3rd Grade Unit 4

Extending Fractional Understanding; Attributes of Shapes

Unit Planning Team:

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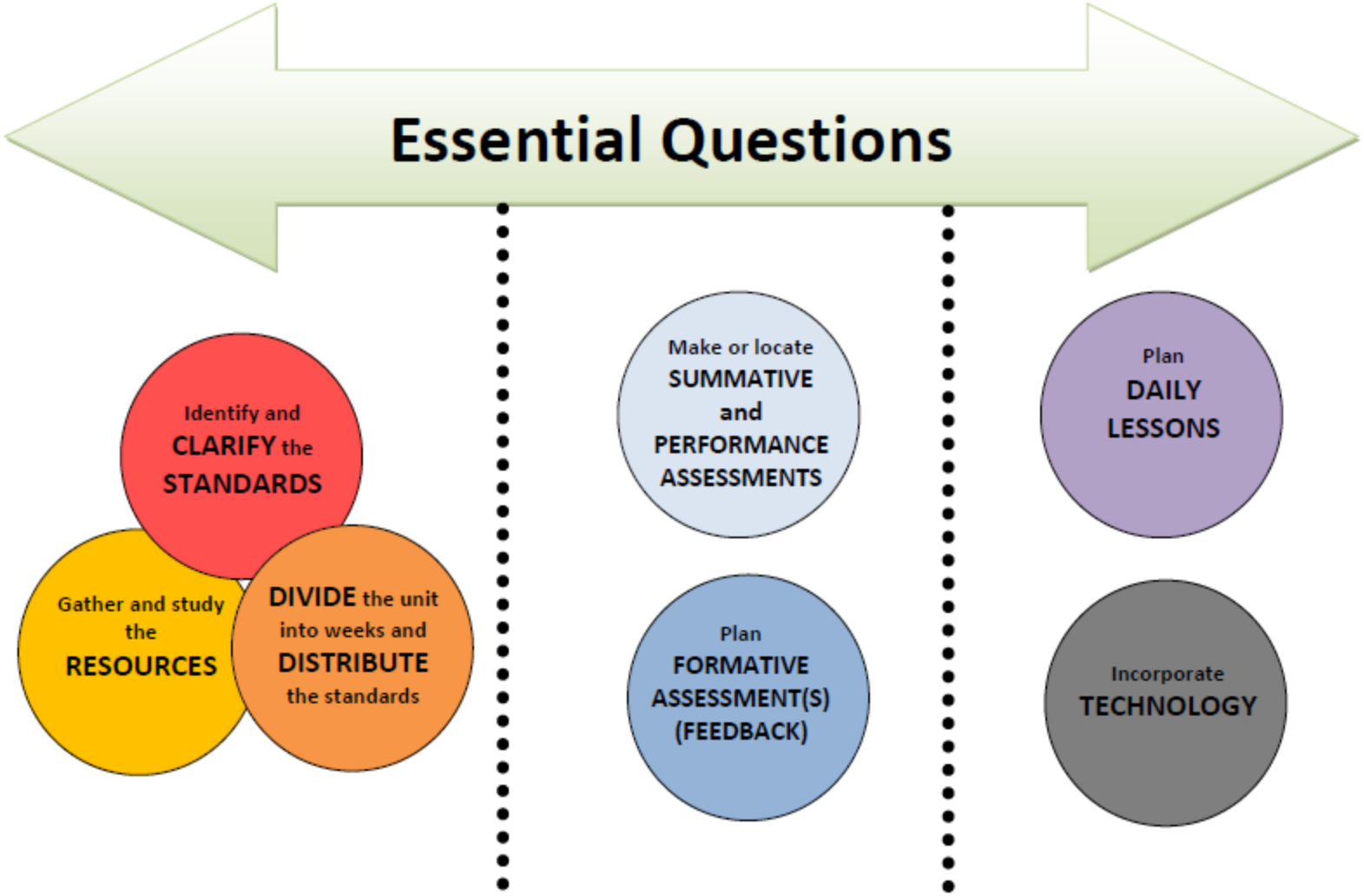
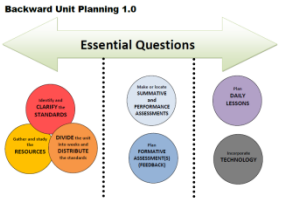
Backward Unit Planning 1.0



