Dual Immersion 3rd Grade

Utah Core State Standards

Mathematics Curriculum Map

Granite School District

Striving toward greater focus and coherence through

Content Standards and Practice Standards

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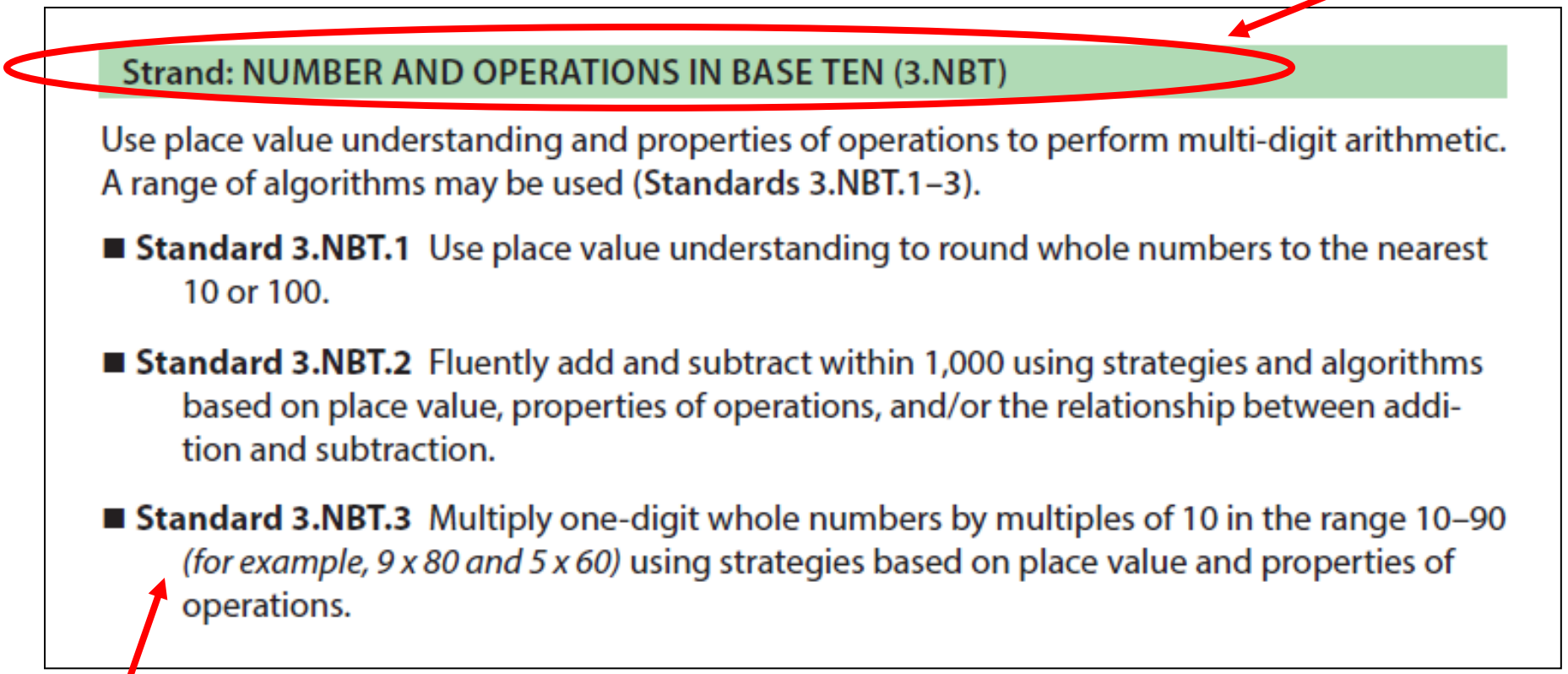
Granite SCHOOL DISTRICT

How to Read the Grade Level Content Standards

Standards define what students should understand and be able to do.

Strands are larger groups of related standards. Standards from different strands may sometimes be closely related.



Standards for Mathematical Practice

The Standards for Mathematical Practice in Third Grade describe mathematical habits of mind that teachers should seek to develop in their students. Students become mathematically proficient in engaging with mathematical content and concepts as they learn, experience, and apply these skills and attitudes (Standards 3.MP.1–8).

Standard 3.MP.1 Make sense of problems and persevere in solving them.

Explain the meaning of a problem, look for entry points to begin work on the problem, and plan and choose a solution pathway. When a solution pathway does not make sense, look for another pathway that does. Explain connections between various solution strategies and representations. Upon finding a solution, look back at the problem to determine whether the solution is reasonable and accurate, often checking answers to problems using a different method or approach.

Standard 3.MP.2 Reason abstractly and quantitatively.

Make sense of quantities and their relationships in problem situations. Contextualize quantities and operations by using images or stories. Decontextualize a given situation and represent it symbolically. Interpret symbols as having meaning, not just as directions to carry out a procedure. Know and flexibly use different properties of operations, numbers, and geometric objects.

Standard 3.MP.3 Construct viable arguments and critique the reasoning of others.

Use stated assumptions, definitions, and previously established results to construct arguments. Explain and justify the mathematical reasoning underlying a strategy, solution, or conjecture by using concrete referents such as objects, drawings, diagrams, and actions. Listen to or read the arguments of others, decide whether they make sense, ask useful questions to clarify or improve the arguments, and build on those arguments.

Standard 3.MP.4 Model with mathematics.

Identify the mathematical elements of a situation and create a mathematical model that shows the relationships among them. Identify important quantities in a contextual situation, use mathematical models to show the relationships of those quantities, analyze the relationships, and draw conclusions. Models may be verbal, contextual, visual, symbolic, or physical.

Standard 3.MP.5 Use appropriate tools strategically.

Consider the tools that are available when solving a mathematical problem, whether in a real-world or mathematical context. Choose tools that are relevant and useful to the problem at hand, such as drawings, diagrams, technologies, and physical objects and tools, as well as mathematical tools such as estimation or a particular strategy or algorithm.

Standard 3.MP.6 Attend to precision.

Communicate precisely to others by crafting careful explanations that communicate mathematical reasoning by referring specifically to each important mathematical element, describing the relationships among them, and connecting their words clearly to representations. Calculate accurately and efficiently, and use clear and concise notation to record work.

Standard 3.MP.7 Look for and make use of structure.

Recognize and apply the structures of mathematics such as patterns, place value, the properties of operations, or the flexibility of numbers. See complicated things as single objects or as being composed of several objects.

Standard 3.MP.8 Look for and express regularity in repeated reasoning.

Notice repetitions in mathematics when solving multiple related problems. Use observations and reasoning to find shortcuts or generalizations. Evaluate the reasonableness of intermediate results.

3rd Grade Mathematics Curriculum Map
Granite School District Scope and Sequence Overview

Unit of Study	Go Math! Alignment	Go Math! Chapter Title	Strand and Standards
1	Chapter 1	Addition and Subtraction Within 1,000	Strand: Operations and Algebraic Thinking Standards: 8, 9 Strand: Number and Operations in Base Ten Standards: 1, 2
2	Chapter 2	Represent and Interpret Data	Strand: Measurement and Data Standards: 3,4
3	Chapter 3	Understand Multiplication	Strand: Operations and Algebraic Thinking Standards: 1, 3, 5, 8
4	Chapter 4	Multiplication Facts and Strategies	Strand: Operations and Algebraic Thinking Standards: 3, 5, 7, 8, 9
5	Chapter 5	Use Multiplication Facts	Strand: Operations and Algebraic Thinking Standards: 4, 9 Strand: Number and Operations in Base 10 Standard: 3
6	Chapter 6	Understand Division	Strand: Operations and Algebraic Thinking Standards: 2, 3, 5, 6, 7
7	Chapter 7	Division Facts and Strategies	Strand: Operations and Algebraic Thinking Standards: 3, 4, 7, 8
8	Chapter 8	Understand Fractions	Strand: Number and Operations - Fractions Standards: 1, 2a, 2b, 3c
9	Chapter 9	Compare Fractions	Strand: Number and Operations – Fractions Standards: 3a, 3b, 3d
10	Chapter 10	Time, Length, Liquid Volume, and Mass	Strand: Measurement and Data Standards: 1, 2, 4
11	Chapter 11	Perimeter and Area	Strand: Measurement and Data Standards: 5, 5a, 5b, 6, 7, 7a, 7b, 7c, 7d, 8
12	Chapter 12	Two-Dimensional Shapes	Strand: Geometry Standards: 1, 2

3rd Grade
Instruction and Assessment Semester Schedule
2017-2018

It is expected that the units will be taught consecutively. The table below reflects which units and standards are assessed on each semester test. Semester Benchmarks are required by GSD except for the Semester 2 Posttest which is supplemental. Additional assessment options are on each Unit of Study in the GSD maps.

Approx. Number of Days of Instruction	**Semester 1 Pretest 8/21 – 2/9 (required)**	**17**	**14**	**14**	**19**	**9**	**16**	**Semester 1Posttest 12/11 – 2/9 (required)**	**Semester 2 Pretest 12/11 – 3/5 (required)**	**18**	**17**	**15**	**11**	**11**	**11**	**Semester 2 Posttest 3/5 – 5/25 (supplemental)**	**SAGE 3/19 – 5/18 (required)**	**End of Year**
Number of Lessons		**12**	**7**	**7**	**10**	**5**	**9**			**11**	**9**	**7**	**9**	**10**	**9**			Getting Ready for Gr. 4 Unit
Instructional Content		Unit of Study 1	Unit of Study 2	Unit of Study 3	Unit of Study 4	Unit of Study 5	Unit of Study 6			Unit of Study 7	Unit of Study 8	Unit of Study 9	Unit of Study 10	Unit of Study 11	Unit of Study 12			
Math Standards		3.OA.1 *3.OA.2 *3.OA.3 *3.OA.4 *3.OA.5 3.OA.6 *3.OA.7 *3.OA.8 *3.OA.9 3.NBT.1 *3.NBT.2 3.NBT.3 *3.MD.3 3.MD.4								3.OA.3 3.OA.4 *3.OA.7 *3.OA.8 3.NF.1 3.NF.2 *3.NF.3 *3.MD.1 *3.MD.2 3.MD.4 3.MD.5 3.MD.6 *3.MD.7 *3.MD.8 *3.G.1 3.G.2							

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*Indicates emphasized standards.

Beginning and Ending of Semesters

1st Semester Aug 21, 2017 – Jan 11, 2018
2nd Semester Jan 16, 2018 – May 25, 2018

3rd Grade
Instruction and Assessment Quarterly Schedule
2017-2018

It is expected that the units will be taught consecutively. The table below reflects which units and standards are assessed on each Granite Quarterly Benchmark (GQB). Quarterly Benchmark Tests are supplemental. Additional assessment options are on each Unit of Study in the GSD maps.

