Washington Township Public Schools
COURSE OF STUDY – CURRICULUM GUIDE

Course: Everyday Math – Grade 4

Written By: Tracy Brosovich and Cathy Cooper

Under the Direction of: Gretchen Gerber

Description:

Everyday Mathematics 4 is designed to teach the content required by the Common Core State Standards. In fourth grade, that content focuses on procedures, concepts and applications in three critical areas:

- understanding and fluency with multi-digit multiplication, and understanding of dividing to find quotients involving multi-digit dividends;
- understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers;
- understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures and symmetry.

Throughout Everyday Mathematics 4, emphasis is placed on:

- problem solving in everyday situations and mathematical concepts;
- an instructional design that revisits topics regularly to ensure depth of knowledge and long term learning;
- distributed practice through games and other daily activities;
- teaching that supports "productive struggle" and maintains high cognitive demand; and
- lessons and activities that engage all students and make mathematics fun.

Jack McGee: *Acting Assistant Superintendent for Curriculum & Instruction*
Gretchen E. Gerber: *Director of Elementary Education*
Cleve Bryan: *Interim Director of Secondary Education*

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BOE Approval:

MAJOR UNITS OF STUDY

Course Title: Everyday Math-Grade 4

I. **Place Value; Multi-digit Addition and Subtraction**
II. **Multiplication and Geometry**
III. **Fractions and Decimals**
IV. **Multi-digit Multiplication**
V. **Fraction and Mixed-Number Computation; Measurement**
VI. **Division; Angles**
VII. **Multiplication of a Fraction by a Whole Number; Measurement**
VIII. **Fraction Operations; Applications**

UNIT OVERVIEW

Course Title: Everyday Math-Grade 4

Unit #: **UNIT 1 OVERVIEW** **Unit Title:** Place Value; Multi-digit Addition and Subtraction

Unit Description and Objectives:

The principle focus of unit 1 is place-value concepts for multi-digit whole numbers. The students will use U.S. traditional addition and subtraction to add and subtract multi-digit whole numbers.

Essential Questions and Enduring Understandings:

Essential Questions:	Enduring Understandings/Generalizations Students will understand that:	Guiding Questions
1. How does the position of a digit in a number affect its value? 2. What are different models of and models for addition and subtraction? 3. How do units within a system relate to each other? 4. How are geometric properties used to construct geometric figures? 5. How do we use formulas in our everyday lives?	1. Our mathematical system is based on base-ten place value system in which we use the same 10 digits to represent infinite numerical possibilities. 2. Computation involves taking apart and combining numbers using a variety of approaches. 3. The choice of measurement tools depends on the measurable attribute and the degree of precision desired. 4. Plane figures can be described, classified, and analyzed by their attributes. 5. Mathematical formulas make measurement faster and easier.	1. How can just 10 digits form all of the whole numbers? 2. What procedure can be used to round numbers through the hundred thousands? 3. Which strategies can be used to solve multistep number stories involving addition and subtraction? 4. What is the relationship between yards, feet, and inches? 5. What are the properties of polygons?

UNIT GRAPHIC ORGANIZER

Sub-Concept/Topics:

Generalize place value understanding for multi-digit whole numbers.

Sub-Concept/Topics:

Use place value understanding and properties of operations to perform multi-digit arithmetic.

Sub-Concept/Topics:

Use the four operations with whole numbers to solve problems.

Theme:

Place Value; Multi-digit Addition and Subtraction

Conceptual Lens:

See page 2 in the teacher's guide for mathematical content and mathematical practice

Sub-Concept/Topics:

Generate and analyze patterns.

Sub-Concept/Topics:

Solve problems involving measurement and conversions of measurements.

Sub-Concept/Topics:

Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

CURRICULUM UNIT PLAN

Course Title/Grade: Everyday Math-Grade 4
Unit Number/Title: Unit 1
Conceptual Lens: Place Value; Multi-digit Addition and Subtraction
Appropriate Time Allocation (# of Days)**:** Approx. 16 days

Primary Core Content Standards referenced With Cumulative Progress Indicators			
4.NBT.1	4.NBT.4	4.OA.5	4.MD.3
4.NBT.2	4.NBT.5	4.MD.1	4.G.1, 4.G.2
4.NBT.3	4.OA.3	4.MD.2	SMP1-8

Topics/Concepts (Incl. time / # days per topic)	**Critical Content (Students Will Know:)**	**Skill Objectives (Students Will Be Able To:)**	**Instructional/Learning Activities & Interdisciplinary Connections**	**Instructional Resources**	**Technology & 21st C Skills Integration (Specify)**	**NJCCCS w/ CPI Reference**	**Evaluation/ Assessment:**
• Generalize place value understanding for multi-digit whole numbers. • Use place value understanding and properties of operations to perform multi-digit arithmetic. • Use the four operations with whole numbers to solve problems. • Generate and analyze patterns. • Solve problems involving measurement and conversions of measurements. • Draw and identify lines and angles, and classify shapes by properties of their lines and angles.	• Identify the values of digits. • Compare numbers using <, >, =. • Round numbers. • Estimate the answer to a problem. • Add and subtract 3-digit numbers using U.S. traditional addition and subtraction. • Convert yards to feet. • Identify right angles. • Find the perimeters of right angles.	**1.1** Students write the largest and smallest numbers possible, are introduced to place value in the ten-and-hundred-thousands and explore relationships between values, read and write numbers and identify values through the hundred- thousands place. **1.2** Students compare large numbers, explore writing numbers in expanded form, examine the values of digits to compare and order large numbers. **1.3** Students make sense of, learn, and apply rounding procedures to numbers in the thousands and ten-thousands. **1.4** Students explore the *Student Reference Book*, read about and compare populations. **1.5** Students estimate a solution to a multistep number story, consider reasons for estimating, consider round front-end estimation and close-to	Follow Everyday Math Activities *Interdisciplinary connections* **Literature** • *Lesson 1.4, TM p. 33 How Much is a Million* • *Lesson 1.5, TM p. 39 Betcha! Estimating* **ELA** • *Lessons 1.1-1.13 Teacher models and reviews key vocabulary terms.* **Social Studies** • *Lesson 1.2, MM p. 11 Country Sizes Home Link* • *Lesson 1.3, MM p. 13 Rounding Data* • *Lesson 1.4, TM p. 33 and SRB p. 282 Activity Card #5 Ordering U.S. Cities by Population*	**Unit 1:** Place Value; Multi-digit Addition and Subtraction TLG p. 2-107 Manipulatives • Number cards 0-9 • Base-10 blocks • Geoboard Differentiation Options • Activity Cards • Enrichment Exploration	**TECHNOLOGY** **EVERYDAY MATH GAMES** http://www.everydaymathonline.com **PARCC GAMES** Practice math games for the PARCC http://parccgames.com/?page_id=63 **Math games on the Ipads** **Cool Math 4 Kids** http://www.coolmath4kids.com **Math Playground** http://www.mathplayground.com/games.html	Standards **8.1.5.E.1** Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge. Plan strategies to guide inquiry. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media. Evaluate and select information sources and digital tools based on the appropriateness for specific tasks.	**Formative Assessments:** • **Written Assessment Check-In** • **Fact Quizzes and Benchmarks** • **Open Response: Making Sense of Subtraction Strategies** • **Unit Assessment from Book** **Summative Assessment(s)** • Self-Assessment • Exit Slips • Oral and Slate Assessment • Games: *Number Top-It* *Addition Top-It* *Subtraction Top-It* *Spin-and-Round* *Fishing for Digits* *Geometry Concentration*

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:)	Skill Objectives (Students Will Be Able To:)	Instructional/Learning Activities & Interdisciplinary Connections	Instructional Resources	Technology & 21st C Skills Integration (Specify)	NJCCCS w/ CPI Reference	Evaluation/ Assessment:
		estimation, estimate solutions to multistep addition and subtraction number stories. **1.6** Students solve a multistep number story, review and apply an approach that can be used to solve number stories, solve addition and subtraction number stories. **1.7** Students solve addition problems and share strategies, are introduced to U.S. traditional addition. **1.8** Students group and discuss what it means to group bagel into boxes of 25, 5, and 1, use mathematical patterns and structures to decipher codes based on place value systems. **1.9** Students convert yards to feet and feet to inches, examine measurement scales and convert from larger to smaller unit, convert U.S. customary units of length. **1.10** Students convert yards to feet and feet to inches, examine measurement scales and convert from larger to smaller unit, convert U.S. customary units of length. **1.11** Students identify parallel lines, line segments, and rays in			**21st CENTURY SKILLS** **www.yummymath.com** **www.GetTheMath.org** **www.RealWorldMath.org**	**8.1.5.F.1** Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge. Identify and define authentic problems and significant questions for investigation. Plan and manage activities to develop a solution or complete a project. Collect and analyze data to identify solutions and/or make informed decisions. Use multiple processes and diverse perspectives to explore alternative solutions **8.2.5.C.1** **8.2.5.D.1** **8.2.5.D.2** **8.2.5.E.1**	• Mental Math and Reflexes • Fact Practice activities

Topics/Concepts (Incl. time / # days per topic)	**Critical Content** (Students Will Know:)	**Skill Objectives** (Students Will Be Able To:)	**Instructional/Learning Activities & Interdisciplinary Connections**	**Instructional Resources**	**Technology & 21st C Skills Integration (Specify)**	**NJCCCS w/ CPI Reference**	**Evaluation/ Assessment:**
		figures. **1.12** Students build and identify right, obtuse and acute angles. **1.13** Students measure to find the perimeter of an object, and apply perimeter formulas.				Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.	