Essential Questions



R.P.S. Common Core Math Curriculum — 3rd Grade

4th Quarter (p. 1 of 2) **Extending Fractional Understanding; Attributes of Shapes**

Students should know from memory all products of two one-digit numbers by the end of the quarter. Students will use their fluency with the properties of operations to be more efficient when solving all types of multiplication and division problem situations, including 2-digit x 1-digit scenarios. Students will generalize the conventional order of operations through their work with two-step problems using the four operations. Work with fractions will continue as students work with unit fractions in order to reason about the size of fractions and equivalent fractions. Students will broaden their understanding of shapes by classifying them into larger categories (i.e. quadrilaterals) defined by their shared attributes. Students will create picture and bar graphs where the scale is now in multiples instead of by ones and answer one- and two-step problems about the graphs. Students will fluently use place value, properties of operations, and the relationship between addition and subtraction to add and subtract within 1000.

Essential Questions:

How can I accurately, flexibly, and strategically solve problems using the properties of operations?

How can I use my understanding of whole numbers to reason about fractions?

What are defining attributes of shapes and how can I categorize them?

How do I represent and interpret data?

	Operations and Algebraic Thinking
Represent and solve problems involving multiplication and division.	
3.OA.3	Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.
3.OA.4	Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 x ? = 48, 5 = ? ÷ 3, 6 x 6 = ?*
Understand properties of multiplication and the relationship between multiplication and division.	
3.OA.5	Apply properties of operations as strategies to multiply and divide. [Students need not use formal terms for these properties.] *Examples: If 6 x 4 = 24 is known, then 4 x 6 = 24 is also known. (Commutative property of multiplication.) 3 x 5 x 2 can be found by 3 x 5 = 15, then 15 x 2 = 30, or by 5 x 2 = 10, then 3 x 10 = 30. (Associative property of multiplication.) Knowing that 8 x 5 = 40 and 8 x 2 = 16, one can find 8 x 7 as 8 x (5 + 2) = (8 x 5) + (8 x 2) = 40 + 16 = 56. (Distributive property.)*
3.OA.6	Understand division as an unknown-factor problem. For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.
Multiply and divide within 100.	
3.OA.7	Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 x 5 = 40, one knows 40 ÷ 5 = 8) or properties of operation. By the end of Grade 3, know from memory all products of two one-digit numbers.
Solve problems involving the four operations, and identify and explain patterns in arithmetic.	
3.OA.8	Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. *[This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order (Order of Operations).]*
	Number and Operations in Base Ten
Use place value understanding and properties of operations to perform multi-digit arithmetic. *[A range of algorithms may be used.]*	
3.NBT.2	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

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Operations and Algebraic Thinking

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Understand properties of multiplication and the relationship between multiplication and division.

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Multiply and divide within 100.

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

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Number and Operations in Base Ten

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

3.NBT.2	Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

3.OA. 3 Two step multiplication and division problems in context. Make sure to pose problems that include equal groups, area &arrays, & measurement quantities. Notate with equations. Ex. If you divide 4 dozen brownies among 8 people, how many cookies does each person receive? (4x12 = 48, 48 ÷ 8 = 6)

3.OA. 4 Focus on the missing part. Tie to OA.3 when working on word problems and writing an equation to match student work and the word problem. Could be done in number talks as well.

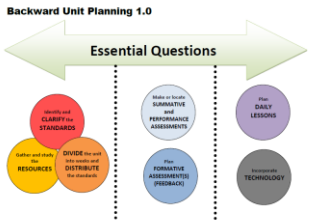
3.OA. 5 Properties:
Commutative: 3x2=2x3
Associative: 15x2 = (3x5) x2 = 3 x (5x2) = 3 x 10 = 30
Distributive: 7x4 = (5x4) + (2x4)
Could be done in number talks as well as during discussion and notating students work. Can use arrays and area models to pull out the properties during discussion time.