Approx. Number of Days of Instruction	**GQB 1 8/21 (supplemental)**	**17**	**14**	**14**	**GQB 2 10/30 (supplemental)**	**19**	**9**	**16**	**GQB 3 1/16 (supplemental)**	**18**	**17**	**15**	**GQB 4 3/5 (supplemental)**	**11**	**11**	**11**	**SAGE 3/19 – 5/18 (required)**	**End of Year**
Number of Lesson		**12**	**7**	**7**		**10**	**5**	**9**		**11**	**9**	**7**		**9**	**10**	**9**		Getting Ready for Gr. 4 Unit
Instructional Content		Unit of Study 1	Unit of Study 2	Unit of Study 3		Unit of Study 4	Unit of Study 5	Unit of Study 6		Unit of Study 7	Unit of Study 8	Unit of Study 9		Unit of Study 10	Unit of Study 11	Unit of Study 12		
Math Standards		3.OA.1 *3.OA.3 3.OA.5 *3.OA.8 3.OA.9 3.NBT.1 *3.NBT.2 *3.MD.3 3.MD.4				*3.OA.2 3.OA.3 *3.OA.4 *3.OA.5 3.OA.6 *3.OA.7 3.OA.8 *3.OA.9 3.NBT.3				3.OA.3 3.OA.4 *3.OA.7 *3.OA.8 3.NF.1 3.NF.2 *3.NF.3				*3.MD.1 *3.MD.2 3.MD.4 3.MD.5 3.MD.6 *3.MD.7 *3.MD.8 *3.G.1 3.G.2				

*Indicates emphasized standards.

Beginning and Ending of Quarters

1st Quarter Aug 21, 2017 – Oct 26, 2017
2nd Quarter Oct 30, 2017 – Jan 11, 2018
3rd Quarter Jan 16, 2018 – Mar 28, 2018
4th Quarter Apr 4, 2018 – May 25, 2018

3rd Grade Mathematics Curriculum Map - Overview

Lesson Plan Format:

Lesson Plan Format with Go Math! References:

Unit of Study	The mathematical content is sequenced in Units of Study that will take approximately 2-3 weeks each to teach. The sequence of Units of Study provides a coherent flow to mathematics instruction throughout the year.
Go Math! Alignment	The primary textbook adopted in Granite School District for Grades K-6 is Houghton Mifflin Harcourt's Go Math!, 2015 Edition.
Math Content and Language Objectives	The Math Content and Language Objectives are to be posted for each lesson, restated to students during the lesson, and revisited at the end of each lesson. These are written as "I Can" statements. Suggested Math Language Objectives can be located on the next page.
Key Concepts for Differentiation 🔑	In an effort to assist teachers in the process of differentiation in Tier I teaching, key concepts have been identified in the curriculum maps as those specific objectives a teacher would focus on during small group instruction with struggling students. Key concepts cover minimum, basic skills and knowledge every student must master. Key concepts are **NOT** an alternative to teaching the entire Utah State Core Standards, rather they emphasize which concepts to prioritize for differentiation.
Vocabulary	Vocabulary cards for instruction and word walls can be found at: http://www.graniteschools.org/mathvocabulary/
Additional Resources	Each elementary school has a copy of Elementary and Middle School Mathematics, 7th Edition, by John A. Van de Walle. This book is intended to be a resource for mathematical content and instructional strategy suggestions. The websites are a resource for lesson plans, teacher tutorials, content videos, student applets, and games. The resources are **NOT** intended to be all-inclusive. It is the teacher's responsibility to teach the **Utah Core State Standards for Mathematics** content, not the resources.
Assessment	There are many formative and summative assessment options: • Go Math! Options: Prerequisite Skills Inventory; Beginning-of-Year, Middle-of-Year, and End-of-Year Benchmark Tests; Show What You Know Diagnostic Assessments; Diagnostic Interview Assessments; Portfolio Assessment; Mid-Chapter Checkpoints; Chapter Review/Tests; Chapter Tests; Performance Assessments; Quick Checks; and, Personal Math Trainer. The assessments are intended to be used to provide immediate feedback that can be used for Tier 2 and/or Tier 3 interventions for individual students. The results may also be used to identify concepts for reteaching the whole class if needed. • Semester Benchmark Assessments – These are cumulative tests for multiple Units of Study. These are to be given as a pretest and a posttest. Students not mastering content will need Tier 2 and/or Tier 3 interventions. • Exit slips, teacher observations, daily class work, homework, and basal assessments are to be used at the teacher's discretion to help guide and direct instruction.

Math Language Objectives

[Note: The following language objectives must be written in student-friendly terms, adapted to specific lessons, and aligned with the language needs of students.]

Reading Standards for Informational Text

- Ask and answer questions to demonstrate understanding of a math text.
- Describe the relationship between concepts or steps in math procedures.
- Determine the meaning of specific math words or phrases in a text.
- Use text features to locate information relevant to a given math topic.
- Use information gained from illustrations and words to demonstrate math understanding.
- Compare and contrast important points and key details in a math text.
- Read and comprehend math texts.

Writing Standards

- Write opinion pieces on math topics, supporting a point of view with reasons.
- Write explanatory math text to convey ideas and information clearly.
- Use technology to produce math writing and collaborate with others.
- Write routinely for a range of math tasks.

Speaking and Listening Standards

- Engage in collaborative discussions about math topics.
- Determine the main math ideas and supporting details presented in visual, quantitative, and oral formats.
- Ask and answer questions about information from a speaker.
- Report on a math topic with appropriate facts and details.
- Add visual displays to emphasize facts or details.
- Speak in complete sentences to provide detail or clarification on math topics.

Unit of Study 1	3rd Grade	Quarter 1	Approx. 14 – 17 days	GSD Revised 6/1/17

Strand: Operations and Algebraic Thinking 3.OA

Use the four operations to identify and explain patterns in arithmetic.

8. Solve two-step word problems.

a. Solve two-step word problems using the four operations. Know how to perform operations in the conventional order when there are no parentheses to specify a particular order (Order of Operations). (Limit to problems posed with whole numbers and having whole number answers.)

b. Represent two-step problems using equations with a letter standing for the unknown quantity. Create accurate equations to match word problems.

c. Assess the reasonableness of answers using mental computation and estimation strategies, including rounding.

9. Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that four times a number is always even, and explain why four times a number can be decomposed into two equal addends.*

Strand: Number and Operations in Base Ten 3.NBT

Use place value understanding and properties of operations to perform multi-digit arithmetic. A range of algorithms may be used.

1. Use place value understanding to round whole numbers to the nearest 10 or 100.

2. Fluently add and subtract within 1,000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

Math Content Objectives:	Vocabulary	Vocabulary (cont.)
I can: **<u>3.OA.8</u>** 🗝 Solve two-step word problems. • Write an equation for a two-step word problem. • Use a letter to stand for the missing number in an equation. • Decide if my answer is reasonable. **<u>3.OA.9</u>** • Identify arithmetic patterns. **<u>3.NBT.1</u>** • Round whole numbers to the nearest 10. • Round whole numbers to the nearest 100. **<u>3.NBT.2</u>** 🗝 Add within 1000. 🗝 Subtract within 1000. 🗝 Key Concepts for Differentiation - See p. 7.	• add • addend • algorithm • arithmetic patterns • Additive Identity Property of 0 • Associative Property of Addition • bar model • base-ten numeral form • base-ten numerals • column • Commutative Property of Addition • compatible numbers • difference • digit • equation • estimate • even number • expanded form • hundreds	• inverse operations • number line • odd number • ones • Order of Operations • parentheses • place value • reasonableness • regroup • round a whole number • row • standard form • subtract • sum • tens • variable

Go Math! Utah Core Alignment	Envisions to Go Math! Alignment	Unit of Study 1 – Additional Resources
Lesson 1.1 3.OA.9	**Lesson 8-2**	**Number Patterns** **VDW 7th Edition - page 269** **Learn Alberta - Patterns (Increasing and Decreasing) - Interactive Applet** - http://www.learnalberta.ca/content/me3us/flash/index.html
Lesson 1.2 3.NBT.1	**Lesson 8-3**	**PBS Kids Cyberchase - Crack Hacker's Safe - Game** - http://pbskids.org/cyberchase/math-games/crack-hackers-safe/
Lesson 1.3 3.NBT.1	**Lesson 8-6**	**Place Value** **VDW 7th Edition - pages 208-209** **Toon University - Place Value to Thousands - Game** - http://www.toonuniversity.com/flash.asp?err=496&engine=5 **Sheppard Software - Place Value Made Easy - Game** - http://www.sheppardsoftware.com/mathgames/placevalue/value.htm
Lesson 1.4 3.NBT.2	**Lesson 8-4**	**Round a Whole Number** **VDW 7th Edition - page 246**
Lesson 1.5 3.NBT.2	**Lesson 8-1**	**Education Place - Round Two-Digit and Three-Digit Numbers - Student Tutorial** - http://eduplace.com/cgi-bin/schtemplate.cgi?template=/math/hmm/models/tm_popup.thtml&grade=3&chapter=2&lesson=3&title=Round+Two-Digit+and+Three-Digit+Numbers&tm=tmfd0203e
Lesson 1.6 3.NBT.2	**Lesson 9-1**	**Mr. Nussbaum - Half-court rounding - Game** - http://www.mrnussbaum.com/rounding/index.html
Lesson 1.7 3.NBT.2	**Lessons 9-2, 9-3, 9-4**	**Estimating Sums** **VDW 7th Edition - pages 245-250** **PBS Kids Cyberchase - Glowa's Estimation Contraption - Game** - http://pbskids.org/cyberchase/math-games/glowlas-estimation-contraption/
Lesson 1.8 3.NBT.1	**Lesson 8-7**	**Properties** **VDW 7th Edition - pages 153-154; 265-266**
Lesson 1.9 3.NBT.2	**Lesson 8-5, 9-5**	**Education Place - Addition Properties - Student Tutorial** - http://eduplace.com/cgi-bin/schtemplate.cgi?template=/math/hmm/models/tm_popup.thtml&grade=3&chapter=4&lesson=1&title=Addition+Properties&tm=tmfd0401e
Lesson 1.10 3.NBT.2	**Lessons 8-8, 9-6**	
Lesson 1.11 3.NBT.2	**Lesson 9-7**	
Lesson 1.12 3.OA.8	**Lessons 11-1**	

