Washington Township Public Schools

COURSE OF STUDY – CURRICULUM GUIDE

Course: Everyday Mathematics 4 – Grade 3

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Description:

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

- Understanding of multiplication and division and strategies for multiplication and division within 100
- Understanding of fractions, especially unit fractions
- Understanding of the structure of rectangular arrays and of area
- Describing and analyzing two-dimensional shapes

Throughout Everyday Mathematics, emphasis is placed upon:

- 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
- Lessons and activities that engage all students and make mathematics fun

***Grade 3 has 108 lessons in 9 units. EM4 suggests planning to spend 60-75 minutes every day on math so that 3-4 lessons can be completed per week, and one unit can be completed every 3-5 weeks. This pacing is designed for flexibility, differentiation, and depth, allowing extra days for enrichment, additional practice, games, and district initiatives. EM4 recommends planning at least 60 minutes per week for all children to play games.**

Jack McGee: *Interim Assistant Superintendent for Curriculum & Instruction*
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Written: August 2015
Revised: _____
BOE Approval: _____

MAJOR UNITS OF STUDY

Course Title: Everyday Math Curriculum Guide – Grade 3

I. **Math Tools, Time, and Multiplication**
II. **Number Stories and Arrays**
III. **Operations**
IV. **Measurement and Geometry**
V. **Fractions and Multiplication Strategies**
VI. **More Operations**
VII. **Fractions**
VIII. **Multiplication and Division**
IX. **Multi-digit Operations**

UNIT 1 OVERVIEW

Course Title: Everyday Mathematics 4 – Grade 3

Unit #: **UNIT 1 OVERVIEW** **Unit Title:** Math Tools, Time, and Multiplication

Unit Description and Objectives:

In this unit, an active and collaborative learning environment is established. Children recall how to:

- use a variety of math tools to solve problems
- tell time to the nearest minute
- use mathematical models to calculate elapsed time

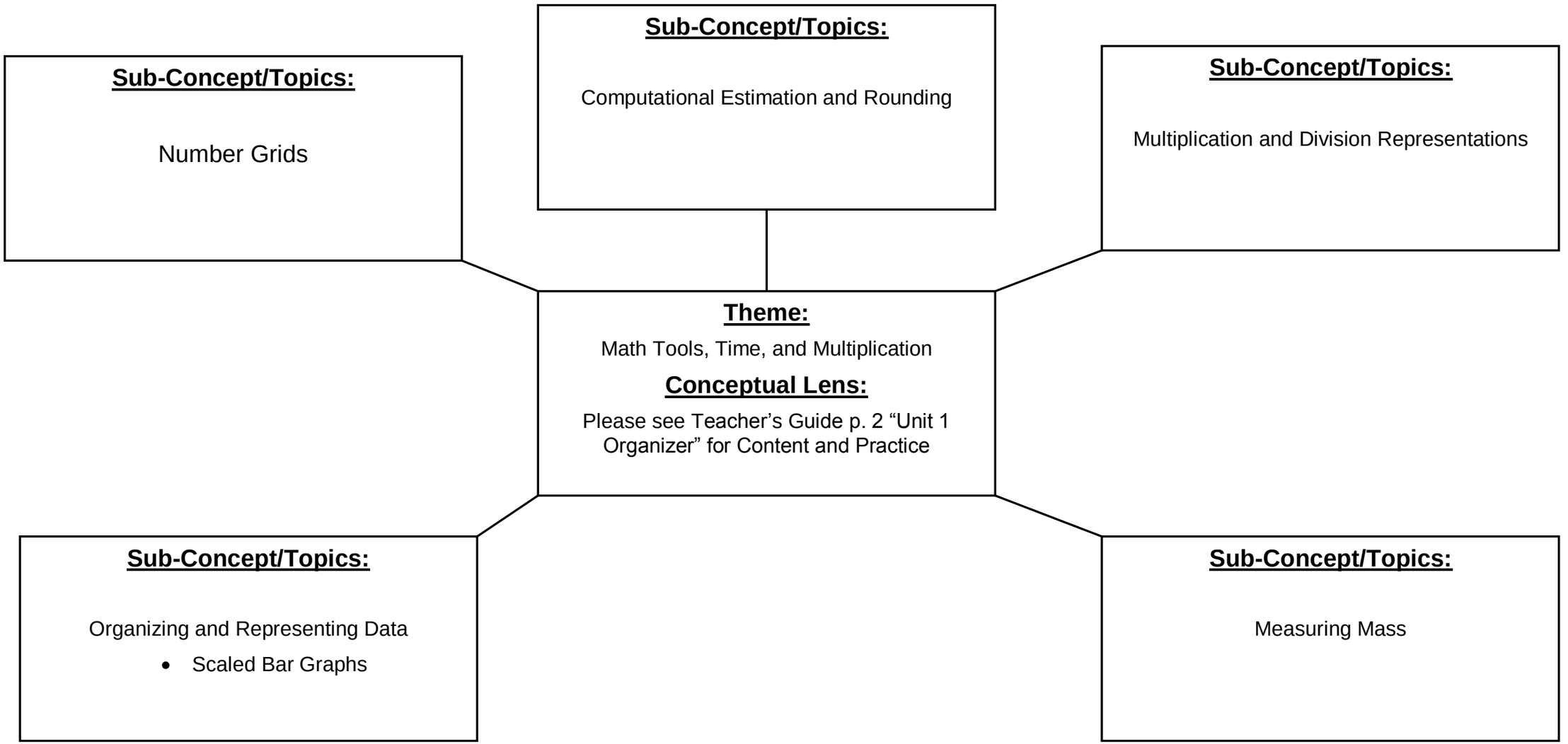
This unit also lays the foundation for:

- developing multiplication and division strategies

Essential Questions and Enduring Understandings:

Essential Questions:	Enduring Understandings/Generalizations Students will understand that:	Guiding Questions
1. In what ways can operations affect numbers? (OA) • **What does multiplication mean?** 2. How can different strategies be helpful when solving a problem? (OA) • **How can problems be solved using a variety of math tools?** 3. How can a digit's position affect its value? (NBT) • **How can place value be used to add, subtract, and round numbers?** 4. Why does "what" we measure influence "how" we measure? (MD) • **How does one tell and write time?**	1. Mathematical operations are used in solving problems in which a new value is produced from one or more values. (OA) • SW: Interpret multiplication in terms of equal groups for multiples of 5 and 10. 2. Algebraic thinking involves choosing, combining, and applying effective strategies for answering quantitative questions. (OA) • SW: Use drawings to represent a multiplication problem. • SW: Use multiplication strategies for all products of one-digit numbers and 2 and 10 3. Understanding place value can lead to number sense and efficient strategies for computing with numbers. (NBT) • SW: Use place value to round whole numbers to the nearest 10 for 2-digit numbers or 100 for 3-digit numbers using an open number line • SW: Add and subtract within 1000 using a number grid and strategies based on place value. 4. Measurement processes are used in everyday life to describe and quantify the world. (WD) • SW: Tell and write time to the nearest 5 minutes and use a number line to add time intervals in minutes.	1.1, 1.2 How can I use a number grid to find patterns and differences? 1.2 How might SRB be useful in class? 1.3 How can tools such as clocks, calculators, templates, and rulers be used to solve problems? 1.4 How do I round numbers using a number line? 1.5, 1.6, 1.11 How do I calculate elapsed time? 1.7 How do I represent and interpret data on a scaled bar graph? 1.8, 1.9 How can I use drawings and number models to represent and solve multiplication and division number stories? 1.10 What strategies can I use to learn 2s, 5s, and 10s facts? 1.13 How can I estimate and measure mass of objects?

UNIT 1 GRAPHIC ORGANIZER



CURRICULUM UNIT 1 PLAN

Course Title/Grade: Everyday Math 4 Curriculum Guide – Grade 3
Unit Number/Title: **Unit 1**
Conceptual Lens: Math Tools, Time, and Multiplication
Appropriate Time Allocation (# of Days): 16 days

Primary Core Content Standards referenced With Cumulative Progress Indicators			
3.OA.1	3.NBT.1	SMP4	
3.OA.3	3.NBT.2	SMP5	
3. OA.7	3.MD.1		

Topics/Concepts (Incl. time / # days per topic)	**Critical Content (Students Will Know:) Goals for Mathematical Content**	**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 Grids (1.1, 1.2, 1.3) • Time (1.3, 1.5, 1.6, 1.11) • Computational Estimation and Rounding (1.4) • Organizing and Representing Data (1.7, 1.11) • Multiplication and Division Representations (1.8, 1.9, 1.10, 1.12) • Measuring Mass (1.12, 1.13)	**UNIT 1 ASSESSED GMCs**: 3.OA.1 Interpret multiplication in terms of equal groups 3.OA.3 Use multiplication and division to solve number stories; model number stories involving multiplication and division. 3.OA.7 Multiply within 100 fluently; know all products of 1-digit numbers x1, x2, x5, x10 automatically 3.NBT.1 Use place value understanding to round whole numbers to the nearest 100. 3.NBT.2 Add/subtract within 1,000 fluently. 3.MD.1 Tell and write time; measure time intervals in minutes; solve number stories involving time intervals by adding or subtracting. 3.MD.2 Solve 1-step number stories involving mass. 3.MD.3 Organize and represent data on scaled bar graphs and scaled picture graphs; solve 1- and 2- step problems using information in graphs.	1.1 Use number-grid patterns for computation 1.2 Explore the Student Reference Book and play Number-Grid Difference 1.3 Review and use a variety of math tools 1.4 Use open number lines to round numbers 1.5 Tell time to the nearest minute and calculate elapsed time 1.6 Use mathematical models to measure elapsed time. Share models and discuss strategies for calculating elapsed time; then revise work. 1.7 Represent and interpret data on scaled bar graphs. 1.8 Use drawings and number models to represent and solve multiplication number stories. 1.9 Solve division number stories 1.10 Develop strategies for 2s, 5s, and 10s facts 1.11 Calculate elapsed time 1.12 Explore: Compare mass; Divide wholes/sets into equal groups 1.13 Estimate and measure masses of objects	***TM pgs. 2-111*** ***Every lesson includes differentiation options for several groups of learners including Readiness, Enrichment, Extra Practice and Beginning English Language Learner Support. Refer to the TM - Differentiation Options page in each lesson outline for these instructional learning activities. They are also listed on the next page, "Modifications for Special Population Students".*** **Lessons 1.1— 1.13 – ELA:** *Teacher models and reviews key vocabulary terms. Essential content specific vocabulary can be found in the introductory material on the first page of every lesson.* **Daily Math Message in Lessons 1.1-1.13 - Speaking**: *Aloud, students clearly explain their thinking/solution to a problem they have not yet been shown how to solve using math vocabulary*	**Unit 1** **TM Pages 2-111** ***See page 4 for complete Unit 1 Materials List*** *Additional materials needed for advanced preparation: • brads (1.3, 1.5) • Standards for Mathematical Practice Poster (1.6) • 1-liter bottles of water (1.13) • 20 nickels (1.12)	**Standard: 8.1.5.E.1** Use digital tools to research and evaluate the accuracy of, relevance to, and appropriateness of using print and non-print electronic information sources to complete a variety of tasks. *Students utilize a variety of websites and videos as digital tools to analyze, synthesize and solve problems. Online daily assessment checks will provide students with the opportunity to apply and practice lesson concepts and skills.* *http://www.mathplayground.com/common_core_state_standards_for_mathematics_grade_3.html* *http://www.mathplayground.com/mathvideos.html* *https://www.khanacademy.org/commoncore/grade-3-G* *http://newtech.coe.uh.edu/* *(Great resource with hundreds of 21st century activities)* *http://connected.mcgraw-hill.com/connected/login.do* **Standard 8.1.5.F.1** Apply digital tools to collect, organize, and analyze data that support a scientific finding.	**Tech Standards:** **8.1.5.E.1** **8.1.5.F.1** **8.2.5.C.1** **8.2.5.D.1** **8.2.5.D.2** **8.2.5.E.1**	Formative Assessments: **Assessment Check-ins:** 1.1 MJp.3 1.2 Observe Number-Grid Difference game 1.3 MJ p. 5 1.4 MJ p. 6 1.5 MJ p. 8 1.6 Open response 1.7 MJ pp. 12-13 1.8 MJ p.15 1.9 MJ p. 19 1.10 MJ p. 21 1.11 Observe as students complete sunrise/set chart 1.13 MJ p. 28 **Exit Slips** **Quizzes** Summative Assessment: Unit 1 Self-Assessment Unit 1 Assessment Unit 1 Challenge (optional) Unit 1 Open Response Assessment STAR Timed Facts Tests

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:) Goals for Mathematical Content	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:
			Open Response Lessons – Speaking/Listening: *SW listen closely to others' solutions and agree/disagree to specific ideas using appropriate language and set guidelines for discussion.* **Lesson 1.2 - ELA:** *Integrate SRB into non-fiction literacy instruction to build understanding of text features and comprehension.* **Lesson 1.4 - Science/SS/ELA:** *Discuss "round" as a word with multiple-meanings. Discuss ways rounding is used in the everyday world, particularly in science and social studies.* **Lesson 1.9 – ELA***: SW create number stories.* **Lesson 1.11 Science:** *Use sunrise and sunset data; helps students understand patterns that exist between sun and earth throughout a year*		*In each unit, an open ended response lesson provides opportunities for individuals to collaborate with planning and managing a variety of activities. They collect and analyze data to identify solutions and make informed decisions. Based upon the activity and mastery level of the students in a group, a variety of websites should be used to explore possible solutions.* **Standard 8.2** 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. **8.2.5.C.1, 8.2.5.D.1, 8.2.5.D.2, 8.2.5.E.1** *Through the integration and interdisciplinary connections in each unit, students will develop the understanding that math relates to the individual and global society.* Activity cards and enrichment activities provide a variety of options for developing computational strategies. *The following is an excellent site to access real life collaborative math projects.* http://www.mathwirBe.com/archives/enrichment.html		

Unit 1 Modifications for Special Population Students:

Additional Differentiation Support Pages are available online for each regular lesson.

Struggling Learners	Gifted and Talented Students (Challenge Activities)	English Language Learners (also use ELL online resource – ConnectED)	Special Education Students (Try *Struggling Learners* activities plus the following:)
1.1 Readiness – Applying Number-Grid Patterns; Extra Practice – Activity Card 1	1.1 Finding Differences between 3-Digit Numbers MM pp.8, TA3	1.1 ELL Support – TM p. 15; Online ELL	1.1 Adjusting the Activity – Guide p. 18; Online Differentiation Support
1.2 Readiness – Finding Differences Between Numbers - poster; Ex Practice – Finding the Mystery Number Act. Card 3	1.2 Finding Differences in Multiple Ways SRB p. 251	1.2 ELL Support –TM p. 21 Introducing Terms	1.2 Adjusting the Activity p. 24 – using cubes and longs
1.3 Readiness – Making 10 on a Calculator; Ex Practice – Hit the Target Act. Card 4	1.3 Completing Calculator Puzzles with Negative Numbers	1.3 ELL Support – TM p. 27 Reading Time Aloud	1.3 Adjusting the Activity p. 30 – using fingers to count units when measuring
1.4 Readiness – Identifying Close-but-Easier Numbers MM p. TA3	1.4 Estimating Sums and Differences Act. Card 5	1.4 ELL Support – TM p. 33 Tracing Zeros	1.4 Differentiation Support Online; using a marked number line
1.5 Readiness – Marking Five-Minute Intervals MM p.14; Ex Practice – Telling and Writing Time to the Minute	1.5 Making a Clock Booklet Act. Card 7, MM p. 15	1.5 ELL Support – TM p. 41 Role Play; Lang Dev p. 43	1.5 Adjusting the Activity p. 43 – using fingers to count forward/backwards; Common Misconception p. 44
1.6 Open Res. – work with partners; use sentence frames to explain; assist with drawing number line	1.6 Refer to Rubric – Exceeds Expectations	1.6 ELL Support - TM p. 50 Review vocab prior to lesson	1.6 Assist in drawing number line with start/end times; Common Misconception p. 51
1.7 Readiness – Interpreting a Tally Chart MM p.19; Ex Practice – Graphing Data MM p. 20	1.7 Conducting a Survey Act. Card 9 MM TA7	1.7 ELL Support - TM p. 59 Refer to family and given names	1.7
1.8 Readiness – Designing Flags	1.8 Writing Equal-Groups or Array Number Stories Act. Card 11	1.8 ELL Support – TM p. 65 - Equal groups vocab card	1.8 Adjusting Activity p. 70; Common Misconception – p. 68
1.9 Readiness - Making Equal Groups of Cookies MM p. 23; Ex Practice – Exploring Equal Shares – MM p. 25	1.9 Exploring Remainders – MM p. 24	1.9 ELL Support - TM p. 73 - Demonstrate sharing stories	1.9 Adjusting Activity p. 75; Common Misconception – p. 75
1.10 Readiness – Skip Counting on the Number Grid MM p. 27; Ex Practice – Playing Multiplication Draw MM p. G6	1.10 – Noticing a Paper-Folding Pattern MM p. 28	1.10 ELL Support - TM p. 79 vocab: *quick/slow*	1.10 Adjusting Activity p. 81 and 82
1.11 Readiness - Counting Time on a Clock; Ex Practice – Finding Elapsed Time Act. Card 14	1.11– Writing Elapsed-Time Number Stories Act. Card 13	1.11 ELL Support -TM p. 87 vocab: *sunrise/sunset*	1.11 Adjusting Activity p. 89 – use an open number line
1.12 Readiness – Naming Fractional Parts	1.12 – Solving Equal-Groups Riddles MM p. 35	1.12 ELL Support - TM p. 93 review *equal groups; add equal shares*	1.12
1.13 Readiness – Ordering Objects; Ex Prac – Measuring Masses of Objects Act. Cd 18	1.13 – Estimating with Grams and Kilograms MM p.38	1.13 ELL Support - TM p. 99 comparative *–er in light and heavy*	1.13 Adjusting Activity p. 75; Common Misconception – p. 75

