilize divisibility rules to determine which numbers a given number is divisible by.

- Model and represent division as fair share and equal groups.

- Identify the different formats of division.

- Utilize models to divide whole numbers that do not divide evenly.

- Solve word problems and interpret the remainders based upon the context of the problem.

- Divide tens, hundreds, and thousands by whole numbers from 1-10.

- Estimate quotients using multiples and compatible numbers.

- Divide three-digit and four-digit dividends by one-digit divisors using the tower up and traditional long division methods.

- Solve division word problems using the tower up and traditional long division methods.

Evidence of Learning

Formative Assessments: Entrance and exit slips, individual dry erase boards practice, small group work, homework collection, division flashcards, participation, and teacher observation.

Summative/Benchmark Assessment(s): Quizzes throughout the unit and end of unit test.

Alternative Assessments: Modified versions of formative and summative assessments and project-based assessments.

Resources/Materials: Curriculum binders and calendars, math textbook, SMART board, document camera, online resources (i.e. Reflex math, Xtra Math, IXL, Think Central), and math manipulatives such as base ten blocks.

Modifications:

- Special Education Student/504 -
  - Allow errors
  - Rephrase questions, directions, and explanations
  - Allow extended time to answer questions, and permit drawing, as an explanation
  - Accept participation at any level, even one word
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- English Language Learners -
  - Assign a buddy, same language or English speaking
  - Allow errors in speaking
  - Rephrase questions, directions, and explanations
  - Allow extended time to answer questions
  - Accept participation at any level, even one word

- At-Risk Students -
  - Provide extended time to complete tasks
  - Consult with Guidance Counselors and follow I&RS procedures/action plans
  - Consult with classroom teacher(s) for specific behavior interventions
  - Provide rewards as necessary
- Gifted and Talented Students -
  - Provide extension activities
  - Build on students' intrinsic motivations
  - Consult with parents to accommodate students' interests in completing tasks at their level of engagement

Lesson Plans-Suggested Pacing

Lesson Name/Topic	Lesson Objective(s)	Time frame (day(s) to complete)
Divisibility	Students will be able to utilize divisibility rules to determine which numbers a given number is divisible by	3 days
Introduction	Students will be able to	3 days

	● Model and represent division as fair share and equal groups ● Identify the different formats of division	
Remainders	Students will be able to ● Utilize models to divide whole numbers that do not divide evenly ● Solve word problems and interpret the remainders based upon the context of the problem	5 days
Estimation	Students will be able to ● Divide tens, hundreds, and thousands by whole numbers from 1-10 ● Estimate quotients using multiples and compatible numbers	4 days
Review and Quiz	Students will be able to demonstrate knowledge of the above objectives.	3 days
Division	Students will be able to divide three-digit and four-digit dividends by one-digit divisors using the tower up and traditional long division methods.	7 days
Division	Students will be able to solve division word problems using the tower up and traditional long division methods.	3 days
Review and Quiz	Students will be able to demonstrate knowledge of the above objectives.	3 days
Teacher Notes: Teach tower up and traditional long division methods for division.		
Additional Resources: Read aloud book "A Remainder of One" by Elinor J. Pinczes. Read aloud book "Divide and Ride" by Stuart J. Murphy. Base-ten blocks to model tower up.		

Fractions Unit 4 Overview	
Content Area: Math	
Unit Title: Unit 4 Fractions	
Grade Level: 4	
Unit Summary: Students will develop an understanding of fraction equivalence and operations with fractions. Students will recognize that two different fractions can be equal and they will develop methods for generating and recognizing equivalent fractions through visual fraction models and algorithms. Students will extend previous understandings to compare two fractions with different numerators and denominators using strategies such as benchmarking to ½ and creating common denominators and numerators. Students will understand addition and subtraction of fractions with common denominators. Finally, students will use their understanding of fractions and their understanding of multiplication to multiply a fraction by a whole number.	
Fractions Unit 4 Standards	
Standards (Content and Technology)**:**	
CPI#:	**Statement:**
NJSLS Standards	
4.NF.A.1	Explain why a fraction a/b is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.
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 1/2. Recognize that

	comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.
4.NF.B.3a	Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.
4.NF.B.3b	Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. *Examples: 3/8 = 1/8 + 1/8 + 1/8 ; 3/8 = 1/8 + 2/8 ; 2 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.*
4.NF.B.3c	Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.
4.NF.B.3d	Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.
4.NF.B.4a	Understand a fraction *a/b* as a multiple of 1/*b*. *For example, use a visual fraction model to represent 5/4 as the product 5 × (1/4), recording the conclusion by the equation 5/4 = 5 × (1/4).*
4.NF.B.4b	Understand a multiple of *a/b* as a multiple of 1/*b*, and use this understanding to multiply a fraction by a whole number. *For example, use a visual fraction model to express 3 × (2/5) as 6 × (1/5), recognizing this product as 6/5. (In general, n × (a/b) = (n × a)/b.)*
4.NF.B.4c	Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. *For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*
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 10 and 100.[4] *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.*
4.MD.B.4	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. *For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.*
SMP.1	Make sense of problems and persevere in solving them.
SMP.2	Reason abstractly and quantitatively.
SMP.3	Construct viable arguments and critique the reasoning of others.
SMP.4	Model with mathematics.
SMP.5	Use appropriate tools strategically.
SMP.6	Attend to precision.
SMP.7	Look for and make use of structure.
SMP.8	Look for and express regularity in repeated reasoning.
21st century themes and skills	
9.1.4.E.2	Apply comparison shopping skills to purchasing decisions.
Educational Technology Standards	
8.1.5.A.1	Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.
8.1.5.A.3	Use a graphic organizer to organize information about problem or issue.
Career Ready Practices	
CRP2	Apply appropriate academic and technical skills.
CRP4	Communicate clearly and effectively and with reason.
CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.
CRP10	Plan education and career paths aligned to personal goals.
CRP11	Use technology to enhance productivity
CRP12	Work productively in teams while using cultural global competence
Interdisciplinary Connection	
NJSLSA.SL1	Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
NJSLSA.SL4	Present information, findings, and supporting evidence such that listeners can follow the line of

	reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
W.4.4	Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.

Unit Essential Question(s):
- How can you use models to show equivalent fractions?
- How can you write a fraction as an equivalent fraction in simplest form?
- How can you compare fractions with common denominators or common numerators?
- How can you use benchmarks to compare fractions?
- How can you write a pair of fractions as fractions with common denominators?
- How can you order fractions?
- When can you add or subtract parts of a whole?
- How can you write a fraction as a sum of fractions with the same denominator?
- How can you add and subtract fractions with like denominators using models?
- How can you rename mixed numbers as fractions greater than 1 and rename fractions greater than 1 as a mixed number?
- How can you add and subtract mixed numbers with like denominators?
- How can you rename a mixed number to help you subtract?
- Can you write a fraction as a product of a whole number and a unit fraction?
- How can you write a product of a whole number and a fraction as a product of a whole number and unit fraction?
- How can you use a model to multiply a fraction by a whole number?
- How can you make and interpret line plots with fractional data?

Unit Enduring Understandings:
- Students will use visual models and algorithms to find equivalent fractions. They will learn to reason about fractions by having the understanding of the size of the fraction piece to compare and order fractions. Students will reason about fractions to compute addition and subtraction problems of fractions and mixed numbers. Students will create area representations and number lines to understand multiplying a whole number by a fraction.

Unit Learning Targets/Objectives:
Students will…
- Model fractions of a whole and model one whole when given a fraction.
- Locate fractions on a number line.
- Model that equivalent fractions have the same location on the number line.
- Model that equivalent fractions cover the same fractional area of the whole.
- Compare fractions with common denominators and common numerators.
- Compare fractions by utilizing benchmark to one-half strategy and by finding either a common denominator or common numerator.
- Simplify fractions to lowest term.
- Identify improper fractions and mixed numbers.
- Convert between improper fractions and mixed numbers.
- Add and subtraction fractions with common denominators.
- Solve word problems by adding and subtracting fractions with common denominators.
- Multiply whole numbers and fractions.