3.OA. 6 Inverse relationship between multiplication and division. Could be done during # talks and discussion time. Tie in with OA.4

3.OA. 7 Fluency of multiplication facts – know from memory ALL products of 2 one-digit numbers. Fluency of solving multiplication and division problems within 100 and using the relationship between multiplication and division.

3.OA. 8 Multistep problems using all four operations. Students need to represent their thinking with an equation. They will need to check for reasonableness of their answer. Students should estimate during problem solving & then revisit their estimate to check for reasonableness. And continue understanding of order of operations during discussion.

3.NBT.2 Working with addition and subtraction within 1000. Students should be developing strategies based on place value and the properties of operations. Students should be accurate, flexible, and efficient when solving problems.



Identify and CLARIFY the STANDARDS

Number and Operations - Fractions

[Grade 3 expectations in this domain are limited to fractions with denominators 2,3,4,6, and 8.]

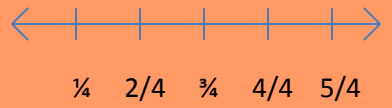
Develop understanding of fractions as numbers

3.NF.1	Understand a fraction *1/b* as the quantity formed by 1 part when a whole is partitioned into *b* equal parts; understand a fraction *a/b* as the quantity formed by *a* parts of size *1/b*.
3.NF.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.NF.3	Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.
	a. Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
	b. Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model.
	c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: 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.*
	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 comparison with the symbols <. >, or = and justify the conclusions, e.g., by using a visual fraction model.

3.NF.1 Students will need to see a fraction (i.e. ¼) as 1 part when the whole is partitioned into (4) equal parts. Also that a/b (i.e. ¾) is 1/b, a times (¾ = ¼ + ¼ + ¼)

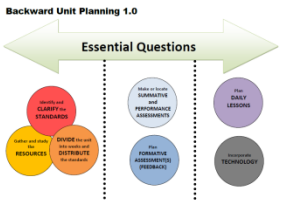
3.NF.2 Fractions on a number line. Understanding it as the distance from 0. i.e. when finding 3/5 on a number line, it is 3 groups of 1/5 to the end point of 3/5. Can also represent mixed numbers on a number line going past 1.

Ex.



3.NF.3

a) Tell if two fractions are equivalent by plotting them on a number line and comparing them.
b) Tell if two fractions are equivalent by using a fraction area model and explain why they are the same
c) Understand fractions that are the same as 1 such as 3/3 or 4/4 on number line or fraction model
d) Compare fractions with the same numerator or denominator. When the denominators are the same, the higher the numerator the larger the fraction. (i.e. 2/6 and 4/6; 4/6 is bigger because the shares are all the same size, but there are 4 instead of 2.) When the numerators are the same, the larger the denominator the smaller the share (i.e. 2/6 and 2/3; 2/3 is bigger because 1/3 size pieces are larger than 1/6 size pieces and there are 2 of each). Comparison are valid only when referring to the same size whole.

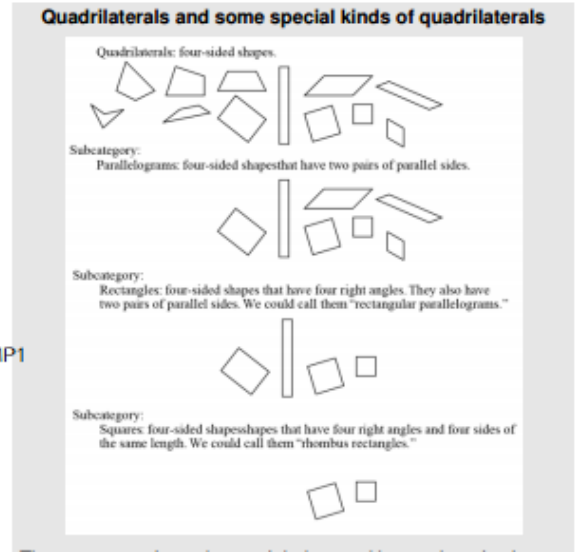


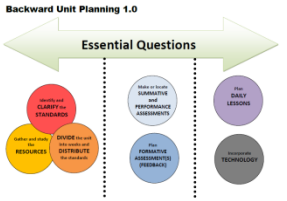
Identify and CLARIFY the STANDARDS

Measurement and Data	
Represent and interpret data.	
3.MD.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 5 pets.*
Geometry	
Reason with shapes and their attributes.	
3.G.1	Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.