UNIT 2 OVERVIEW

Course Title: Everyday Mathematics 4 – Grade 3

Unit #: **UNIT 2 OVERVIEW** **Unit Title:** Number Stories and Arrays

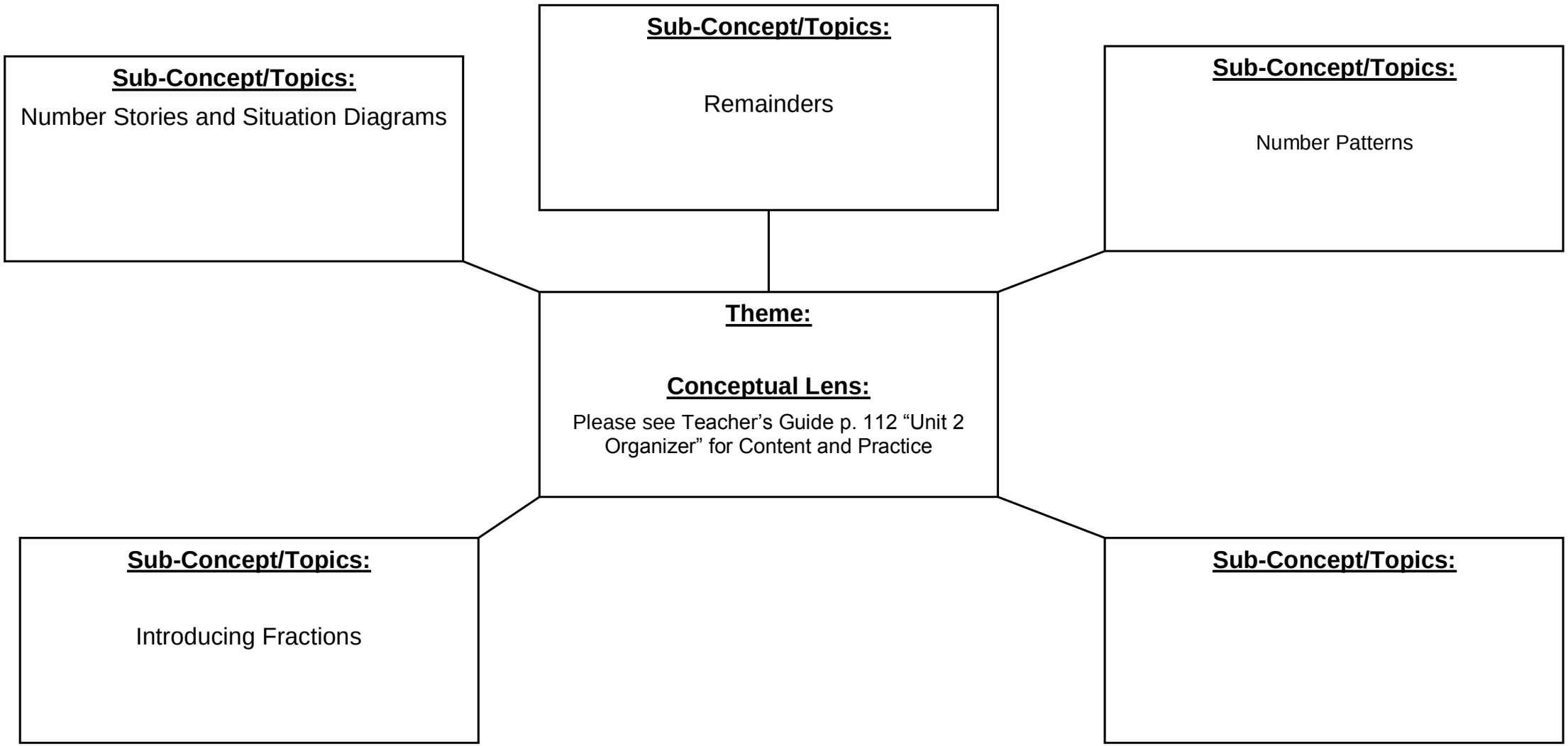
Unit Description and Objectives:

In this unit, children make sense of one- and two- step number stories involving all four arithmetic operations. They represent situations with diagrams, arrays, pictures, words, and number models. Through creating, sharing, comparing, and interpreting representations, children improve their problem-solving strategies and further their understanding that problems can be solved in more than one way.

Essential Questions and Enduring Understandings:

Essential Questions:	**Enduring Understandings/Generalizations** **Students will understand that:**	**Guiding Questions**
1. In what ways can operations affect numbers? (OA) • **How do I represent and solve one- and two-step problems using addition, subtraction, multiplication, and division?** 2. How can a digit's position affect its value? (NBT) • **How do I add/subtract within 1000?**	1. Mathematical operations are used in solving problems in which a new value is produced from one or more values. (OA) • *SW: Interpret multiplication in terms of equal groups by drawing arrays or equal groups to match.* • *SW: Use drawings to interpret whole-number quotients of whole numbers.* • *SW: Solve word problems involving equal groups and arrays.* • *SW: Fluently multiply one-digit numbers by 1,2,5,10* • *SW: Represent two-step addition/subtraction number stories.* 2. Understanding place value can lead to number sense and efficient strategies for computing with numbers. (NBT) • *SW: Add and subtract within 1000 using tools along with strategies based on place value and/or the relationship between addition and subtraction.*	2.1 How can I use basic addition/subtraction facts to solve problems with larger numbers? 2.2, 2.3 How can I use diagrams, pictures, or other representations to solve number stories? 2.4, 2.5 How do I solve 2-step number stories? 2.6 How so I solve problems involving multiples of equal groups? 2.7 How do I solve array problems? 2.8, 2.9, 2.10 How can I solve division number stories using counters and models?

UNIT 2 GRAPHIC ORGANIZER



CURRICULUM UNIT 2 PLAN

Course Title/Grade: Everyday Mathematics 4 – Grade 3
Unit Number/Title: Unit 2
Conceptual Lens: Number Stories and Arrays
Appropriate Time Allocation (# of Days): 15 days

Primary Core Content Standards referenced With Cumulative Progress Indicators

3.OA.1	3.OA.7	SMP1	
3.OA.2	3.OA.8	SMP2	
3.OA.3	3.NBT.2		

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:) Goals for Mathematical Content	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 and Situation Diagrams - Addition/Subtraction/ Multiplication/Division (2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10) • Remainders (2.9, 2.10) • Number Patterns (2-11) • Fractions (2-12)	**UNIT 2 ASSESSED GMCs**: 3.OA.1 Interpret multiplication in terms of equal groups. 3.OA.2 Interpret division in terms of equal shares or equal groups. 3.OA.3 Use multiplication and division to solve number stories; Model number stories involving multiplication and division. 3.OA.7 Multiply/Divide within 100 fluently; Know all products of 1-digit numbers x1, x2, x5, x10 automatically 3.OA.8 Solve 2-step number stories involving 2 of the 4 operations. 3.NBT.2 Add/Subtract within 1,000 fluently.	2.1 Use basic addition and subtraction facts to solve problems with larger numbers. 2.2 Use diagrams or pictures to help solve number stories. 2.3 Use situation diagrams and other representations to help solve number stories. 2.4 Make sense of and solve two-step number stories. 2.5 Solve number stories using two operations. 2.6 Solve problems involving multiples of equal groups and make sense of multiplying by 0 and 1. 2.7 Solve array problems ad play *Array Bingo*. 2.8 Create mathematical representations for solving division problems, discuss solutions, and revise work. 2.9 Solve division number stories and learn about remainders. 2.10 Explore even and odd number patterns and play Division Arrays. 2.11 Review Frames-and-Arrows diagrams and solve problems using the four operations. 2.12 Review fraction circles, liquid volume, and area.	***TM pgs. 112-204*** ***Every lesson includes differentiation options for several groups of learners including Readiness, Enrichment, Extra Practice and Beginning English Language Learner Support. Refer to the TM - Differentiation Options page in each lesson outline for these instructional learning activities. They are also listed on the next page, "Modifications for Special Population Students".*** **Lessons 2.1–– 2.12 – ELA** *Teacher models and reviews key vocabulary terms. Essential content specific vocabulary can be found in the introductory material on the first page of every lesson.* **Daily Math Message in Lessons 2.1-2.12 - Speaking**: *Aloud, students clearly explain their thinking/solution to a problem they have not yet been shown how to solve using math vocabulary*	**Unit 2** **TM Pages 112-204** ***See TM page 114 for complete Unit 2 Materials List*** *Additional materials needed for advanced preparation: • 5" by 7" index cards (2.7) • Guidelines for Discussion Poster (2.8) • Mass Museum items (2.9) • Rectangular	**Standard: 8.1.5.E.1** Use digital tools to research and evaluate the accuracy of, relevance to, and appropriateness of using print and non-print electronic information sources to complete a variety of tasks. *Students utilize a variety of websites and videos as digital tools to analyze, synthesize and solve problems. Online daily assessment checks will provide students with the opportunity to apply and practice lesson concepts and skills.* *http://www.mathplayground.com/common_core_state_standards_for_mathematics_grade_3.html* *http://www.mathplayground.com/mathvideos.html* *https://www.khanacademy.org/commoncore/grade-3-G* *http://newtech.coe.uh.edu/* *(Great resource with hundreds of 21st century activities)* *http://connected.mcgraw-hill.com/connected/login.do* **Standard 8.1.5.F.1** Apply digital tools to collect, organize, and analyze data that support a scientific finding. *In each unit, an open ended*	**Tech Standards:** **8.1.5.E.1** **8.1.5.F.1** **8.2.5.C.1** **8.2.5.D.1** **8.2.5.D.2** **8.2.5.E.1**	Formative Assessments: **Assessment Check-ins:** 2.1 MJ p.32 2.2 MJ pp. 35-36 2.3 MJ pp. 38-39 2.4 MJ p. 41 2.5 MJ p. 44 2.6 MJ p. 46 2.7 MJ p. 48 2.8 Rubric TM p. 172 2.9 MJ p. 52 2.10 MM p. G9 2.11 MJ p. 57 **Exit Slips** **Quizzes** Summative Assessment(s) Unit 2 Self-Assessment Unit 2 Assessment Unit 2 Challenge (optional) Units 1-2 Cumulative Assessment STAR Timed Facts Tests

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:) Goals for Mathematical Content	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:
			Open Response Lessons – Speaking/Listening: *SW listen closely to others' solutions and agree/disagree to specific ideas using appropriate language and set guidelines for discussion.* **Lessons 2.2-2.3 ELA** *TM p. 132 use situation diagrams to organize information and model, create, or solve number stories* **Lessons 2.8, 2.9 ART** *Students represent division problems using drawings.* **Lesson 2.10, 2.11 Speaking/Listening:** *Academic Language Development – To build student's capacity to communicate reasoning and encourage students to ask questions about each other's strategies, provide written sentence/question starters*	items of various sizes (2.12), assorted containers (2.12), dishpan (2.12), pitcher (2.12), empty transparent 2-liter bottle	*response lesson provides opportunities for individuals to collaborate with planning and managing a variety of activities. They collect and analyze data to identify solutions and make informed decisions. Based upon the activity and mastery level of the students in a group, a variety of websites should be used to explore possible solutions.* **Standard 8.2** 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. **8.2.5.C.1, 8.2.5.D.1, 8.2.5.D.2, 8.2.5.E.1** *Through the integration and interdisciplinary connections in each unit, students will develop the understanding that math relates to the individual and global society.* Activity cards and enrichment activities provide a variety of options for developing computational strategies. *The following is an excellent site to access real life collaborative math projects.* http://www.mathwirBe.com/archives/enrichment.html		

Unit 2 Modifications for Special Population Students:

Additional Differentiation Support Pages are available online for each regular lesson.

Struggling Learners	Gifted and Talented Students (Challenge Activities)	English Language Learners (also use ELL online resource – ConnectED)	Special Education Students (Try *Struggling Learners* activities plus the following:)
2.1 Readiness – Practicing Addition and Subtraction Facts with Games and Fact Triangles MJ Act Sheet 4-5; Extra Practice – Solving More Fact Extensions MM p. 46	2.1 Solving Fact Extensions Mentally MM p. 45	2.1 ELL Support – TM p. 125 vocab: *extension*	2.1 Adjusting the Activity – TM p. 127 MM p. TA14; Online Differentiation Support
2.2 Readiness – Matching Number Sentences to Number Stories; Ex Practice – Writing Number Models and Solving Number Stories MM p. 48	2.2 Writing Two Number Models to Fit One Story Act. Card 19	2.2 ELL Support – TM p. 131 Introducing *–un and unknown*	2.2 Differentiate: Game Modifications Online
2.3 Readiness – Changing the Calculator Display MM pp. 50 and TA2; Ex Practice – Writing and Solving Number Stories Act. Card 21	2.3 Writing Number Stories to Match Diagrams Act. Card 20	2.3 ELL Support – TM p. 137 *equal/equation*	2.3 Activity Card 21
2.4 Readiness – Adding and Subtracting on a Number Grid MM p. TA3	2.4 Solving Multistep Number Story, Part 1 MM p. 54	2.4 ELL Support - TM p. 143 *steps*	2.4 Differentiate/Misconception TM p. 145
2.5 Readiness – Modeling Multiplication and Division; Ex Practice – Writing Sticker Stories Act. Card 22	2.5 Solving a Multistep Number Story MM p. 55	2.5 ELL Support - TM p. 149 Role play a number story	2.5 Adjusting the Activity TM p. 151
2.6 Readiness – Making Equal Groups; Ex Practice – Writing Multiplication Stories	2.6 Patterns in Multiplying by 0 and 1 MM p. 57	2.6 ELL Support - TM p. 155 *package*	2.6 Common Misconception TM p. 158
2.7 Readiness – Building Arrays Act. Card 24; Ex Practice – Drawing Arrays for Fact Triangles Act. Card 26	2.7 Building and Predicting with Arrays Act. Card 25	2.7 ELL Support - TM p.161 *rows and columns*	2.7 Adjusting the activity TM p. 162
2.8 Open Response – work with partners, scaffold to meet rubric – Meeting Expectations	2.8 Open Response: Refer to Rubric – Exceeds Expectations	2.8 ELL Support – TM p. 168	2.8 Common Misconception TM p. 169
2.9 Readiness – Making Equal Shares with Pennies Act. Card 27; Ex Practice – Sharing Equally – Act. Card 28	2.9 Division Strips MM p. 63	2.9 ELL Support - TM p. 177	2.9 Common Misconception TM p. 179
2.10 Readiness – Exploring Equal Shares MM p. 66; Ex Practice – Sharing Equally Act. Card 28	2.10 Modeling Division with Base-10 Blocks Act. Card 29	2.10 ELL Support - TM p.183 vocab: *row*	2.10 Adjusting Activity TM p. 185
2.11 Readiness – Writing Fact Families for Different Operations; Ex Practice – Solving Frames-and-Arrows Problems Act. Card 31	2.11 Solving Two-Rule Frames and Arrows Act. Card 30	2.11 ELL Support - TM p. 189 vocab: *frame*	2.11 Adjusting Activity TM p. 192; Common Misconception TM p. 190
2.12 Readiness – Describing Volume; Extra Practice - Finding Letter Areas MM p. 73	2.12 Estimating Area MM p. 72	2.12 ELL Support - TM p. 93 review equal groups; add equal shares	2.12 Adjusting the Activity p. 197

UNIT 3 OVERVIEW

Course Title: Everyday Mathematics 4 – Grade 3

Unit #: **UNIT 3 OVERVIEW** **Unit Title:** Operations

Unit Description and Objectives:

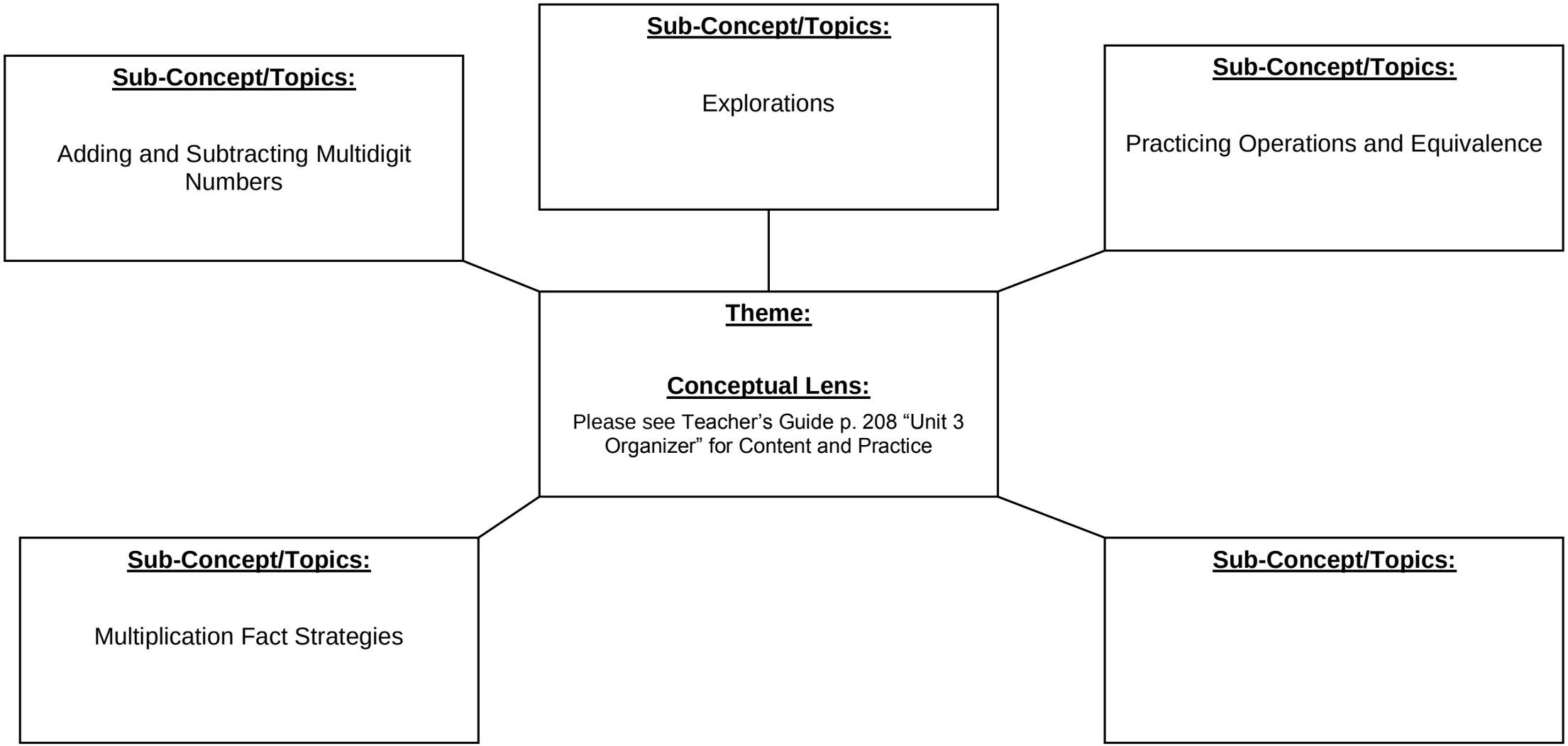
In this unit, children

- Use place value to develop and practice strategies for addition and subtraction of 2- and 3-digit numbers.
- Represent multiplication arrays, and use these representations to develop strategies for solving multiplication facts.

Essential Questions and Enduring Understandings:

Essential Questions:	Enduring Understandings/Generalizations Students will understand that:	Guiding Questions
1. How can different strategies be helpful when solving a problem? (OA) • **What strategies can be used to add, subtract, and multiply numbers?** 2. How can a digit's position affect its value? (NBT) • **How does place value help with adding and subtracting 2- and 3- digit numbers?**	1. Algebraic thinking involves choosing, combining, and applying effective strategies for answering quantitative questions. (OA) • SW: Interpret multiplication by drawing arrays or equal groups and writing number models • SW: Use Commutative Property to solve problems. • SW Fluently multiply 1-digit numbers by 1,2,5,10. • SW: Solve 2-step addition/subtraction stories and assess reasonableness. 2. Understanding place value can lead to number sense and efficient strategies for computing with numbers. (NBT) • SW: Add and subtract within 1000 using a variety of strategies.	3.1 How can I find missing numbers and rules in tables? 3.2 How can I use mental math, rubrics, and others' explanations to make estimates and revise my thinking? 3.3, 3.4 How can I add lager numbers using partial sums and column addition? 3.5, 3.6 How can I subtract using expand and trade or counting-up? 3.8 How can I create scaled picture graphs? 3.9 How can I represent square numbers? 3.10 How can I use the turn-around rule for multiplication? 3.11, 3.12 How do I use the adding/subtracting a group strategy for unknown multiplication facts? 3.13 How can I use all four operations to generate equivalent names for numbers?

UNIT 3 GRAPHIC ORGANIZER



CURRICULUM 3 UNIT PLAN

Course Title/Grade: Everyday Math 4 Curriculum Guide – Grade 3
Unit Number/Title: Unit 3
Conceptual Lens: Operations
Appropriate Time Allocation (# of Days): 16 days

Primary Core Content Standards referenced With Cumulative Progress Indicators			
3.OA.1	3.OA.8	SMP2	
3.OA.5	3.NBT.2	SMP7	
3.OA.7	3.MD.3		

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:) Goals for Mathematical Content	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:
• Estimating Costs (3.2) Estimating Costs (3.2) • Estimating Costs (3.2) • Adding and Subtracting Multi-digit Numbers (3.3, 3.4, 3.5, 3.6) • Explorations (3.7) • Multiplication Fact Strategies (3.9, 3.10, 3.11, 3.12) • Practicing Operations and Equivalence (3-13)	**UNIT 3 ASSESSED GMCs**: 3.OA.1 Interpret multiplication in terms of equal groups. 3.OA.4 Determine the unknown in multiplication and division equations. 3.OA.5 Apply properties of operations to multiply or divide. 3.OA.7 Multiply/Divide within 100 fluently; Know all products of 1-digit numbers x1, x2, x5, x10 and x4, x6, x7, x8 automatically; Know all square products of 1-digit numbers automatically. 3.OA.8 Assess the reasonableness of answers to problems. 3.NBT.1 Use place value understanding to round whole numbers to the nearest 100. 3.NBT.2 Add/subtract within 1,000 fluently. 3.MD.3 Organize and represent data on scaled bar graphs and scaled picture graphs.	3.1 Find missing numbers and rules in "What's My Rule?" tables. 3.2 Make estimates for problems they solve using mental math; examine other's explanations using rubric; revise work. 3.3 Use partial sums addition to add 2- and 3-digit numbers 3.4 Add using column addition 3.5 Review counting-up subtraction. 3.6 Use expand and trade to solve subtraction problems 3.7 Explore different ways to measure area, partition rectangles, and represent data on a scaled bar graph. 3.8 Create scaled picture graphs. 3.9 Discover multiplication squares and begin a fact strategy journal. 3.10 Learn about the turn-around rule for multiplication. 3.11 Develop the adding-aa-group strategy for solving unknown multiplication facts. 3.12 Develop the subtracting-a-group strategy. 3.13 Use all four operations to generate equivalent names for numbers.	***TM pgs. 208 - 311*** ***Every lesson includes differentiation options for several groups of learners including Readiness, Enrichment, Extra Practice and Beginning English Language Learner Support. Refer to the TM - Differentiation Options page in each lesson outline for these instructional learning activities. They are also listed on the next page, "Modifications for Special Population Students".*** **Lessons 3.1–– 3.13 – ELA** *Teacher models and reviews key vocabulary terms. Essential content specific vocabulary can be found in the introductory material on the first page of every lesson.* **Daily Math Message in Lessons 3.1-3.13 - Speaking**: *Aloud, students clearly explain their thinking/solution to a problem they have not yet been shown how to solve using math vocabulary*	**Unit 3** **TM Pages 208-311** ***See TM p. 210 for complete Unit 3 Materials List*** *Additional materials needed for advanced preparation: • Standards for Mathematical Practice Poster (3.2) • Guidelines for Discussion Poser (3.2) • 1-foot square cardboard templates (3.7) • Blank name-collection box for the number 14 and filled-in name collection box for 18 (3.13)	**Standard: 8.1.5.E.1** Use digital tools to research and evaluate the accuracy of, relevance to, and appropriateness of using print and non-print electronic information sources to complete a variety of tasks. *Students utilize a variety of websites and videos as digital tools to analyze, synthesize and solve problems. Online daily assessment checks will provide students with the opportunity to apply and practice lesson concepts and skills.* http://www.mathplayground.com/common_core_state_standards_for_mathematics_grade_3.html http://www.mathplayground.com/mathvideos.html https://www.khanacademy.org/commoncore/grade-3-G http://newtech.coe.uh.edu/ *(Great resource with hundreds of 21st century activities)* http://connected.mcgraw-hill.com/connected/login.do **Standard 8.1.5.F.1** Apply digital tools to collect, organize, and analyze data that support a scientific finding. *In each unit, an open ended response lesson provides*	**Tech Standards:** **8.1.5.E.1** **8.1.5.F.1** **8.2.5.C.1** **8.2.5.D.1** **8.2.5.D.2** **8.2.5.E.1**	**Assessment Check-ins:** 3.1 MJ p. 65 3.2 Rubric TM 232 3.3 MJ p. 69 3.4 MJ p. 71 3.5 MJ p. 73 3.6 MJ p. 75 3.8 MJ p. 82 3.9 MJ p. 86 3.10 MJ p. 88 3.11 MJ p. 90-91 **Exit Slips** **Quizzes** Summative Assessment(s) Unit 3 Self-Assessment Unit 3 Assessment Unit 3 Challenge (optional) Unit 3 Open-Response Assessment STAR Timed Facts Tests

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:) Goals for Mathematical Content	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:
			Open Response Lessons – Speaking/Listening: *SW listen closely to others' solutions and agree/disagree to specific ideas using appropriate language and set guidelines for discussion.* **Lesson 3.6 Music**: Practice: MJ p. 76 *Analyze a bar graph of favorite music types. Review and make connections to various music genres.* **Lesson 3.7 Science:** *Readiness MM p. 91 Create scaled bar graph for favorite zoo animals; review vocab: mammals, reptiles, ocean life* **Lesson 3.9 Science/ELA/ART Literature Link**: Sea Squares *by Joy N. Hulme SW read text then write and draw similar number stories using square numbers and sea animals*		*opportunities for individuals to collaborate with planning and managing a variety of activities. They collect and analyze data to identify solutions and make informed decisions. Based upon the activity and mastery level of the students in a group, a variety of websites should be used to explore possible solutions.* **Standard 8.2** 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. **8.2.5.C.1, 8.2.5.D.1, 8.2.5.D.2, 8.2.5.E.1** *Through the integration and interdisciplinary connections in each unit, students will develop the understanding that math relates to the individual and global society.* Activity cards and enrichment activities provide a variety of options for developing computational strategies. *The following is an excellent site to access real life collaborative math projects.* http://www.mathwirBe.com/archives/enrichment.html		

Unit 3 Modifications for Special Population Students:

Additional Differentiation Support Pages are available online for each regular lesson.

Struggling Learners	Gifted and Talented Students (Challenge Activities)	English Language Learners (also use ELL online resource – ConnectED)	Special Education Students (Try *Struggling Learners* activities plus the following:)
3.1 Readiness – Identifying a Mystery Rule Act. Card 34; Extra Practice – Act. Card 35	3.1 Creating "What's My Rule?" Problems Act. Card 34	3.1 ELL Support – TM p.221 vocab: *input/output*	3.1 Adjusting the Activity – p. 224; Common Misconception TM p.224
3.2 Open Response — Use partners, sentence frames, scaffolds, SRB p. 20 to assist students in Meeting Expectations	3.2 Open Response: Refer to Rubric – Exceeds Expectations	3.2 ELL Support – TM p. 228	3.2 Adjusting the Activity - TM p.229
3.3 Readiness – Modeling with Base-10 Blocks MM p. TA14; Ex Practice – Estimating w/ Partial Sums Activity Card 36	3.3 Playing Shuffle to 1,000 SRB p. 257	3.3 ELL Support – TM p.237 *partial*	3.3 Adjusting the Activity – p. 239
3.4 Readiness – Making Trades with Base-10 Blocks; Extra Practice – Adding w/ Column Addition Act, Card 37	3.4 Using Addition Strategies MM 85	3.4 ELL Support - TM p.243 *columns*	3.4 Differentiate/Misconception TM p. 245
3.5 Readiness – Finding Multiplies of 10 MM p. TA3; Ex Practice – Subtracting on an Open Number Line MM p. 88	3.5 Counting Up Efficiently Act. Card 38	3.5 ELL Support - TM p. 249 *counting up*	3.5 Adjusting the Activity TM p. 252
3.6 Readiness – Trading w/ Base-10 blocks MM p. TA14; Extra Practice – Practicing Expand-and-Trade Subtraction Act. Card 40	3.6 Exploring Subtraction Strategies Act Card 39	3.6 ELL Support TM p.255 - *trade*	3.6 Common Misconception TM p. 257
3.7 Readiness - Making a Scaled Bar Graph MMp. 91; Ex Practice – Measuring Different Areas with 1-Foot Squares	3.7 Partitioning Polygons MM p. 92-93	3.7 ELL Support TM p.261 – *scale*	3.7 Adjusting the Activity TM p. 263; Common Misconception TM p. 264
3.8 Readiness – Completing a Picture Graph MM p. 97; Ex Practice – Drawing a Scaled Picture Graph MM p. 98	3.8 Collecting and Representing Data Act. Card 43	3.8 ELL Support TM p. 267 – *key*	3.8 Adjusting the Activity TM p. 270
3.9 Readiness – Building Arrays for Facts Act. Card 44; Ex Practice – Rolling and recording Squares Act. Card 46	3.9 Writing Multiplication Squares Number Stories Act. Card 45	3.9 ELL Support TM p. 273 - *array*	3.9 Adjusting the Activity TM p. 274
3.10 Readiness – Writing Facts with Dominoes MM p. TA27; Ex Practice – Showing the Turn-Around Rule on a Facts Table MM p. 104	3.10 Exploring the Turn-Around Rule MM p. 103	3.10 ELL Support TM p. 279 – *turn around*	3.10 Game Modifications online connectED
3.11 Readiness – Adding Another Group; Ex Practice – Solving Problems by Adding a Group MM p. 106	3.11 Adding a Group to Helper Facts Act. Card 47	3.11 ELL Support TM p.285 – *helper facts*	3.11 Adjusting Activity TM p.288; Common Misconception TM p. 287-288
3.12 Readiness – Subtracting Another Group; Extra Practice – Solving Problems by Subtracting a Group MM p. 108	3.12 Subtracting a Group from Helper Facts Act. Card 48	3.12 ELL Support TM p.293 – *match/same amount*	3.12 Adjusting the Activity TM p. 295
3.13 Readiness – Representing Equivalent Names Act. Card 49; Extra Practice – Creating Name-Collection Boxes Act. Card 50	3.13 Writing Equivalent Names MM p. 111	3.13 ELL Support TM p. 299 – name box explanation	3.13. Adjusting the Activity TM p. 301; Game Modifications online connectED

UNIT 4 OVERVIEW

Course Title: Everyday Mathematics 4 – Grade 3

Unit #: **UNIT 4 OVERVIEW** **Unit Title:** Measurement and Data

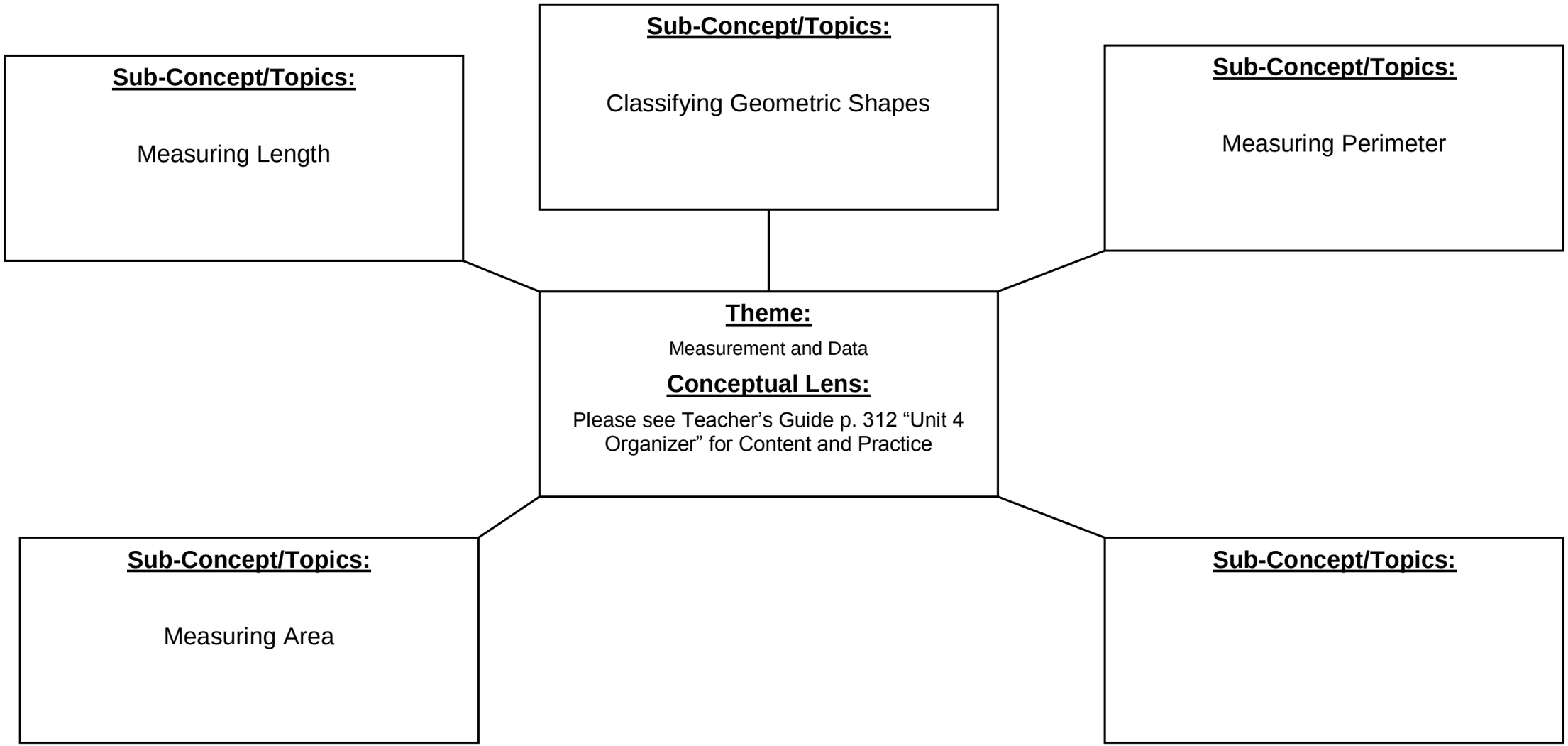
Unit Description and Objectives:

In this unit, children measure to the nearest half inch. Then they generate measurement data and represent it on a scaled line plot. After children explore geometric attributes of polygons and classify quadrilaterals into categories based on their attributes, they identify and measure the perimeters of polygons, and distinguish between perimeter and area. They develop multiple strategies to determine the areas of rectangles and extend those ideas to determine the areas of rectilinear shapes.