- Solve word problems by multiplying whole numbers and fractions.
- Interpret and create line plots with fractional data.

Evidence of Learning

Formative Assessments: Entrance and exit slips, individual dry erase boards practice, small group work, homework collection, participation, and teacher observation.

Summative/Benchmark Assessment(s): Quizzes throughout the unit and end of unit test.

Alternative Assessments: Modified versions of formative and summative assessments and project-based assessments.

Resources/Materials: Curriculum binders and calendars, math textbook, SMART board, document camera, online resources (i.e. Reflex math, Xtra Math, IXL, Think Central), and math manipulatives such as cubes, fraction strips, pattern blocks, and fraction tiles.

Modifications:

- Special Education Student/504 -
  - Allow errors
  - Rephrase questions, directions, and explanations
  - Allow extended time to answer questions, and permit drawing, as an explanation
  - Accept participation at any level, even one word
  - Consult with Case Managers and follow IEP and 504 accommodations/modifications
- English Language Learners -
  - Assign a buddy, same language or English speaking
  - Allow errors in speaking
  - Rephrase questions, directions, and explanations
  - Allow extended time to answer questions
  - Accept participation at any level, even one word

- At-Risk Students -
  - Provide extended time to complete tasks
  - Consult with Guidance Counselors and follow I&RS procedures/action plans
  - Consult with classroom teacher(s) for specific behavior interventions
  - Provide rewards as necessary
- Gifted and Talented Students -
  - Provide extension activities
  - Build on students' intrinsic motivations
  - Consult with parents to accommodate students' interests in completing tasks at their level of engagement

Lesson Plans-Suggested Pacing

Lesson Name/Topic	Lesson Objective(s)	Time frame (day(s) to complete)
Introduction	Students will be able to model fractions of a whole and model one whole when given a fraction.	2 days
Number Line	Students will be able to locate fractions on a number line.	2 days
Equivalent Fractions	Students will be able to ● Model that equivalent fractions have the same location on the number line ● Model that equivalent fractions cover the same fractional area of the whole	5 days
Review and Quiz	Students will be able to demonstrate knowledge of the above objectives.	2 days
Compare	Students will be able to ● Compare fractions with common denominators ● Compare fractions with common numerators	7 days

	● Compare fractions by utilizing benchmark to one-half strategy ● Compare fractions by finding either a common denominator or common numerator	
Simplify	Students will be able to simplify fractions to lowest term.	2 days
Review and Quiz	Students will be able to demonstrate knowledge of the above objectives.	2 days
Types of Fractions	Students will be able to ● Identify improper fractions and mixed numbers ● Convert between improper fractions and mixed numbers	2 days
Add and Subtract	Students will be able to ● Add and subtraction fractions with common denominators ● Solve word problems by adding and subtracting fractions with common denominators	8 days
Multiplication	Students will be able to ● Multiply whole numbers and fractions ● Solve word problems by multiplying whole numbers and fractions	3 days
Review and Quiz	Students will be able to demonstrate knowledge of the above objectives.	2 days
Line Plots	Students will be able to interpret and create line plots with fractional data.	3 days
Teacher Notes: Utilize the cubes for the introduction and fraction strips to teach that equivalent fractions have the same location on the number line. Create a reference card and use pattern blocks to teach that equivalent fractions cover the same fractional area.Utilize fraction tiles to teach comparing fractions.		
Additional Resources: Read aloud book "Jump, Kangaroo, Jump!" by Stuart J. Murphy. Cubes, fraction strips, pattern blocks, and fraction tiles. EAI Education Virtual Fraction Tiles for the SMART board and EAI Education Virtual Pattern Blocks for the SMART board.		