3.MD.3 While exploring data concepts, students should Pose a question, collect data, analyze data, and interpret data. Students should be graphing data that is relevant to their lives. Draw picture graphs in which a symbol or picture represents more than one object. Bar graphs need to be represented vertically and horizontally.
Intervals for the graphs should relate to multiplication and division within 100.
For example: the picture in a picture graph represents 1 people - = 7 and there are 3 stars (3x7)
Solve one and two-step word problems using information from the graphs. Including "how many more" and "how many less"

3.G.1 Identifying and describing properties of two-dimensional shapes by using properties that are shared rather than the appearances of individual shapes. Students recognize shapes that are and are not quadrilaterals by examining the properties of the geometric figures. They conceptualize that a quadrilateral must be a closed figure with four straight sides and begin to notice characteristics of the angles and the relationship between opposite sides.
Refer to chart below from the common core geometry progression document.





Identify and CLARIFY the STANDARDS

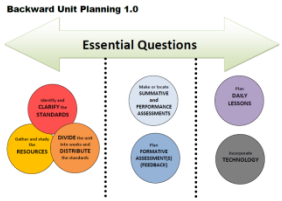
1. A major focus in third grade is building fluency with single-digit multiplication and multiplying multiples of ten within 100. In 4th grade students will extend their understanding of multiplication to multi-digit whole numbers (two-digits by one-digit)

2. In 4th grade students will continue to use methods based upon place value and the properties of operations to add, subtract, and multiply with multi-digit numbers, and this will extend to division.

3. 4th grade is also continuing problem-solving with the four operations for solving multi-step word problems. And will use problems in context involving measurement quantities (extending area and perimeter)

4. In 4th grade students will extend their understanding of fraction equivalence and ordering, and building fractions from unit fractions by applying previous understanding of operations on whole numbers.

Identify and CLARIFY the STANDARDS

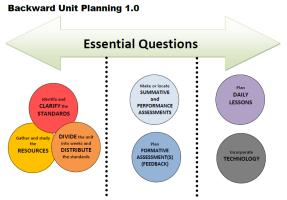


Vertical Exploration

Where are they going?

How does the work in your grade level extend into the grade level above?

What do you need to emphasize this quarter to ensure they are ready for the next grade level?



Suggested Weekly Posing of Problems:

This is one way to think about clustering the standards. These ideas would be repeated each week.

How can I accurately, flexibly, and strategically solve problems using the properties of operations?

1-2 days a week – Work on multiplication and division problems and fluency. Focusing on properties of operations and the relationship between multiplication and division. 3.OA.3, 3.OA.4, 3.OA.5, 3.OA.6, 3.OA.7

1 day a week – Work on addition and subtraction multi-digit fluency and two-step word problems with all four operations. 3.OA.8, 3.NBT.2, 3.MD.3

DIVIDE the unit into weeks and **DISTRIBUTE** the standards

How do I represent and interpret data?

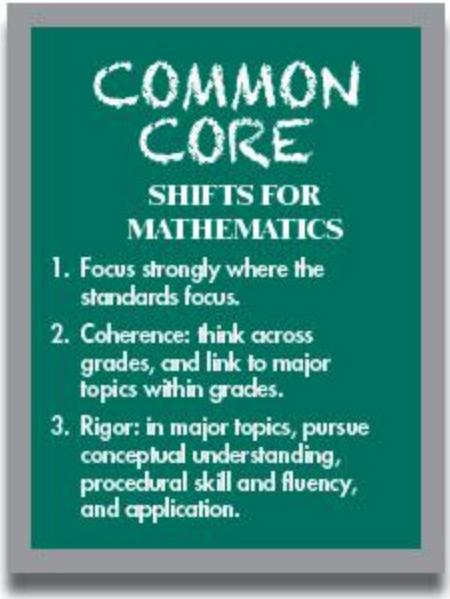
1-2 days a week – Work on picture graphs and bar graphs. Pull in multiplication ideas with intervals on the graphs. 3.MD.3

What are defining attributes of shapes and how can I categorize them?