Essential Questions and Enduring Understandings:

Essential Questions:	**Enduring Understandings/Generalizations** **Students will understand that:**	**Guiding Questions**
1. Why does "what" we measure influence "how" we measure? (MD) • **How do I measure and represent length?** • **How can I measure area in different ways?** • **How do I measure perimeter of polygons?** 2. How does geometry better describe objects? (G) • **How do I describe and classify polygons using attributes?**	1. Measurement processes are used in everyday life to describe and quantify the world. (MD) • SW: Measure lengths to the nearest ½ inch and represent the data on a line plot. • SW: Recognize area as an attribute of plane figures. • SW: Measure areas by counting unit squares and by tiling. • SW: Solve problems involving perimeters of polygons. 2. Geometric attributes (such as shapes, lines, angles, figures, and planes) provide descriptive information about an object's properties and position in space and support visualization and problem solving. • SW: Understand that shapes in different categories may share attributes.	4.1, 4.3 How do I measure to the nearest half-inch and centimeter? 4.2 How do I represent measurement data on a line plot? 4.4 What are the characteristics of polygons? 4.5 How can I classify quadrilaterals? 4.6 How do I measure perimeter of polygons? 4.7, 4.10 How do I distinguish between and find area and perimeter? 4.8, 4.9 How do I find the area of a rectangle? 4.11 How do I create models to solve area problems, discuss/compare models to others', and revise work? 4.12 How do I find the area of a rectilinear figure?

UNIT 4 GRAPHIC ORGANIZER



CURRICULUM UNIT 4 PLAN

Course Title/Grade: Everyday Math 4 Curriculum Guide – Grade 3
Unit Number/Title: Unit 4
Conceptual Lens: Measurement and Data
Appropriate Time Allocation (# of Days)**:** 15 days

Primary Core Content Standards referenced With Cumulative Progress Indicators			
3.MD.4	3.MD.7	SMP6	
3.MD.5	3.MD.8	SMP7	
3.MD.6	3.G.1		

Topics/Concepts (Incl. time / # days per topic)	**Critical Content (Students Will Know:) Goals for Mathematical Content**	**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:**
• Measuring Length (4.1, 4.2) • Classifying Geometric Shapes (4.4, 4.5) • Measuring Perimeter and Area (4.6, 4.7, 4.8, 4.9, 4.10, 4.11, 4.12)	**UNIT 4 ASSESSED GMCs**: 3.MD.4 Measure lengths to the nearest ½ inch, ¼ inch, or whole centimeter; Collect, organize, and represent data on line plots. 3.MD.5, 3.MD.5a Understand that a unit square has 1 square unit of area and can measure area 3.MD.5, 3MD.5b Understand that a plane figure completely covered by *n* unit squares has an area *n* square units. 3.MD.6 Measure area by counting unit squares. 3.MD.7a Show that tiling a rectangle results in the same area as multiplying its side lengths. 3.MD.7b Multiply side lengths to find areas of rectangles; Solve real-world and mathematical problems involving areas of rectangles. 3.MD.7d Recognize area as additive; Find areas of rectilinear figures by decomposing them into non-overlapping rectangles, and apply this techniques to solve real-world problems 3.MD.8 Solve problems involving perimeters of polygons. 3.G.1 Understand that shapes in	4.1 Measure to the nearest half inch and centimeter. 4.2 Generate measurement data and represent the data on a line plot. 4.3 Measure distances around objects to the nearest half inch, compare masses, and determine distances in half-inch increments. 4.4 Review characteristics of polygons. 4.5 Classify quadrilaterals. 4.6 Identify and measure perimeters of rectangles and other polygons. 4.7 Distinguish between perimeter and area. 4.8 Find the area of a rectangle by using composite units. 4.9 Find areas of rectangles and write matching number sentences. 4.10 Develop strategies for finding area and perimeter while playing *The Area and Perimeter Game*. 4.11 Create and use models to solve area problems, compare and discuss models and explanations with others, revise work 4.12 Find areas of rectilinear figures.	***TM pgs. 312-406*** ***Every lesson includes differentiation options for several groups of learners including Readiness, Enrichment, Extra Practice and Beginning English Language Learner Support. Refer to the TM - Differentiation Options page in each lesson outline for these instructional learning activities. They are also listed on the next page, "Modifications for Special Population Students".*** **Lessons 4.1-– 4.12 – ELA** *Teacher models and reviews key vocabulary terms. Essential content specific vocabulary can be found in the introductory material on the first page of every lesson.* **Daily Math Message in Lessons 4.1-4.12 - Speaking**: *Aloud, students clearly explain their thinking/solution to a problem they have not yet been shown how to solve using math vocabulary* **Open Response Lessons – Speaking/Listening:** *SW listen closely to others' solutions and agree/disagree to specific ideas using appropriate language and set guidelines for discussion.*	**Unit 4** **TM Pages 312-406** ***See page 314 for complete Unit 4 Materials List*** *Additional materials needed for advanced preparation: • 15 and 16 cm-long pencils (4.1) • Two-Dimensional Shapes Poster (4.4) • 1-foot squares (4.8) • Standards for Mathematical Practice Poster, Guidelines for Discussion Poster (4.11)	**Standard: 8.1.5.E.1** Use digital tools to research and evaluate the accuracy of, relevance to, and appropriateness of using print and non-print electronic information sources to complete a variety of tasks. *Students utilize a variety of websites and videos as digital tools to analyze, synthesize and solve problems. Online daily assessment checks will provide students with the opportunity to apply and practice lesson concepts and skills.* *http://www.mathplayground.com/common_core_state_standards_for_mathematics_grade_3.html* *http://www.mathplayground.com/mathvideos.html* *https://www.khanacademy.org/commoncore/grade-3-G* *http://newtech.coe.uh.edu/* *(Great resource with hundreds of 21st century activities)* *http://connected.mcgraw-hill.com/connected/login.do* **Standard 8.1.5.F.1** Apply digital tools to collect, organize, and analyze data that support a scientific finding. *In each unit, an open ended response lesson provides*	**8.1.5.E.1** **8.1.5.F.1** **8.2.5.C.1** **8.2.5.D.1** **8.2.5.D.2** **8.2.5.E.1**	**Assessment Check-ins:** 4.1 MJ p. 99 4.2 MJ p. 103 4.4 TM p. 346 4.5 MJ p. 112 4.6 TM p. 358 4.7 MJ p. 117 4.8 MJ p. 120 4.9 MJ p. 125 4.10 MM G16 4.11 Rubric TM p. 392 4.12 MJ p. 131 **Exit Slips** **Quizzes** Summative Assessment(s) Unit 4 Self-Assessment Unit 4 Assessment Unit 4 Challenge (optional) Unit 1-4 Cumulative Assessment STAR Timed Facts Tests

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:) Goals for Mathematical Content	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:
	different categories may share attributes that can define a larger category; Recognize specified subcategories of quadrilaterals.		**Lesson 4.2 Science** : *Readiness MM p, 121 Planting Plot Heights - SW use plant height data to create a line plot; connect to how plants grow at different rates* **Lesson 4.2 Science**: *MJ p. 105 SW create a picture graph for the average snowfall in various US cities; relate to changes in climate and precipitation in different locations on earth* **Lesson 4.3 Art/ELA** *Ex Practice TM 337 Write a description or draw a sketch of an object in the room and record distance around it* **Lesson 4.4 ART** *Act Card 57 Construct polygons using straws and twist ties, then compare and describe each* **Lesson 4.5 ELA** *Literature Link: Grandfather's Tang's Story by Ann Tompert - SW use tangrams to solve one of the puzzles in the story* **4.7 ELA:** Ex Practice -Act. Card 59 Spaghetti and Meatballs for All! By Marilyn Burns SW read story then model different arrangements of table (square pattern blocks) that hold 32 chairs		*opportunities for individuals to collaborate with planning and managing a variety of activities. They collect and analyze data to identify solutions and make informed decisions. Based upon the activity and mastery level of the students in a group, a variety of websites should be used to explore possible solutions.* **Standard 8.2** 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. **8.2.5.C.1, 8.2.5.D.1, 8.2.5.D.2, 8.2.5.E.1** *Through the integration and interdisciplinary connections in each unit, students will develop the understanding that math relates to the individual and global society.* Activity cards and enrichment activities provide a variety of options for developing computational strategies. *The following is an excellent site to access real life collaborative math projects.* http://www.mathwirBe.com/archives/enrichment.html		

Unit 4 Modifications for Special Population Students:

Additional Differentiation Support Pages are available online for each regular lesson.

Struggling Learners	Gifted and Talented Students (Challenge Activities)	English Language Learners (also use ELL online resource – ConnectED)	Special Education Students (Try *Struggling Learners* activities plus the following:)
4.1 Readiness – Measuring Length; Extra Practice – Measuring Objects Act. Card 51	4.1 Measuring with Different Rulers MM p. 118	4.1 ELL Support – TM p. 325 vocab: *nearest*	4.1 Common Misconception – TM p. 327
4.2 Readiness - Plotting Plant Heights MM p. 121; Ex Practice – Making a Line Plot Act. Card 53	4.2 Making a Line Plot of Hand Spans Act. 52	4.2 ELL Support – TM p. 331 *order*	4.2 Common Misconception – TM p. 333
4.3 Readiness - Counting Half Inches MM TA30; Ex Practice – Measuring Distances Around Objects	4.3 Finding More Benchmarks	4.3 ELL Support – TM p. 337 *yardstick, meter stick, ruler, tape measure*	4.3 Adjusting the Activity - TM p. 340; Game Modifications online connectED
4.4 Readiness – Identifying Parallel Lines; Ex Practice – Constructing Polygons with Straws and Twist Ties Act. Card 57	4.4 Exploring Polygon Attributes Act. Card 56	4.4 ELL Support - TM p. 343 *curved, straight, line segment, vertex, etc.*	4.4 Differentiate/Misconception TM p. 345; Game Modifications online connectED
4.5 Readiness – Reviewing Attributes of Shapes; Ex Practice – Playing *Shading Shapes* Act. Card 58	4.5 Exploring Quadrilaterals in Tangrams MM p. 128	4.5 ELL Support - TM p.349 *angle, right angle, parallel*	4.5 Common Misconception – TM p. 351
4.6 Readiness – Measuring to the Nearest ½ Inch; Ex Practice – Finding the Perimeters of Polygons MM p. 130	4.6 Exploring Perimeter MM p. TA19	4.6 ELL Support - TM p. 355 *face*	4.6 Common Misconception TM p. 357
4.7 Readiness – Measuring Perimeter; Ex Practice – Reading About Area and Perimeter Act. Card 59	4.7 Exploring Area MM p. TA19	4.7 ELL Support - TM p. 361 *cover*	4.7 Differentiate/Misconception TM p. 365; Game Modifications online connectED
4.8 Readiness – Using Squares to Find Area and Perimeter MM p. 134; Ex Practice – Measuring Area with Composite Units MM p. 136	4.8 Exploring Area with Composite Units MM p. 135	4.8 ELL Support - TM p. 369 *rows and columns*	4.8 Adjusting Activity TM p.371-372
4.9 Readiness – Modeling Area with a Geoboard; Ex Practice – Finding Area of Rectangles MM p. 138	4.9 Investigating Area and Perimeter Act. Card 60	4.9 ELL Support - TM p. 375 *array*	4.9 Adjusting Activity TM p.377
4.10 Readiness – Identifying Perimeter and Area; Ex Practice – Playing *The Area and Perimeter Game* SRB pp. 230-231	4.10 Finding and Comparing Areas MM p. 141	4.10 ELL Support - TM p.381 *deck of cards*	4.10 Differentiate/Misconception TM p. 383; Game Modifications online connectED
4.11 Use rubric on TM p. 392 and MM p. TA6	4.11 Open Response: Refer to Rubric – Exceeds Expectations	4.11 ELL Support Online	4.11 Common Misconception TM p. 388; Adjusting Activity TM p.388, 389, 394
4.12 Readiness – Dividing Polygons into Rectangles MM p. 146; Extra Practice – Finding the Area of a Rectilinear Figure Act. Card 61	4.12 Decomposing Same-Size Rectilinear Figures MM p. 147	4.12 ELL Support - TM p. 397 *partition*	4.12 Common Misconception TM p. 399

UNIT 5 OVERVIEW

Course Title: Everyday Mathematics 4 – Grade 3

Unit #: **UNIT 5 OVERVIEW** **Unit Title:** Fractions and Multiplication Strategies

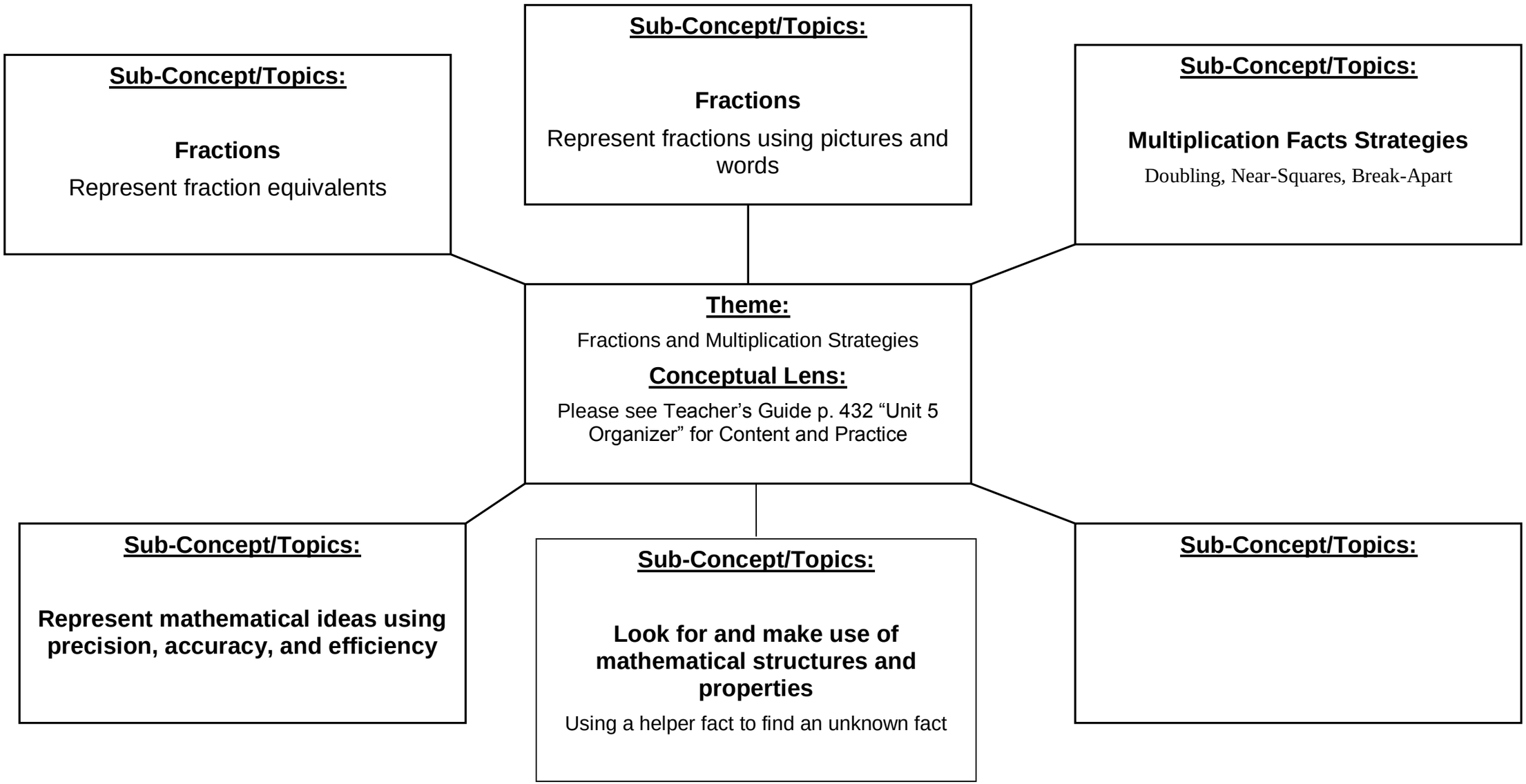
Unit Description and Objectives:

In Unit 5, children relate their part-whole understanding of fractions to visual and symbolic representations, including standard notation, and begin to explore fraction equivalence. They also develop multiplication fact strategies by working from their understanding of multiplication and known facts to find unfamiliar products by using arrays, area models, and properties of multiplication.