Decimals Unit 5 Overview	
Content Area: Math	
Unit Title: Unit 5 Decimals	
Grade Level: 4	
Unit Summary: Students will understand decimal place value to the hundredths place and will be able to use decimal notation for fractions with denominators of 10 or 100 to write a fraction as a decimal. Students will also be able to understand decimal notation in order to compare decimals to the hundredths place by reasoning about their size. Finally, students will be able to add and subtract decimal in regards to word problems involving distances, liquid volume, masses of objects, and money.	

Decimals Unit 5 Standards	
Standards (Content and Technology)**:**	
CPI#:	**Statement:**
NJSLS Standards	
4.NF.C.6	Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.
4.NF.C.7	Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.
4.MD.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. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.
SMP.1	Make sense of problems and persevere in solving them.
SMP.2	Reason abstractly and quantitatively.
SMP.3	Construct viable arguments and critique the reasoning of others.
SMP.4	Model with mathematics.
SMP.5	Use appropriate tools strategically.
SMP.6	Attend to precision.
SMP.7	Look for and make use of structure.
SMP.8	Look for and express regularity in repeated reasoning.
21st century themes and skills	
9.1.4.E.2	Apply comparison shopping skills to purchasing decisions.
Educational Technology Standards	
8.1.5.A.1	Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.
8.1.5.A.3	Use a graphic organizer to organize information about problem or issue.
Career Ready Practices	
CRP2	Apply appropriate academic and technical skills.
CRP4	Communicate clearly and effectively and with reason.
CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.
CRP10	Plan education and career paths aligned to personal goals.
CRP11	Use technology to enhance productivity
CRP12	Work productively in teams while using cultural global competence
Interdisciplinary Connection	
NJSLSA.SL1	Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
NJSLSA.SL4	Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
W.4.4	Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.

Unit Essential Question(s):	Unit Enduring Understandings:
- How can you record tenths and hundredths as fractions and decimals? - How can you relate fractions, decimals, and money? - How can you add fractions when the denominators are 10 or 100? - How can you compare decimals? - How can you order decimals? - How can you add and subtract decimals?	Students will interpret and represent decimals fractions with denominators of 10 and 100. They will utilize visuals and number lines to build relationships between decimals and their corresponding fractions.

Unit Learning Targets/Objectives:

Students will…

- Record tenths and hundredths as fractions and decimals.
- Add fractions with denominators of 10 and 100.
- Compare decimals to the hundredths place.
- Locate decimals on a number line.
- Add and subtract decimals.
- Solve word problems by adding and subtracting decimals.

Evidence of Learning

Formative Assessments: Entrance and exit slips, individual dry erase boards practice, small group work, homework collection, participation, and teacher observation.

Summative/Benchmark Assessment(s): Quizzes throughout the unit and end of unit test.

Alternative Assessments: Modified versions of formative and summative assessments and project-based assessments.

Resources/Materials: Curriculum binders and calendars, math textbook, SMART board, document camera, online resources (i.e. Reflex math, Xtra Math, IXL, Think Central), and math manipulatives such as base ten blocks.

Modifications:

- Special Education Student/504 -
  - Allow errors
  - Rephrase questions, directions, and explanations
  - Allow extended time to answer questions, and permit drawing, as an explanation
  - Accept participation at any level, even one word
  - Consult with Case Managers and follow IEP and 504 accommodations/modifications
- English Language Learners -
  - Assign a buddy, same language or English speaking
  - Allow errors in speaking
  - Rephrase questions, directions, and explanations
  - Allow extended time to answer questions
  - Accept participation at any level, even one word

- At-Risk Students -
  - Provide extended time to complete tasks
  - Consult with Guidance Counselors and follow I&RS procedures/action plans
  - Consult with classroom teacher(s) for specific behavior interventions
  - Provide rewards as necessary
- Gifted and Talented Students -
  - Provide extension activities
  - Build on students' intrinsic motivations
  - Consult with parents to accommodate students' interests in completing tasks at their level of engagement