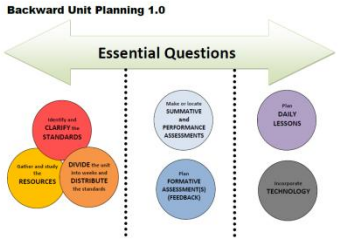
1-2 days a week – Work on attributes of shapes and categorize them with shared attributes. 3.G.1

How can I use my understanding of whole numbers to reason about fractions?

1-2 days a week – Work on fraction concepts, equal sharing and equivalency, comparing fractional amounts, and fractions on a number line. 3.NF.1, 3.NF.2, 3.NF.3



Week	Standards	Structure/Resources
1	3.MD.3 create bar graphs and picture graphs 3.NF.1 Understand fractions (1/b) 3.NF.2 Fractions on a # line 3.NF.3 Equivalent Fractions 3.NBT.2 + and – within 1000 **Multiplication and Division:** 3.OA.3 x and ÷ word problems within 100 3.OA.4 finding the missing # 3.OA.5 properties of operations 3.OA.6 understand division 3.OA.7 x and ÷ fluency 3.OA.8 two-step work problems using the four operations	Our Favorite Candy Categorical Data ECM – Equal sharing problem types (3.NF.1) and pages 139-143 (3.NF.3), Graphing Fractions (NF.1, NF.2, NF.3, and MD.3), Closest to ½ (3.NF.2), 6 week fraction unit – Peter's Garden Cake Walk (3.OA.8) Ice Cream Scoops **Problem Solving** – addition, subtraction, multiplication, and division (include Multi-step problems) – During discussion bring out variable for missing #, properties of operations, relationship between multiplication and division **Resources** for +, -, x, and ÷, writing equations/finding the missing number, properties of operations, inverse relationship between x and ÷, and fluency - Number Talks & Extending Early Multiplication and Division, Mastering the Basic Math Facts x and ÷
2	3.MD.3 create bar graphs and picture graphs 3.NF.1 Understand fractions (1/b) 3.NF.2 Fractions on a # line 3.NF.3 Equivalent Fractions 3.NBT.2 + and – within 1000 **Multiplication and Division:** 3.OA.3 x and ÷ word problems within 100 3.OA.4 finding the missing # 3.OA.5 properties of operations 3.OA.6 understand division 3.OA.7 x and ÷ fluency	Animal Investigation What's Your Favorite? ECM – Equal sharing problem types (3.NF.1) and pages 139-143 (3.NF.3), Which is closer to 1? (3.NF.2), Who gets more? (3.NF.3) **Problem Solving** – addition, subtraction, multiplication, and division (include Multi-step problems) – During discussion bring out variable for missing #, properties of operations, relationship between multiplication and division **Resources** for +, -, x, and ÷, writing equations/finding the missing number, properties of operations, inverse relationship between x and ÷, and fluency - Number Talks & Extending Early Multiplication and Division, Mastering the Basic Math Facts x and ÷



DIVIDE the unit into weeks and **DISTRIBUTE** the standards

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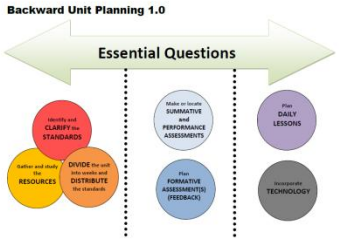
4	3.G.1 quadrilaterals 3.NF.1 Understand fractions (1/b) 3.NF.2 Fractions on a # line 3.NF.3 Equivalent Fractions 3.NBT.2 + and – within 1000 **Multiplication and Division:** 3.OA.3 x and ÷ word problems within 100 3.OA.4 finding the missing # 3.OA.5 properties of operations 3.OA.6 understand division 3.OA.7 x and ÷ fluency	Can You Find It? What Makes a Shape? What do You See? ECM – Equal sharing problem types (3.NF.1) and pages 139-143 (3.NF.3), Fractional Parts and Their Relationship to Equivalent Fractions, Fraction Bars, Fraction Matching Game (3.NF.1, and 3.NF.3) **Problem Solving** – addition, subtraction, multiplication, and division (include Multi-step problems) – During discussion bring out variable for missing #, properties of operations, relationship between multiplication and division **Resources** for +, -, x, and ÷, writing equations/finding the missing number, properties of operations, inverse relationship between x and ÷, and fluency - Number Talks & Extending Early Multiplication and Division, Mastering the Basic Math Facts x and ÷