	Unit of Study 1 - Additional Resources - Continued
	Addition **VDW 7th Edition - pages 151-152; 170-175; 219-226** **IXL - Addition: Add two numbers up to three digits - Assessment** - http://www.ixl.com/math/grade-3/add-two-numbers-up-to-three-digits **Learn Alberta - Addition - Interactive Applet** - http://www.learnalberta.ca/content/me3us/flash/index.html **UEN -"Mental Math: Addition and Subtraction" Lesson** - http://www.uen.org/Lessonplan/preview.cgi?LPid=6093 **Subtraction** **VDW 7th Edition - pages 151-152; 175-177; 219-226** **Learn Alberta - Subtraction - Interactive Applet** - http://www.learnalberta.ca/content/me3us/flash/index.html **UEN - "Subtraction – There's Got to be an Easier Way!" Lesson** - http://www.uen.org/Lessonplan/preview.cgi?LPid=14863 **UEN -"Mental Math: Addition and Subtraction" Lesson** - http://www.uen.org/Lessonplan/preview.cgi?LPid=6093 **Word Problems** **Math Playground - Word Problems with Katie - Game -** http://www.mathplayground.com/WordProblemsWithKatie1.html **Math Playground - Thinking Blocks (Bar Model) - Interactive Applet** - http://www.mathplayground.com/NewThinkingBlocks/thinking_blocks_addition_subtraction.html **Math Playground - Word Problem Bank** - http://www.mathplayground.com/wpdatabase/wpindex.html **Literature** Betcha! by Stuart J. Murphy Coyotes All Around by Stuart J. Murphy Even Steven and Odd Todd by Kathryn Cristaldi The Long Wait by Annie Cobb A Place for Zero by Angeline Sparagna LoPresti
Assessment Options	• **Go Math! Assessment Options**: Show What You Know Diagnostic Assessment; Mid-Chapter Checkpoint; Quick Checks; Portfolio Assessment; Chapter 1 Review/Test; Chapter 1 Test; Diagnostic Interview Assessment; Personal Math Trainer. • **Daily/Weekly Formative Assessment Options**: Exit Slips, Observation, Daily Work, Homework.

Unit of Study 2	3rd Grade	Quarter 1	Approx. 9 – 14 days	GSD Revised 6/1/17

Strand: Measurement and Data 3.MD

Represent and interpret data.

3. Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent five pets.*

4. Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.

Math Content Objectives	Vocabulary	
I can: **3.MD.3** 🗝 Draw a picture graph to show data. 🗝 Draw a bar graph to show data. 🗝 Answer questions using information on a picture graph. 🗝 Answer questions using information on a bar graph. **3.MD.4** • Measure lengths with halves and fourths of an inch. • Show measurement data on a line plot. 🗝 Key Concepts for Differentiation - See p. 7.	• bar graph • data • experiment • frequency table • horizontal bar graph • key • line plot • number line • picture graph • scale • skip count • survey • tally table • vertical bar graph	

Go Math! Utah Core Alignment	Envisions to Go Math! Alignment	Unit of Study 2 - Additional Resources
Lesson 2.1 3.MD.3 **Lesson 2.2** 3.MD.3 **Lesson 2.3** 3.MD.3 **Lesson 2.4** 3.MD.3 **Lesson 2.5** 3.MD.3 **Lesson 2.6** 3.MD.3 **Lesson 2.7** 3.MD.4	---------- **Lesson 7-1** **Lesson 7-2** **Lesson 7-1** **Lesson 7-3** **Lesson 7-4** ----------	**Picture Graphs** **IXL - Create Pictographs - Assessment** - http://www.ixl.com/math/grade-3/create-pictographs **Beacon Learning Center - Play Ball - Assessment** - http://www.beaconlearningcenter.com/WebLessons/PlayBall/default.htm#page5 **Toy Theater - Fishing - Game** - http://toytheater.com/fishing.php **Bar Graphs** **VDW 7th Edition - pages 443-444** **Learn Alberta - Using Bar Graphs - Interactive Applet** - http://www.learnalberta.ca/content/me3us/flash/index.html **Beacon Learning Center - "Kids Have Pets" Lesson** - http://www.beaconlearningcenter.com/WebLessons/KidsHavePets/default.htm#page5 **IXL - Create Bar Graphs - Assessment** - http://www.ixl.com/math/grade-3/create-bar-graphs **Line Plots** **VDW 7th Edition - page 446** **Learn Alberta - Organizing Data - Interactive Applet** - http://www.learnalberta.ca/content/me3us/flash/index.html **IXL - Create Pictographs - Assessment** - http://www.ixl.com/math/grade-3/create-line-plots **Literature** Graphs by Bonnie Bader Lemonade for Sale by Stuart J. Murphy Tally O'Malley by Stuart J. Murphy Tiger Math by Ann Whitehead Nagda
Assessment Options		• **Go Math! Assessment Options**: Show What You Know Diagnostic Assessment; Mid-Chapter Checkpoint; Quick Checks; Portfolio Assessment; Chapter 2 Review/Test; Chapter 2 Test; Diagnostic Interview Assessment; Personal Math Trainer. • **Daily/Weekly Formative Assessment Options**: Exit Slips, Observation, Daily Work, Homework.

Unit of Study 3	3rd Grade	Quarter 1	Approx. 9 – 14 days	GSD Revised 6/1/17

Domain: Operations and Algebraic Thinking 3.OA

Represent and solve problems involving multiplication and division within 100.

1. Interpret products of whole numbers, such as interpreting 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5 × 7.*

3. Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities. *For example, use drawings and equations with a symbol for the unknown number to represent the problem*

Demonstrate understanding of the properties of multiplication and the relationship between multiplication and division.

5. Apply properties of operations as strategies to multiply and divide. *For example: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known (commutative property of multiplication).3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30 (associative property of multiplication). Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56 (distributive property). (Third grade students may, but need not, use formal terms for these properties.)*

Use the four operations to identify and explain patterns in arithmetic.

8. Solve two-step word problems.

a. Solve two-step word problems using the four operations. Know how to perform operations in the conventional order when there are no parentheses to specify a particular order (Order of Operations). (Limit to problems posed with whole numbers and having whole number answers.)

b. Represent two-step problems using equations with a letter standing for the unknown quantity. Create accurate equations to match word problems.

c. Assess the reasonableness of answers using mental computation and estimation strategies, including rounding.

Math Content Objectives	Vocabulary	Vocabulary (cont.)
I can: **3.OA.1** • Explain the meaning of factors and products. • Model multiplication as repeated addition. **3.OA.3** 🗝 Use multiplication to solve word problems. • Use division to solve word problems. • Use a drawing to solve a multiplication and division word problem. • Use an equation to solve a multiplication and division word problem. • Use a symbol for an unknown number in an equation.	• add • array • Associative Property of Multiplication • bar model • column • Commutative Property of Multiplication • Distributive Property • equal groups • equation • expression • fact family • factor	• Multiplicative Identity Property of 1 • multiply • number line • product • related facts • repeated addition • row • skip count • whole numbers • Zero Property of Multiplication

Unit of Study 3 (continued)		
Math Content Objectives		
3.OA.5 • Use the Commutative Property of Multiplication. • Use the Associative Property of Multiplication. • Use the Distributive Property. • Use the Multiplicative Identity Property of 1. • Use the Zero Property of Multiplication. **3.OA.8** 🗝 Solve two-step word problems. • Write an equation for a two-step word problem. • Use a letter to stand for the missing number in an equation. • Decide if my answer is reasonable. 🗝 Key Concepts for Differentiation - See p. 7.		

Go Math! Utah Core Alignment	Envisions to Go Math! Alignment	Unit of Study 3 – Additional Resources
Lesson 3.1 3.OA.1 **Lesson 3.2** 3.OA.1 **Lesson 3.3** 3.OA.3 **Lesson 3.4** 3.OA.8 **Lesson 3.5** 3.OA.3 **Lesson 3.6** 3.OA.5 **Lesson 3.7** 3.OA.5	**Lesson 1-1** **Lesson 1-1** **Lesson 1-2** **----------** **Lesson 1-3** **Lesson 1-4** **Lesson 2-3**	**Multiplication Models - 1-digit x 1-digit** **VDW 7th Edition - pages 154-155; 157-160** **Learn Alberta - Multiplication (Various Models) - Interactive Applet** -http://www.learnalberta.ca/content/me3us/flash/index.html **Education Place - Model Multiplication as Repeated Addition - Student Tutorial** - http://eduplace.com/cgi-bin/schtemplate.cgi?template=/math/hmm/models/tm_popup.thtml&grade=3&chapter=8&lesson=1&title=Model+Multiplication+as+Repeated+Addition&tm=tmfd0801e **Education Place - Multiply with 2 and 5 - Student Tutorial** - http://eduplace.com/cgi-bin/schtemplate.cgi?template=/math/hmm/models/tm_popup.thtml&grade=2&chapter=19&lesson=2&title=Multiply+with+2+and+5&tm=tmfc1902e **Education Place - Multiply with 3 - Student Tutorial** - http://eduplace.com/cgi-bin/schtemplate.cgi?template=/math/hmm/models/tm_popup.thtml&grade=3&chapter=9&lesson=2&title=Multiply+with+3&tm=tmfd0902e **NLVM - Number Line Arithmetic - Interactive Applet -** http://nlvm.usu.edu/en/nav/frames_asid_197_g_2_t_1.html?open=activities **Illuminations - All About Multiplication - Lessons 1 and 2** - http://illuminations.nctm.org/LessonDetail.aspx?ID=L316 **Word Problems** **VDW 7th Edition - pages 161-164** **Math Playground - Word Problem Bank** - http://www.mathplayground.com/wpdatabase/wpindex.html **Math Playground - Thinking Blocks - Bar Models and Tutorial** - http://www.thinkingblocks.com/ThinkingBlocks_MD/TB_MD_Main.html **Properties** **VDW 7th Edition – pages 160-161; 265-266** **Scholastic Study Jams - Multiplication- Student Interactive Tutorial** - http://studyjams.scholastic.com/studyjams/jams/math/multiplication-division/multiplication.htm

	Unit of Study 3 - Additional Resources - Continued
	Literature 2 x 2 = Boo: A Set of Multiplication Stories by Loreen Leedy Amanda Bean's Amazing Dream by Cindy Neuschwander Best of Times by Greg Tang Breakfast at Danny's Diner by Judith Bauer Stamper Each Orange Had 8 Slices by Paul Giganti, Jr. The Hershey's Milk Chocolate Multiplication Book by Jerry Pallotta How Many Legs: Learning to Multiply by Repeated Addition by Kristine Lalley Stacks of Trouble by Martha F. Brenner Too Many Kangaroo Things to Do! By Stuart J. Murphy Two Ways to Count to Ten by Ruby Dee What Comes in 2's, 3's, and 4's? by Suzanne Aker
Assessment Options	• **Go Math! Assessment Options**: Show What You Know Diagnostic Assessment; Mid-Chapter Checkpoint; Quick Checks; Portfolio Assessment; Chapter 3 Review/Test; Chapter 3 Test; Diagnostic Interview Assessment; Personal Math Trainer. • **Daily/Weekly Formative Assessment Options**: Exit Slips, Observation, Daily Work, Homework.