Essential Questions and Enduring Understandings:

Essential Questions:	Enduring Understandings/Generalizations Students will understand that:	Guiding Questions
1.In what ways can operations affect numbers? (OA) • **Which strategies can be used to solve multiplication problems?** 2.Why express quantities, measurements, and number relationships in different ways? (NF) • **How can I represent different fractions?** 3.Why does "what" we measure influence "how" we measure? (MD) • **How can I find the area of a rectangle?**	1. Mathematical operations are used in solving problems in which a new value is produced from one or more values.(OA) • SW: Interpret products of whole numbers. • SW: Use multiplication within 100 to solve word problems • SW: Use the adding/subtracting a group (distributive property) to multiply. • SW: Know from memory all products of 1-digit numbers and ten; Fluently multiply within 100 2. Fractions and decimals allow for quantities to be expressed with greater precision than with just whole numbers. (NF) • SW: Represent unit and non-unit fractions using pictures, words, and fraction circles. 3. Measurement processes are used in everyday life to describe and quantify the world. (MD) • Find area by tiling; recognize area as length x width.	5.1 How can I represent equal parts, fractions of wholes, and area? 5.2, 5.3 How can I represent fractions using standard notation, words, and drawings? 5.4 How can I use helper facts to solve more difficult multiplication facts? 5.5, 5.6 How can I use the doubling strategy to solve area problems and multiplication facts? 5.7 How can I identify and explain patterns? 5.9 How can I use the near-square strategy? 5.10 How can I revise my work by comparing solutions to a number story with other students? 5.11 How can I use the break-apart strategy?

UNIT 5 GRAPHIC ORGANIZER



CURRICULUM 5 UNIT PLAN

Course Title/Grade: Everyday Math 4 Curriculum Guide – Grade 3
Unit Number/Title: Unit 5
Conceptual Lens: Fractions and Multiplication Strategies
Appropriate Time Allocation (# of Days)**:** 14 days

Primary Core Content Standards referenced With Cumulative Progress Indicators

3.OA.1	3.OA.7	3.MD.7	
3.OA.3	3.OA.9	SMP6	
3.OA.5	3.NF.1	SMP7	

Topics/Concepts (Incl. time / # days per topic)	**Critical Content (Students Will Know:) Goals for Mathematical Content**	**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:**
• Representing Fractions (5.1, 5.2, 5.3) Using pictures and words Equivalents • Multiplication Facts Strategies (5.4, 5.5, 5.6, 5.9, 5.11) Doubling, Near-Squares, Break-Apart	**UNIT 5 ASSESSED GMCs**: 3.OA.1 Interpret multiplication in terms of equal groups. 3.OA.4 Determine the unknown in multiplication and division equations. 3.OA.5 Apply properties of operations to multiply or divide. 3.OA.6 Understand division as an unknown-factor problem. 3.OA.7 Multiply and divide within 100 fluently; ; Know all products of 1-digit numbers x1, x2, x5, x10 and x4, x6, x7, x8, and x0, x3, and x9 automatically 3.OA.9 Identify arithmetic patterns and explain them using properties of operations. 3.NF.1 Understand, identify, and represent unit fractions as 1 part when a whole is divided into b equal parts; Understand, identify, and represent non-unit fractions as the quantity formed by parts of size 1/b. 3.NF.3 Recognize equivalent fractions and fraction comparisons 3.MD.7 Find the area of a rectangle with whole number side lengths; recognize area as *l* x *w*.	5.1 Represent fractions as equal parts of different wholes, and find all shapes with a given area. 5.2 Represent fractions using standard notation, words, and drawings. 5.3 Recognize equivalent fractions using a visual fraction model. 5.4 Use known multiplication facts to solve harder multiplication facts. 5.5 Explore the use of doubling to solve number stories involving area. 5.6 Use the doubling strategy to solve multiplication facts. 5.7 Identify and explain arithmetic patterns using properties of operations. 5.8 Play *Salute!* To find missing factors. 5.9 Use square products to find products of near squares. 5.10 Make sense of and solve a number story, compare solutions and explanations, revise work. 5.11 Decompose factors to solve multiplication facts.	***TM pgs. 432-525*** ***Every lesson includes differentiation options for several groups of learners including Readiness, Enrichment, Extra Practice and Beginning English Language Learner Support. Refer to the TM - Differentiation Options page in each lesson outline for these instructional learning activities. They are also listed on the next page, "Modifications for Special Population Students".*** **Lessons 5.1–– 5.11 – ELA** *Teacher models and reviews key vocabulary terms. Essential content specific vocabulary can be found in the introductory material on the first page of every lesson.* **Daily Math Message in Lessons 5.1-5.11 - Speaking**: *Aloud, students clearly explain their thinking/solution to a problem they have not yet been shown how to solve using math vocabulary* **Open Response Lessons – Speaking/Listening:** *SW listen closely to others' solutions and agree/disagree to specific ideas using appropriate language and set guidelines for discussion.*	**Unit 5** **TM Pages 432-525** ***See page 434 for complete Unit 5 Materials List*** *Additional materials needed for advanced preparation: • Two 2- by-7 inch rectangles; one 4-by7 inch rectangle (5.5) • Prepared Number-Grid poster (See lesson 5.7 *Before You Begin*) • Large poster paper (5.9)	**Standard: 8.1.5.E.1** Use digital tools to research and evaluate the accuracy of, relevance to, and appropriateness of using print and non-print electronic information sources to complete a variety of tasks. *Students utilize a variety of websites and videos as digital tools to analyze, synthesize and solve problems. Online daily assessment checks will provide students with the opportunity to apply and practice lesson concepts and skills.* http://www.mathplayground.com/common_core_state_standards_for_mathematics_grade_3.html http://www.mathplayground.com/mathvideos.html https://www.khanacademy.org/commoncore/grade-3-G http://newtech.coe.uh.edu/ *(Great resource with hundreds of 21st century activities)* http://connected.mcgraw-hill.com/connected/login.do **Standard 8.1.5.F.1** Apply digital tools to collect, organize, and analyze data that support a scientific finding. *In each unit, an open ended response lesson provides*	**Tech Standards:** **8.1.5.E.1** **8.1.5.F.1** **8.2.5.C.1** **8.2.5.D.1** **8.2.5.D.2** **8.2.5.E.1**	**Assessment Check-ins:** 5.2 MJ p. 154 5.3 MJ p. 157 5.4 MJ p. 464 5.5 MJ p. 164-165 5.6 MJ p. 169 5.7 MJ p.175 5.8 TM 494 5.9 MJ p. 181 5.10 Rubric TM 508 5.11 MJ p. 186 **Exit Slips** **Quizzes** Summative Assessment(s) Unit 5 Self-Assessment Unit 5 Assessment Unit 5 Challenge (optional) Unit 5 Open-Response Assessment STAR Timed Facts Tests

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:) Goals for Mathematical Content	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:
			Lesson 5.2 ELA: *Readiness - Teacher reads:* Eating Fractions *by Bruce McMillan; SW recognize different fractions and display examples of fraction pieces equaling ½.* ***Lesson 5.2 ART:*** *Enrichment MM 161 Calculating Number of Mosaic Tiles SW learn the term* mosaic *and use it to solve the problem* ***Lesson 5.5 ART*** *TM 475 MJ 164-165 SW sketch art tables to practice doubling to find new areas* ***Lesson 5.5 ELA*** *MJ 166 SW discuss different genres as they analyze data about a graph on checked-out library books* ***Lesson 5.9 Art/ELA*** *Enrichment Act Card 68 SW use drawings and descriptions to create near-square strategy posters* **Lesson 5.10 ART**: *MM 178 SW draw button dolls to solve a problem*		*opportunities for individuals to collaborate with planning and managing a variety of activities. They collect and analyze data to identify solutions and make informed decisions. Based upon the activity and mastery level of the students in a group, a variety of websites should be used to explore possible solutions.* **Standard 8.2** 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. **8.2.5.C.1, 8.2.5.D.1, 8.2.5.D.2, 8.2.5.E.1** *Through the integration and interdisciplinary connections in each unit, students will develop the understanding that math relates to the individual and global society.* Activity cards and enrichment activities provide a variety of options for developing computational strategies. *The following is an excellent site to access real life collaborative math projects.* http://www.mathwirBe.com/archives/enrichment.html		

Unit 5 Modifications for Special Population Students:

Additional Differentiation Support Pages are available online for each regular lesson.

Struggling Learners	Gifted and Talented Students (Challenge Activities)	English Language Learners (also use ELL online resource – ConnectED)	Special Education Students (Try *Struggling Learners* activities plus the following:)
5.1 Readiness – Exploring Fractions MM p. 153;	5.1 MM p. Completing the Whole MM p. 154	5.1 ELL Support – TM p. 445 vocab: *whole and hole*	5.1 Extra Practice – Partitioning Halves of Different Holes MM p. 155
5.2 Readiness – Recognizing Fractions in Literature; Ex Practice – Exploring Numerators and Denominators MM p. 158	5.2 Comparing Fractional Amounts MM p. 157	5.3 ELL Support – TM p. 451 *four = fourths, etc.*	5.2 Adjusting the Activity TM p. 454
5.3 Readiness – Completing a Name-Collection Box MM p. TA28; Ex Practice – Playing *Fraction Memory* SRB pp. 243-244	5.3 Looking for Patterns in Fractions MJ p. 157	5.3 ELL Support – TM p. 459 *equivalent*	5.3 Adjusting the Activity TM p. 461
5.4 Readiness – Playing Multiplication Draw SRB p. 248; Ex Practice – Identifying Helper Facts Act. Card 64	5.4 Calculating the Number of Mosaic Tiles MM p. 161	5.4 ELL Support – TM p. 465 *helper facts*	5.4 Adjusting the Activity p. 467, 468
5.5 Readiness – Finding the Areas of Rectangles MM p. 163; Ex Practice – Doubling the Area of a Rectangle MM p. 165-166	5.5 Exploring Factor Patterns MM p. 164	5.5 ELL Support - TM p. 471 *double*	5.5 Common Misconception TM p. 474
5.6 Readiness – Finding the Area of a Rectangle by Dividing It MM p. 168; Ex Practice – Cutting a Rectangle in Half to Find Area MM pp. 170-171	5.6 Solving an Allowance Problem MM p. 169	5.6 ELL Support - TM p.479 *double*	5.6 Adjusting the Activity TM p.481
5.7 Readiness – Finding Patterns in the Number Grid MM p. TA3; Ex Practice – Finding More Patterns on the Number Grid Act. Card 65	5.7 Exploring a Pattern SRB pp. 56 and 71	5.7 ELL Support -TM p. 485 *pattern*	5.7 Adjusting the Activity TM p. 488
5.8 Readiness – Using Multiplication to Solve Division Problems; Ex Practice – Sorting Fact Triangles Act. Card 67	5.8 Extending Fact Families Act. Card 66	5.8 ELL Support - TM p. 491 *missing*	5.8 Adjusting the Activity TM p. 494
5.9 Readiness – Rolling and Recording Squares Act. Card 46; Ex Practice – Sketching Square and Near-Square Arrays Act. Card 69	5.9 Making Near-Square Strategy Posters Act. Card 68	5.9 ELL Support - TM p. 497 *near*	5.9 Adjusting the Activity TM p. 498
5.10 Open Response — Use rubric for Meeting Expectations TM 508 and MM TA6	5.10 Open Response: Refer to Rubric – Exceeds Expectations	5.10 ELL Support – TM p. 504	5.10 Adjusting the Activity TM p. 505
5.11 Readiness – Decomposing a Rectangle; Ex Practice – Matching Facts to Strategies Act. Card 70	5.11 Extending the Break-Apart Strategy MM p. 181	5.11 ELL Support -TM p. 513 *break apart*	5.11 Adjusting Activity TM p. 515, 516, Game Modifications online; connectED

UNIT 6 OVERVIEW

Course Title: Everyday Mathematics 4 – Grade 3

Unit #: **UNIT 6 OVERVIEW** **Unit Title:** More Operations

Unit Description and Objectives:

In this unit, children compare different approaches to solving the same problem and reflect on which strategies are more efficient and appropriate. Children continue to take inventory of known multiplication facts, which can then be used to derive remaining unknown facts. They model multistep number stories with one or more equations and represent the unknown quantities with letters. Children are also introduced to the order of operations and learn how parentheses function as grouping symbols that affect the order of operations.

Essential Questions and Enduring Understandings:

Essential Questions:	**Enduring Understandings/Generalizations** **Students will understand that:**	**Guiding Questions**
1. In what ways can operations affect numbers? (OA) • **How can I use strategies to multiply?** • **How can I use the order of operations to solve problems?** 2. How can different strategies be helpful when solving a problem? (OA) • **How can I represent and solve for an unknown?** 3. How can a digit's position affect its value? (NBT) • **How can place value be used to add, subtract, and round numbers?**	1. Mathematical operations are used in solving problems in which a new value is produced from one or more values. (OA) • SW: Use multiplication within 100 to solve equal group number stories • SW: Use doubling and break-apart as strategies to multiply. • SW: Fluently multiply within 100; know from memory all square products and products of 1-digit numbers and 1,2,5,10. 2. Algebraic thinking involves choosing, combining, and applying effective strategies for answering quantitative questions. (OA) • SW: Determine the unknown whole number in a multiplication equation. 3. Understanding place value can lead to number sense and efficient strategies for computing with numbers. (NBT) • Fluently add/subtract within 1000 using strategies based on algorithms and place value.	6.1 How can I use the trade-first method to subtract? 6.3 How can I use square products as helper facts? 6.7 How can I use multiplication/division diagram to solve problems? 6.8 How are parenthesis used in number sentences? 6.9 How do I write a two-step number story, analyze others' stories, and revise my work? 6.10 How can I use the order of operations to solve multistep problems? 6.11 How can I solve and represent number stories with equations?

UNIT 6 GRAPHIC ORGANIZER

Sub-Concept/Topics:

Multiplication Facts Strategies

Sub-Concept/Topics:

Relationship between Multiplication and Division

Sub-Concept/Topics:

Solving Multistep Problems

Theme:

More Operations

Conceptual Lens:

Please see Teacher's Guide p. 2 "Unit 6 Organizer" for Content and Practice

Sub-Concept/Topics:

Subtracting Multi-Digit Numbers

Sub-Concept/Topics:

CURRICULUM UNIT 6 PLAN

Course Title/Grade: Everyday Math 4 Curriculum Guide – Grade 3

Unit Number/Title: Unit 6

Conceptual Lens: More Operations

Appropriate Time Allocation (# of Days): 14 days

Primary Core Content Standards referenced With Cumulative Progress Indicators

3.OA.3	3.OA.7	SMP1	
3.OA.4	3.OA.8	SMP3	
3.OA.5	3.NBT.2		

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:) Goals for Mathematical Content	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:
• Subtracting Multi-digit Numbers (6.1) • Multiplication Facts Strategies (6.2, 6.3, 6.4) • Relationship Between Multiplication and Division (6.6) • Solving Multistep Problems (6.8, 6.9, 6.10, 6.11)	**UNIT 6 ASSESSED GMCs**: 3.OA.3 Use multiplication and division to solve number stories; Model number stories involving multiplication and division. 3.OA.4 Determine the unknown in multiplication and division equations. 3.OA.5 Apply properties of operations to multiply or divide. 3.OA.7 Multiply and divide within 100 fluently; Know all products of 1-digit numbers x1, x2, x5, x10 and x4, x6, x7, x8, and x0, x3, and x9 automatically; Know all square products of 1-digit numbers automatically. 3.OA.8 Solve 2-step number stories involving 2 of the 4 operations; Model 2-step number stories with equations, using a letter or symbol for the unknown; Understand that grouping symbols affect the order in which operations are performed; Apply the order of operations when grouping symbols are not present. 3.NBT.2 Add/subtract within 1,000 fluently.	6.1 Use the trade-first method to solve subtraction problems. 6.2 Play *Baseball Multiplication* to build fact fluency. 6.3 Use square products as helper facts to find products of near squares. 6.4 Children self-assess their automaticity with multiplication facts. 6.5 Children construct quadrilaterals, measure and plot distances to the nearest half inch, and compare perimeter measurements of polygons. 6.6 Use multiplication/division diagrams to make sense of and solve number stories. Use multiplication/division diagrams to make sense of and solve number stories. 6.7 Play *Multiplication Top-It* and apply strategies to multiply larger factors. 6.8 Use parentheses in number sentences.	***TM pgs. 526-615*** ***Every lesson includes differentiation options for several groups of learners including Readiness, Enrichment, Extra Practice and Beginning English Language Learner Support. Refer to the TM - Differentiation Options page in each lesson outline for these instructional learning activities. They are also listed on the next page, "Modifications for Special Population Students".*** **Lessons 6.1-– 6.11 – ELA** *Teacher models and reviews key vocabulary terms. Essential content specific vocabulary can be found in the introductory material on the first page of every lesson.* **Daily Math Message Lessons 6.1-6.11 - Speaking**: *Aloud, students clearly explain their thinking/solution to a problem they have not yet been shown how to solve using math vocabulary*	**Unit 6** **TM Pages 526-615** ***See TM page 528 for complete Unit 6 Materials List*** *Additional materials needed for advanced preparation: • Large poster paper (6.1) • Baseball diamond photos or videos (6.2) • Fact wheel (6.4) • Twist ties; class line plot; pennies; opaque container such as a paper bag or empty tissue box; 10 small stickers per child (6.5) • Shape Cards (6.8) • 1 scientific and 1 four-function calculator per group (6.10)	**Standard: 8.1.5.E.1** Use digital tools to research and evaluate the accuracy of, relevance to, and appropriateness of using print and non-print electronic information sources to complete a variety of tasks. *Students utilize a variety of websites and videos as digital tools to analyze, synthesize and solve problems. Online daily assessment checks will provide students with the opportunity to apply and practice lesson concepts and skills.* http://www.mathplayground.com/common_core_state_standards_for_mathematics_grade_3.html http://www.mathplayground.com/mathvideos.html https://www.khanacademy.org/commoncore/grade-3-G http://newtech.coe.uh.edu/ *(Great resource with hundreds of 21st century activities)* http://connected.mcgraw-hill.com/connected/login.do **Standard 8.1.5.F.1** Apply digital tools to collect, organize, and analyze data that support a scientific finding. *In each unit, an open ended*	**Tech Standards:** **8.1.5.E.1** **8.1.5.F.1** **8.2.5.C.1** **8.2.5.D.1** **8.2.5.D.2** **8.2.5.E.1**	**Assessment Check-ins:** 6.1 MJ p. 190 6.2 TM p. 548 6.3 MJ p. 194 6.4 TM p. 559 6.6 MJ p. 200-201 6.7 MJ p. 204 6.8 MJ p. 207 6.9 Rubric TM p. 594 6.10 MJ p. 212 6.11 MJ p. 215 **Exit Slips** **Quizzes** Summative Assessment(s) Unit 6 Self-Assessment Unit 6 Assessment Unit 6 Challenge (optional) Unit 1-6 Cumulative Assessment STAR Timed Facts Tests

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:) Goals for Mathematical Content	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:
		6.9 Write a two-step number story to fit a number sentence; Analyze others' number stories and revise their work. 6.10 Use the order of operations to solve multistep problems. 6.11 Solve two-step number stories and represent them with equations.	**Open Response Lessons – Speaking/Listening:** *SW listen closely to others' solutions and agree/disagree to specific ideas using appropriate language and set guidelines for discussion.* **Lesson 6.2 Phys. Ed:** *TM 545-548 - Playing Baseball Multiplication SW review and apply baseball rules to play the game and answer questions about it; Multiplication Riddles MJ 192 – SW use baseball vocab to solve riddles* **Lesson 6.5 ART:** *Exploration - SW Create polygons using straws and twist ties; then do the same using partner's descriptions* **Lesson 6.6 ELA/ART:** *Readiness and Enrichment – SW draw pictures to solve multiplication stories, then write their own number stories that can be solved with division* **Lesson 6.9 ELA:** *SW create their own 2-step number stories and analyze those of others*		*response lesson provides opportunities for individuals to collaborate with planning and managing a variety of activities. They collect and analyze data to identify solutions and make informed decisions. Based upon the activity and mastery level of the students in a group, a variety of websites should be used to explore possible solutions.* **Standard 8.2** 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. **8.2.5.C.1, 8.2.5.D.1, 8.2.5.D.2, 8.2.5.E.1** *Through the integration and interdisciplinary connections in each unit, students will develop the understanding that math relates to the individual and global society.* Activity cards and enrichment activities provide a variety of options for developing computational strategies. *The following is an excellent site to access real life collaborative math projects.* http://www.mathwirBe.com/archives/enrichment.html		

Unit 6 Modifications for Special Population Students:

Additional Differentiation Support Pages are available online for each regular lesson.

Struggling Learners	Gifted and Talented Students (Challenge Activities)	English Language Learners (also use ELL online resource – ConnectED)	Special Education Students (Try *Struggling Learners* activities plus the following:)
6.1 Readiness – Trading and Expanding with Base-10 Blocks MM p. TA14; Extra Practice – Practicing Subtraction Act. Card 71	6.1 MM p. Exploring Subtraction Strategies Act. Card 39	6.1 ELL Support – TM p.539 vocab: *trade*	6.1 Adjusting the Activity TM p. 541; Common Misconception TM p.542; Game Modifications online ConnectED
6.2 Readiness – Practicing Multiplication Facts with Arrays MM p. 190; Ex Practice – Solving *Baseball Multiplication* Number Stories MM p. 191	6.2 Playing *Baseball Multiplication* (with Tens) SRB p. 236	6.2 ELL Support – TM p. 545 *bat*	6.2 Adjusting the Activity TM p. 547; Game Modifications online ConnectED
6.3 Readiness – Identifying Helper Facts MM p. TA36; Ex Practice – Matching Facts to Strategies Act. Card 70	6.3 Applying Strategies to Multiplying by 11 MM p. 193	6.3 ELL Support – TM p. 551 *efficient*	6.3 Adjusting the Activity TM p. 553; Game Modifications online ConnectED
6.4 Readiness – Finding Missing Factors with Calculators; Ex Practice – Practicing Facts with a Fact Wheel Act Card 72	6.4 Finding Rules MM p. 196	6.4 ELL Support - TM p. 557 *caller, calculator, brain from Beat the Calculator*	6.4 Adjusting the Activity TM p. 560; Game Modifications online ConnectED
6.5 Readiness – Feeling Quadrilaterals; Ex Practice – Comparing Quadrilaterals MM p. TA37	6.5 Finding Perimeters of Rectilinear Figures MM p. 198	6.5 ELL Support - TM p. 563 *target*	6.5 Adjusting the Activity TM p. 565; Game Modifications online ConnectED
6.6 Readiness – Drawing Pictures to Solve Multiplication Stories; Ex Practice – Practicing w/ Number Stories MM p. 200	6.6 Writing and Solving Number Stories Act. Card 76	6.6 ELL Support - TM p. 569 *diagram*	6.6 Common Misconception TM p.573
6.7 Readiness – Identifying Helper Facts; Ex Practice – Applying Strategies to Multiplication Top-It MM p. 203	6.7 Applying Strategies to Multiplying by 12 MM p. 202	6.7 ELL Support - TM p. 577 *top*	6.7 Adjusting the Activity TM p. 580; Game Modifications online ConnectED
6.8 Readiness – Playing *Name That Number* SRB pp. 249-250; Ex Practice – Practicing w/ Parenthesis MM p. 206	6.8 Describing Dot Patterns with Number Sentences MM p. 205	6.8 ELL Support - TM p.583 multiple meaning words	6.8 Adjusting the Activity TM p. 584; Game Modifications online ConnectED
6.9 Open Response — use rubric for Meeting Expectations on p. 594, MMTA6, Academic Language Development p. 591	6.9 Open Response: Refer to Rubric – Exceeds Expectations	6.9 ELL Support – TM p. 590	6.9 Common Misconception TM p.591; Adjusting the Activity TM p. 591
6.10 Readiness – Solving Problems with Parentheses MM p. 210; Ex Practice – More Practice with Order of Operations SRB p. 69	6.10 Investigating Order of Operations MJ p. 212	6.10 ELL Support - TM p. 599 *order*	6.10 Adjusting Activity TM p. 602; Common Misconception TM p.601
6.11 Readiness – Solving Number Stories MM p. 213; Ex Practice – Solving Two-Step Number Stories MM p. 215	6.11 Writing Two-Step Number Stories MM p. 214	6.11 ELL Support -TM p. 605 *represent/stand for*	6.11 Academic Language Development p. 608

UNIT 7 OVERVIEW

Course Title: Everyday Mathematics 4 – Grade 3

Unit #: **UNIT 7 OVERVIEW** **Unit Title:** Fractions

Unit Description and Objectives:

In Unit 7, children revisit volume measurement and focus on comparing, estimating, and then measuring liquid volumes. They continue to develop an understanding of fractions as numbers by exploring a new area fraction model and fractions as representations of distances on number lines.

Essential Questions and Enduring Understandings:

Essential Questions:	Enduring Understandings/Generalizations Students will understand that:	Guiding Questions
1. Why express quantities, measurements, and number relationships in different ways? (NF) • **How can I represent and compare fractions?** 2. Why does "what" we measure influence "how" we measure? (MD) • **How is mass of an object measured?** • **How is liquid volume estimated and measured?** 3. How does geometry better describe objects? (G) • **How can wholes be divided into fractional parts?**	1. Fractions and decimals allow for quantities to be expressed with greater precision than with just whole numbers. (NF) • Represent unit and non-unit fractions • Represent and locate fractions on a number line • Generate 2 equivalent fractions, compare fractions, express whole numbers as fractions 2. Measurement processes are used in everyday life to describe and quantify the world. (MD) • SW: Measure masses of objects using grams and kilograms; solve number stories involving mass 3. Geometric attributes (such as shapes, lines, angles, figures, and planes) provide descriptive information about an object's properties and position in space and support visualization and problem solving. (G) • SW: Partition shapes into equal areas; express each part as a fraction of the whole	7.1, 7.2, 7.3 How is liquid volume estimated and measured? 7.4 How can fractions be named and compared using a fraction strip? 7.5, 7.6, 7.9 How can fractions be represented and compared using a number line? 7.7 How can fractions be compared using visual models? 7.10 How are fraction comparisons made and justified? 7.11 How can I solve fraction number stories? 7.12 How are sets of objects named as fractions?

UNIT 7 GRAPHIC ORGANIZER

Sub-Concept/Topics:

Measuring Liquid Volume

Sub-Concept/Topics:

Understanding Fractions as Numbers

Using Tools to Develop Fraction Number Sense: Fraction Strips

Sub-Concept/Topics:

Understanding Fractions as Numbers

Using Tools to Develop Fraction Number Sense: Fraction Number Lines

Theme:

Fractions

Conceptual Lens:

Please see Teacher's Guide p. 622 "Unit 7 Organizer" for Content and Practice

Sub-Concept/Topics:

Understanding Fractions as Numbers

Using Tools to Develop Fraction Number Sense: Fractions of Collections

Sub-Concept/Topics:

Fraction Equivalence and Comparison

Sub-Concept/Topics:

CURRICULUM 7 UNIT PLAN

Course Title/Grade: Everyday Math 4 Curriculum Guide – Grade 3
Unit Number/Title: Unit 7
Conceptual Lens: Fractions
Appropriate Time Allocation (# of Days): 15 days

Primary Core Content Standards referenced With Cumulative Progress Indicators			
3.NF.1	3.MD.2	SMP5	
3.NF.2	3.G.2		
3.NF.3	SMP4		

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:) Goals for Mathematical Content	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:
• Measuring Liquid Volume (7.1, 7.2, 7.3) • Understanding Fractions as Numbers: (7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10, 7.11, 7.12) Using Fraction Tools to Develop Fraction Number Sense (Fraction Strips, Number Lines, Fractions of Collections); Fraction Equivalence and Comparison	**UNIT 7 ASSESSED GMCs**: 3.OA.3 Use multiplication and division to solve number stories 3.NBT.2 Add/subtract within 1,000 fluently. 3.NF.1 Understand, identify, and represent unit fractions as 1 part when a whole is divided into b equal parts; Understand, identify, and represent non-unit fractions as the quantity formed by parts of size 1/b; Represent fractions by sharing collections of objects into equal shares. 3.NF.2,a Represent unit fractions on a number-line diagram 3.NF.2b Represent non-unit fractions on a number-line diagram 3.NF.3a Understand that equivalent fractions are the same size and name the same point on a number line. 3.NF.3b Recognize and generate simple equivalent fractions 3.NF.3c Express whole numbers as fractions; Recognize fractions that are equivalent to whole numbers	7.1 Estimate and measure liquid volumes. 7.2 Estimate the number of dots in an array, measure liquid volume, and identify equal shares. 7.3 Solve number stories involving time, mass, volume, and length. 7.4 Partition fraction strips and use them to name and compare fractions. 7.5 Represent fractions on number lines. 7.6 Identify fractions greater than, less than, and equal to one on a number line. 7.7 Compare fractions using visual models. 7.8 Order fractions with the same numerator and write a rule for ordering similar sets of fractions; Analyze and discuss others' rules and revise their work. 7.9 Partition distances to locate fractions on number lines. 7.10 Make and justify fraction comparisons. 7.11 Solve fraction number stories. 7.12 Name fractions of sets of objects.	***TM pgs. 622-719*** ***Every lesson includes differentiation options for several groups of learners including Readiness, Enrichment, Extra Practice and Beginning English Language Learner Support. Refer to the TM - Differentiation Options page in each lesson outline for these instructional learning activities. They are also listed on the next page, "Modifications for Special Population Students".*** **Lessons 7.1—7.12 – ELA** *Teacher models and reviews key vocabulary terms. Essential content specific vocabulary can be found in the introductory material on the first page of every lesson.* **Daily Math Message Lessons 7.1-7.12 - Speaking**: *Aloud, students clearly explain their thinking/solution to a problem they have not yet been shown how to solve using math vocabulary*	**Unit 7** **TM Pages 622-719** See page 624 for complete Unit 7 Materials List *Additional materials needed for advanced preparation: • Empty, labeled container; irregularly shaped containers (7.1) • Wide-mouth container ; dish tub (7.2) • Pennies (7.5)	**Standard: 8.1.5.E.1** Use digital tools to research and evaluate the accuracy of, relevance to, and appropriateness of using print and non-print electronic information sources to complete a variety of tasks. *Students utilize a variety of websites and videos as digital tools to analyze, synthesize and solve problems. Online daily assessment checks will provide students with the opportunity to apply and practice lesson concepts and skills.* http://www.mathplayground.com/common_core_state_standards_for_mathematics_grade_3.html http://www.mathplayground.com/mathvideos.html https://www.khanacademy.org/commoncore/grade-3-G http://newtech.coe.uh.edu/ *(Great resource with hundreds of 21st century activities)* http://connected.mcgraw-hill.com/connected/login.do **Standard 8.1.5.F.1** Apply digital tools to collect, organize, and analyze data that support a scientific finding. *In each unit, an open ended response lesson provides*	**Tech Standards:** **8.1.5.E.1** **8.1.5.F.1** **8.2.5.C.1** **8.2.5.D.1** **8.2.5.D.2** **8.2.5.E.1**	**Assessment Check-ins:** 7.1 MJ p. 218 7.3 MJ p. 224 7.4 TM p. 655 7.5 TM p. 662 7.6 MJ p. 233 7.7 MM p. G22 7.8 Rubric TM 684 7.9 MJ p. 241 7.10 MJ p. 244 7.11 MJ p. 246 7.12 MJ p. 249 **Exit Slips** **Quizzes** Summative Assessment(s) Unit 7 Self-Assessment Unit 7 Assessment Unit 7 Challenge (optional) Unit 7 Open-Response Assessment STAR Timed Facts Tests

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:) Goals for Mathematical Content	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.NF.3d Compare fractions with the same numerator or the same denominator; Record fraction comparisons using <,=,>; Justify the conclusions of fraction comparisons. 3.MD.2 Measure and estimate liquid volumes using liters and other units; Solve 1-step number stories involving mass and volume. 3.G.2 Partition shapes into parts with equal areas; Express the area of each part as a unit fraction of the whole.		**Open Response Lessons – Speaking/Listening:** *SW listen closely to others' solutions and agree/disagree to specific ideas using appropriate language and set guidelines for discussion.* **Lesson 7.3 Science/Social Studies** - *MM 232 SW analyze bar graph data about how much water is used in homes in several different countries; review where each is located and discuss possible reasons for differences due to climate, economy, etc.* **Lesson 7.6 Phys. Ed**: *Playing Baseball Multiplication; review rules of baseball to play the game* **7.11 ART:** *MM 261: SW solve word problems about art class.*		*opportunities for individuals to collaborate with planning and managing a variety of activities. They collect and analyze data to identify solutions and make informed decisions. Based upon the activity and mastery level of the students in a group, a variety of websites should be used to explore possible solutions.* **Standard 8.2** 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. **8.2.5.C.1, 8.2.5.D.1, 8.2.5.D.2, 8.2.5.E.1** *Through the integration and interdisciplinary connections in each unit, students will develop the understanding that math relates to the individual and global society.* Activity cards and enrichment activities provide a variety of options for developing computational strategies. *The following is an excellent site to access real life collaborative math projects.* http://www.mathwirBe.com/archives/enrichment.html		

Unit 7 Modifications for Special Population Students:

Additional Differentiation Support Pages are available online for each regular lesson.