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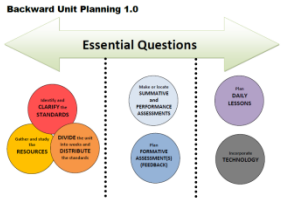
6	3.G.1 quadrilaterals 3.NF.1 Understand fractions (1/b) 3.NF.2 Fractions on a # line 3.NF.3 Equivalent Fractions 3.NBT.2 + and – within 1000 **Multiplication and Division:** 3.OA.3 x and ÷ word problems within 100 3.OA.4 finding the missing # 3.OA.5 properties of operations 3.OA.6 understand division 3.OA.7 x and ÷ fluency	Quadrilateral Challenge Quadrilateral Riddles ECM – Equal sharing problem types (3.NF.1) and pages 139-143 (3.NF.3) **Problem Solving** – addition, subtraction, multiplication, and division (include Multi-step problems) – During discussion bring out variable for missing #, properties of operations, relationship between multiplication and division **Resources** for +, -, x, and ÷, writing equations/finding the missing number, properties of operations, inverse relationship between x and ÷, and fluency - Number Talks & Extending Early Multiplication and Division, Mastering the Basic Math Facts x and ÷



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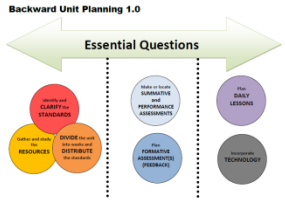
8	3.MD.3 create bar graphs and picture graphs 3.NBT.2 + and – within 1000 **Multiplication and Division:** 3.OA.3 x and ÷ word problems within 100 3.OA.4 finding the missing # 3.OA.5 properties of operations 3.OA.6 understand division 3.OA.7 x and ÷ fluency 3.OA.8 two-step work problems using the four operations	MD.3 lessons – Collecting and Displaying Data – (9 lessons, from Engage NY) **Problem Solving** – addition, subtraction, multiplication, and division (include Multi-step problems) – During discussion bring out variable for missing #, properties of operations, relationship between multiplication and division **Resources** for +, -, x, and ÷, writing equations/finding the missing number, properties of operations, inverse relationship between x and ÷, and fluency - Number Talks & Extending Early Multiplication and Division, Mastering the Basic Math Facts x and ÷
9	3.MD.3 create bar graphs and picture graphs 3.NBT.2 + and – within 1000 **Multiplication and Division:** 3.OA.3 x and ÷ word problems within 100 3.OA.4 finding the missing # 3.OA.5 properties of operations 3.OA.6 understand division 3.OA.7 x and ÷ fluency 3.OA.8 two-step work problems using the four operations	Choice Board (MD.3 and G.1) **Problem Solving** – addition, subtraction, multiplication, and division (include Multi-step problems) – During discussion bring out variable for missing #, properties of operations, relationship between multiplication and division **Resources** for +, -, x, and ÷, writing equations/finding the missing number, properties of operations, inverse relationship between x and ÷, and fluency - Number Talks & Extending Early Multiplication and Division, Mastering the Basic Math Facts x and ÷



DIVIDE the unit into weeks and **DISTRIBUTE** the standards

Intranet » K-5 Curriculum » 3rd Grade Curriculum » Math » Curricular and Instructional Resources » U4: Extending Fractional Understanding; Attributes of Shapes » Lesson Resources

Lesson Resources

Multiplication and Division
3.OA.3.- 3.OA.8

Problems to Pose to Promote Arrays (3.OA.3)

Multiplication and Division Problem Types (3.OA.3, 3.OA.4, 3.OA.5)