Unit of Study 4	3rd Grade	Quarter 2	Approx. 12 – 19 days	GSD Revised 6/1/17

Strand: Operations and Algebraic Thinking 3.OA

Represent and solve problems involving multiplication and division within 100.

3. Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities. *For example, use drawings and equations with a symbol for the unknown number to represent the problem.*

7. Fluently multiply and divide.

a. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division or properties of operations. *(For example, knowing that 8 × 5 – 40, one knows 40 ÷ 5 = 8.)*

b. By the end of Grade 3, know from memory all products of two one-digit numbers.

Demonstrate understanding of the properties of multiplication and the relationship between multiplication and division.

5. Apply properties of operations as strategies to multiply and divide. *For example: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known (commutative property of multiplication).3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30 (associative property of multiplication). Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56 (distributive property). (Third grade students may, but need not, use formal terms for these properties.)*

Use the four operations to identify and explain patterns in arithmetic.

8. Solve two-step word problems.

a. Solve two-step word problems using the four operations. Know how to perform operations in the conventional order when there are no parentheses to specify a particular order (Order of Operations). (Limit the problems posed with whole numbers and having whole number answers.)

b. Represent two-step problems using equations with a letter standing for the unknown quantity.

c. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

9. Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that four times a number is always even, and explain why four times a number can be decomposed into two equal addends.*

Math Content Objectives	Vocabulary	
I can: **<u>3.OA.3</u>** • Use multiplication to solve word problems. • Use division to solve word problems. • Use a drawing to solve a multiplication and division word problem. • Use an equation to solve a multiplication and division word problem. • Use a symbol for an unknown number in an equation.	• add • addend • area model • arithmetic patterns • array • Associative Property of Multiplication • bar model • column • Commutative Property of Multiplication • counting number	

Unit of Study 4 (continued)

Math Content Objectives	Vocabulary (cont.)	
3.OA.5 • Use the Commutative Property of Multiplication. 🔑 Use the Associative Property of Multiplication. 🔑 Use the Distributive Property. • Use the Multiplicative Identity Property of 1. • Use the Zero Property of Multiplication. **3.OA.7** 🔑 Fluently multiply two one-digit numbers. • Fluently divide within 100. • Memorize all products of two one-digit numbers. **3.OA.8** • Solve two-step word problems. • Write an equation for a two-step word problem. • Use a letter to stand for the missing number in an equation. • Decide if my answer is reasonable. **3.OA.9** 🔑 Identify arithmetic patterns. 🔑 Key Concepts for Differentiation - See p. 7.	• difference • Distributive Property • equal groups • equation • even number • fact family • factor • multiple • Multiplicative Identity Property of 1 • multiply • number line • odd number • product • related facts • row • subtract • sum • Zero Property of Multiplication	

Go Math! Utah Core Alignment	Envisions to Go Math! Alignment	Unit of Study 4 – Additional Resources
Lesson 4.1 3.OA.3 **Lesson 4.2** 3.OA.3 **Lesson 4.3** 3.OA.3 **Lesson 4.4** 3.OA.5 **Lesson 4.5** 3.OA.7 **Lesson 4.6** 3.OA.5 **Lesson 4.7** 3.OA.9 **Lesson 4.8** 3.OA.7 **Lesson 4.9** 3.OA.7 **Lesson 4.10** 3.OA.8	**Lessons 2-1, 3-3** **Lessons 2-1, 2-4** **Lessons 3-2, 3-4** **Lesson 3-1, 5-5** **Lesson 3-4** **Lesson 3-7** **Lessons 3-1, 3-2, 5-3** **Lesson 3-5** **Lesson 2-2** **Lesson 2-6, 5-5, 5-6**	**Multiplication Models - 1-digit x 1-digit** **VDW 7th Edition - pages 154-155; 157-160** **Learn Alberta - Multiplication (Various Models) - Interactive Applet** -http://www.learnalberta.ca/content/me3us/flash/index.html **Education Place - Model Multiplication as Repeated Addition - Student Tutorial** - http://eduplace.com/cgi-bin/schtemplate.cgi?template=/math/hmm/models/tm_popup.thtml&grade=3&chapter=8&lesson=1&title=Model+Multiplication+as+Repeated+Addition&tm=tmfd0801e **Education Place - Multiply with 2 and 5 - Student Tutorial** - http://eduplace.com/cgi-bin/schtemplate.cgi?template=/math/hmm/models/tm_popup.thtml&grade=2&chapter=19&lesson=2&title=Multiply+with+2+and+5&tm=tmfc1902e **Education Place - Multiply with 3 - Student Tutorial** - http://eduplace.com/cgi-bin/schtemplate.cgi?template=/math/hmm/models/tm_popup.thtml&grade=3&chapter=9&lesson=2&title=Multiply+with+3&tm=tmfd0902e **NLVM - Number Line Arithmetic - Interactive Applet** - http://nlvm.usu.edu/en/nav/frames_asid_197_g_2_t_1.html?open=activities **Illuminations - All About Multiplication - Lessons 1 and 2** - http://illuminations.nctm.org/LessonDetail.aspx?ID=L316 **Ambleside - Numberlines - Interactive Applet** - http://www.amblesideprimary.com/ambleweb/mentalmaths/numberlines.html **Multiplication Fact Practice** **VDW 7th Edition - pages 177- 181; 182-185** **Maths Games - Basic Fact Practice - Games** - http://www.maths-games.org/times-tables-games.html **Illuminations - The Product Game - Lessons 1 and 2** - http://illuminations.nctm.org/LessonDetail.aspx?ID=L272 **MathsFrame - Multiplication Rapid Recall - Game** - http://www.mathsframe.co.uk/resources/Multiplication_-_Rapid_Recall.aspx **Arcademics Skill Builders - Meteor Multiplication - Game** - http://www.arcademicskillbuilders.com/games/meteor/meteor.html **HMH School Publishers - Multiplication Mystery - Game** - http://www.harcourtschool.com/activity/mult/mult.html **APlus Math - Multiplication Picture - Game** - http://www.aplusmath.com/games/picture/MultPicture.html **Math Is Fun - Multiplication Practice - Assessment** - http://www.mathsisfun.com/timestable.html **Mr. Nussbaum - Around the World - Game** - http://www.mrnussbaum.com/aroundtheworld.htm **Multiplication - Games** - http://www.multiplication.com/games/all-games **Fun 4 The Brain - Games** - http://www.fun4thebrain.com/mult.html **River Tables - Multiplication Practice - Game** - http://www.rivertables.co.uk/activity/ **Education Place - eManipulatives - Multiplication Table** - http://www.eduplace.com/cgi-bin/schtemplate.cgi?template=/kids/hmm/manip/mn_popup.thtml&filename=tables_mult&title=Multiplication%20Table&grade=1 **Properties** **VDW 7th Edition – pages 160-161; 265-266** **Scholastic Study Jams - Multiplication- Student Interactive Tutorial** - http://studyjams.scholastic.com/studyjams/jams/math/multiplication-division/multiplication.htm

	Unit of Study 4 - Additional Resources - Continued
	Literature 2 x 2 = Boo: A Set of Multiplication Stories by Loreen Leedy Amanda Bean's Amazing Dream by Cindy Neuschwander Best of Times by Greg Tang Breakfast at Danny's Diner by Judith Bauer Stamper Bunches and Bunches of Bunnies by Louise Mathews Each Orange Had 8 Slices by Paul Giganti, Jr. Even Steven and Odd Todd by Kathryn Cristaldi Too Many Kangaroo Things to Do! By Stuart J. Murphy Two Ways to Count to Ten by Ruby Dee What Comes in 2's, 3's, and 4's? by Suzanne Aker
Assessment Options	• **Go Math! Assessment Options**: Show What You Know Diagnostic Assessment; Mid-Chapter Checkpoint; Quick Checks; Portfolio Assessment; Chapter 4 Review/Test; Chapter 4 Test; Diagnostic Interview Assessment; Personal Math Trainer. • **Daily/Weekly Formative Assessment Options**: Exit Slips, Observation, Daily Work, Homework.

Unit of Study 5	3rd Grade	Quarter 2	Approx. 7 – 9 days	GSD Revised 6/1/17

Strand: Operations and Algebraic Thinking 3.OA

Represent and solve problems involving multiplication and division within 100.

4. Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number—product, factor, quotient, dividend, or divisor—that makes the equation true in each of the equations 8 × ? = 48, 5 = ? ÷ 3, 6 × 6 = ?.*

Use the four operations to identify and explain patterns in arithmetic.

Solve problems involving the four operations, and identify and explain patterns in arithmetic.

9. Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that four times a number is always even, and explain why four times a number can be decomposed into two equal addends*

Strand: Number and Operations in Base Ten 3.NBT

Use place value understanding and properties of operations to perform multi-digit arithmetic. A range of algorithms may be used.

3. Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (for example, 9 × 80, 5 × 60) using strategies based on place value and properties of operations.