Unit Modifications for Special Population Students:

Struggling Learners (Extra Practice)	Gifted and Talented Students (Challenge Activities)	English Language Learners	Special Education Students (Readiness)
1.1 Activity Card # 1 (Building a Place-Value Model)	1.1 Solving Number-Grid Puzzles	1.1 Familiarize students with terms *digit* and *value.*	1.1 Using a Place-Value Tool
1.2 Activity Card # 3 (Comparing 6-Digit Numbers)	1.2 Activity Card # 2 (Collecting Large Numbers)	1.2 Relate the meaning of *expand* to the idea of "stretching out".	1.2 Building, Expanding, and Comparing Numbers
1.3 Rounding Whole Numbers	1.3 Rounding Data	1.3 Provide visual support for understanding the concept of rounding by using a number line and gestures.	1.3 Finding the Halfway Point on Number Lines
1.4 Activity Card # 5 (Ordering U.S. Cities by Population)	1.4 Activity Card # 4 (Exploring Big Numbers in *How Much is a Million?)*	1.4 Familiarize students with the terms associated with a table of contents.	1.4 Comparing and Rounding Numbers
1.5 Activity Card # 7 (Estimating in Everyday Life)	1.5 Activity Card # 6 (Planning a Balanced Meal)	1.5 Show pictures to familiarize the students with vocabulary from the number stories.	1.5 Rounding with Base-10 Blocks
1.6 Solving Number Stories	1.6 Activity Card # 8 (Writing Multistep Number Stories)	1.6 Review the Guide to Solving Number Stories in the SRB page 26.	1.6 Reviewing Situation Diagrams
1.7 Activity Card # 9 (Adding It Up)	1.7 Solving Number-Tile Addition Problems	1.7 Introduce the term *trade* and provide oral practice using the term.	1.7 Reviewing Column Addition
1.9 Activity Card # 10 (Finding the Difference)	1.9 Solving Number-Tile Subtraction Problems	1.9 Demonstrate the meaning of *columns* on a grid using up and down gestures as you say the term.	1.9 Reviewing Trade-First Subtraction
1.10 Converting Measures of Length	1.10 Converting Measures of Migratory Bird Data	1.10 Preview the terms *yard, foot,* and *inch* by displaying a yardstick, a ruler, and a 1-inch piece of cardboard or paper	1.10 Activity Card # 11 (Finding Personal References for Inches, Feet, and Yards)
1.11 Activity Card # 12 (Geometry Concentration - Part 1)	1.11 Solving a Collinear-Points Puzzle	1.11 Use visuals and labels to help students learn geometry terms	1.11 Modeling Lline Segments
1.12 Activity Card # 13 (More Geometry Concentration -Part 2)	1.12 Solving a Polygon Puzzle	1.12 Use visuals and labels to help students learn geometry vocabulary	1.12 Sorting Pattern Blocks
1.13 Activity Card # 15 (Constructing 24-Centimeter Perimeters)	1.13 Activity Card # 14 (Investigating Pattern-Block Perimeters)	1.13 Model the meaning of the term *perimeter* using a large rectangle.	1.13 Investigating Perimeters on a Geoboard

UNIT OVERVIEW

Course Title: Everyday Math-Grade 4

Unit #: **UNIT 2 OVERVIEW** **Unit Title:** Multiplication and Geometry

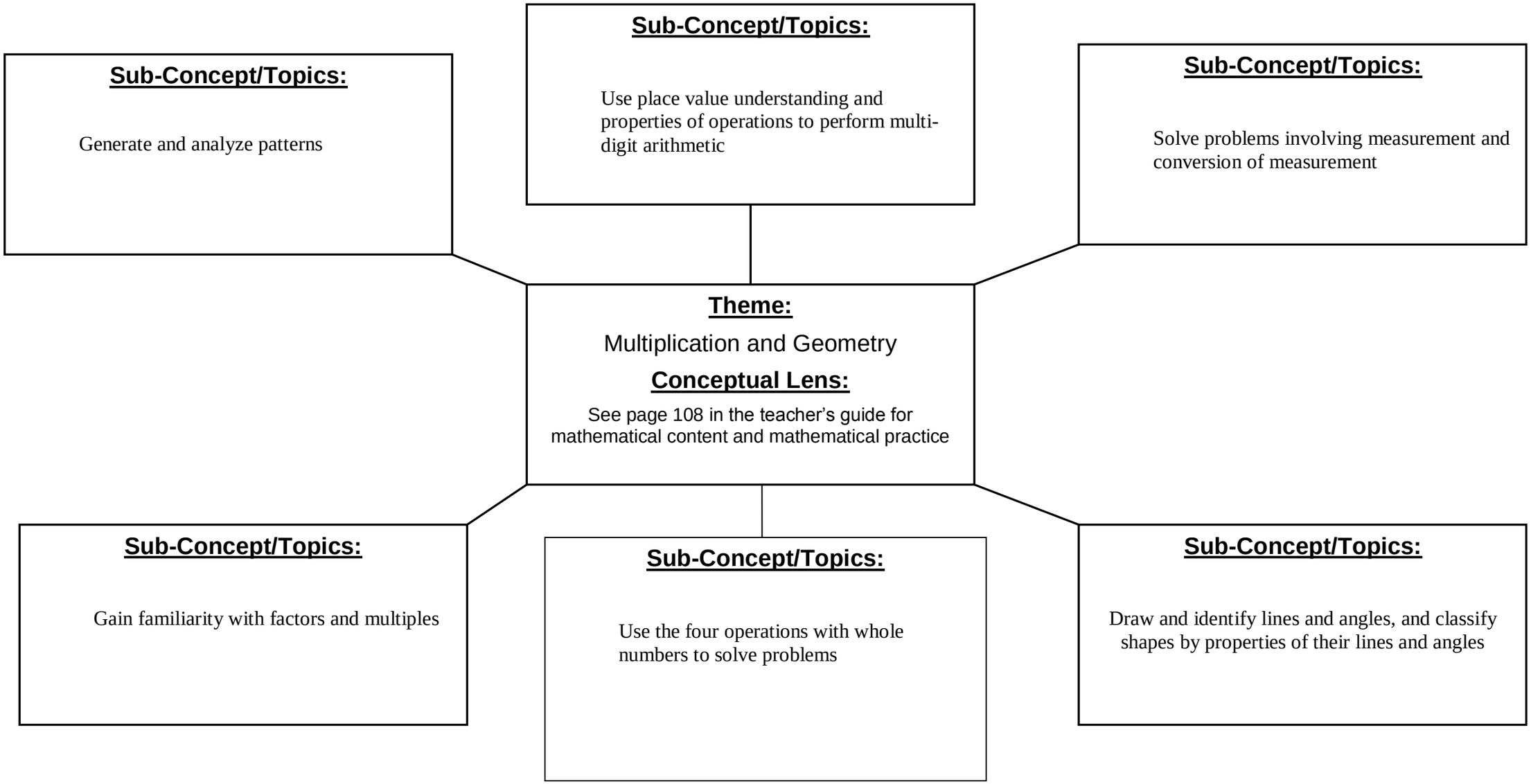
Unit Description and Objectives:

The principle focus of unit 2 is to explore various applications for multiplication. The students classify shapes by properties and develop formulas for finding the area of a rectangle.

Essential Questions and Enduring Understandings:

Essential Questions:	Enduring Understandings/Generalizations Students will understand that:	Guiding Questions
1. What are some ways to represent, describe, and analyze patterns? 2. What are properties of whole numbers? 3. Why is it important to learn multiplication basic facts? 4. How are geometric properties used to construct Geometric figures?	1. Our world is filled with patterns and rules. Algebra is a life-long skill that assists us in making sense of those patterns, discovering the unknown, and creating number stories. 2. Numbers can be classified by attributes. 3. Multiplication is an essential skill that we use every day when dealing with money, measurement, or data collection. 4. Plane figures can be described, classified, and alalyzed by their attributes.	1. Can rectangular arrays and multiplication equations represent the same situation? Explain. 2. What patterns can be made using whole numbers? 3. How can whole numbers be decomposed? 4. What are some properties of quadrilaterals?

UNIT GRAPHIC ORGANIZER



CURRICULUM UNIT PLAN

Course Title/Grade: Everyday Math-Grade 4
Unit Number/Title: Unit 2
Conceptual Lens: Multiplication and Geometry
Appropriate Time Allocation (# of Days)**:** Approx. 16 days

Primary Core Content Standards referenced With Cumulative Progress Indicators			
4.NBT.4	4.MD.3	4.OA.4	4.G.3
4.NBT.5	4.OA.1	4.OA.5	SMP3
4.MD.1	4.OA.2	4.G.2	SMP7

Topics/Concepts (Incl. time / # days per topic)	**Critical Content (Students Will Know:)**	**Skill Objectives (Students Will Be Able To:)**	**Instructional/Learning Activities & Interdisciplinary Connections**	**Instructional Resources**	**Technology & 21st C Skills Integration (Specify)**	**NJCCCS w/ CPI Reference**	**Evaluation/ Assessment:**
• Generate and analyze patterns • Use place value understanding and properties of operations to perform multi-digit arithmetic • Solve problems involving measurement and conversion of measurement • Gain familiarity with factors and multiples • Use the four operations with whole numbers to solve problems • Draw and identify lines and angles, and classify shapes by properties of their lines and angles	• Make arrays • Find Factors and multiples • Find the area of rectangles • Change from hours to minutes • Know whether to add or multiply when comparing two things. • Explain my mathematical thinking clearly and precisely. • Identify properties of a quadrilateral • Identify a line of symmetry • Solve a "What's My Rule?" table.	**2.1** Students make and share rectangular arrays with counters, find patterns in square arrays, find square numbers through 100. **2.2** Students will find the area and perimeter of a rectangle, and develop a formula for the area of a rectangle. **2.3** Students create arrays and write equations, find factor pairs. **2.4** Students will solve a number story involving multiples, list multiples of whole numbers, explore the relationship between factors and multiples. **2.5** Students will list factor pairs for numbers, classify prime and composite numbers and list factors. **2.6** Students will generate and analyze patterns. **2.7** Students will convert large units of time to smaller units of time, solve number stories involving units of time. **2.8** Students describe relationships between quantities and represent them	Follow Everyday Math Activities *Interdisciplinary connections* **Literature** • *Lesson 2.13, TM p.197 Two of Everything* **ELA** • *Lessons 2.1-2.13 Teacher models and reviews key vocabulary terms.*	**Unit 2:** Multiplication and Geometry TLG p.108-207 Manipulatives • Number cards 0-9 • Counters • Geoboards • Centimeter cubes • Rulers • 6-sided die • Geometry template • Pattern Blocks Differentiation Options • Activity Cards • Enrichment Exploration	**TECHNOLOGY** **EVERYDAY MATH GAMES** http://www.everydaymathonline.com **PARCC GAMES** Practice math games for the PARCC http://parccgames.com/?page_id=63 **Math games on the Ipads** **Cool Math 4 Kids** http://www.coolmath4kids.com **Math Playground** http://www.mathplayground.com/games.html	Standards **8.1.5.E.1** Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge. Plan strategies to guide inquiry. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media. Evaluate and select information sources and digital tools based on the appropriateness for specific tasks.	**Formative Assessments:** • **Written Assessment Check-In** • **Fact Quizzes and Benchmarks** • **Open Response: Making Sense of Subtraction Strategies** • **Unit Assessment from Book** **Summative Assessment(s)** • Self-Assessment • Exit Slips • Oral and Slate Assessment • Games: *Subtraction Target Practice* *Rugs and Fences* *Spin-and-Round Factor Captor* *Fishing for Digits* *Factor Bingo* *Buzz and Bizz-*

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:)	Skill Objectives (Students Will Be Able To:)	Instructional/Learning Activities & Interdisciplinary Connections	Instructional Resources	Technology & 21st C Skills Integration (Specify)	NJCCCS w/ CPI Reference	Evaluation/ Assessment:
		with equations. **2.9** Students use models to solve comparison number stories. **2.10** Students classify triangles by angles and discuss properties of right triangles. **2.11** Students make and sort quadrilaterals and justify their classifications, discuss properties used to sort. **2.12** Students identify symmetry and determine the number of lines of symmetry in pictures and shapes. **2.13** Students will identify patterns using "What's My Rule?" tables.			**21st CENTURY SKILLS** **www.yummymath.com** **www.GetTheMath.org** **www.RealWorldMath.org**	**8.1.5.F.1** Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge. Identify and define authentic problems and significant questions for investigation. Plan and manage activities to develop a solution or complete a project. Collect and analyze data to identify solutions and/or make informed decisions. Use multiple processes and diverse perspectives to explore alternative solutions **8.2.5.C.1** **8.2.5.D.1** **8.2.5.D.2** **8.2.5.E.1**	*Buzz* *Multiples Bingo* *How Much More?* *Polygon Capture* *Number Top-It* *Geometry Concentration* *(Part 3)* • Mental Math and Reflexes • Fact Practice Activities

Topics/Concepts (Incl. time / # days per topic)	**Critical Content** (Students Will Know:)	**Skill Objectives** (Students Will Be Able To:)	**Instructional/Learning Activities & Interdisciplinary Connections**	**Instructional Resources**	**Technology & 21st C Skills Integration (Specify)**	**NJCCCS w/ CPI Reference**	**Evaluation/ Assessment:**
						Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.	