Multiplication and Division Word Problems (3.OA.3, OA.4, OA.5, OA.1, OA.2, OA.6)

Building Fluency Tasks
- Pete Knows 5's (standards addressed: 3.OA.5)
- Field Trip Fluency - derived facts (standards addressed: 3.OA.7)

Mastering the Basic Math Facts in Multiplication and Division: Strategies, Activities & Interventions to Move Students Beyond Memorization
by Susan O'Connell & John SanGiovanni
Resource Guide for using *Mastering the Basic Math Facts in Multiplication and Division* in Unit 2
(3.OA.1, 3.OA.2, 3.OA.3, 3.OA.4, 3.OA.5, 3.OA.6, 3.OA.7, 3.OA.9)

Additional Resources for 3.OA.7 and using *Mastering the Basic Math Facts: Multiplication and Division* These resources are from Howard County Public Schools, MD, and one of the co-authors of the book, John SanGiovanni.

Minilessons for Early Multiplication and Division
This book contains minilessons that you can choose from as you consider the needs of your students and can be used throughout the year. These are more guided and explicit and were designed to be used at the start of your math instruction - lasting 10 to 15 minutes. See the overview (p.5-9) for further details regarding the minilessons.

Lessons, Tasks, and Investigations The following lessons were written by the *Georgia Department of Education* and correspond with the standards in this unit. Some lessons may require additional days.
Multiplication and Division (3.OA.3, OA.4, OA.5, OA.6, OA.7)
Ice Cream Scoops

Illustrative Mathematics Tasks: the following task comes from the Illustrative Mathematics site (headed by Bill McCallum, co-author of CCSSM). Illustrative Mathematics provides guidance to states, assessment consortia, testing companies, and curriculum developers by illustrating the range and types of mathematical work that students experience in a faithful implementation of the Common Core State Standards, and by publishing other tools that support implementation of the standards.
Analyzing Word Problems Involving Multiplication (3.OA.3)
Two Interpretations of Division (3.OA.3)

Attributes of Shapes
3.G.1

Lessons, Tasks, and Investigations The following lessons were written by the *Georgia Department of Education* and correspond with the standards in this unit.
Reason with shapes and their attributes (3.G.1)
Can You Find It?
Choice Board (culminating task)
Geoboard Geometry Guru
My Geometric Book
Properties of Quadrilaterals
Quadrilateral Challenge
Quadrilateral Riddles
Score It
Shape Sorter
Show What You Know
What Do You See?
What Makes a Shape?
What's the Connection?

Classifying Quadrilaterals In these mini-lessons, students will classify quadrilaterals based on their shared attributes. (3.G.1)

A Family Tree of Quadrilaterals In this lesson, students create a "family tree" of quadrilaterals (3.G.1)

Rectangles and Parallelograms In this lesson from Illuminations, students use software to examine the properties of rectangles and parallelograms, and identify what distinguishes a rectangle from a more general parallelogram. Using spatial relationships, they examine the properties of two and three dimensional shapes. (3.G.1)

Represent and Interpret Data
3.MD.3

Lessons, Tasks, and Investigations The following lessons were written by the *Georgia Department of Education* and correspond with the standards in this unit.
Represent and Interpret Data (3.MD.3)
Animal Investigation
How Do I Spend My Day?
It's a Data Party (includes 3.NBT.1,2,3)
Oh My Graphing!
Our Favorite Candy
Pattern Block Graphing
Subject to Interpretation
The Data Station
The Information Station - Tasks 2 and 3
The Magic Number (includes 3.NBT.2)
What's Your Favorite? (includes 3.NBT.1,2,3)

Categorical Data In this lesson, one of a multi-part unit from Illuminations, students formulate and refine questions that can be addressed with categorical data. They consider aspects of data collection such as how to word questions and how to record the data they collect. Finally they represent and analyze the data in order to answer the question posed. (3.MD.3)

Creating Pictographs In this lesson, one of a multi-part unit from Illuminations, students collect data based on the