Math Content Objectives	Vocabulary	Vocabulary (cont.)
I can: **3.OA.4** 🗝 Find the unknown number in a multiplication or division equation. **3.OA.9** 🗝 Identify arithmetic patterns. **3.NBT.3** • Multiply a one-digit number by a multiple of 10. 🗝 Key Concepts for Differentiation - See p. 7.	• addend • area model • arithmetic pattern • array • Associative Property of Multiplication • column • Commutative Property of Multiplication • Distributive Property • equation • fact family • factor • hundreds • multiple • number line • ones • parentheses • place value • product • related facts	• row • sum • tens • variable

Go Math! Utah Core Alignment	Envisions to Go Math! Alignment	Unit of Study 5 – Additional Resources
Lesson 5.1 3.OA.9	----------	**Arithmetic Patterns** VDW 7th Edition - pages 13-17; 256; 269-270
Lesson 5.2 3.OA.4	Lesson 4-8	**Unknown Factors** VDW 7th Edition - pages 154-156
Lesson 5.3 3.NBT.3	----------	**Multiplication by 10's with Models** BBC - Camel Times Tables - Game - http://www.bbc.co.uk/bitesize/ks1/maths/multiplication/play/popup.shtml Quia - Times 10 Matching - Game - http://www.quia.com/mc/644904.html?AP_rand=1404880125 Quia - Times 10 Concentration - Game - http://www.quia.com/cc/644904.html?AP_rand=1233343864
Lesson 5.4 3.NBT.3	Lessons 10-1, 10-2	**Properties** VDW 7th Edition - pages 160-161; 265-266 Math League - Teacher Tutorial - http://www.mathleague.com/help/wholenumbers/wholenumbers.htm Purplemath - Teacher Tutorial - http://www.purplemath.com/modules/numbprop.htm
Lesson 5.5 3.NBT.3	Lessons 10-3	**Multiplication Fact Practice** VDW 7th Edition - pages 177- 181; 182-185 Maths Games - Basic Fact Practice - Games - http://www.maths-games.org/times-tables-games.html Illuminations - The Product Game - Lessons 1 and 2 - http://illuminations.nctm.org/LessonDetail.aspx?ID=L272 MathsFrame - Multiplication Rapid Recall - Game - http://www.mathsframe.co.uk/resources/Multiplication_-_Rapid_Recall.aspx Arcademics Skill Builders - Meteor Multiplication - Game - http://www.arcademicskillbuilders.com/games/meteor/meteor.html HMH School Publishers - Multiplication Mystery - Game - http://www.harcourtschool.com/activity/mult/mult.html APlus Math - Multiplication Picture - Game - http://www.aplusmath.com/games/picture/MultPicture.html Math Is Fun - Multiplication Practice - Assessment - http://www.mathsisfun.com/timestable.html Mr. Nussbaum - Around the World - Game - http://www.mrnussbaum.com/aroundtheworld.htm Multiplication - Games - http://www.multiplication.com/games/all-games Fun 4 The Brain - Games - http://www.fun4thebrain.com/mult.html River Tables - Multiplication Practice - Game - http://www.rivertables.co.uk/activity/ Education Place - eManipulatives - Multiplication Table - http://www.eduplace.com/cgi-bin/schtemplate.cgi?template=/kids/hmm/manip/mn_popup.thtml&filename=tables_mult&title=Multiplication%20Table&grade=1

	Unit of Study 5 - Additional Resources - Continued
	Literature 2 x 2 = Boo: A Set of Multiplication Stories by Loreen Leedy Amanda Bean's Amazing Dream by Cindy Neuschwander Best of Times by Greg Tang Breakfast at Danny's Diner by Judith Bauer Stamper Corkscrew Counts: A Story About Multiplication by Donna Jo Napoli Each Orange Had 8 Slices by Paul Giganti, Jr. Too Many Kangaroo Things to Do! By Stuart J. Murphy Two Ways to Count to Ten by Ruby Dee What Comes in 2's, 3's, and 4's? by Suzanne Aker
Assessment Options	• **Go Math! Assessment Options**: Show What You Know Diagnostic Assessment; Mid-Chapter Checkpoint; Quick Checks; Portfolio Assessment; Chapter 5 Review/Test; Chapter 5 Test; Diagnostic Interview Assessment; Personal Math Trainer. • **Daily/Weekly Formative Assessment Options**: Exit Slips, Observation, Daily Work, Homework.

Unit of Study 6	3rd Grade	Quarter 2	Approx. 11 – 16 days	GSD Revised 6/1/17

Strand: Operations and Algebraic Thinking 3.OA

Represent and solve problems involving multiplication and division within 100.

2. Interpret whole-number quotients of whole numbers. *For example, interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into eight shares (partitive), or as a number of shares when 56 objects are partitioned into equal shares of eight objects each (quotative).*

3. Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities. *For example, use drawings and equations with a symbol for the unknown number to represent the problem.*

7. Fluently multiply and divide.

a. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division or properties of operations. *(For example, knowing that 8 × 5 – 40, one knows 40 ÷ 5 = 8.)*

b. By the end of Grade 3, know from memory all products of two one-digit numbers.

Demonstrate understanding of the properties of multiplication and the relationship between multiplication and division.

5. Apply properties of operations as strategies to multiply and divide. *For example: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known (commutative property of multiplication).3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30 (associative property of multiplication). Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56 (distributive property). (Third grade students may, but need not, use formal terms for these properties.)*

6. Understand division as an unknown-factor problem. Understand the relationship between multiplication and division (multiplication and division are inverse operations). *For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.*

Math Content Objectives	Vocabulary	Vocabulary (cont.)
I can: **<u>3.OA.2</u>** • Explain the meaning of partitive division. • Explain the meaning of quotative division. 🗝 Model division using equal groups. 🗝 Model division as repeated subtraction.	• array • bar model • column • Commutative Property of Multiplication • divide • dividend • divisor • equal groups • equation • expression • fact family • factor	• inverse operations • Multiplicative Identity Property of 1 • number line • partitive division • product • quotative division • quotient • related facts • repeated subtraction • row

Unit of Study 6 (continued)		
Math Content Objectives		
3.OA.3 • Use multiplication to solve word problems. • Use division to solve word problems. • Use a drawing to solve a multiplication and division word problem. • Use an equation to solve a multiplication and division word problem. • Use a symbol for an unknown number in an equation. **3.OA.5** • Use the Commutative Property of Multiplication. • Use the Associative Property of Multiplication. 🗝 Use the Distributive Property. 🗝 Use the Multiplicative Identity Property of 1. • Use the Zero Property of Multiplication. **3.OA.6** • Use multiplication to answer a division problem. **3.OA.7** • Fluently multiply two one-digit numbers. 🗝 Fluently divide within 100. • Memorize all products of two one-digit numbers. 🗝 Key Concepts for Differentiation - See p. 7.		

Go Math! Utah Core Alignment	Envisions to Go Math! Alignment	Unit of Study 6 - Additional Resources
Lesson 6.1 3.OA.3 **Lesson 6.2** 3.OA.2 **Lesson 6.3** 3.OA.2 **Lesson 6.4** 3.OA.2 **Lesson 6.5** 3.OA.3 **Lesson 6.6** 3.OA.3 **Lesson 6.7** 3.OA.6 **Lesson 6.8** 3.OA.7 **Lesson 6.9** 3.OA.5	**Lessons 1-5** **Lesson 1-5** **----------** **----------** **Lesson 1-6** **----------** **Lesson 4-1** **Lessons 4-1** **Lesson 4-6**	**Basic Division Models and Strategies** **VDW 7th Edition - pages 154-155; 157-161** **Education Place - Relate Multiplication and Division - Student Tutorial** - http://eduplace.com/cgi-bin/schtemplate.cgi?template=/math/hmm/models/tm_popup.thtml&grade=4&chapter=4&lesson=2&title=Relate+Multiplication+and+Division&tm=tmfe0402e **Maths Frame - Linking Multiplication and Division - Interactive Applet -** http://www.mathsframe.co.uk/resources/Linking_Multiplication_and_Division.aspx **Learn Alberta - Division (Equal Sharing; Equal Grouping) - Interactive Applet** - http://www.learnalberta.ca/content/me3us/flash/index.html **Education Place - Model Division as Repeated Subtraction - Student Tutorial** - http://eduplace.com/cgi-bin/schtemplate.cgi?template=/math/hmm/models/tm_popup.thtml&grade=3&chapter=10&lesson=2&title=Model+Division+as+Repeated+Subtraction&tm=tmfd1002e **Education Place – Divide Using a Multiplication Table - Student Tutorial -** http://eduplace.com/cgi-bin/schtemplate.cgi?template=/math/hmm/models/tm_popup.thtml&grade=3&chapter=11&lesson=1&title=Divide+Using+a+Multiplication+Table&tm=tmfd1101e **YouTube - Modeling Division with Base 10 Blocks - Teacher Tutorial** - http://www.youtube.com/watch?v=meNk7X4266o&feature=relmfu **PBS Kids Cyberchase - Sharing Halloween Candy - Video Tutorial** - http://www.teachersdomain.org/resource/vtl07.math.number.ope.sharhalcan/ **Harcourt School E-Lab - Modeling Division - Interactive Applet** - http://www.harcourtschool.com/activity/elab2004/gr4/6.html **Literature** Cheetah Math by Ann Whitehead Nagda Divide and Ride by Stuart J. Murphy The Doorbell Rang by Pat Hutchins
Assessment Options		• **Go Math! Assessment Options**: Show What You Know Diagnostic Assessment; Mid-Chapter Checkpoint; Quick Checks; Portfolio Assessment; Chapter 6 Review/Test; Chapter 6 Test; Diagnostic Interview Assessment; Personal Math Trainer. • **Daily/Weekly Formative Assessment Options**: Exit Slips, Observation, Daily Work, Homework.

Unit of Study 7	3rd Grade	Quarter 3	Approx. 13 – 18 days	GSD Revised 6/1/17

Strand: Operations and Algebraic Thinking 3.OA

Represent and solve problems involving multiplication and division within 100.

3. Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities. *For example, use drawings and equations with a symbol for the unknown number to represent the problem.*

4. Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number—product, factor, quotient, dividend, or divisor—that makes the equation true in each of the equations 8 × ? = 48, 5 = ? ÷ 3, 6 × 6 = ?.*

7. Fluently multiply and divide.

a. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division or properties of operations. *(For example, knowing that 8 × 5 – 40, one knows 40 ÷ 5 = 8.)*

b. By the end of Grade 3, know from memory all products of two one-digit numbers.

Use the four operations to identify and explain patterns in arithmetic.

8. Solve two-step word problems.

a. Solve two-step word problems using the four operations. Know how to perform operations in the conventional order when there are no parentheses to specify a particular order (Order of Operations). (Limit the problems posed with whole numbers and having whole number answers.)

b. Represent two-step problems using equations with a letter standing for the unknown quantity.

c. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Math Content Objectives	Vocabulary	Vocabulary (cont.)
I can: **3.OA.3** • Use multiplication to solve word problems. • Use division to solve word problems. • Use a drawing to solve a multiplication and division word problem. • Use an equation to solve a multiplication and division word problem. • Use a symbol for an unknown number in an equation. **3.OA.4** • Find the unknown number in a multiplication or division equation.	• array • bar model • divide • dividend • divisor • equal groups • equation • fact family • factor • inverse operations • multiply • number line • Order of Operations • partitive division	• product • quotative division • quotient • related facts • variable

Unit of Study 7 (continued)		
Math Content Objectives		
3.OA.7 • Fluently multiply two one-digit numbers. 🗝 Fluently divide within 100. • Memorize all products of two one-digit numbers. **3.OA.8** 🗝 Solve two-step word problems. • Write an equation for a two-step word problem. • Use a letter to stand for the missing number in an equation. • Decide if my answer is reasonable. 🗝 Key Concepts for Differentiation - See p. 7. .		