Unit Modifications for Special Population Students:

Struggling Learners (Extra Practice)	Gifted and Talented Students (Challenge Activities)	English Language Learners	Special Education Students (Readiness)
2.1 Activity Card # 17 (Exploring Triangular Numbers)	2.1 Activity Card # 16 (One More, One Less)	2.1 Use everyday objects to illustrate arrays and practice using terms *row, column, number of objects in rows and columns* in real-world context	2.1 Building Arrays
2.2 Activity Card # 18 (Exploring Area)	2.2 Comparing Perimeter	2.2 Explain the term *area* using shapes and gestures	2.2 Finding Areas of Rectangles
2.3 Playing *Factor Bingo*	2.3 Extending *Factor Captor*	2.3 Prior to lesson practice with the terms *factor* and *product*	2.3 Factoring Numbers with Cube Arrays
2.4 Activity Card # 19 (Playing Multiple Bingo)	2.4 Solving Number Stories with Factors and Multiples	2.4 Model to help students understand the difference between the terms *multiply* and *multiple*	2.4 Factoring Numbers with Cube Arrays
2.5 Activity Card # 21 (Exploring the Sieve of Eratosthenes)	2.5 Exploring Goldbach's Conjecture	2.5 Reinforce the concept of factor pairs by showing the factors and factor pairs for a given number, gesturing while you talk	2.5 Activity Card # 20 (Building Arrays)
2.7 Converting Measures of Time	2.7 Activity Card # 22 (Writing Time Number Stories)	2.7 Use a demonstration clock with a second hand to help students learn the meanings of *seconds, minutes, and hours*	2.7 How Long Is a Second? A Minute? An Hour?
2.8 Multiple Comparisons	2.8 Comparing Animal Weights	2.8 Prior to lesson, use Total Physical Response activities with short questions to review the comparison words and phrases that will be used in the lesson.	2.8 Reviewing the "Hard" Facts
2.9 Solving Multiplicative Comparison Number Stories	2.9 Extending *How Much More?*	2.9 Use cubes to help students with multiplicative comparison statements	2.9 Solving Additive Comparison Number Stories
2.10 Identifying Right Triangles	2.10 Activity Card # 23 (Sorting Triangles)	2.10 Use Total Physical Response prompts and think-alouds to scaffold for the terms *side, angle, obtuse, acute, right, vertices, and vertex*	2.10 Identifying Right Angles
2.11 Activity Card # 24 (Geometry Concentration-Part 3)	2.11 Solving Quadrilateral Riddles	2.11 Use Total Physical Response prompts and think-aloud statements to create and model the terms *parallel* and *perpendicular*	2.11 Exploring Parallel Line Segments with Geoboards
2.12 Activity Card # 25 (Exploring Lines of Symmetry)	2.12 Line Symmetry in the Alphabet	2.12 Display key vocabulary such as *line of symmetry, symmetrical, fold, reflect, horizontal/vertical,* and *match/match up.* Use gestures to highlight the connections	2.12 Creating Symmetrical Designs

		between the visual representations, the written words, the spoken words, and the actions the students will be performing in the lesson	
2.13 Doubling and Redoubling	2.13 Finding Patterns on the Number Grid	2.13 Scaffold to help students understand the terms in “What’s My Rule?” tables	2.13 Modeling Functional Relationships with Pattern Blocks

UNIT OVERVIEW

Course Title: Everyday Math-Grade 4

Unit #: **UNIT 3 OVERVIEW** **Unit Title:** Fractions and Decimals

Unit Description and Objectives:

The principle focus of unit 3 is to explore fraction equivalence and compare and order fractions using different representations. The students then extend their understanding of fractions to decimals, comparing and ordering decimals using the same methods as for comparing fractions.

Essential Questions and Enduring Understandings:

Essential Questions:	Enduring Understandings/Generalizations Students will understand that:	Guiding Questions
1. How can fractions and decimals be modeled, compared, and ordered? 2. How do units within a system relate to each other? 3. How are place value patterns repeated in numbers?	1. Fractions and decimals express a relationship between two numbers. 2. Standard units provide common language for communication measurements. 3. Place value is based on groups of ten.	1. What are ways that fractions are used outside of math class? 2. When might you need to find fractions of sets in real life? 3. Why do the fractions of pattern blocks change when the whole changes? 4. How would you explain a rule for the relationship between equivalent fractions? 5. How are fractions and decimals related? 6. How might the relationship between ones, tens, and hundreds help you understand the relationships between tenths, hundredths, and thousandths?

UNIT GRAPHIC ORGANIZER

Sub-Concept/Topics:

Gain familiarity with factors and multiples

Sub-Concept/Topics:

Extend understanding of fraction equivalence and ordering

Sub-Concept/Topics:

Solve problems involving measurement and conversion of measurement

Theme:

Fractions and Decimals

Conceptual Lens:

See page 208 in the teacher's guide for mathematical content and mathematical practice

Sub-Concept/Topics:

Generate and analyze patterns

Sub-Concept/Topics:

Build fractions from unit fractions

Sub-Concept/Topics:

Understand decimal notation for fractions, and compare decimal fractions

CURRICULUM UNIT PLAN

Course Title/Grade: Everyday Math-Grade 4
Unit Number/Title: Unit 3
Conceptual Lens: Fractions and Decimals
Appropriate Time Allocation (# of Days)**:** Approx. 16 days

Primary Core Content Standards referenced With Cumulative Progress Indicators			
4.NF.1	4.NF.7		
4.NF.2	SMP4		
4.NF.6			

Topics/Concepts (Incl. time / # days per topic)	**Critical Content (Students Will Know:)**	**Skill Objectives (Students Will Be Able To:)**	**Instructional/Learning Activities & Interdisciplinary Connections**	**Instructional Resources**	**Technology & 21st C Skills Integration (Specify)**	**NJCCCS w/ CPI Reference**	**Evaluation/ Assessment:**
• Extend understanding of fraction equivalence and ordering • Solve problems involving measurement and conversion of measurement • Gain familiarity with factors and multiples • Generate and analyze patterns • Build fractions from unit fractions • Understand decimal notation for fractions, and compare decimal fractions • Use the four operations with whole numbers to solve problems	• Find equivalent fractions using a model • Compare fractions using a model • Read and write decimal numbers • Represent decimals to hundredths using a model • Convert from centimeters to millimeters • Compare decimals using a model	**3.1** Students model equal-sharing situations and examine equivalent names for those models; students solve number stories in a variety of ways resulting in equivalent fraction situations **3.2** Students model and record names for fractions equivalent to 1, ½, and 1/3 **3.3** Students use number lines to determine whether various fractions are equivalent **3.4** Students generate equivalent fractions with the denominators of 10 and 100; students apply and analyze the Equivalent Fractions Rule to generate equivalent fraction **3.5** Students use mathematical models to compare fractions with different numerators and denominators and justify their reasoning **3.6** Students solve number stories that involve comparing fractions **3.7** Students use strategies to order fractions and place them on a number line	Follow Everyday Math Activities *Interdisciplinary Connections* **Literature** • *Lesson 3.1, TM p. 221 Give Me Half!* **ELA** • *Lessons 3.1-3.13 Teacher models and reviews key vocabulary terms.* http://www.everydaymathonline.com	**Unit 3:** Fractions and Decimals TLG p.208-311 Manipulatives • Number cards 0-9 • Fraction circles • Base-10 cubes and longs • Metric Rulers • Meter stick • Two 6-sided die • Pattern Blocks	**TECHNOLOGY** **EVERYDAY MATH GAMES** http://www.everydaymathonline.com **PARCC GAMES** Practice math games for the PARCC http://parccgames.com/?page_id=63 **Math games on the Ipads** **Cool Math 4 Kids** http://www.coolmath4kids.com **DESIGN A FLAG** halves and quarters http://www.oswego.org/ocsd-web/games/fractionflags/fractionflags.html **FRACTION FLING** Fraction Fling http://www.abcya.co	Standards **8.1.5.E.1** Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge. Plan strategies to guide inquiry. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media. Evaluate and select information sources and digital tools based on the appropriateness for specific tasks.	**Formative Assessments:** • **Written Assessment Check-In** • **Fact Quizzes and Benchmarks** • **Open Response: Making Sense of Subtraction Strategies** • **Unit Assessment from Book** **Summative Assessment(s)** • Self-Assessment • Exit Slips • Oral and Slate Assessment • Games: *Rugs and Fences* *Spin-and-Round Fraction Match* *Base-10 Decimal exchange* *Coin Top-It* *Buzz and Bizz-Buzz* *Decimal Top-It* *Polygon Capture* *Fraction Top-It*

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:)	Skill Objectives (Students Will Be Able To:)	Instructional/Learning Activities & Interdisciplinary Connections	Instructional Resources	Technology & 21st C Skills Integration (Specify)	NJCCCS w/ CPI Reference	Evaluation/ Assessment:
		3.8 Students solve number stories involving fractions and compare decimals and fractions in tenths **3.9** Students will write dollar and cents amounts; represent hundredths with base-10 blocks; write fractions and decimals for shaded parts of square grids, and shade grids to represent decimals **3.10** Students read and write decimal numbers to hundredths **3.11**Students change measures in centimeters to meters and write measurements using decimal notation **3.12** Students measure to the nearest centimeter and meter; convert from centimeter to millimeter **3.13** Students solve number stories and other problems by comparing decimals using <, >, and =.			m/fraction_fling.htm **FRACTION BINGO** equivalent fractions http://www.abcya.com/equivalent_fractions_bingo.htm **FRACTION MONKEYS** Fractions on a number line http://www.fractionmonkeys.co.uk/activity/ **Math Playground** http://www.mathplayground.com/games.html **21st CENTURY SKILLS** **www.yummymath.com** **www.GetTheMath.org** **www.RealWorldMath.org**	**8.1.5.F.1** Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge. Identify and define authentic problems and significant questions for investigation. Plan and manage activities to develop a solution or complete a project. Collect and analyze data to identify solutions and/or make informed decisions. Use multiple processes and diverse perspectives to explore alternative solutions **8.2.5.C.1** **8.2.5.D.1** **8.2.5.D.2** **8.2.5.E.1**	• Mental Math and Reflexes • Fact Practice Activities

Topics/Concepts (Incl. time / # days per topic)	**Critical Content** (Students Will Know:)	**Skill Objectives** (Students Will Be Able To:)	**Instructional/Learning Activities & Interdisciplinary Connections**	**Instructional Resources**	**Technology & 21st C Skills Integration (Specify)**	**NJCCCS w/ CPI Reference**	**Evaluation/ Assessment:**
						Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.	