Lesson Plans-Suggested Pacing

Lesson Name/Topic	Lesson Objective(s)	Time frame (day(s) to complete)
Decimals and Fractions	Students will be able to record tenths and hundredths as fractions and decimals.	3 days
Add Fractions	Students will be able to add fractions with denominators of 10 and 100.	2 days
Compare	Students will be able to compare decimals	2 days

	to the hundredths place.	
Number Line	Students will be able to locate decimals on a number line.	3 days
Add and Subtract	Students will be able to ● Add and subtract decimals ● Solve word problems by adding and subtracting decimals.	3 days
Review and Quiz	Students will be able to demonstrate knowledge of the above objectives.	3 days
Teacher Notes: Utilize base-ten blocks to model tenths and hundredths.		
Additional Resources: Base-ten blocks		

Calendar Math Unit 6 Overview	
Content Area: Math	
Unit Title: Unit 6 Calendar Math	
Grade Level: 4	
Unit Summary: The purpose of this unit is for students to review and preview mathematical fourth grade topics. Students will be able to describe, analyze, compare, and classify two-dimensional and three-dimensional shapes. Students will deepen their understanding of properties of both two-dimensional and three-dimensional shapes. They will also be able to draw and identify lines and angles as well as classify shapes by their properties of lines and angles. Finally, students will solve problems involving measurement and convert units of measurement from a larger unit to a smaller unit.	
Calendar Math Unit 6 Standards	
Standards (Content and Technology)**:**	
CPI#:	**Statement:**
NJSLS Standards	
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 10 and 100.[4] *For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100.*
4.NF.C.6	Use decimal notation for fractions with denominators 10 or 100. *For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.*
4.MD.A.1	Know relative sizes of measurement units within one system of units including km, m, cm. mm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two column table. *For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36), ...*
4.MD.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. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.
4.MD.C.5	Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement
4.MD.C.5a	An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles.
4.MD.C.5b	An angle that turns through *n* one-degree angles is said to have an angle measure of *n* degrees.
4.MD.C.6	Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
4.MD.C.7	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.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.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. For example, given the rule "Add 3" and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.
SMP.1	Make sense of problems and persevere in solving them.

SMP.2	Reason abstractly and quantitatively.
SMP.3	Construct viable arguments and critique the reasoning of others.
SMP.4	Model with mathematics.
SMP.5	Use appropriate tools strategically.
SMP.6	Attend to precision.
SMP.7	Look for and make use of structure.
SMP.8	Look for and express regularity in repeated reasoning.
21st century themes and skills	
9.1.4.E.2	Apply comparison shopping skills to purchasing decisions.
Educational Technology Standards	
8.1.5.A.1	Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.
8.1.5.A.3	Use a graphic organizer to organize information about problem or issue.
Career Ready Practices	
CRP2	Apply appropriate academic and technical skills.
CRP4	Communicate clearly and effectively and with reason.
CRP8	Utilize critical thinking to make sense of problems and persevere in solving them.
CRP10	Plan education and career paths aligned to personal goals.
CRP11	Use technology to enhance productivity
CRP12	Work productively in teams while using cultural global competence
Interdisciplinary Connection	
NJSLSA.SL1	Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
NJSLSA.SL4	Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
W.4.4	Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.

Unit Essential Question(s):	Unit Enduring Understandings:
- How can you identify and draw points, lines, line segments, rays, and angles? - How can you identify and draw parallel lines and perpendicular lines? - How can you classify triangles by their sides and angles? - How can you sort and classify quadrilaterals? - How can you check if a shape has a line of symmetry? - How do you find lines of symmetry? - How can you sort and classify 3 dimensional shapes? - How can you use a protractor to measure and draw angles? - How can you use benchmarks to understand the relative sizes of measurement units. - How can you use models to compare customary units of length? - How can you use models to compare customary units of weight? - How can you use models to compare customary units of liquid capacity? - How can you use models to compare metric units of length? - How can you use models to compare metric units of	The students will identify attributes of 2 dimensional and 3 dimensional shapes in order to classify them. They will reason abstractly and quantitatively to measure angles, length, weight, and liquid capacity of both the customary and metric systems.

mass?
- How can you use models to compare metric units of liquid capacity?
- How can you use a model to compare units of time?
- How can you use the strategy draw a diagram to solve elapsed time problems?