Go Math! Utah Core Alignment	Envisions to Go Math! Alignment	Unit of Study 7 - Additional Resources - Continued
Lesson 7.1 3.OA.3 **Lesson 7.2** 3.OA.7 **Lesson 7.3** 3.OA.3 **Lesson 7.4** 3.OA.7 **Lesson 7.5** 3.OA.7 **Lesson 7.6** 3.OA.7 **Lesson 7.7** 3.OA.7 **Lesson 7.8** 3.OA.4 **Lesson 7.9** 3.OA.7 **Lesson 7.10** 3.OA.8 **Lesson 7.11** 3.OA.8	**Lesson 4-2** **----------** **Lesson 4-2** **Lesson 4-2** **Lesson 4-2** **Lesson 4-3** **Lesson 4-3** **Lesson 4-4** **Lesson 4-4** **Lesson 11-2, 11-3** **----------**	**Basic Division Models and Strategies** VDW 7th Edition - pages 154-155; 157-161 **Education Place - Relate Multiplication and Division - Student Tutorial** - http://eduplace.com/cgi-bin/schtemplate.cgi?template=/math/hmm/models/tm_popup.thtml&grade=4&chapter=4&lesson=2&title=Relate+Multiplication+and+Division&tm=tmfe0402e **Maths Frame - Linking Multiplication and Division - Interactive Applet -** http://www.mathsframe.co.uk/resources/Linking_Multiplication_and_Division.aspx **Learn Alberta - Division (Equal Sharing; Equal Grouping) - Interactive Applet** - http://www.learnalberta.ca/content/me3us/flash/index.html **Education Place - Model Division as Repeated Subtraction - Student Tutorial -** http://eduplace.com/cgi-bin/schtemplate.cgi?template=/math/hmm/models/tm_popup.thtml&grade=3&chapter=10&lesson=2&title=Model+Division+as+Repeated+Subtraction&tm=tmfd1002e **Education Place – Divide Using a Multiplication Table - Student Tutorial** - http://eduplace.com/cgi-bin/schtemplate.cgi?template=/math/hmm/models/tm_popup.thtml&grade=3&chapter=11&lesson=1&title=Divide+Using+a+Multiplication+Table&tm=tmfd1101e **YouTube - Modeling Division with Base 10 Blocks - Teacher Tutorial** - http://www.youtube.com/watch?v=meNk7X4266o&feature=relmfu **PBS Kids Cyberchase - Sharing Halloween Candy - Video Tutorial** - http://www.teachersdomain.org/resource/vtl07.math.number.ope.sharhalcan/ **Harcourt School E-Lab - Modeling Division - Interactive Applet** - http://www.harcourtschool.com/activity/elab2004/gr4/6.html **Division Fact Practice** VDW 7th Edition - pages 181-184 **Arcademic Skill Builders - Demolition Division - Game** - http://www.arcademicskillbuilders.com/games/demolition/demolition.html **Fun 4 The Brain - Games** - http://www.fun4thebrain.com/division.html **Word Problems** VDW 7th Edition - pages 161-164 **Math Playground - Thinking Blocks (Bar Model) - Interactive Applet** - http://www.mathplayground.com/NewThinkingBlocks/thinking_blocks_multiplication_division.html **Order of Operations (No exponents or parentheses in 3rd Grade)** VDW 7th Edition - pages 474-475 **Literature** Cheetah Math by Ann Whitehead Nagda Divide and Ride by Stuart J. Murphy The Doorbell Rang by Pat Hutchins
Assessment Options		• **Go Math! Assessment Options**: Show What You Know Diagnostic Assessment; Mid-Chapter Checkpoint; Quick Checks; Portfolio Assessment; Chapter 7 Review/Test; Chapter 7 Test; Diagnostic Interview Assessment; Performance Assessment Chapters 1-7; Personal Math Trainer. • **Daily/Weekly Formative Assessment Options**: Exit Slips, Observation, Daily Work, Homework.

Unit of Study 8	3rd Grade	Quarter 3	Approx. 11 – 17 days	GSD Revised 6/1/17

Strand: Number and Operations – Fractions 3.NF

Develop understanding of fractions as numbers. Denominators are limited to 2, 3, 4, 6, and 8 in third grade.

1. Understand a unit fraction has a numerator of one and a non-zero denominator.

a. Understand a fraction 1/*b* as the quantity formed by one part when a whole is partitioned into *b* equal parts.

b. Understand a fraction *a*/*b* as the quantity formed by *a* parts of size 1/*b*. *For example: 1/4 + 1/4 + 1/4 = 3/4.*

2. Understand a fraction as a number on the number line; represent fractions on a number line diagram.

a. Represent a fraction 1/*b* on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into *b* equal parts. Recognize that each part has size 1/*b* and that the endpoint of the part based at 0 locates the number 1/*b* on the number line.

b. Represent a fraction *a*/*b* on a number line diagram by marking off *a* lengths 1/*b* from 0. Recognize that the resulting interval has size *a*/*b* and that its endpoint locates the number *a*/*b* on the number line.

3. Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.

c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *For example, express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.*

Math Content Objectives	Vocabulary	Vocabulary (cont.)
I can: **3.NF.1** • Identify a unit fraction of a whole. • Identify fractions that represent more than one part of a whole. **3.NF.2a** • Partition a number line into equal parts. • Locate a unit fraction on a number line. **3.NF.2b** • Partition a number line into equal parts. • Locate fractions that represent more than one part of a whole on a number line. **3.NF.3c** 🗝 Write whole numbers as fractions. 🗝 Recognize that fractions are equivalent to whole numbers. 🗝 Key Concepts for Differentiation - See p. 7	• denominator • eighths • endpoint • equal • equal parts • equivalent fractions • fourths • fraction • fraction bar • fraction greater than 1 • fraction less than 1 • halves • interval • number line • numerator • sixths	• thirds • unit fraction • whole • whole numbers

Go Math! Utah Core Alignment	Envisions to Go Math! Alignment	Unit of Study 8 – Additional Resources
Lesson 8.1 3.NF.1 **Lesson 8.2** 3.NF.1 **Lesson 8.3** 3.NF.1 **Lesson 8.4** 3.NF.1 **Lesson 8.5** 3.NF.2a; 3.NF.2b **Lesson 8.6** 3.NF.3c **Lesson 8.7** 3.NF.1 **Lesson 8.8** 3.NF.1 **Lesson 8.9** 3.NF.1	**Lesson 12-1** **Lesson 12-1** **Lesson 12-2** **Lesson 12-3** **Lessons 12-4, 12-5** **Lesson 13-7** --------- --------- ---------	**Identify Fractions** **VDW 7th Edition - pages 286-290; 292-298** **Visual Fractions - Identify with Lines - Fractions on a Number Line Assessment** - http://www.visualfractions.com/IdentifyLines/identifylines.html **Teacher's Domain -" Introducing Non-Unit Fractions and Equivalence" Lesson -** http://www.teachersdomain.org/resource/vtl07.math.number.fra.lpequiv/ **Learn Alberta - Fractions - Interactive Applet** - http://www.learnalberta.ca/content/me3us/flash/index.html **HMH School Publishers - Bowling for Fractions - Game** - http://www.hbschool.com/activity/bowling_for_fractions/ **Education Place - Fractions and Regions - Student Tutorial** - http://eduplace.com/cgi-bin/schtemplate.cgi?template=/math/hmm/models/tm_popup.thtml&grade=3&chapter=18&lesson=1&title=Fractions+and+Regions&tm=tmfd1801e **NLVM - Parts of a Whole - Interactive Applet** - http://nlvm.usu.edu/en/nav/frames_asid_102_g_2_t_1.html **Math Wire - I Have, Who Has - Game** - http://mathwire.com/whohas/whfractions.pdf **UEN - "Fractions" Lesson** - http://www.uen.org/Lessonplan/preview.cgi?LPid=11026 **PBS Kids Cyberchase - Melvin's Make a Match - Game** - http://pbskids.org/cyberchase/math-games/melvins-make-match/ **Phil Tulga - Musical Fraction Bars - Activity** - http://www.philtulga.com/fractionbars.html **Sheppard Software - Matching Fractions - Interactive Applet** - http://www.sheppardsoftware.com/mathgames/fractions/fracTut1.htm **NLVM - Fraction Pieces - Interactive Applet** - http://enlvm.usu.edu/ma/nav/activity.jsp?sid=__shared&cid=clove@fractions&lid=2 **Unit Fraction** **VDW 7th edition - page 300** **PBS Kids Cyberchase - Thirteen Ways of Looking at a Half - Game** - http://pbskids.org/cyberchase/math-games/thirteen-ways-looking-half/ **Math Wire - Thirteen Ways of Looking at a Half - Recording Sheet** - http://mathwire.com/problemsolving/thirteenways.pdf **PBS Kids Cyberchase - Solving Sphinx - Video Tutorial** - http://www.teachersdomain.org/asset/vtl07_vid_solvsphinx/ **Education Place - eManipulatives Fractions - Model** - http://www.eduplace.com/cgi-bin/schtemplate.cgi?template=/kids/hmm/manip/mn_popup.thtml&filename=fractions_prim&title=Fractions&grade=1 **HMH School Publishers - Cross the River - Interactive Applet** - http://www.harcourtschool.com/activity/cross_the_river/

	Unit of Study 8 - Additional Resources - Continued
	Literature Apple Fractions by Jerry Pallotta Clean-Sweep Campers by Lucille Recht Penner The Doorbell Rang by Pat Hutchins Eating Fractions by Bruce McMillan Fraction Action by Loreen Leedy Give Me Half by Stuart J. Murphy Go Fractions by Judith Bauer Stamper The Hershey's Milk Chocolate Fraction Book by Jerry Pallotta How Many Snails? by Paul Giganti, Jr. Jump, Kangaroo, Jump by Stuart J. Murphy Whole-y Cow! By Taryn Souders
Assessment Options	• **Go Math! Assessment Options**: Show What You Know Diagnostic Assessment; Mid-Chapter Checkpoint; Quick Checks; Portfolio Assessment; Chapter 8 Review/Test; Chapter 8 Test; Diagnostic Interview Assessment; Personal Math Trainer. • **Daily/Weekly Formative Assessment Options**: Exit Slips, Observation, Daily Work, Homework.