Unit Modifications for Special Population Students:

Struggling Learners (Extra Practice)	Gifted and Talented Students (Challenge Activities)	English Language Learners	Special Education Students (Readiness)
3.1 Using Drawings to Solve Problems	3.1 Solving a Proportional Reasoning Problem	3.1 Scaffold using the terms *one-half, two-halves, one-third, three-thirds,* etc., up to *twelve-twelfths.*	3.1 Sharing Equally
3.2 Playing *Fraction Match*	3.2 Modeling Fraction Equivalencies	3.2 Use word cards, drawings, number models, and fraction circles to preview fraction-related vocabulary, including *top, bottom, denominator, numerator,* and *unit.*	3.2 Exploring Fraction Circles
3.3 Identifying Equivalent Fractions on Number Lines	3.3 Activity Card # 28 (Folding Equal Fraction Sections)	3.3 Introduce students to the terms *fold, dash, dashed, and cut.*	3.3 Finding Equivalent Fractions
3.4 Completing Name-Collection Boxes	3.4 Modeling Fraction Equivalencies	3.4 Emphasize the term *equivalent* by showing students 10 longs and 1 flat, stating that these are equivalent.	3.4 Exploring Fractions of Circles
3.6 Comparing Fractions in Number Stories	3.6 Activity Card # 29 (Writing and Solving Fraction-Comparison Number Stories)	3.6 Preteach the vocabulary of comparing quantities: *greater/smaller than; more/less than.*	3.6 Comparing Fractions with the Same Numerator or Demoninator
3.7 Playing *Fraction Top-It*	3.7 Activity Card # 30 (Creating Fractions)	3.7 Provide vocabulary cards picturing a small object and a large object to illustrate the terms *smaller and larger.*	3.7 Sorting Fractions
3.8 Activity Card # 32 (Creating a Decimals All Around Museum)	3.8 Activity Card # 31 (Exploring Hundredths with a Fraction/Decimal Wheel)	3.8 Preview concepts and vocabulary from the lesson by working with fraction circles, using Total Physical Response commands and questions.	3.8 Representing Fractions in Different Ways
3.9 Finding Hundredths with Coins	3.9 Exploring the Whole	3.9 Continue to practice with the term *one-tenth* and add the term *one-hundredth.*	3.9 Using Money to Explore Decimals
3.10 Activity Card # 34 (Using a Place-Value Flip Book for Decimals)	3.10 Solving Place-Value Puzzles	3.10 Provide index cards showing the name and numeral for each of the following: 4, 14, 40, 100, 0.01, 400, 0.04.	3.10 Activity Card # 33 (Base-10 Decimal Exchange)
3.11 Measuring in Centimeters	3.11 Activity Card # 36 (Extending Metric Equivalencies)	3.11 Review measurement vocabulary	3.11 Activity Card # 35 (Reviewing Linear Metric Measure)
3.12 Measuring in Millimeters	3.12 Activity Card # 37 (Exploring the Use of Prefixes in Metric Units)	3.12 Preview the map on SRB page 284, pointing to the location of the cities in the lesson while saying their names.	3.12 Comparing Millimeters and Centimeters
3.13 Playing *Decimal Top-It*	3.13 Ordering Decimals between Whole Numbers	3.13 Review the symbols <, >, and =.	3.13 Playing *Coin Top-It*

UNIT OVERVIEW

Course Title: Everyday Math-Grade 4

Unit #: **UNIT 4 OVERVIEW** **Unit Title:** Multi-digit Multiplication

Unit Description and Objectives:

The principle focus of unit 4 is to introduce the students to the basic principles of multi-digit multiplication by focusing on extending multiplication skills and exploring the partial-products method. The students use their knowledge of multiplication to find the areas of rectangles and to convert units of measurement.

Essential Questions and Enduring Understandings:

Essential Questions:	**Enduring Understandings/Generalizations** **Students will understand that:**	**Guiding Questions**
1. What are different models of and models for multiplication? 2. What are efficient methods for finding products? 3. How can you identify multiplication patterns?	1. Multiplication is an essential skill that we use every day when dealing with money, measurement, or data collection. 2. Proficiency with basic facts aids estimation and computation of larger and smaller numbers. 3. Flexible methods of computation involve grouping numbers in strategic ways.	1. What rules do you use to solve math problems? 2. Which multiplication model makes the most sense to you? Explain. 3. Why are you asked to estimate the products before finding the exact answers?

UNIT GRAPHIC ORGANIZER

Sub-Concept/Topics:

Solve multistep number stories involving multidigit multiplication

Sub-Concept/Topics:

Solve extended multiplication facts

Sub-Concept/Topics:

Multiply numbers like 23*5 using partial-products multiplication

Theme:

Multidigit Multiplication

Conceptual Lens:

See page 312 in the teacher's guide for mathematical content and mathematical practice

Sub-Concept/Topics:

Assess the reasonableness of answers

Sub-Concept/Topics:

Convert between liters and milliliters

Sub-Concept/Topics:

Convert between grams and kilograms

CURRICULUM UNIT PLAN

Course Title/Grade: Everyday Math-Grade 4
Unit Number/Title: Unit 4
Conceptual Lens: Multi-digit Multiplication
Appropriate Time Allocation (# of Days)**:** Approx. 16 days

Primary Core Content Standards referenced With Cumulative Progress Indicators

4.OA.2	4.NBT.2	4.NBT.5	4.MD.2
4.OA.3	4.NBT.3	4.NBT.6	4.MD.3
4.NBT.1	4.NBT.4	4.MD.1	4.G.2 SMP1-8

Topics/Concepts (Incl. time / # days per topic)	**Critical Content (Students Will Know:)**	**Skill Objectives (Students Will Be Able To:)**	**Instructional/Learning Activities & Interdisciplinary Connections**	**Instructional Resources**	**Technology & 21st C Skills Integration (Specify)**	**NJCCCS w/ CPI Reference**	**Evaluation/ Assessment:**
• Use four operations with whole numbers to solve problems • Generalize place value understanding for multi-digit whole numbers • Use place value understanding and properties of operations to perform multi-digit arithmetic • Solve problems involving measurement and conversion of measurements •	• Solve extended multiplication facts • Multiply numbers like 23*5 using partial-products multiplication • Assess the reasonableness of answers • Convert between liters and milliliters • Convert between grams and kilograms • Solve multistep number stories involving multidigit multiplication	**4.1** Students extend multiplication facts to solve a problem; develop rules for multiplying ones by tens, ones by hundreds, and tens by tens. **4.2** Students estimate products of large numbers and calculate and assess the reasonableness of answers **4.3** Students model and solve multiplication problems by partitioning rectangles. **4.4** Students examine measurement scales for L and mL, and use a table and diagrams to convert measurements. **4.5** Students use place value understanding and properties of operations to perform multi-digit arithmetic. **4.6** Students solve a number story involving area and practice multidigit multiplications using partial products. **4.7** Students solve measurement number stories using a number scale. **4.8** Students solve multistep number stories about money and time.	Follow Everyday Math Activities *Interdisciplinary Connections* **ELA** • *Lessons 4.1-4.13 Teacher models and reviews key vocabulary terms.*	**Unit 4:** Multidigit multiplication TLG p.312-411 Manipulatives • Number cards 0-10 • Fraction circles • Base-10 blocks • Counters • Graduated cylinder • Beakers (optional) • Centimeter cubes • straws • Two 6-sided die Differentiation Options • Activity Cards • Enrichment Exploration	**TECHNOLOGY** **EVERYDAY MATH GAMES** http://www.everydaymathonline.com **PARCC GAMES** Practice math games for the PARCC http://parccgames.com/?page_id=63 **Math games on the Ipads** **Cool Math 4 Kids** http://www.coolmath4kids.com **Math Playground** http://www.mathplayground.com/games.html	Standards **8.1.5.E.1** Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge. Plan strategies to guide inquiry. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media. Evaluate and select information sources and digital tools based on the appropriateness for	**Formative Assessments:** • **Written Assessment Check-In** • **Fact Quizzes and Benchmarks** • **Open Response: Making Sense of Subtraction Strategies** • **Unit Assessment from Book** **Summative Assessment(s)** • Self-Assessment • Exit Slips • Oral and Slate Assessment • Games: *Rugs and Fences* *Beat the Calculator* *Spin-and-Round* *Factor Captor* *Fraction/Decimal Concentration* *How Much More?* *Fraction Match* *Multiplication Wrestling* *Multiplication Top-It*

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:)	Skill Objectives (Students Will Be Able To:)	Instructional/Learning Activities & Interdisciplinary Connections	Instructional Resources	Technology & 21st C Skills Integration (Specify)	NJCCCS w/ CPI Reference	Evaluation/ Assessment:
		4.9 Students use partial products to solve multiplication problems. **4.10** Students use and share strategies for generating the largest possible product. **4.11** Students will find the area of a figure, share strategies for finding the area when the perimeter and only one side length are known, and find areas by subdividing rectilinear figures. **4.12** Students estimate, solve, and use their estimates to assess the reasonableness of the answers to problems. **4.13** Students will multiply using the area model , partial products or traditional multiplication. The lattice model will not be taught.			**21st CENTURY SKILLS** **www.yummymath.com** **www.GetTheMath.org** **www.RealWorldMath.org**	specific tasks. **8.1.5.F.1** Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge. Identify and define authentic problems and significant questions for investigation. Plan and manage activities to develop a solution or complete a project. Collect and analyze data to identify solutions and/or make informed decisions. Use multiple processes and diverse perspectives to explore alternative solutions	*Decimal Top-It* *Polygon Capture* *Fraction Top-It* • Mental Math and Reflexes • Fact Practice Activities

Topics/Concepts (Incl. time / # days per topic)	**Critical Content (Students Will Know:)**	**Skill Objectives (Students Will Be Able To:)**	**Instructional/Learning Activities & Interdisciplinary Connections**	**Instructional Resources**	**Technology & 21st C Skills Integration (Specify)**	**NJCCCS w/ CPI Reference**	**Evaluation/ Assessment:**
						8.2.5.C.1 **8.2.5.D.1** **8.2.5.D.2** **8.2.5.E.1** Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.	