Struggling Learners	Gifted and Talented Students (Challenge Activities)	English Language Learners (also use ELL online resource – ConnectED)	Special Education Students (Try *Struggling Learners* activities plus the following:)
7.1 Readiness – Estimating Liquid Volume; Extra Practice – Estimating Liquid Volume MM p. 223.	7.1 MM p. Estimating and Measuring Liquid Volumes Act. Card 77	7.1 ELL Support – TM p. 635 vocab: *hold*	7.1 Adjusting the Activity – p. 637
7.2 Readiness – Finding the Total Number in an Array; Ex Practice – Justifying Equal Parts MM pp. 226-227	7.2 Estimating the Number of Seats in an Auditorium MM p. 225	7.2 ELL Support – TM p. 641 *submerge*	7.2 Adjusting the Activity – TM p. 642; Common Misconception - TM p.644; Game Modifications online ConnectED
7.3 Readiness – Reviewing Metric Units; Ex Practice – Solving Problems Using a Bar Graph MM p. 232	7.3 Writing and Solving Metric-Measure Stories Act. Card 80	7.3 ELL Support – TM p. 647	7.3 Game Modifications online ConnectED
7.4 Readiness – Making Equal Parts MM p. 234; Ex Practice – Comparing Fractions Using Fraction Strips MM p. 236	7.4 Creating More Fraction Strips MM p. 235	7.4 ELL Support - TM p. 653 *prefix -un*	7.4 Adjusting the Activity – TM p. 656
7.5 Readiness – Measuring Small Objects; Ex Practice – Finding the Hidden Fraction Act. Card 81	7.5 Solving Fraction-Strip Problems MM p. 238	7.5 ELL Support - TM p. 659 *far/near*	7.5 Common Misconception TM p.661
7.6 Readiness – Identifying Missing Fractions on Number Line MM p. 240; Ex Practice Recognizing Fractions Greater Than 1 MM p. 242	7.6 Identifying Fractions on Number Lines MM p. 241	7.6 ELL Support - TM p. 665 *greater than/less than*	7.6 Common Misconception TM p. 667; Game Modifications online ConnectED
7.7 Readiness – Comparing Fractions; Ex Practice – Comparing Fractional Distances MM p. 245	7.7 Comparing and Ordering Fractions Act. Card 82	7.7 ELL Support - TM p. 673 *greater than/less than*	7.7 Adjusting the Activity TM p. 676
7.8 Open Response — Use rubric on p. 684 for Meeting Expectations, MMTA6	7.8 Open Response: Refer to Rubric – Exceeds Expectations	7.8 ELL Support – TM p. 680	7.8 Common Misconception TM p. 681; Adjusting the Activity – p. 681
7.9 Readiness – Locating and Representing Fractions MM p. 252; Ex Practice – Locating Equivalent Fractions MM p. 254	7.9 Partitioning a Number Line MM p. 253	7.9 ELL Support - TM p. 689 *locate*	7.9 Common Misconception TM p. 691; Adjusting the Activity TM p. 692
7.10 Readiness – Playing *Fraction Top-It* SRB pp. 246-247; Ex Practice – Justifying Fraction Comparisons with Tools Act. Card 84	7.10 Extending Fraction Comparisons Act. Card 83	7.10 ELL Support - TM p. 695 *compare*	7.10 Adjusting the Activity TM p. 698; Game Modifications online ConnectED
7.11 Readiness – Modeling Fraction Stories with Pancakes MM p. TA13; Ex Practice – Solving Art Class Fraction Stories MJ p. 229	7.11 Solving More Fraction Number Stories MJ p. 229	7.11 ELL Support - TM p. 701	7.11 Adjusting the Activity TM p.703
7.12 Readiness – Sharing Equally with Groups; Extra Practice – Using Fractions to Name Parts of Sets MM p. 264	7.12 Solving a Fraction Puzzle MM p. 263	7.12 ELL Support - TM p. 707 *collection*	7.12 Game Modifications online ConnectED

UNIT 8 OVERVIEW

Course Title: Everyday Mathematics 4 – Grade 3

Unit #: **UNIT 8 OVERVIEW** **Unit Title:** Multiplication and Division

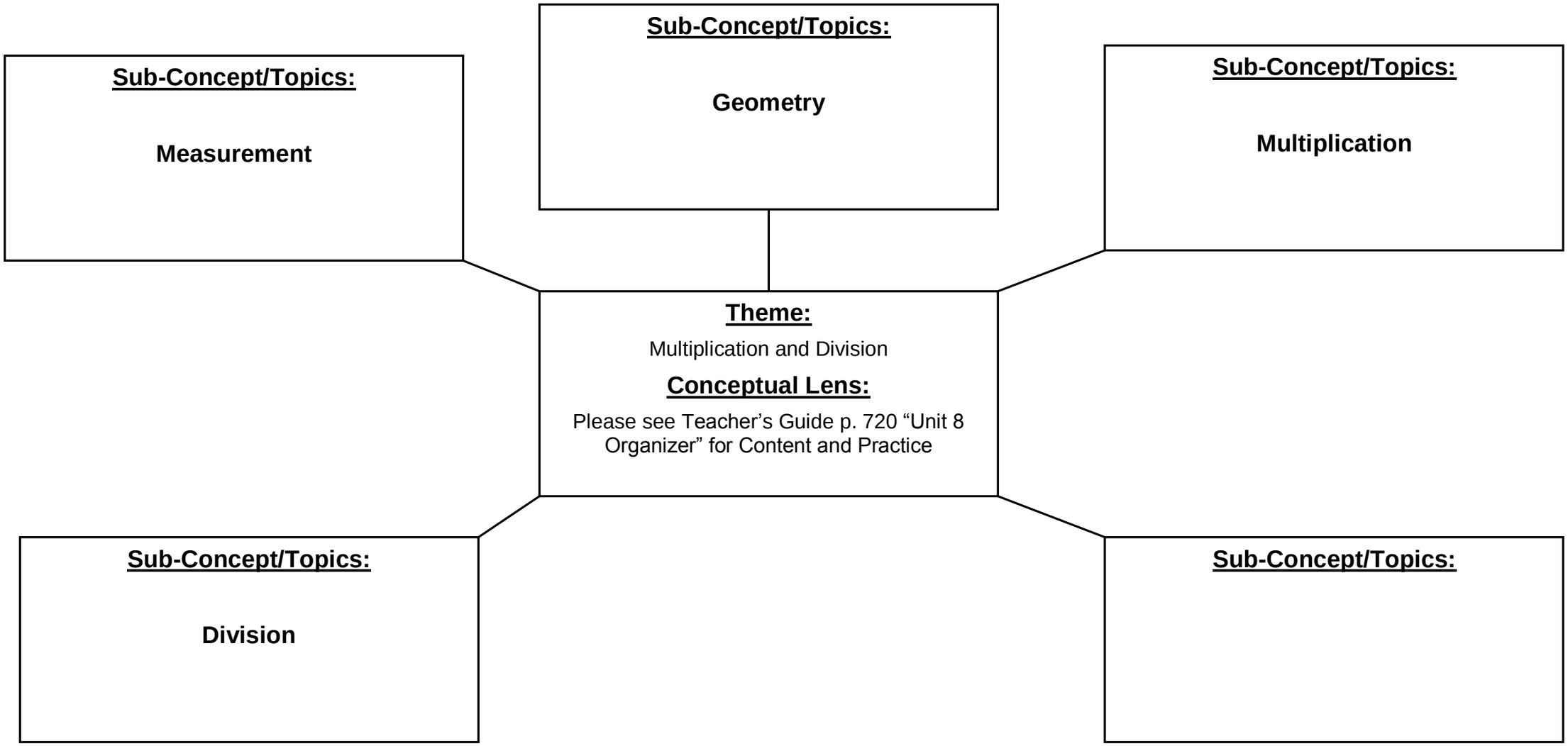
Unit Description and Objectives:

In Unit 8, children deepen and apply their understanding of multiplication, division, measurement, and attributes of shapes.

Essential Questions and Enduring Understandings:

Essential Questions:	Enduring Understandings/Generalizations Students will understand that:	Guiding Questions
1. In what ways can operations affect numbers? (OA) • **What strategies help me multiply and divide fluently?** 2. Why does "what" we measure influence "how" we measure? (MD); Why display data in several ways? (MD) • **How can I measure length?** • **How can length be displayed on a line plot?** 3. How does geometry better describe objects? (G) • **How do attributes define shapes?**	1. Mathematical operations are used in solving problems in which a new value is produced from one or more values.(OA) • SW: Use multiplication and division within 100 to solve word problems. • SW: Understand division as an unknown-factor problem. • SW: Know from memory all square products and products of one-digit numbers and 0, 1, 2, 3, 5, 9, 10. • SW: Fluently divide within 100. 2. Measurement processes are used in everyday life to describe and quantify the world. (MD); Data displays describe and represent data in alternative ways. (MD) • SW: Measure in halves and fourths of an inch and show data by making a line plot 3. Geometric attributes (such as shapes, lines, angles, figures, and planes) provide descriptive information about an object's properties and position in space and support visualization and problem solving. (G) • SW: Recognize shape attributes and quadrilaterals	8.1 How can I measure to the nearest ¼ inch? 8.2 How can I use basic multiplication/division facts to solve extended facts? 8.4 How can I use clues to create conjectures and arguments? 8.3, 8.5 How can I find and relate factors and products? 8.6 How can I use models to solve equal-sharing number stories? 8.8 What are the attributes of prisms?

UNIT 8 GRAPHIC ORGANIZER



CURRICULUM UNIT 8 PLAN

Course Title/Grade: Everyday Math 4 Curriculum Guide – Grade 3
Unit Number/Title: Unit 8
Conceptual Lens: Multiplication and Division
Appropriate Time Allocation (# of Days)**:** 11 days

Primary Core Content Standards referenced With Cumulative Progress Indicators

3.OA.3	3.MD.4	SMP8	
3.OA.6	3.G.1		
3.OA.7	SMP3		

Topics/Concepts (Incl. time / # days per topic)	**Critical Content (Students Will Know:) Goals for Mathematical Content**	**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:**
• Measurement (8.1) • Multiplication and Division (8.2, 8.3, 8.4, 8.5, 8.6, 8.7) Extended Multiplication facts; Factors of Counting Numbers; Sharing Money • Geometry (8.8)	**UNIT 8 ASSESSED GMCs**: 3.OA.2 Interpret division in terms of equal shares or equal groups. 3.OA.3 Use multiplication and division to solve number stories; Model number stories involving multiplication and division. 3.OA.6 Understand division as an unknown factor problem. 3.OA.7 Multiply/Divide within 100 fluently 3.NBT.3 Multiply 1-digit numbers by multiples of 10. 3.MD.4 Measure lengths to the nearest ½ inch, ¼ inch, or whole centimeter. 3.G.1 Understand that shapes in different categories may share attributes that can define a larger category; Recognize specified subcategories of quadrilaterals.	8.1 use rulers to measure to the nearest ¼ inch. 8.2 Develop strategies for solving extended multiplication and division facts. 8.3 Find factors of counting numbers 8.4 Use clues to make conjectures and arguments about the total number of chairs in a room; The class discusses some conjectures and arguments, and children revise their work. 8.5 Play *Factor Bingo* and discuss how to find products for a given factor. 8.6 Model equal-sharing situations with $10 and $1 bills. 8.7 Compare fractions, generate equivalent fractions, and explore the areas of rectangles. 8.8 Explore the shared attributes of prisms.	***TM pgs. 720-787*** ***Every lesson includes differentiation options for several groups of learners including Readiness, Enrichment, Extra Practice and Beginning English Language Learner Support. Refer to the TM - Differentiation Options page in each lesson outline for these instructional learning activities. They are also listed on the next page, "Modifications for Special Population Students".*** **Lessons 8.1—8.8 – ELA** *Teacher models and reviews key vocabulary terms. Essential content specific vocabulary can be found in the introductory material on the first page of every lesson.* **Daily Math Message Lessons 8.1-8.8 - Speaking**: *Aloud, students clearly explain their thinking/solution to a problem they have not yet been shown how to solve using math vocabulary*	**Unit 8** **TM Pages 720-787** See TM page 722 for complete Unit 8 Materials List *Additional materials needed for advanced preparation: • Penny (8.3) • Eight $10 bills, 24 $1 bills from MM pp. TA45-TA48 (8.6) • Painter's tape number line (See Lesson 8.7 *Before You Begin*) • Dish tub, 18 twist ties (8.8)	**Standard: 8.1.5.E.1** Use digital tools to research and evaluate the accuracy of, relevance to, and appropriateness of using print and non-print electronic information sources to complete a variety of tasks. *Students utilize a variety of websites and videos as digital tools to analyze, synthesize and solve problems. Online daily assessment checks will provide students with the opportunity to apply and practice lesson concepts and skills.* *http://www.mathplayground.com/common_core_state_standards_for_mathematics_grade_3.html* *http://www.mathplayground.com/mathvideos.html* *https://www.khanacademy.org/commoncore/grade-3-G* *http://newtech.coe.uh.edu/* *(Great resource with hundreds of 21st century activities)* *http://connected.mcgraw-hill.com/connected/login.do* **Standard 8.1.5.F.1** Apply digital tools to collect, organize, and analyze data that support a scientific finding. *In each unit, an open ended response lesson provides*	**Tech Standards:** **8.1.5.E.1** **8.1.5.F.1** **8.2.5.C.1** **8.2.5.D.1** **8.2.5.D.2** **8.2.5.E.1**	**Assessment Check-ins:** 8.1 MJ p. 252 8.2 MJ p. 256 8.3 MJ p. 259 8.4 Rubric TM p. 756 8.5 MJ p. 263 8.6 MJ p. 266 8.8 MJ p. 272 **Exit Slips** **Quizzes** Summative Assessment(s) Unit 8 Self-Assessment Unit 8 Assessment Unit 8 Challenge (optional) Unit 1-8 Cumulative Assessment STAR Timed Facts Tests

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:) Goals for Mathematical Content	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:
			Open Response Lessons – Speaking/Listening: *SW listen closely to others' solutions and agree/disagree to specific ideas using appropriate language and set guidelines for discussion.* **Lesson 8.1 ART:** *Act. Card 85 – SW draw, measure, and label paths to a buried treasure* **Lesson 8.1 ELA:** *MM 273 Completing a Story with Measures – SW fill in the blanks of a story without reading it, then read the story and decide if their measurements are sensible and make changes as needed* **Lesson 8.8 ART**: • *Act. Card 57 SW construct polygons with straws and twist ties* • *Act. Card 94 SW create nets* • *MM 295 SW construct a pentagonal prism* • *MM 296 SW make a prism*		*opportunities for individuals to collaborate with planning and managing a variety of activities. They collect and analyze data to identify solutions and make informed decisions. Based upon the activity and mastery level of the students in a group, a variety of websites should be used to explore possible solutions.* **Standard 8.2** 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. **8.2.5.C.1, 8.2.5.D.1, 8.2.5.D.2, 8.2.5.E.1** *Through the integration and interdisciplinary connections in each unit, students will develop the understanding that math relates to the individual and global society.* Activity cards and enrichment activities provide a variety of options for developing computational strategies. *The following is an excellent site to access real life collaborative math projects.* http://www.mathwirBe.com/archives/enrichment.html		

Unit 8 Modifications for Special Population Students:

Additional Differentiation Support Pages are available online for each regular lesson.