Unit of Study 9	3rd Grade	Quarter 3	Approx. 9 – 15 days	GSD Revised 6/1/17

Strand: Number and Operations – Fractions 3.NF

Develop understanding of fractions as numbers. Denominators are limited to 2, 3, 4, 6, and 8 in third grade.

3. Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.

a. Understand two fractions as equivalent if they are the same size, or the same point on a number line.

b. Recognize and generate simple equivalent fractions, such as 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent by using a visual fraction model, for example

d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, for example, by using a visual fraction model.

Math Content Objectives	Vocabulary	
I can: **3.NF.3a** 🔑 Understand that two fractions of the same size are equivalent. 🔑 Understand that fractions that are on the same point on a number line are equivalent. **3.NF.3b** 🔑 Identify equivalent fractions. • Make equivalent fractions. • Show that fractions are equivalent using a model. **3.NF.3d** • Compare two fractions with the same numerator. • Compare two fractions with the same denominator. • Understand that fractions can only be compared if they refer to the same whole. 🔑 Use >, =, or < to compare fractions. • Use a model to prove my answer when comparing fractions. 🔑 Key Concepts for Differentiation - See p. 7.	• compare • denominator • equal • equal parts • equivalent fractions • fraction • fraction bar • greater than • less than • number line • numerator • order • whole	

Go Math! Utah Core Alignment	Envisions to Go Math! Alignment	Unit of Study 9 - Additional Resources
Lesson 9.1 3.NF.3d **Lesson 9.2** 3.NF.3d **Lesson 9.3** 3.NF.3d **Lesson 9.4** 3.NF.3d **Lesson 9.5** 3.NF.3d **Lesson 9.6** 3.NF.3a **Lesson 9.7** 3.NF.3b	---------- **Lesson 13-6, 13-3** **Lesson 13-4** **Lessons 13-6** ---------- **Lessons 13-1, 13-2** ----------	**Compare Fractions with Same Numerator** **VDW 7th Edition - pages 299-301** **YouTube - Compare Fractions with the Same Numerator - Video Tutorial** - http://www.youtube.com/watch?v=AlaAXS6VH9s **Math Playground - Fraction Bars - Model** - http://www.mathplayground.com/Fraction_bars.html **Compare Fractions with Same Denominator** **Education Place - Compare Fractions - Student Tutorial** - http://eduplace.com/cgi-bin/schtemplate.cgi?template=/math/hmm/models/tm_popup.thtml&grade=3&chapter=19&lesson=1&title=Compare+Fractions&tm=tmfd1901e **Math Playground - Fraction Bars - Model** - http://www.mathplayground.com/Fraction_bars.html **Order Fractions (Same Numerator or Denominator)** **Equivalent Fractions** **VDW 7th Edition – pages 293-294; 301-306** **PBS Kids Cyberchase - Equal Amounts of Gold - Video Tutorial** - http://www.teachersdomain.org/resource/vtl07.math.number.nums.equalamtgo/ **Annenberg Learner - Fraction Tracks - Video Tutorial of Game** - http://www.learner.org/vod/vod_window.html?pid=916 **NCTM - Playing Fraction Tracks - Game** - http://www.nctm.org/standards/content.aspx?id=26975 **Sums Math - Fraction Monkeys - Game** - http://www.fractionmonkeys.co.uk/activity/ **Literature** Fraction Action by Loreen Leedy Go Fractions by Judith Bauer Stamper Jump, Kangaroo, Jump by Stuart J. Murphy
Assessment Options		• **Go Math! Assessment Options**: Show What You Know Diagnostic Assessment; Mid-Chapter Checkpoint; Quick Checks; Portfolio Assessment; Chapter 9 Review/Test; Chapter 9 Test; Diagnostic Interview Assessment; Performance Assessment Chapters 8-9; Personal Math Trainer. • **Daily/Weekly Formative Assessment Options**: Exit Slips, Observation, Daily Work, Homework.

Unit of Study 10	3rd Grade	Quarter 4	Approx. 11 days	GSD Revised 6/1/17

Strand: Measurement and Data 3.MD

Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.

1. Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, for example, by representing the problem on a number line diagram.

2. Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), milliliters (ml), and liters (l). (Excludes compound units such as cubic centimeters [cc or cm3] and finding the geometric volume of a container.) Add, subtract, multiply, or divide to solve one-step word problems involving masses of objects or volumes of liquids that are given in the same units, for example., by using drawings (such as a beaker with a measurement scale) to represent the problem. (Excludes multiplicative comparison problems.)

Represent and interpret data.

4. Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.

Strand: GSD

1. Identify the number of days and weeks in a year.

Math Content Objectives	Vocabulary	Vocabulary (cont.)
I can: **3.MD.1** 🗝 Tell and write time to the nearest minute. • Measure time intervals in minutes. 🗝 Solve word problems involving elapsed time. • Use a number line to solve word problems involving elapsed time. **3.MD.2** 🗝 Measure and estimate liquid volume using liters. 🗝 Measure and estimate masses of objects using grams and kilograms. • Solve word problems involving mass. • Solve word problems involving volume. **3.MD.4** • Measure lengths with halves and fourths of an inch. • Show measurement data on a line plot. **GSD** • Tell the number of days in a year. • Tell the number of weeks in a year. 🗝 Key Concepts for Differentiation - See p. 7.	• a.m. • analog clock • bar model • customary system • digital clock • elapsed time • estimate • fourths • gram • half hour • halves • hour • inch • kilogram	• length • line plot • liter • mass • metric system • midnight • minute • noon • number line • p.m. • quarter hour • time interval • volume (liquid)

Go Math! Utah Core Alignment	Envisions to Go Math! Alignment	Unit of Study 10 – Additional Resources
Lesson 10.1 3.MD.1 **Lesson 10.2** 3.MD.1 **Lesson 10.3** 3.MD.1 **Lesson 10.4** 3.MD.1 **Lesson 10.5** 3.MD.1 **Lesson 10.6** 3.MD.4 **Lesson 10.7** 3.MD.2 **Lesson 10.8** 3.MD.2 **Lesson 10.9** 3.MD.2	**Lesson 14-1** **Lesson 14-2** **Lesson 14-2** **Lesson 14-3** **Lesson 14-3** **Lesson 12-6, 12-7** **Lesson 14-4, 14-5** **Lesson 14-6, 14-7** **Lesson 14-8**	**Telling Time (to the minute; a.m.; p.m.)** **VDW 7th Edition - pages 383-384** **Mr. Myers - Telling Time - Teacher Demonstration Tool** - http://www.mrmyers.org/Math_Mania/Math_Games/Jude_e-Clock/clock.htm **Time for Time - Telling Time - Teacher Demonstration Tool** - http://www.time-for-time.com/swf/myclox.swf **Mr. Nussbaum - Bedtime Bandits - Game** - http://www.mrnussbaum.com/bedtime/index.html **Mr. Nussbaum - Clockworks - Game** - http://www.mrnussbaum.com/clockworks/index.html **IXL - Read Clocks and Write Times - Assessment** - http://www.ixl.com/math/grade-3/read-clocks-and-write-times **Elapsed Time** **VDW 7th Edition - pages 384-385** **Education Place - Elapsed Time - Student Tutorial** - http://eduplace.com/cgi-bin/schtemplate.cgi?template=/math/hmm/models/tm_popup.thtml&grade=4&chapter=13&lesson=2&title=Elapsed+Time&tm=tmfe1302e **Harcourt School E-Lab - Elapsed Time: Minutes and Hours - Interactive Applet** - http://www.harcourtschool.com/activity/elab2002/grade_3/018.html **Harcourt School E-Lab - Elapsed Time on a Clock - Interactive Applet** - http://www.harcourtschool.com/activity/elab2004/gr4/15.html **UEN - "Wow! How Time Flies!" Lesson** - http://www.uen.org/Lessonplan/preview.cgi?LPid=21504 **NLVM - What Time Is It? - Interactive Applet** - http://nlvm.usu.edu/en/nav/frames_asid_318_g_1_t_4.html?from=category_g_1_t_4.html **IXL - Elapsed Time II - Assessment** - http://www.ixl.com/math/grade-3/elapsed-time-ii **BBC - Clockworks - Interactive Applet** - http://www.bbc.co.uk/bitesize/ks1/maths/telling_the_time/play/popup.shtml **Ohio Department of Education - "Elapsing With Time" Lesson** - http://ims.ode.state.oh.us/ODE/IMS/Lessons/Web_Content/CMA_LP_S02_BE_L03_I03_01.pdf **Measuring Length in Halves and Fourths of Inches** **Education Place - Measure to the Nearest Half-Inch - Student Tutorial** - http://eduplace.com/cgi-bin/schtemplate.cgi?template=/math/hmm/models/tm_popup.thtml&grade=3&chapter=13&lesson=2&title=Measure+to+the+Nearest+Half-Inch&tm=tmfd1302e

	Unit of Study 10 - Additional Resources - Continued
	Literature Carrie Measures Up by Linda Williams Aber Clocks and More Clocks by Pat Hutchins How Do You Know What Time It Is? by Robert E. Wells Inchworm and A Half by Elinor J. Pinczes Math Curse by Jon Scieszka A Second is a Hiccup by Hazel Hutchins Slowpoke by Lucille Recht Penner Telling Time by Jules Older 365 Penguins by Jean-Luc Fromental Tuesday by David Wiesner
Assessment Options	• **Go Math! Assessment Options**: Show What You Know Diagnostic Assessment; Mid-Chapter Checkpoint; Quick Checks; Portfolio Assessment; Chapter 10 Review/Test; Chapter 10 Test; Diagnostic Interview Assessment; Personal Math Trainer. • **Daily/Weekly Formative Assessment Options**: Exit Slips, Observation, Daily Work, Homework.

Unit of Study 11	3rd Grade	Quarter 4	Approx. 11 days	GSD Revised 6/1/17

Strand: Measurement and Data 3.MD

Understand concepts of area and relate area to multiplication and addition.

5. Recognize area as an attribute of plane figures and understand concepts of area measurement.
- **a. A square with side length one unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.**
- **b. A plane figure which can be covered without gaps or overlaps by *n* unit squares is said to have an area of *n* square units.**

6. Measure area by counting unit squares (square centimeters, square meters, square inches, square feet, and improvised units).