Unit Modifications for Special Population Students:

Struggling Learners (Extra Practice)	Gifted and Talented Students (Challenge Activities)	English Language Learners	Special Education Students (Readiness)
4.1 Playing *Beat the Calculator* (Extended Multiplication Facts Version)	4.1 Activity Card # 40 (Investigating Millions and Billions)	4.1 Use a visual to support students' understanding of the term *extend.*	4.1 Playing *Multiplication Top-It*
4.2 Activity Card # 41 (Planning a Party)	4.2 Finding Missing Numbers and Digits	4.2 Preview and show pictures of the following terms: *eggs, cups of milk, cups of yogurt.*	4.2 Playing *Spin-and-Round*
4.3 Activity Card # 43 (Products for Points)	4.3 Activity Card # 42 (Solving and Old Puzzle)	4.3 Scaffold for students' understanding of *partition* by displaying the word and underlining the first four letters, as well as gesturing to reinforce how a part is a piece of a whole.	4.3 Decomposing 2-Digit Numbers.
4.4 Activity Card # 44 (Purchasing Liquids in Liters and Milliliters)	4.4 Investigating Liters and Milliliters	4.4 Display labeled measuring tools (liter pitcher, graduated cylinder, beaker) or labeled pictures of the measuring tools used in the lesson.	4.4 Choosing Unit to Measure Liquid Amounts
4.6 Activity Card # 46 (Products for Points-Part 2)	4.6 Activity Card # 45 (Exploring Egyptian Multiplication)	4.6 Scaffold students' understanding of the term *partial* by focusing on the base word, *part*.	4.6 Decomposing Large Numbers
4.7 Converting Marine Mammal Data	4.7 Activity Card # 47 (Researching Universal Standards for Metric Measures)	4.7 Help students gain familiarity with the terms *weigh* and *weight* by passing around a heavy object and a light object. Use think-alouds to demonstrate the difference between these terms.	4.7 Comparing Grams and Kilograms
4.8 Solving Multistep Number Stories Involving Money	4.8 Activity Card # 49 (Writing More Multistep Number Stories)	4.8 Role play the Math Message problem using play money with each of the denominations noted in the problem.	4.8 Activity Card # 48 (Playing *Dollar Exchange)*
4.9 Activity Card # 51 (Products for Points-Part 3)	4.9 Activity Card # 50 (Multiplying with the Russian Peasant Method)	4.9 Introduce or review the word *match* by showing objects or pictures or objects that are identical.	4.9 Playing *Multiplication Top-It* (Extended Facts Version)
4.10 Activity Card # 52 (Finding *Multiplication Wrestling* Errors)	4.10 Examining a *Multiplication Wrestling* Competition	4.10 Show a video from a wrestling match to build or activate background knowledge about the sport of wrestling.	4.10 Reviewing Partial-Sums Addition
4.11 Expanding *Rugs and Fences*	4.11 Finding the Area and the Perimeter of a Tennis Court	4.11 Use role playing to introduce the term *adjacent* by associating it with the more familiar term *next to.*	4.11 Activity Card # 18 (Exploring Area)
4.12 Solving Multistep Number Stories	4.12 Activity Card # 53 (Writing More Multistep	4.12 Help students understand the adjectives	4.12 Using the Guide to Solving Number

	Number Stories)	*one-step* and *two-step* by connecting them to the sequential terms *first* and *second*.	Stories
4.13 Practicing Lattice Multiplication	4.13 Investigating Napier's Rods	4.13 To scaffold the students' understanding of the term *lattice*, display visual examples of objects that incorporate lattices, such as fencing.	4.13 Playing *Beat the Calculator*

UNIT OVERVIEW

Course Title: Everyday Math – Grade 4

Unit #: **UNIT 5 OVERVIEW** **Unit Title:** Fraction and Mixed Number Computation; Measurement

Unit Description and Objectives:

In Unit 5, students explore the whole in fractions as well as adding and subtracting fractions and mixed numbers. Students use these computation skills to answer questions about line plots. They are also introduced to adding tenths and hundredths. Students build on their knowledge of rays to explore unit iteration for angles.

Essential Questions and Enduring Understandings:

Essential Questions:	Enduring Understandings/Generalizations Students will understand that:	Guiding Questions
1. How can fractions be modeled, compared, and ordered? 2. How is computation with rational numbers similar and different to whole number computation? 3. In what ways can numbers be composed and decomposed?	1. Fractions, decimals, and percents express a relationship between two numbers. 2. Place value is based on groups of ten. 3. Flexible methods of computation involve grouping numbers in strategic ways.	1. What are ways fractions are used outside of math class? 2. When might you need to find fractions of a set in real life? 3. Why do the fraction of pattern blocks change when the whole changes? 4. How do you use pattern blocks to model adding and subtracting fractions? 5. How could you use a pattern to find additional equivalent fractions?

UNIT GRAPHIC ORGANIZER

Sub-Concept/Topics:

Add and Subtract Fractions

Sub-Concept/Topics:

Decompose or Break Apart Fractions

Sub-Concept/Topics:

Add and Subtract Mixed Numbers

Theme:

Fraction and Mixed Number Computation; Measurement

Conceptual Lens:

See page 436- Math Content and Math Practice

Sub-Concept/Topics:

Identify Types of Rotations and Angles

Sub-Concept/Topics:

Create a Line Plot and Answer Questions using Data

Sub-Concept/Topics:

Draw the Matching Part of a Symmetrical Shape

CURRICULUM UNIT PLAN

Course Title/Grade: Everyday Math Grade 4
Unit Number/Title: Unit 5
Conceptual Lens: Fractions and Mixed- Number Computation;Measurement
Appropriate Time Allocation (# of Days)**:** 16 days

Primary Core Content Standards referenced With Cumulative Progress Indicators

4.NF.1	4.NF6	4.MD.5	4.OA.3
4.NF.3	4.MD.2	4.G.1	SMP 1,2 4,5,6
4.NF.5	4.MD.4	4.G.3	

Topics/Concepts (Incl. time / # days per topic)	**Critical Content (Students Will Know:)**	**Skill Objectives (Students Will Be Able To:)**	**Instructional/Learning Activities & Interdisciplinary Connections**	**Instructional Resources**	**Technology & 21st C Skills Integration (Specify)**	**NJCCCS w/ CPI Reference**	**Evaluation/ Assessment:**
• Build fractions from unit fractions. • Understand decimal notation for fractions, and compare decimal fractions. • Solve problems involving measurement and conversion of measurements. • Represent and interpret data. • Geometric measurement: understand concepts of angle and measure angles. • Draw and identify lines and angles and classify shapes by properties of their lines and angles. • Use the four operations with whole numbers to solve problems. • Generalize place value	• Decompose or break apart fractions. • Add and subtract fractions. • Add and subtract mixed numbers. • Create a line plot and answer questions using the data • Identify types of rotations and angles. • Draw the matching part of a symmetrical shape.	**5.1** Students use fractions circles to decompose a fraction into a sum of unit fractions and mixed numbers into sums of fractions with the same denominator, write equations and shade fraction circles to show fractions as the sum of fractions with the same denominator. **5.2** Given a fractional part of a region, students find the whole, record questions expressing the relationship of parts to the whole. **5.3** Students solve a fraction number story, share and discuss solutions to fraction number stories, share strategies to solve fraction addition number stories. **5.4** Students write a mixed number as an equivalent fraction and explain their solution, share strategies for changing mixed numbers into fractions greater than one and learn to add mixed numbers with like denominators. **5.5** Students write a number model with an unknown, discuss different methods for adding tenths and	• Follow Everyday Math activities *Interdisciplinary Connections* **Literature** • Lesson 5.11, TM p.505 *How Big is a Foot?* **ELA** • Lessons 5.1-5.13 Teacher models and reviews key vocabulary terms.	Chapter 5 TLG p. 428-529 Manipulatives: • Fraction Circles • Number Cards 1-9 • Base Ten Blocks • Geometry Template • Tape Measure • One 6-sided die • Straws • Pattern Blocks • Centimeter Ruler	• Cajun Chili Caper: http://teacher.scholastic.com/maven/chili/index.htm Fact Practice: www.coolmath.com • Everyday Math Online Games	Standards **8.1.5.E.1** Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge. Plan strategies to guide inquiry. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media. Evaluate and select information	**Formative Assessments:** • Written Assessment: Quizzes and Progress Check Unit 5 • Fact Quizzes and Benchmarks • Open Response – Queen Arlene's Dilemma • Unit Assessment from book **Summative Assessment(s)** • Exit Slips • Oral and Slate Assessment • Games: Multiplication Top-It Fraction Match Decimal Top-It Multiplication Wrestling Fraction/Decimal Concentration Fishing for Fractions Fraction Top-It Fishing for Fractions (Subtraction) • Writing and Reasoning Activities

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:)	Skill Objectives (Students Will Be Able To:)	Instructional/Learning Activities & Interdisciplinary Connections	Instructional Resources	Technology & 21st C Skills Integration (Specify)	NJCCCS w/ CPI Reference	Evaluation/ Assessment:
understanding for multi-digit whole numbers. • Use place value understanding and properties of operations to perform multi-digit arithmetic.		hundredths, write equations to solve addition problems with unlike denominators. **5.6** Students find and share combinations of fractions circles that make up one whole and write fraction addition equations, show how to divide an area of land into fractional parts based on a number story and write a fraction addition equation to represent the partitioning. **5.7** Students solve and share strategies for solving a fraction number story. **5.8** Students solve a subtraction number story involving mixed numbers, discuss how to subtract and solve mixed numbers with like denominators. **5.9** Students write a question for line plot data, use data to create a line plot and answer questions. **5.10** Students consider the attribute of angle size, practice different types of turns. **5.11** Students consider the need for a standard unit of measure, use bench mark angles to estimate the measure of angles. **5.12** Students fold and cut out a symmetric figure, discuss properties of symmetric figures. **5.13** Students solve a number story, express solution strategies with appropriate				sources and digital tools based on the appropriateness for specific tasks. **8.1.5.F.1** Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge. Identify and define authentic problems and significant questions for investigation. Plan and manage activities to develop a solution or complete a project. Collect and analyze data to identify solutions and/or make informed	• Mental Math and Reflexes • Fact Practice Activities

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:)	Skill Objectives (Students Will Be Able To:)	Instructional/Learning Activities & Interdisciplinary Connections	Instructional Resources	Technology & 21st C Skills Integration (Specify)	NJCCCS w/ CPI Reference	Evaluation/ Assessment:
		units and number models.				decisions. Use multiple processes and diverse perspectives to explore alternative solutions **8.2.5.C.1** **8.2.5.D.1** **8.2.5.D.2** **8.2.5.E.1** Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.	