Extending Fractional Understanding
3.NF.1, 3.NF.2, 3.NF.3

Extending Children's Mathematics: Fractions and Decimals by Susan E
Empson and Linda Levi
(standards addressed: 3.G.2, 3.NF.1, 3.NF.3b,d)
Resource guides for using this book in 3rd Grade:
Fractions - 3rd Grade
Fractions as Area Models
Equal Sharing Problems Overview and Summary of Strategies

Equal Groups/Sharing Problems	***Fraction Equivalence and Order***
Chapter 1 p.3-28	Chapter 6 p. 114-138
Problems to Pose p.29-31	Problems to Pose p.139-143
Instructional Guidelines for Equal Group Problems p.32-35	Instructional Guidelines for Equal Group Problems p.144-147

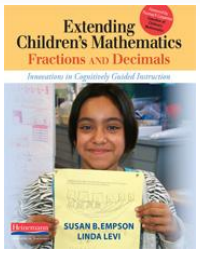
Relational Thinking with Fractions
Chapters 4 & 5 p.73-113

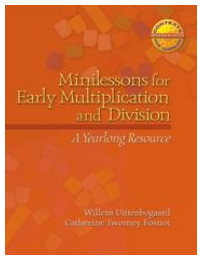
Lessons, Tasks, and Investigations The following lessons were written by the *Georgia Department of Education* and correspond with the standards in this unit. Some lessons may require additional days.
Understanding Fractions as Numbers (3.NF.1, NF.2, NF.3)
Graphing Fractions (includes 3.MD.3)
The Fraction Story Game

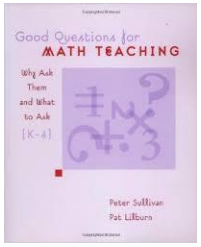
Illustrative Mathematics Tasks: the following task comes from the Illustrative Mathematics site (headed by Bill McCallum, co-author of CCSSM). Illustrative Mathematics provides guidance to states, assessment consortia, testing companies, and curriculum developers by illustrating the range and types of mathematical work that students experience in a faithful implementation of the Common Core State Standards, and by publishing other tools that support implementation of the standards.
Closest to 1/2 (3.NF.2)
Find 2/3 (3.NF.2)
Locating Fractions Less than One on the Number Line (3.NF.2)
Which is Closer to 1 (3.NF.2)
Ordering Fractions (3.NF.3)

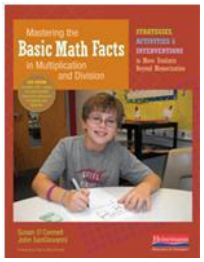
Contextual Problem Situations
In the tasks below, contextual situations help students build meaning for and deepen their understanding of fractions.
3.NF.3d
Who Gets More?

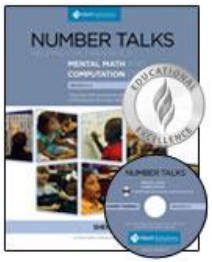
Fractional Parts and their Relationship to Equivalent Fractions
In this lesson, students identify fractional parts and equivalent fractions with models. See SMART board resources below for related SMART lesson
Related Resources: Fraction Bars Fraction Matching Game
(3.NF.1, 3.NF.3a,b)

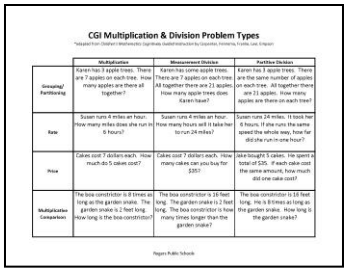


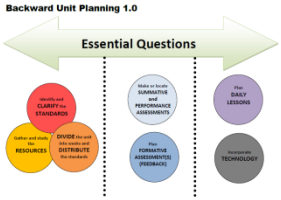








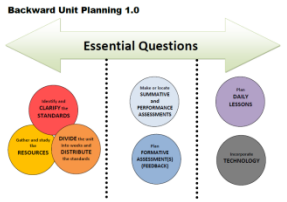




Gather and study the RESOURCES

Summative Assessment *is designed and administered to "sum up" learning that has taken place during a lesson, a unit, or a course.*

- Anne R. Reeves



Make or locate SUMMATIVE and PERFORMANCE ASSESSMENTS

Teacher Created Resources pages!!!

RESOURCES

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