Unit Learning Targets/Objectives:
Students will…
- Compare and analyze attributes of parallel, intersecting, and perpendicular lines, rays, and line segments.
- Compare and analyze attributes of two-dimensional shapes.
- Compare and analyze attributes of quadrilaterals.
- Identify and measure types of angles.
- Classify different types of triangles.
- Compare and analyze attributes of polygons.
- Compare and analyze attributes of 3-dimensional shapes.
- Compare and analyze attributes of triangular numbers.
- Identify multiples of 2, 3, 4, 5, 6, 7, 8, and 9.
- Add multi-digit whole numbers.
- Identify fraction and equivalent decimal value.
- Identify the time on a clock.
- Use knowledge of time to solve elapsed time problems.
- Create a double line graph.
- Add decimals.
- Identify lines of symmetry in a figure.
- Convert between linear customary units of measurement.
- Convert between linear metric units of measurement.
- Convert between customary units of weight measurements.
- Convert between metric units of weight measurements.
- Convert between customary units of liquid capacity measurements.
- Convert between metric units of liquid capacity measurements.

Evidence of Learning

Formative Assessments: Entrance and exit slips, individual dry erase boards practice, daily work in calendar math notebook, small group work, homework collection, participation, and teacher observation.

Summative/Benchmark Assessment(s): Assessments after every 2 months.

Alternative Assessments: Modified versions of formative and summative assessments and project-based assessments.

Resources/Materials: Calendar math binder and calendars, Every Day Counts Calendar Math, SMART board, document camera, online resources (i.e. Reflex math, Xtra Math, IXL, Think Central), and math manipulatives such as calendar pattern pieces, centimeter cubes, protractors, etc.

Modifications:
- Special Education Student/504 -
  - Allow errors
  - Rephrase questions, directions, and explanations
  - Allow extended time to answer questions, and permit drawing, as an explanation
  - Accept participation at any level, even one word
  - Consult with Case Managers and follow IEP and 504 accommodations/modifications
- English Language Learners -
  - Assign a buddy, same language or English speaking
  - Allow errors in speaking

- At-Risk Students -
  - Provide extended time to complete tasks
  - Consult with Guidance Counselors and follow I&RS procedures/action plans
  - Consult with classroom teacher(s) for specific behavior interventions
  - Provide rewards as necessary
- Gifted and Talented Students -

  - Provide extension activities

  - Build on students' intrinsic motivations

o Rephrase questions, directions, and explanations o Allow extended time to answer questions o Accept participation at any level, even one word	o Consult with parents to accommodate students' interests in completing tasks at their level of engagement

Lesson Plans-Suggested Pacing		
Lesson Name/Topic	**Lesson Objective(s)**	**Time frame (day(s) to complete)**
September	Students will be able to ● Compare and analyze attributes of parallel, intersecting, and perpendicular lines, rays, and line segments ● Identify multiples of 2 and 5 ● Add multi-digit whole numbers ● Identify fraction and equivalent decimal value	1 month
October	Students will be able to ● Compare and analyze attributes of two-dimensional shapes ● Identify multiples of 3 ● Add multi-digit whole numbers ● Identify fraction and equivalent decimal value ● Identify the time on a clock ● Create a double line graph ● Convert between linear customary units of measurement	1 month
November	Students will be able to ● Compare and analyze attributes of quadrilaterals ● Identify multiples of 4 ● Add multi-digit whole numbers ● Identify fraction and equivalent decimal value ● Add decimals ● Identify the time on a clock ● Use knowledge of time to solve elapsed time problems ● Convert between linear metric units of measurement	1 month
December	Students will be able to ● Identify and measure types of angles ● Identify multiples of 6 ● Add multi-digit whole numbers ● Identify fraction and equivalent decimal value ● Add decimals ● Identify the time on a clock ● Use knowledge of time to solve elapsed time problems	1 month
January	Students will be able to ● Classify different types of triangles ● Identify multiples of 7 ● Add multi-digit whole numbers	1 month