Unit Modifications for Special Population Students:

Struggling Learners	Gifted and Talented Students (Challenge Activities)	English Language Learners	Special Education Students
5.1 Decomposing Fractions Greater Than 1	5.1 Exploring Fractions with Tangrams	5.1 Use modeling and think alouds to explain the meaning of the term decompose “to break apart”.	5.1 Decomposing numbers into parts
5.2 Finding The Whole	5.2 Finding the Candy Bar Whole	5.2 Display vocabulary card showing the word whole.	5.2 Building Rectangles
5.3 Adding Fractions: “What’s My Rule?” Problems	5.3 Investigating Egyptian Fractions		5.3 Composing Fractions with Fraction Circles
5.4 Activity Card #54 (Give Me 5)	5.4 Adding Mixed Numbers with Unlike Denominators	5.4 Scaffold understanding of the term mixed, build on students’ conceptual understanding of same and different.	5.4 Composing Mixed-Numbers with Fraction Circles
5.5 Activity Card #55 (Practicing Adding Tenths and Hundredths)	5.5 Using Coins to Add Fractions	5.5 Scaffold to help them differentiate between the terms ten, tens, and tenths; hundred, hundreds, hundredths and thousand, thousands, and thousandths.	5.5 Representing Decimals and Fractions
5.7 Subtracting Fractions: “What’s My Rule?”	5.7 Write Fraction Subtraction Number Stories		5.7 Subtracting Fractions with Fraction Circles
5.8 Subtracting Mixed Numbers with Frames and Arrows	5.8 Subtract Numbers with Unlike Denominators	5.8 Build understanding of like using the terms same and alike.	5.8 Decomposing Mixed Numbers
5.9 Activity Card #58 (Making a Line Plot)	5.9 Activity Card #57 (Comparing Line Plots)		5.9 Making a Line Plot with Whole - Number Units
5.10 Activity Card #60 (Finding Angles in the Classroom)	5.10 Activity Card #59 (Time for Angles)		5.10 Revisiting Angles and Rays
5.11 Activity Card #61 (Paper Plate Angle Maker)	5.11 Clock Angles	5.11 Use visuals and think alouds to help them construct a new understanding of the term degree.	5.11 Standard Units of Measure

5.12 Activity Card #63 (Symmetric Designs)	5.12 Solve Pattern-Block Symmetry Riddles	5.12 Provide vocabulary cards for line, fold, horizontal, vertical and mirror image with corresponding illustrations.	5.12 Exploring Reflections
5.13 Planning a Trip to Thrill City	5.13 Activity Card #64 (Writing Multi-Step Multiplication Number Stories)		5.13 Solving Multistep Number Stories

UNIT OVERVIEW

Course Title: Everyday Math - Grade 4

Unit #: **UNIT 6 OVERVIEW** **Unit Title:** Division; Angles

Unit Description and Objectives:

In this unit, students explore the relationship between multiplication and division by developing a method for dividing whole numbers and solving division number stories. They are introduced to protractors and explore using them to measure and construct angles.

Essential Questions and Enduring Understandings:

Essential Questions:	Enduring Understandings/Generalizations Students will understand that:	Guiding Questions
1. What are different models of and models for multiplication and division? 2. What questions can be answered using multiplication and division? 3. What are efficient methods for finding products and quotients? 4. What are tools of measurement and how are they used?	1. Computation involves taking apart and combining numbers using a variety of approaches. 2. Flexible methods of computation involve grouping numbers in strategic ways. 3. Remainders are leftovers you must decide how to interpret the remainder. 4. The choice of measurement tools depends on the measurable attribute and the degree of precision desired.	1. How can diagrams help you to organize information? 2. How do multiples help you to solve division problems? 3. How can it help you to have a plan for solving a problem? 4. Why do you need to consider remainders when sharing things in real life? 5. How can a tool help you to determine an angle measure?

UNIT GRAPHIC ORGANIZER

Sub-Concept/Topics:

Divide Numbers using Partial Quotients

Sub-Concept/Topics:

Solve Extended Division Facts

Sub-Concept/Topics:

Interpret Remainders in Division Number Stories

Theme:

Division; Angles

Conceptual Lens:

See page 538- Math Content and Math Practice

Sub-Concept/Topics:

Measure Angles and Find Missing Angle Measures

Sub-Concept/Topics:

Sketch Angles

Sub-Concept/Topics:

Convert between Tons, Pounds and Ounces

CURRICULUM UNIT PLAN

Course Title/Grade: Everyday Math – Grade 4
Unit Number/Title: Unit 6
Conceptual Lens: Division; Angles
Appropriate Time Allocation (# of Days): 16 days

Primary Core Content Standards referenced With Cumulative Progress Indicators			
4.NBT.1	4.NBT.4	4.OA.3	4.G.1,3,4
4.NBT.2	4.NBT.5	4.OA.4	SMP 1,2,4,5,6,7
4.NBT.3	4.NBT.6	4.MD.1,2,3,5,6,7	

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:)	Skill Objectives (Students Will Be Able To:)	Instructional/Learning Activities & Interdisciplinary Connections	Instructional Resources	Technology & 21st C Skills Integration (Specify)	NJCCCS w/ CPI Reference	Evaluation/ Assessment:
• Generalize place value understanding for multi-digit whole numbers. • Use place value understanding and properties of operations to perform multi-digit arithmetic. • Solve problems involving measurement and conversion of measure. • Gain familiarity with factors and multiples. • Use four operations with whole numbers to solve problems. • Geometric measurement: understand concept of angle and measure angles. • Draw and identify lines and angles and classify shapes by properties of their lines and	• Solve extended division facts. • Divide numbers like 96÷8 using partial quotients. • Interpret remainders in division number stories. • Measure angles like these: 56°, 91°, 149°. • Sketch angles like these: 25°, 78°, 137°. • Find a missing angle measure. • Convert between tons, pounds, and ounces.	**6.1** – Students solve an extended-division-fact number story, explore the connections between multiplication and division in extended fact families, find patterns in solutions to extended division facts. **6.2** – Students find the unknown length of the side of a rectangle, use division to find unknown side lengths. **6.3** – Students solve a division number story, use multiples to solve division problems, practice solving division problems using multiples. **6.4** – Students solve a division number story, partition a rectangle to solve a division problem with a 2-digit dividend, divide by parts using a model to understand partial quotients as a written representation. **6.5** – Students solve a division problem about packaging eggs and interpret the remainder, share their solutions and discuss the maximum and minimum number of left over eggs, solve multi-step problems	• Follow Everyday Math activities *Interdisciplinary Connections* **Literature** Lesson 6.8,p.593 *A Remainder of One* Lesson 6.10,p.605 *Sir Cumference and the Great Knight of Angleland* **ELA** • Lessons 6.1-6.13 Teacher models and reviews key vocabulary terms.	Chapter 6 TLG p.530-635 Manipulatives: Number Cards 0-10 Cubes or Counters Balance Centimeter Cubes Half Circle Protractor Fraction Circles Geometry Template	• Banana Hunt (Angles): http://www.oswego.org/ocsd-web/games/bananahunt/bhunt. • Everyday Math Online Games		**Formative Assessments:** • Written Assessment: Quizzes and Progress Check Unit 6 • Fact Quizzes and Benchmarks • Open Response – Fruit Baskets • Unit Assessment from Book **Summative Assessment(s)** • Exit Slips • Oral and Slate Assessment • Games: Divide and Conquer Rugs & Fences Multiplication Wrestling Fishing for Fractions Fraction Top-It Fraction Match Division Dash Angle Race Angle Add-Up How Much More?

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:)	Skill Objectives (Students Will Be Able To:)	Instructional/Learning Activities & Interdisciplinary Connections	Instructional Resources	Technology & 21st C Skills Integration (Specify)	NJCCCS w/ CPI Reference	Evaluation/ Assessment:
angles. • Build fractions from unit fractions.		about distributing oranges into baskets, and putting baskets into boxes, they use division and interpret remainders in two different ways. **6.6** – Students estimate the weights of objects, use measurement scales to answer questions, convert US customary measures of weight, solve number stories involving weight. **6.7** – Students solve a division number story, discuss methods for solving a division problem, extend the partial-quotients algorithm, use partial quotients division to solve problems with 3 and 4 digit dividends. **6.8** – Students solve a division number story and decide what to do with the remainder, rewrite remainders as fractions, consider multiple ways to interpret remainders, solve number stories and interpret remainders. **6.9** – Students consider a tool for measuring angles, use their angle measurers to measure angles. **6.10** – Students use acute, obtuse, and straight angles, compare the half-circle protractor with angle measurers, identify and measure angles, draw angles of specified measure. **6.11** – Students find an unknown angle measure, find					Decimal Top-It • Writing and Reasoning Activities • Mental Math and Reflexes • Fact Practice Activities

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:)	Skill Objectives (Students Will Be Able To:)	Instructional/Learning Activities & Interdisciplinary Connections	Instructional Resources	Technology & 21st C Skills Integration (Specify)	NJCCCS w/ CPI Reference	Evaluation/ Assessment:
		angle measures by writing equations, add and subtract to find unknown angle measures. **6.12** – Students find the difference between two mixed numbers, discuss fraction and mixed number problems, solve fraction and mixed number problems. **6.13 –** Students represent a multiplication number story using a picture and equation, use whole numbers addition and multiplication understandings to multiply a fraction by a whole number.					

Unit Modifications for Special Population Students:

Struggling Learners	Gifted and Talented Students (Challenge Activities)	English Language Learners	Special Education Students
6.1 More Extended Facts Practice	6.1 Activity Card #65 (Sorting a Bag of Numbers)	6.1 Use concrete objects such as an extension cord or antenna to teach the terms extend and extension.	6.1 Emphasize the division/multiplication connection for extended facts
6.2 Finding Garden Plot Dimensions	6.2 Activity Card #66 (A Question about Rectangles)	6.2 Use visual aids and think alouds to help students understand the word missing.	6.2 Finding unknown factors
6.3 Dividing 97 into Groups	6.3 Finding Factor Pairs for 2,340	6.3 Prepare an anchor chart titled “Division” showing a problem with a dividend, a divisor and a quotient clearly labeled.	6.3 Play Buzz and Bizz-Buzz
6.4 Play Division Top-It	6.4 Activity Card #68 (Solving a Ring Riddle)	6.4 Build background knowledge for understanding the meaning of partial, as a part of a larger whole, by using jig saw puzzle pieces to demonstrate the meaning of part and partial.	6.4 Play Beat the Calculator
6.6 Converting Weights	6.6 Converting Units of Weight	6.6 Show images of familiar situations in which people have to wait, such as waiting in line or a waiting room.	6.6 Ordering Weights
6.7 Play Division Top-It (Advanced)	6.7 Activity Card #69 (Performing a Math Trick)	6.7 Explain that a model is sometimes used to represent a real object.	6.7 Play Divide and Conquer
6.8 Play Division Dash	6.8 Activity Card #70 (Solving a Sharing Number Story)	6.8 Scaffold student understanding of the word remainder in the sense of left over, using think alouds and real objects.	6.8 Explore Remainders in Literature
6.9 Activity Card #72 (Degrees of Accuracy)	6.9 Activity Card #71 (Mystery Shapes)	6.9 Use visuals and labels to illustrate the terms angle, vertex, right angle, acute angle, straight angle, and obtuse angle.	6.9 Form clockwise and counter clockwise rotations
6.10 Play Angle Tangle	6.10 Exploring Angles in Literature	6.10 Use visual displays to illustrate the terms half circle; rotation/turn; clockwise, counter clockwise; base line and directional arc.	6.10 Modeling angles

6.11 Combining Angles	6.11 Activity Card #73 (Finding the Sum of a Triangle's Angles)	6.11 Introduce the terms remaining and unknown.	6.11 Putting together angles
6.12 Solving Fish Number Stories	6.12 Solving Number Stories with Unlike Denominators	6.12 Scaffold the understanding of the term decompose by using the term take apart.	6.12 Decomposing a Mixed Number
6.13 Multiplying a Fraction by a Whole Number	6.13 Solving Missing-Groups Number Stories	6.13 Scaffold students' understanding of the term represent by interchangeably using the everyday terms show or stand for, and translating from concrete objects to pictorial and symbolic representations.	6.13 Solving Equal – Groups Number Stories

UNIT OVERVIEW

Course Title: Everyday Math – Grade 4

Unit #: **UNIT 7 OVERVIEW** **Unit Title:** Multiplication of a Fraction by a Whole Number; Measurement

Unit Description and Objectives:

In this unit, students formalize their understanding of multiplying a fraction by a whole number and use this knowledge to solve problems in real-world scenarios.