7. Relate area to the operations of multiplication and addition (refer to 3.OA.5).
- **a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.**
- **b. Multiply side lengths to find areas of rectangles with whole number side lengths in the context of solving real-world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.**
- **c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths *a* and *b* + *c* is the sum of *a* × *b* and *a* × *c*. Use area models to represent the distributive property in mathematical reasoning.**
- **d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.**

Recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.

8. Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

Math Content Objectives	Vocabulary	Vocabulary (cont.)
I can: **3.MD.5a** • Use a unit square to measure area. **3.MD.5b** • Cover a plane figure with unit squares. • Record area in square units. **3.MD.6** • Measure area by counting unit squares.	• area • area model • centimeter • column • decompose • Distributive Property • foot • inch • length • meter • multiply • pattern • perimeter • plane figure	• polygon • rectangle • rectilinear figure • repeated addition • row • square unit • tiling • unit square • width

Unit of Study 11 (continued)		
Math Content Objectives		
3.MD.7a 🗝 Find the area of a rectangle by tiling it. 🗝 Find the area of a rectangle by multiplying the side lengths. **3.MD.7b** • Solve problems by multiplying the side lengths to find the area. **3.MD.7c** 🗝 Use the Distributive Property to find the area of a rectangle. **3.MD.7d** • Decompose a rectilinear figure into rectangles. • Find the area of each rectangle in a rectilinear figure. 🗝 Find the area of a rectilinear figure. • Solve problems with area of rectilinear figures. **3.MD.8** 🗝 Solve problems involving perimeter of polygons. • Find the unknown side length of a polygon. • Show rectangles that have the same perimeter but have different areas. • Show rectangles that have the same area, but have different perimeters. 🗝 Key Concepts for Differentiation - See p. 7.		

Go Math! Utah Core Alignment	Envisions to Go Math! Alignment	Unit of Study 11 - Additional Resources
Lesson 11.1 3.MD.8 **Lesson 11.2** 3.MD.8 **Lesson 11.3** 3.MD.8 **Lesson 11.4** 3.MD.5 & 5a **Lesson 11.5** 3.MD.5b & 6 **Lesson 11.6** 3.MD.7 & 7a **Lesson 11.7** 3.MD.7b **Lesson 11.8** 3.MD.7c & 7d **Lesson 11.9** 3.MD.8 **Lesson 11.10** 3.MD.8	**Lesson 16.1** **Lesson 16.2** **Lesson 16.3** **Lesson 6-1** **Lesson 6-2** **Lesson 6-3** **Lessons 6-4, 6-5** **Lesson 6-6** **Lesson 16-4** **Lesson 16-5**	**Area** **VDW 7th Edition - pages 376-380** **Education Place - Find Area - Student Tutorial** - http://eduplace.com/cgi-bin/schtemplate.cgi?template=/math/hmm/models/tm_popup.thtml&grade=3&chapter=17&lesson=4&title=Find+Area&tm=tmfd1704e **PBS Kids Cyberchase - Calculating Rectangular Area - Video Tutorial** - http://www.teachersdomain.org/resource/vtl07.math.measure.polg.calcrectar/ **PBS Kids Cyberchase - U Fix It With Ziff - Game** - http://pbskids.org/cyberchase/math-games/u-fix-it-ziff/ **Perimeter** **Learn Alberta - Perimeter - Interactive Applet** - http://www.learnalberta.ca/content/me3us/flash/index.html **Same Perimeter, Different Areas/Same Area, Different Perimeters** **VDW 7th Edition - pages 379-380** **PBS Kids Cyberchase - Airlines Builder - Game** - http://pbskids.org/cyberchase/math-games/airlines-builder/ **Investigations - "Same Area, Different Perimeter; Same Perimeter, Different Area" Lesson** - http://investigations.terc.edu/library/common_core/3U4_Session.pdf **Math Playground - Same Area, Different Perimeters - Video Tutorial** - http://www.mathplayground.com/howto_sameareadiffperimeter.html **Mister Teacher - Area and Perimeter - Video Tutorial** - http://www.misterteacher.com/everything_geometry/area_perimeter.html **Smart Exchange - Same Perimeter, Different Area - Teacher Demonstration Tool** - http://exchange.smarttech.com/details.html?id=30f99587-5e83-4af2-9553-dc70332c5921 **PBS Kids Cyberchase - Skate-Off: Final Round, Inez vs. Rimm - Video** - http://www.teachersdomain.org/resource/vtl07.math.measure.polg.skateoff2/ **Literature** Bigger, Better, Best! by Stuart J. Murphy Chickens on the Move by Pam Pollack Pezzettino by Leo Lionni Racing Around by Stuart J. Murphy Spaghetti and Meatballs for All: A Mathematical Story by Marilyn Burns Perimeter, Area, and Volume by David Adler Sam's Sneaker Squares by Nat Gabrie
Assessment Options		• **Go Math! Assessment Options**: Show What You Know Diagnostic Assessment; Mid-Chapter Checkpoint; Quick Checks; Portfolio Assessment; Chapter 11 Review/Test; Chapter 11 Test; Diagnostic Interview Assessment; Performance Assessment Chapters 10-11; Personal Math Trainer. • **Daily/Weekly Formative Assessment Options**: Exit Slips, Observation, Daily Work, Homework.

Unit of Study 12	3rd Grade	Quarter 4	Approx. 11 days	GSD Revised 6/1/17

Geometry 3.G

Reason with shapes and their attributes.

1. **Understand that shapes in different categories (for example, rhombuses, rectangles, and others) may share attributes (for example, having four sides), and that the shared attributes can share a larger category (for example, quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.**
2. **Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.** *For example, partition a shape into four parts with equal area, and describe the area of each part as 1/4 of the area of the shape.*

Math Content Objectives	Vocabulary	Vocabulary (cont.)
I can: **<u>3.G.1</u>** • Identify the attributes of a shape. 🗝 Classify shapes based on their attributes. • Identify and draw quadrilaterals. • Classify quadrilaterals based on their attributes. **<u>3.G.2</u>** • Partition a shape into parts with equal areas. • Express the area as a unit fraction of the whole. 🗝 Key Concepts for Differentiation - See p. 7.	• angle • area • attribute • closed shape • decagon • denominator • endpoint • hexagon • intersecting lines • length • line • line segment • numerator • octagon • open shape • parallel lines • parallelogram • pentagon • perpendicular lines • plane shape • point • polygon	• quadrilateral • ray • rectangle • rhombus • right angle • side • square • trapezoid • triangle • two-dimensional shape • unit fraction • Venn diagram • vertex (vertices) • whole • width

Go Math! Utah Core Alignment	Envisions to Go Math! Alignment	Unit of Study 12 - Additional Resources
Lesson 12.1 3.G.1	----------	**Attributes of Plane Shapes** VDW 7th Edition - pages 405-406; 410-411; 413-414; 416
Lesson 12.2 3.G.1	----------	**Right Angles** UEN - "Mr. Bo Jangle, What's Your Angle" Lesson - http://www.uen.org/Lessonplan/preview.cgi?LPid=21496
Lesson 12.3 3.G.1	----------	**Identifying Polygons** Education Place - Quadrilaterals and Other Polygons - Student Tutorial - http://eduplace.com/cgi-bin/schtemplate.cgi?template=/math/hmm/models/tm_popup.thtml&grade=4&chapter=16&lesson=4&title=Quadrilaterals+and+Other+Polygons&tm=tmfe1604e
Lesson 12.4 3.G.1	----------	Learn Alberta - 2-D Shapes - Interactive Applet - http://www.learnalberta.ca/content/me3us/flash/index.html
Lesson 12.5 3.G.1	**Lessons 15-1, 15-2**	**Triangles** VDW 7th Edition - pages 410-411; 413
Lesson 12.6 3.G.1	**Lesson 15-3**	**Quadrilaterals** VDW 7th Edition - pages 402; 410-411; 413-414; 416 Education Place - Quadrilaterals and Other Polygons - Student Tutorial - http://www.eduplace.com/cgi-bin/schtemplate.cgi?template=/kids/hmm/help/eh_popup.thtml&grade=4&chapter=16&lesson=4&title=Quadrilaterals+and+Other+Polygons&tm=tmfe1604e
Lesson 12.7 3.G.1	----------	**Partitioning Shapes into Unit Fractions** VDW 7th Edition – pages 293-294; 296
Lesson 12.8 3.G.1	**Lesson 15-2**	**Literature** The Greedy Triangle by Marilyn Burns Shapes, Shapes, Shapes by Tana Hoban
Lesson 12.9 3.G.2	----------	
Assessment Options		• **Go Math! Assessment Options**: Show What You Know Diagnostic Assessment; Mid-Chapter Checkpoint; Quick Checks; Portfolio Assessment; Chapter 12 Review/Test; Chapter 12 Test; Diagnostic Interview Assessment; Performance Assessment Chapters 12; Personal Math Trainer. • **Daily/Weekly Formative Assessment Options**: Exit Slips, Observation, Daily Work, Homework.

Appendix

General Website Resources

Common Core Standards - Official Website - www.corestandards.org
USOE - Utah Core Links - http://www.schools.utah.gov/core/
Arizona Academic Standards - Common Core Explanations and Examples - http://www.azed.gov/standards-practices/mathematics-standards/
North Carolina Department of Public Instruction - Common Core Instructional Support Tools - http://www.ncpublicschools.org/docs/acre/standards/common-core-tools/unpacking/math/6th.pdf
Utah Standards Academy - http://www.schools.utah.gov/CURR/main/Core-Academy.aspx
National Library of Virtual Manipulatives (NLVM) - http://nlvm.usu.edu/
Illuminations - http://illuminations.nctm.org/
UEN - http://www.uen.org/
Van de Walle – Blackline Masters - http://wps.ablongman.com/ab_vandewalle_math_6/54/13858/3547876.cw/index.html
Math Playground - http://www.mathplayground.com/
FunBrain - http://www.funbrain.com/
Ask Dr. Math - http://mathforum.org/dr.math/
Math.com - http://www.math.com/
Mathwire - http://mathwire.com/
Scholastic Study Jams - http://studyjams.scholastic.com/studyjams/jams/math/index.htm
Education Place - http://eduplace.com/kids/hmm/
K-5 Math Teaching Resources - http://www.k-5mathteachingresources.com/%202nd-grade-number-activities.html
Fuel the Brain - http://www.fuelthebrain.com/Game/
Learn Zillion - http://learnzillion.com/
CCSSMath - http://ccssmath.org/

Book

VDW - Van de Walle, John A., Elementary and Middle School Mathematics, 7th Edition, Allyn & Bacon, Boston, 2010. ISBN-13: 978-0-205-57352-3