	● Identify fraction and equivalent decimal value ● Identify the time on a clock ● Use knowledge of time to solve elapsed time problems ● Convert between customary units of weight measurements	
February	Students will be able to ● Compare and analyze attributes of polygons ● Identify multiples of 8 ● Add multi-digit whole numbers ● Identify fraction and equivalent decimal value ● Identify the time on a clock ● Use knowledge of time to solve elapsed time problems ● Convert between customary units of liquid capacity measurements	1 month
March	Students will be able to ● Compare and analyze attributes of 3-dimensional shapes ● Identify multiples of 9 ● Add multi-digit whole numbers ● Identify fraction and equivalent decimal value ● Identify the time on a clock ● Use knowledge of time to solve elapsed time problems ● Convert between metric units of liquid capacity measurements	1 month
April	Students will be able to ● Compare and analyze attributes of triangular numbers ● Add multi-digit whole numbers ● Identify fraction and equivalent decimal value ● Identify the time on a clock ● Use knowledge of time to solve elapsed time problems ● Convert between metric units of weight measurements ● Identify lines of symmetry in a figure	1 month

Teacher Notes: The pattern changes each month. The number line will wrap around the room. Each month introduces a new multiple for the number line as you continue to identify the previous multiples as well. For daily depositor, add money every day to predict if you will accumulate a million dollars by the end of the year.

September: Use December pattern pieces. For daily depositor, add the number of dollars equal to the date of the month.

October: Use September pattern pieces. For daily depositor, add the number of dollars equal to twice the date of the month. Add a foot a day until you get to 30 feet. Graph and high and low temperatures each day to create a double line graph.

November: Use November pattern pieces. For daily depositor, add the number of dollars equal to ten times the date of the month. Create a flow chart of the types and characteristics of quadrilaterals. Start shopping record and elapsed time. Add 10 centimeter cubes to a meter stick a day (tape cubes onto meter stick).

December: Use February pattern pieces. For daily depositor, add the number of dollars equal to twenty times the date of

the month. Utilize angle packet to practice identifying and measuring angles. Continue shopping record and elapsed time. No measurement this month.

January: Use October pattern pieces. For daily depositor, add the number of dollars equal to one hundred times the date of the month. Continue elapsed time, but shopping record ends. Add 1 ounce a day until you reach 1 pound.

February: Use March pattern pieces. For daily depositor, add the number of dollars equal to one hundred times the date of the month. Continue elapsed time. Add 1 cup of water a day until you reach a gallon.

March: Use January pattern pieces. For daily depositor, add the number of dollars equal to one hundred times the date of the month. Continue elapsed time. Add 100 milliliters a day until you reach 2 liters.

April: Use April pattern pieces. For daily depositor, add the number of dollars equal to one thousand times the date of the month. Continue elapsed time. Give students 1 gram and 1 kilogram weight for students to compare the weights.

Additional Resources: Calendar pocket chart, pattern cards, number line, symbols for each multiple, money for daily depositor, and clock.

September: December pattern pieces, heart shape for multiples of 2, and star shape for multiples of 5

October: September pattern pieces and triangle shape for multiples of 3. Foot long feet to hang up, clock, poster paper for double line graph.

November: November pattern pieces and square shape for multiples of 4. Shopping record sheet, centimeter cubes, and meter stick.

December: February pattern pieces, hexagon shape for multiples of 6, and protractors.

January: October pattern pieces and days of the week symbol for multiples of 7. Scale and ounce and pound weights.

February: March pattern pieces and octagon shape for multiples of 8. Measuring cup and empty gallon to add water to.

March: January pattern pieces and domino shape for multiples of 9. Graduated cylinder and a 2 liter soda bottle.

April: April pattern pieces.