Essential Questions and Enduring Understandings:

Essential Questions:	**Enduring Understandings/Generalizations** **Students will understand that:**	**Guiding Questions**
1. How can fractions be modeled, compared and ordered? 2. What strategies can be used to multiple fractions and whole numbers? 3. Explain why a fraction is equivalent to another fraction.	1. Fractions, decimals, and percents express a relationship between two numbers. 2. Decimal notation can be used for fractions with denominators of 10 or 100. 3. Two fractions with different numerators and different denominators can be compared by creating common denominators.	1. When might you need to find fractions of a set in real life? 2. What strategies can be used to solve number stories? 3. How would you describe a rule for the relationship between equivalent fractions? 4. How can you plot fractions on a number line? 5. How are repeated addition of fractions similar to multiplying a fraction by a whole number?

UNIT GRAPHIC ORGANIZER

Sub-Concept/Topics:

Multiply a Fraction by a Whole Number

Sub-Concept/Topics:

Convert Between Gallons, Quarts, Pints and Cups

Sub-Concept/Topics:

Solve Fraction Multiplication Number Stories

Solve Decimal Number Stories

Theme:

Multiplication of Fraction by a Whole Number; Measurement

Conceptual Lens:

See page 644- Math Content and Math Practice

Sub-Concept/Topics:

Write a Number Model to Solve Multi-Step Division Number Stories

Sub-Concept/Topics:

Identify and Continue Shape and Number Patterns

Sub-Concept/Topics:

Create a Line Plot and Answer Questions about the Data

CURRICULUM UNIT PLAN

Course Title/Grade: Everyday Math – Grade 4
Unit Number/Title: Unit 7
Conceptual Lens: Multiplication of Fraction by a Whole Number; Measurement
Appropriate Time Allocation (# of Days)**:** 16 days

Primary Core Content Standards referenced With Cumulative Progress Indicators			
4.NBT.4	4.MD.1,2,3,4,	SMP 1,2,4,5,7,8	
4.NBT.5	4.OA. 2,3,5		
4.NBT.6	4.NF.2,3,4		

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:)	Skill Objectives (Students Will Be Able To:)	Instructional/Learning Activities & Interdisciplinary Connections	Instructional Resources	Technology & 21st C Skills Integration (Specify)	NJCCCS w/ CPI Reference	Evaluation/ Assessment:
• Use place value understanding and properties of operations to perform multi-digit arithmetic. • Solve problems involving measurement and conversion of measurements. • Extend understanding of fraction equivalence and ordering. • Build fractions from unit fractions. • Use the four operations with whole numbers to solve problems. • Generate and analyze patterns. • Understand decimal notation for fractions, and compare decimal fractions. • Represent and interpret data.	• Convert between gallons, quarts, pints, and cups. • Multiply a fraction by a whole number. • Solve fraction multiplication number stories. • Write a number model to solve multi-step division number stories. • Identify and continue shape and number patterns. • Solve decimal number stories. • Create a line plot and answer questions about the data.	**7.1** – Students complete a measurement chart, explore relationships between cups, pints, quarts, and gallons, use visuals to solve liquid measurement problems and to convert measurement units, solve number stories involving conversions. **7.2**-Students solve a fraction number story,multiply unit fractions by whole numbers, multiply non-unit fractions by whole numbers, solve number stories involving multiplication of a fraction by a whole number. **7.3**- Students represent the relationship between 1/3 and a whole using fraction circles, discuss representation of unit fractions, find multiples of unit fractions, multiply unit fractions by whole numbers. **7.4**- Students solve a multiplication number story, write multiplication equations to represent fractions as multiples of unit fractions, use what they know about multiples of unit fractions to multiply any fraction by a whole number,	• Follow Everyday Math activities *Interdisciplinary Connections* **ELA** • Lessons7.1-7.13 Teacher models and reviews key vocabulary terms. **Music** • Lesson 7.5 Journal pages about the school band, including flute and trumpet sections, practice, band, and member.	Chapter 7 TLG p. 636-739 Manipulatives: • Measuring tools-cup, pint,quart, gallon containers • Half-circle protractor • Fraction circles • Number cards 0-9 • 10 sided die labeled 0-9 • Meter-stick; yardstick • Centimeter cubes • Scale • Geometry Template	• Everyday Math Online Games		**Formative Assessments:** • Written Assessment: Quizzes and Progress Check Unit 7 • Fact Quizzes and Benchmarks • Open Response-Three-Fruit Salad • Unit Assessment from book **Summative Assessment(s)** • Exit Slips • Oral and Slate Assessment • Games: Fishing for fractions (Subtraction) Multiplication Wrestling Angle Tangle Divide and Conquer Fraction Multiplication Top-It Fishing for Fractions (Addition)

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:)	Skill Objectives (Students Will Be Able To:)	Instructional/Learning Activities & Interdisciplinary Connections	Instructional Resources	Technology & 21st C Skills Integration (Specify)	NJCCCS w/ CPI Reference	Evaluation/ Assessment:
		apply their understanding of a multiple to multiply a fraction by a whole number. **7.5**- Students solve a fraction number story, multiply a non-unit fraction by a whole number, multiply a mixed number by a whole number, solve number stories with mixed numbers. **7.6**- Students determine whether fractions make an exact number of wholes, discuss how they know whether fractions make an exact number of wholes, use tools to create recipes for fruit salad using fraction addition and multiplication. **7.7**- Students solve a multi-step number story, discuss strategies for solving multi-step division number stories, solve and assess the reasonableness of answers to multi-step division number stories. **7.8**- Students divide to solve a measurement number story, discuss division strategies for a measurement number story, solve measurement number stories. **7.9**-Students build arrays representing rectangular numbers, explore the concept of rectangular numbers, look for a rule to generate rectangular numbers, look for patterns in the sequence of rectangular numbers. **7.10**- Students solve a comparison number story					Decimal Top-It Angle Add Up

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:)	Skill Objectives (Students Will Be Able To:)	Instructional/Learning Activities & Interdisciplinary Connections	Instructional Resources	Technology & 21st C Skills Integration (Specify)	NJCCCS w/ CPI Reference	Evaluation/ Assessment:
		cimlasinvolving fractions and units of time, share fraction comparison strategies, solve multi-step number stories involving fractions and units of time. **7.11**- Students convert pounds and fractions of pounds to ounces, discuss strategies for converting fractions and mixed numbers of pounds to ounces, solve multi-step fraction number stories involving typical weights of state birds. **7.12**- Students relate fractions and decimals to money, convert between fractions and decimals, solve number stories involving simple decimals solve multi-step number stories with decimals. **7.13**- Students measure line segments to the nearest 1/8 inch and compare results, review measuring to the nearest 1/8 inch, and they add and subtract mixed numbers, gather and plot data, answer questions based on line plots.				

Unit Modifications for Special Population Students:

Struggling Learners	Gifted and Talented Students (Challenge Activities)	English Language Learners	Special Education Students
7.1 Converting Liquid Measurements	7.1 Shopping for Milk	7.1 Preview the terms cup, pint, quart, and gallon by displaying common items with those capacities.	7.1 Activity Card # 74 Making a Liquid Volume Figure
7.2 Activity Card # 76 Increasing a Recipe	7.2 Activity Card # 75 Cooking for One		7.2 Using Measuring Cups and Spoons
7.3 Using a Number Line to Find Multiples of Unit Fractions	7.3 Activity Card # 78 Writing Missing-Groups Number Stories	7.3 Help students read fraction terms by displaying the words for unit fraction with corresponding fraction circle and number line examples, and the fractional numerical representations.	7.3 Activity Card # 77 Skip Counting by a Unit Fraction
7.4 Products < or > 1	7.4 Activity Card # 79 Multiplying By Groups	7.4 Help students understand the meaning of the word between.	7.4 Multiplying Fractions Using an Addition Model
7.5 Multiple Solutions	7.5 Activity Card # 80 Increasing and Decreasing Products	7.5 Provide visual aids introducing the vocabulary in the journal pages about the school band, including flute, trumpet, practice, band and member.	7.5 Reviewing Partial Products
7.7 Solving Multistep Number Stories	7.7 Activity Card # 81 Writing Division Multi-step Number Stories	7.7 Display words with pictures for Lemonade Stand, ingredients in lemonade, top hat, bowler hat, baseball cards, albums, raffle tickets, and fruit baskets.	7.7 Using the Guide to Solving Number Stories
7.8 Dividing to Solve Measurement Number Stories	7.8 Activity Card # 82 Jumping Frogs and Leaping Lizards	7.8 Display images of scales being used to weigh objects.	7.8 Changing Units
7.9 Trading Cards	7.9 Activity Card # 83 Building Rectangular Pyramids	7.9 Scaffold students' understanding of the term by preparing a T-Chart showing examples and non-examples of both shape and number patterns.	7.9 Finding Patterns
7.10 Solving Multistep Number Stories With Fractions	7.10 Activity Card # 84 Writing Fraction Multi-step Number Stories		7.10 Fractions of Hours

7.11 Activity Card # 86 Shipping Paper-weights	7.11 Activity Card # 85 Converting Measurement Units with Fractions	7.11 Help students can familiarity with the terms pound and ounce by showing a picture of a scale.	7.11 Converting Pounds to Ounces
7.12 Activity Card # 87 Writing Number Stories with Decimals	7.12 Making Goodie Bags	7.12 Scaffold students' learning of the names of coins by preparing an anchor chart with the title: Coins.	7.12 Finding Fractions and Decimal Equivalents
7.13 Dog Walking Distances	7.13 Activity Card # 88 Plotting Straw Lengths	7.13 Role play to introduce the term nearest by connecting it to near and contrasting with far away.	7.13 Paper Airplane Line Plot

UNIT OVERVIEW

Course Title: Everyday Math- Grade 4

Unit #: **UNIT 8 OVERVIEW** **Unit Title:** Fraction Operations; Applications

Unit Description and Objectives:
In this unit, students apply their knowledge of fractions, number concepts, patterns, and geometry to different real-world scenarios.

Essential Questions and Enduring Understandings:

Essential Questions:	**Enduring Understandings/Generalizations** **Students will understand that:**	**Guiding Questions**
1. What questions can be answered using the four operations? 2. What strategies can be used to verify symmetry and congruency? 3. How does the type of data influence the choice of display?	1. Computation, involved taking apart and combining numbers using a variety of approaches. 2. Points, lines, and planes are the foundation of geometry. 3. Graphs convey data in a concise way.	1. Can you determine what the question is asking you to solve? 2. How do you know an object has line symmetry? 3. How will you decide whether to record measurement in ½, ¼, or 1/8 inches.