Struggling Learners	Gifted and Talented Students (Challenge Activities)	English Language Learners (also use ELL online resource – ConnectED)	Special Education Students (Try *Struggling Learners* activities plus the following:)
8.1 Readiness – Comparing Rulers and Number Lines MM pp. 270-271; Extra Practice –p. Completing a Story with Measures SRB p. 288	8.1 MM p. Drawing a Path to Buried Treasure Act. Card 85	8.1 ELL Support – TM p.733 vocab: *distance from/distance between*	8.1 Adjusting the Activity p. 735
8.2 Readiness – Using Multiples of 10 MM p. 276; Ex Practice – Playing *Roll to 1,000* with Multiplication SRB pp. 253-254	8.2 Solving a Number Story with Extended Facts MM p. 277	8.2 ELL Support – TM p. 739 *extended*	8.2 Adjusting the Activity p. 741
8.3 Readiness – Playing Array Bingo SRB pp. 232-233; Ex Practice – Playing *Finding Factors* SRB p. 242	8.3 Finding Factor Pairs Act. Card 86	8.3 ELL Support – TM p.745 *left over*	
8.4 Open Response — use rubric on p. 756 Meeting Expectations; MM TA6	8.4 Open Response: Refer to Rubric – Exceeds Expectations	8.4 ELL Support – TM p. 752; Academic Language Development p. 752	8.4 Adjusting the Activity p. 753, 757
8.5 Readiness – Finding Factors; Ex Practice – Identifying Multiples MM p. 285	8.5 Playing *Speed Factor Bingo* Act. Card 87	8.5 ELL Support - TM p. 761 *factor/product*	8.5 Common Misconception TM p.764; Game Modifications online ConnectED
8.6 Readiness – Trading Money MM pp. TA45-TA48; Ex Practice – Sharing Money with a Partner Act. Card 89	8.6 Buying Tickets Act. Card 88	8.6 ELL Support TM p.767 – *sharing with remainders*	8.6 Adjusting the Activity p. 769; Game Modifications online ConnectED
8.7 Readiness – Building Arrays with Cubes; Ex Practice – Playing Fraction Number-Line Squeeze SRB p. 245	8.7 Completing the Whole Act. Card 93	8.7 ELL Support TM p.773 – *imagine*	8.7 Adjusting the Activity TM p. 775, 776; Common Misconception TM p.776; Game Modifications online ConnectED
8.8 Readiness – Constructing Polygons with Straws and Twist Ties Act. Card 57	8.8 Creating a Net Act. Card 94	8.8 ELL Support - TM p.779 *edge, side, face, vertex, base, etc.*	8.8 Adjusting the Activity TM p. 781

UNIT 9 OVERVIEW

Course Title: Everyday Mathematics 4 – Grade 3

Unit #: **UNIT 9 OVERVIEW** **Unit Title:** Multi-Digit Operations

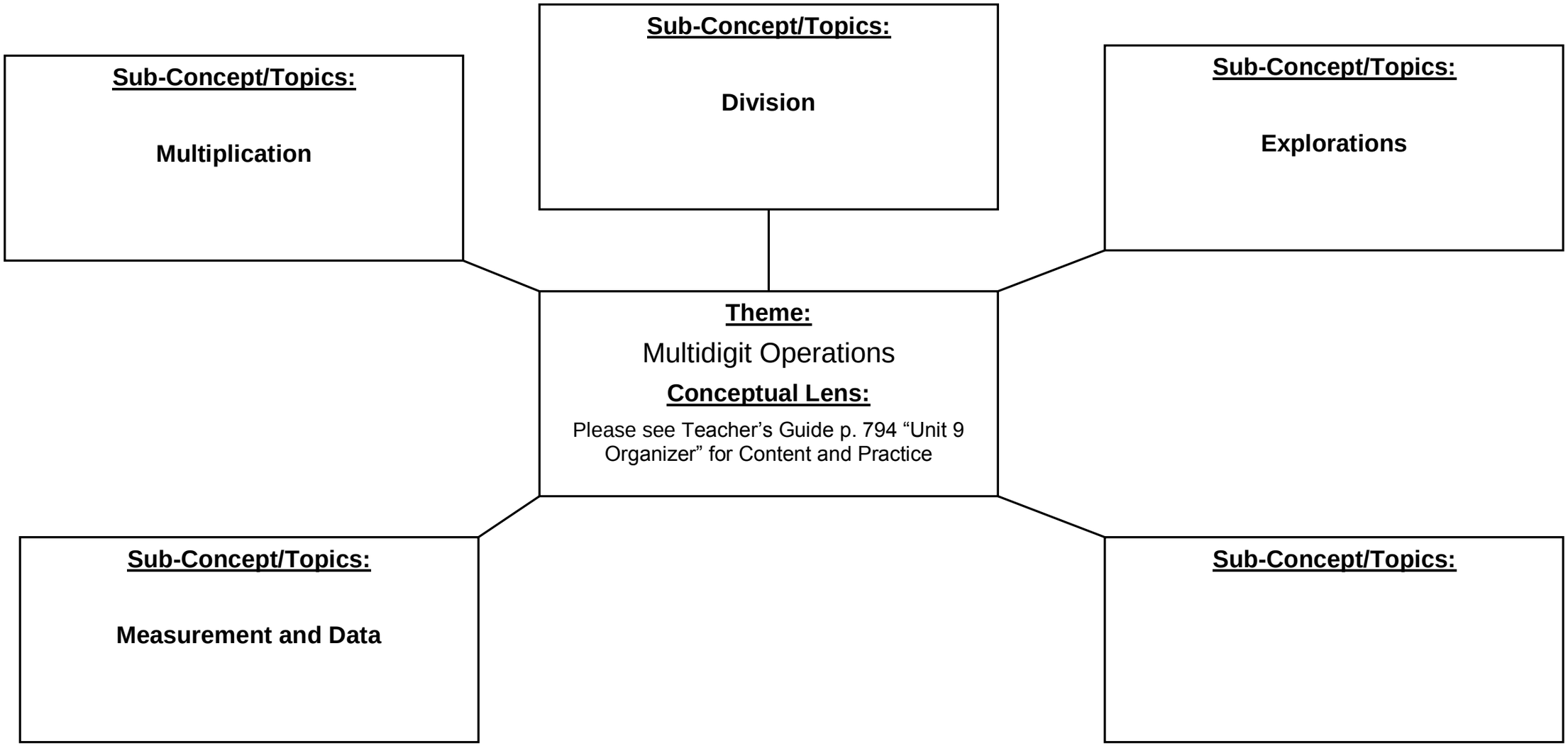
Unit Description and Objectives:

In Unit 9, children further develop their understanding of multiplication and division as they apply basic fact knowledge to mentally solve number stories and multiply larger factors. They also interpret length-of-day data and work to calculate elapsed time more efficiently.

Essential Questions and Enduring Understandings:

Essential Questions:	Enduring Understandings/Generalizations Students will understand that:	Guiding Questions
1. In what ways can operations affect numbers? (OA) • **What strategies are used to multiply and divide larger numbers?** 2. How can different strategies be helpful when solving a problem? (OA) • **How can I use multiplication/division to solve an unknown?** 3. How can a digit's position affect its value? (NBT) • **How does place value help when multiplying by multiples of 10?** 4. Why does "what" we measure influence "how" we measure? (MD) • **What strategies help to calculate elapsed time?**	1. Mathematical operations are used in solving problems in which a new value is produced from one or more values. (OA) • Know from memory all products of two 1-digit numbers. 2. Algebraic thinking involves choosing, combining, and applying effective strategies for answering quantitative questions. (OA) • Use multiplication and division within 100 to solve word problems. • Determine the unknown whole number in multiplication/division equation. 3. Understanding place value can lead to number sense and efficient strategies for computing with numbers. (NBT) • Multiply one digit whole numbers by multiples of 10 using place value strategies 4. Measurement processes are used in everyday life to describe and quantify the world. (MD) • Tell and write time to the nearest minute and calculate elapsed time using addition/subtraction.	9.1 Which basic multiplication facts have I mastered? 9.4 How can I use elapsed time to plan a trip? 9.2, 9.3, 9.5, 9.6 How can I use multiplication strategies, basic and extended facts, and place value to solve multi-digit multiplication and division problems? 9.7 How can I use elapsed time to calculate the length of day?

UNIT 9 GRAPHIC ORGANIZER



CURRICULUM UNIT 9 PLAN

Course Title/Grade: Everyday Math 4 Curriculum Guide – Grade 3
Unit Number/Title: Unit 9
Conceptual Lens: Multidigit Operations
Appropriate Time Allocation (# of Days)**:** 10 days

Primary Core Content Standards referenced With Cumulative Progress Indicators			
3.OA.3	3.OA.7		
3.OA.4	3.NBT.3		
3.OA.5	3.MD.1		

Topics/Concepts (Incl. time / # days per topic)	**Critical Content (Students Will Know:) Goals for Mathematical Content**	**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:**
• Multiplication and Division (9.1, 9.2, 9.3, 9.5, 9.6) • Explorations (9.4) • Measurement and Data (9.2, 9.3, 9.7)	**UNIT 9 ASSESSED GMCs**: 3.OA.5 Apply properties of operations to multiply or divide. 3.OA.7 Multiply and divide within 100 fluently 3.OA.9 Identify arithmetic patterns and explain them using properties of operations. 3.NBT.3 Multiply 1-digit numbers by multiples of 10. 3.MD.1 Tell and write time; measure time intervals in minutes; solve number stories involving time intervals by adding or subtracting. 3.MD.2 Solve 1-step number stories involving mass. 3.MD.7 Use area models to represent the distributive property.	9.1 Play a game to practice multiplication facts. 9.2 Solve number stories by multiplying and dividing with multiples of 10. 9.3 Use mental steps to multiply problems involving larger factors. use mental steps to multiply problems involving larger factors. 9.4 Work with elapsed time, explore polygon relationships, and find the masses of objects. 9.5 Partition rectangles to solve multidigit multiplication problems. 9.6 Develop strategies for using a calculator with a broken division key to solve a problem; compare and discuss their strategies and revise their work. 9.7 Analyze the Length-of-Day Graph.	***TM pgs. 794-861*** ***Every lesson includes differentiation options for several groups of learners including Readiness, Enrichment, Extra Practice and Beginning English Language Learner Support. Refer to the TM - Differentiation Options page in each lesson outline for these instructional learning activities. They are also listed on the next page, "Modifications for Special Population Students".*** **Lessons 9.1—9.7 – ELA** *Teacher models and reviews key vocabulary terms. Essential content specific vocabulary can be found in the introductory material on the first page of every lesson.* **Daily Math Message Lessons 9.1-9.7 - Speaking**: *Aloud, students clearly explain their thinking/solution to a problem they have not yet been shown how to solve using math vocabulary*	**Unit 9** **TM Pages 794-861** ***See page 796 for complete Unit 9 Materials List*** *Additional materials needed for advanced preparation: • Objects with mass of 10kg and 10g (9.2) • Small classroom objects (See lesson 9.4 *Before You Begin*) • Demonstration clock (9.4, 9.7)	**Standard: 8.1.5.E.1** Use digital tools to research and evaluate the accuracy of, relevance to, and appropriateness of using print and non-print electronic information sources to complete a variety of tasks. *Students utilize a variety of websites and videos as digital tools to analyze, synthesize and solve problems. Online daily assessment checks will provide students with the opportunity to apply and practice lesson concepts and skills.* *http://www.mathplayground.com/common_core_state_standards_for_mathematics_grade_3.html* *http://www.mathplayground.com/mathvideos.html* *https://www.khanacademy.org/commoncore/grade-3-G* *http://newtech.coe.uh.edu/* *(Great resource with hundreds of 21st century activities)* *http://connected.mcgraw-hill.com/connected/login.do* **Standard 8.1.5.F.1** Apply digital tools to collect, organize, and analyze data that support a scientific finding. *In each unit, an open ended response lesson provides*	**Tech Standards:** **8.1.5.E.1** **8.1.5.F.1** **8.2.5.C.1** **8.2.5.D.1** **8.2.5.D.2** **8.2.5.E.1**	**Assessment Check-ins:** 9.1 MM p. 809 9.2 MJ p. 279 9.3 MJ p. 281 9.5 MJ p. 287 9.6 Rubric TM p. 844 9.7 MJ p. 291 **Exit Slips** **Quizzes** Summative Assessment(s) Unit 9 Self-Assessment Unit 9 Assessment Unit 9 Challenge (optional) Unit 9 Open-Response Assessment STAR Timed Facts Tests

Topics/Concepts (Incl. time / # days per topic)	Critical Content (Students Will Know:) Goals for Mathematical Content	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:
			Open Response Lessons – Speaking/Listening: *SW listen closely to others' solutions and agree/disagree to specific ideas using appropriate language and set guidelines for discussion.* **Lesson 9.3 – ELA:** Teacher read-aloud: *One Grain of Rice* by Demi **Lesson 9.7 – Science:** Sunrise and Sunset Data map; calculate, predict, identify trends in length of day around the world		*opportunities for individuals to collaborate with planning and managing a variety of activities. They collect and analyze data to identify solutions and make informed decisions. Based upon the activity and mastery level of the students in a group, a variety of websites should be used to explore possible solutions.* **Standard 8.2** 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. **8.2.5.C.1, 8.2.5.D.1, 8.2.5.D.2, 8.2.5.E.1** *Through the integration and interdisciplinary connections in each unit, students will develop the understanding that math relates to the individual and global society.* Activity cards and enrichment activities provide a variety of options for developing computational strategies. *The following is an excellent site to access real life collaborative math projects.* http://www.mathwirBe.com/archives/enrichment.html		

Unit 9 Modifications for Special Population Students:

Additional Differentiation Support Pages are available online for each regular lesson.

Struggling Learners	Gifted and Talented Students (Challenge Activities)	English Language Learners (also use ELL online resource – ConnectED)	Special Education Students (Try *Struggling Learners* activities plus the following:)
9.1 Readiness – Comparing Products Using Comparison Symbols; Extra Practice – Updating My Multiplication Facts Inventory Act. Card 96	9.1 Writing *A Guide to Playing Math Games* Act. Card 95	9.1 ELL Support – TM p. 807 vocab: *pass*	9.1 Adjusting the Activity – p. 809; Game Modifications online ConnectED
9.2 Readiness – Modeling Extended Multiplication Facts MM p. 303; Ex Practice – Writing Number Stories with Multiples of 10 Act. Card 97	9.2 Solving Multistep Number Stories MM p. 304	9.2 ELL Support – TM p. 813	9.2 Adjusting the Activity – p.815, 816; Game Modifications online ConnectED
9.3 Readiness – Applying Fact Strategies; Ex Practice – Using Mental Multiplication MM p. 307	9.3 Using Mental Math to Multiply in Literature: *One Grain of Rice* by Demi	9.3 ELL Support – TM p.819 *break apart*	9.3 Adjusting the Activity – p.822; Game Modifications online ConnectED
9.4 Readiness – Finding the Masses of Objects; Ex Practice – Solving Number Stories about Time and Mass MM p. 309	9.4 Writing a Daily Schedule SRB p. 189	9.4 ELL Support - TM p.825 *schedule*	9.4 Adjusting the Activity – p.827; Common Misconception – p. 828
9.5 Readiness – Playing Multiplication Top-It with Extended Facts SRB pp. 260-261; Ex Practice – Using the Break-Apart Strategy to Multiply Act. Card 101	9.5 Breaking Apart Two Factors MM p. 314	9.5 ELL Support - TM p.833 *decompose*	9.5 Adjusting the Activity TM p. 835; Game Modifications online ConnectED
9.6 Open Response — use rubric on p. 844 Meeting Expectations; MM TA6	9.6 Open Response: Refer to Rubric – Exceeds Expectations	9.6 ELL Support – TM p. 840	9.6 Adjusting the Activity p. 841
9.7 Readiness – Measuring Time with an Open Number Line MM p. 318; Ex Practice – Finding Length of Day SRB p. 281	9.7 Finding Length of Day Trends SRB p. 281	9.7 ELL Support TM p.849 – *long/longest; short/shortest*	9.7 Adjusting the Activity TM p. 851

CROSS-CONTENT STANDARDS ANALYSIS

Course Title: Everyday Mathematics 4 **Grade:** 3

Unit Title:	Visual and Performing Arts	Comp. Health & Physical Ed.	English Language Arts	Mathematics	Science	Social Studies	World Languages	Technology	21st Century Life & Careers
Unit 1:Math Tools, Time, and Multiplication			RI.3.1 SL.3.1 RI.3.7 W.3.2.A RL.3.1 W.3.2.B		5.9.4.A.1			8.1.5.E.1 8.2.5.D.1 8.1.5.F.1 8.2.5.D.2 8.2.5.C.1 8.2.5.E.1	
Unit 2: Number Stories and Arrays	1.3.5.D.1		RI.3.1 SL.3.1 RI.3.7 W.3.2.A RL.3.1 W.3.2.B					8.1.5.E.1 8.2.5.D.1 8.1.5.F.1 8.2.5.D.2 8.2.5.C.1 8.2.5.E.1	
Unit 3: Operations	1.3.5.D.1 1.1.5.B.1		RI.3.1 SL.3.1 RI.3.7 W.3.2.A RL.3.1 W.3.2.B		5.5.4.B.1			8.1.5.E.1 8.2.5.D.1 8.1.5.F.1 8.2.5.D.2 8.2.5.C.1 8.2.5.E.1	
Unit 4: Measurement and Geometry	1.3.5.D.1		RI.3.1 SL.3.1 RI.3.7 W.3.2.A RL.3.1 W.3.2.B		5.5.4.A.3 5.8.4.B.3			8.1.5.E.1 8.2.5.D.1 8.1.5.F.1 8.2.5.D.2 8.2.5.C.1 8.2.5.E.1	
Unit 5: Fractions and Multiplication Strategies	1.3.5.D.1		RI.3.1 SL.3.1 RI.3.7 W.3.2.A RL.3.1 W.3.2.B					8.1.5.E.1 8.2.5.D.1 8.1.5.F.1 8.2.5.D.2 8.2.5.C.1 8.2.5.E.1	
Unit 6: More Operations	1.3.5.D.1	2.5.4.A.1 2.5.4.C.2	RI.3.1 SL.3.1 RI.3.7 W.3.2.A RL.3.1 W.3.2.B					8.1.5.E.1 8.2.5.D.1 8.1.5.F.1 8.2.5.D.2 8.2.5.C.1 8.2.5.E.1	
Unit 7: Fractions	1.3.5.D.1	2.5.4.A.1 2.5.4.C.2	RI.3.1 SL.3.1 RI.3.7 W.3.2.A RL.3.1 W.3.2.B		5.8.4.B.2			8.1.5.E.1 8.2.5.D.1 8.1.5.F.1 8.2.5.D.2 8.2.5.C.1 8.2.5.E.1	
Unit 8: Multiplication and Division	1.3.5.D.1		RI.3.1 SL.3.1 RI.3.7 W.3.2.A RL.3.1 W.3.2.B					8.1.5.E.1 8.2.5.D.1 8.1.5.F.1 8.2.5.D.2 8.2.5.C.1 8.2.5.E.1	
Unit 9: Multidigit Operations			RI.3.1 SL.3.1 RI.3.7 W.3.2.A RL.3.1 W.3.2.B		5.9.4.A.1			8.1.5.E.1 8.2.5.D.1 8.1.5.F.1 8.2.5.D.2 8.2.5.C.1 8.2.5.E.1	

***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.