UNIT GRAPHIC ORGANIZER

Sub-Concept/Topics:

Find Missing Real-Life Angle Measures

Sub-Concept/Topics:

Use Addition, Subtraction, Multiplication and Division to Solve Multi-Step Number Stories

Sub-Concept/Topics:

Identify Shapes with Line Symmetry and Draw Lines of Symmetry

Theme:

Fraction Operations; Applications

Conceptual Lens:

See page 748- Math Content and Math Practice

Sub-Concept/Topics:

Solve Computation Problems Involving Decimals by Converting to Fractions, Computing, and then Converting Back to a Decimal

Sub-Concept/Topics:

Find Equivalent Names for Numbers

Sub-Concept/Topics:

Create a Line Plot and Answer Questions using Data

CURRICULUM UNIT PLAN

Course Title/Grade: Everyday Math – Grade 4
Unit Number/Title: Unit 8
Conceptual Lens: Fraction Operations; Applications
Appropriate Time Allocation (# of Days)**:** 16 days

Primary Core Content Standards referenced With Cumulative Progress Indicators			
4.OA.3	4.G.1	SMP 1,2,3,4,5,6,7	
4.NBT.4,5,6	4.G.3		
4.MD.1,2,3,4,6,7	4.NF.3,4,5,6		

Topics/Concepts (Incl. time / # days per topic)	**Critical Content (Students Will Know:)**	**Skill Objectives (Students Will Be Able To:)**	**Instructional/Learning Activities & Interdisciplinary Connections**	**Instructional Resources**	**Technology & 21st C Skills Integration (Specify)**	**NJCCCS w/ CPI Reference**	**Evaluation/ Assessment:**
• Use the four operations with whole numbers to solve problems. • Use place value understanding and properties of operations to perform multi-digit arithmetic. • Geometric measurement: understand concepts of angle and measure angles. • Draw and identify lines and angles, and classify shapes by properties of their lines and angles. • Build fractions from unit fractions. • Solve problems involving measurement and conversion of measurement. • Represent and interpret data. • Understand decimal notation	• Use addition, subtraction, multiplication and division to solve multi-step number stories. • Find missing real-life angle measures. • Identify shapes with line symmetry and draw lines of symmetry. • Solve computation problems involving decimals by converting to fractions, computing, and then converting back to a decimal. • Find equivalent names for numbers. • Create a line plot and	**8.1** – Students solve a multi-step number story, discuss and solve number stories with challenging contexts and phrasing, solve challenging number stories in order to crack a code. **8.2** – Students find unknown angle measures in real life situations, consider real life applications of finding real like angle measures, solve number stories about ice hockey involving addition and subtraction of angle measures. **8.3** – Student fit pattern block angles together to determine how many of one angle fit inside another, describe how they arranged pattern blocks to fill angles of other pattern blocks and compare the sizes of the angles, find measures of pattern block angles by combining and decomposing angles of known sizes and explain why two different combinations of smaller angles result in the same measure for a larger angle. **8.4** – Students identify objects with multiple lines of symmetry, create shapes with	Follow Everyday Math Activities. *Interdisciplinary Connections* **Literature** Lesson 8.12 p.823. – *"Sideways Arithmetic from Wayside School* **ELA** • Lessons8.1-8.13 Teacher models and reviews key vocabulary terms.	Chapter 8 TLG p. 740-845 Manipulatives: Geometry Template Number Cards 0-9 Fraction Circles Pattern Blocks GeoBoard Tape Measure or Yard Stick Measuring Cup Everything Math Deck	• Shape Surveyor (Area and Perimeter) www.funbrain.com/poly/index • Everyday Math Online Games		**Formative Assessments:** • Written Assessment: Quizzes and Progress Check Unit 8 • Fact Quizzes and Benchmarks • Open Response – Pattern Block Angles • Unit Assessment from Book **Summative Assessment(s)** • Exit Slips • Oral and Slate Assessment • Games: Fishing for Fractions (Subtraction) Angle Add Up Fraction Multiplication Division Dash Fishing for Fractions (Mixed Number Addition) Multiplication Wrestling Fishing for

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:)	Skill Objectives (Students Will Be Able To:)	Instructional/Learning Activities & Interdisciplinary Connections	Instructional Resources	Technology & 21st C Skills Integration (Specify)	NJCCCS w/ CPI Reference	Evaluation/ Assessment:
for fractions and compare decimal fractions. • Extend understanding of fraction equivalence and ordering.	answer questions using data. • Compute with fractions.	a specified number of lines of symmetry, find lines of symmetry in quilting patterns and design their own quilt patterns. **8.5** – Students consider perimeter, length, and height, share ways of thinking about the Math Message, make a line plot and answer questions about data measured in one half, one fourth, and one eighth fractions of an inch. **8.6** – Students find the perimeter of a rectangle, discuss working with fractional dimensions, solve a challenging perimeter problem, find unknown dimensions of rectangles. **8.7** – Students find the perimeter of a rectangle, apply their knowledge of fractions and decimals to find the perimeter of a rectangle, convert decimals to fractions. **8.8** – Students approximate the area of a rectangle, multiply fractions by whole numbers, multiply mixed numbers by whole numbers. **8.9** – Students solve a number story with mixed numbers, share strategies for solving a number story, convert measurements, apply the area formula, and multiply a fraction by a whole number to solve a number story, multiply fractions and mixed numbers by whole numbers to solve					Fractions (Mixed Number Subtraction) Name that Number • Writing and Reasoning Activities • Mental Math Reflexes • Fact Practice Activity

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:)	Skill Objectives (Students Will Be Able To:)	Instructional/Learning Activities & Interdisciplinary Connections	Instructional Resources	Technology & 21st C Skills Integration (Specify)	NJCCCS w/ CPI Reference	Evaluation/ Assessment:
		number stories. **8.10** – Students convert between gallons and pints, convert units, including fluid ounces, solve problems about the amounts of various ingredients needed to make enough punch for a party, solve number stories and convert liquid measures. **8.11** – Students solve a fraction comparison number story, analyze fraction data from a table, compute with fractions and convert units, solve problems and convert measurements. **8.12** – Students solve an addition problem with missing digits, share strategies for solving the Math Message problem, use understandings of place value and properties of operations to solve addition and subtraction puzzles, list guidelines for solving cryptarithms and solve puzzles. **8.13** – Students find equivalent names for a number, consider various ways to name whole numbers, fractions, and decimals.					

Unit Modifications for Special Population Students:

Struggling Learners	Gifted and Talented Students (Challenge Activities)	English Language Learners	Special Education Students
8.1 Comparing Zoo Admissions	8.1 Activity Card # 89 (Writing Multi-Step Number Stories with Multiple Operations)	8.1 To help students understand that *Cracking the Code* is an expression for figuring out a secret code, create a short problem using the same, simple cipher or code, used in the lesson.	8.1 Using the Guide to Solve Multi-Step Number Stories
8.2 Measuring Baseball Angles	8.2 Finding Angles of Fraction Circle Pieces		8.2 Playing Angle Add-Up
8.4 Activity Card # 91 (Making a Quilt)	8.4 Activity Card # 90 (Rotating Figures)	8.4 Use real objects or representations of objects that have lines of symmetry, such as a book, a desk, or a piece of paper.	8.4 Creating Symmetric Patterns
8.5 Activity Card # 93 (Creating a Greeting Card Line Plot)	8.5 Activity Card # 92 (Creating Line Plots with Fraction Data)	8.5 Explain that in math a *line plot* is a special kind of graph that uses Xs placed above a number line to show how often something occurs or how many of something there are.	8.5 Measuring to the Nearest One Eighth Inch
8.6 Measuring to Find Perimeter	8.6 Activity Card # 94 (Finding the Dimensions)		8.6 Finding GeoBoard Perimeters
8.7 Solving Olympic Number Stories	8.7 Designing a Baseball Cap Rack	8.7 Create a name-collection box using familiar names to scaffold understanding of the term equivalent.	8.7 Converting and Adding Tenths and Hundredths
8.8 Measuring and Finding Area using Fractions of Inches	8.8 Finding Area and Unknown Side Lengths with Decimals	8.8 Use visuals to introduce the term floor plan.	8.8 Finding Area in Fractions of Units
8.9 Practicing for an Audition	8.9 Activity Card # 95 (Writing Multi-Step Number Stories about Movies)		8.9 Solving Multi-Step Number Stories
8.10 Solving Liquid Measurement for Puzzles and Problems	8.10 Converting Units of Liquid Measure	8.10 Demonstrate a few of the different meanings of the term *hold*, using contexts that you think are familiar to your students.	8.10 Showing Liquid Measurements

8.11 Understanding Ounces	8.11 Activity Card # 96 (Fishing with Pounds and Ounces)		8.11 Understanding Fractions of Pounds
8.12 Activity Card # 98 (Solving Cryptarithms)	8.12 Activity Card # 97 (Writing Cryptarithms)	8.12 Display various kinds of puzzles such as crossword puzzles, jig saw puzzle, tangram puzzles, and number puzzles.	8.12 Reviewing Addition and Subtraction Algorithms
8.13 Solving a Broken Calculator Dilemma	8.13 Activity Card # 100 (Reaching Target Numbers)	8.13 Display the words name and named and help students identify the base word.	8.13 Activity Card # 99 (Using a Broken Calculator)

CROSS-CONTENT STANDARDS ANALYSIS

Course Title: Everyday Math **Grade:** 4

Unit Title:	Visual and Performing Arts	Comp. Health & Physical Ed.	English Language Arts	Mathematics	Science	Social Studies	World Languages	Technology	21st Century Life & Careers
Unit1		1.5	1.1-1.13		1.10	1.3, 1.4			
Unit 2	2.12		2.1-2.13		2.8				
Unit 3	3.8		3.1-3.13			3.12			
Unit 4		4.2	4.1-4.13		4.7				
Unit 5	5.1, 5.11, 5.12		5.1-5.13						
Unit 6		6.10	6.1-6.13						
Unit 7	7.1		7.1-7.13		7.8				
Unit 8	8.4, 8.5, 8.7, 8.9		8.1-8.13						

***All core content areas may not be applicable in a particular course.**

Washington Township Public Schools
Department of Student Personnel Services

CURRICULUM MODIFICATION

The regular curriculum is modified for Special Education students enrolled in both self-contained and resource center classes.

Modifications address individual learning rates, styles, needs and the varying abilities of all special populations served in the programs available in the district.

The intent is three-fold:

- To provide alternative materials, techniques and evaluation criteria to address the range of students' needs;
- To parallel the regular curriculum in skill, content sequence and coverage to prepare students for mainstreaming;
- To maximize students' potential for movement to less restrictive environments.

In the event there is a conflict between the prescribed curriculum and the IEP for an individual student, the IEP will take precedence and will constitute the individually prescribed proficiencies for the student.