Math Grade 3 Cover Sheet

Content Area: **Mathematics**
Course(s):
Time Period:
Length: **School Year**
Status: **Published**

Course Overview

The grade three Envision Program focuses on many areas to engage student's mathematical thinking.

Multiplication and Division:

Topics include relating multiplication and addition, multiplication on a number line, and using arrays and properties to understand multiplication. Students build their conceptual understanding of how multiplication and division relate to equal group situations. The key with all fact development is to focus on strategies and reasoning, and to not move too quickly for students to develop recall. In these lessons, the facts with 2s and 5s build naturally from skip counting. Other lessons present the facts with 0 and 1. Students also focus on patterns with 9s and 10s. Students can recognize and use these patterns. The Distributive Property is used extensively throughout the lessons on multiplication. Students focus on learning division facts by using the relationship between multiplication and division. Like addition and subtraction, multiplication and division have an inverse relationship. Inverse operations undo each other. Students generate fact families and learn division facts.

Data, Shape, and Mass:

Topic 7 focuses on reading and making scaled picture graphs and scaled bar graphs that represent data sets that have several categories. Students also solve problems involving the data represented in the graphs. In these lessons, students read scaled picture graphs and bar graphs. When each picture or interval represents more than one unit, students can multiply by the scale to find the total. In these lessons, students solve one- and two step "how many more" or "how many less" problems using information represented in scaled picture graphs and scaled bar graphs. Topic 14 focuses on extending students' understanding of time and solving problems involving estimation and measurement of time intervals, liquid volume (capacity), and mass. Students tell time on an analog clock to the nearest minute. They learn to first consider the hour hand, and then the minute hand. Students use counting up as a strategy to find elapsed time and hours. Students need to understand that liquid volume is the amount of liquid a container can hold. Mass is a measure of the amount of matter in an object. Although mass does not change on different planets, weight does change. Topic 15 foxes on attributes to two-dimensional shapes, especially quadrilaterals. Students learn that shapes in different categories may share attitudes that place them in a larger or smaller category. Students learn about the attributes of trapezoids, parallelograms, rectangles, rhombuses, and squares. Students demonstrate their understanding that shapes in two different categories may have common attributes.

Addition and Subtraction:

Topic 8 focuses on using properties, patterns, and mental math to add and subtract within 1,000. The properties of addition (associative, commutative, and identity) are formally presented. Mental math, rounding, and estimating will be taught. Fluency with addition and subtraction will be developed, and strategies will be

used to solve word problems. Topic 9 focuses on fluency with adding and subtracting whole numbers within 1,000. Students use the partial sums strategy. They add like place values to find the partial sum, and then add the partial sums to find the final sum. Some of the strategies in Topic 9 are based on adding or subtracting values, one with ones, tens and tens, hundreds and hundreds. Students need a deep understanding regrouping with both addition and subtraction.

Solving Problems:

Topic 11 focuses on how to solve two-step word problems involving addition, subtraction, multiplication and division of whole numbers. Students begin to use formal algebraic language by using letters to represent unknown quantities in a problem. When solving two-step problems, students use one letter to represent the answer to a hidden question. As students interpret word problems, they need to draw on the various meanings of the operations to help them determine which operations they should use to solve the problem.

Fractions:

Topic 12 focuses on understanding that fractions are numbers that can represent a portion of a whole or point on the number line. The work in this topic also includes measuring lengths to the nearest half inch or fourth inch and showing the data on a line plot. Topic 12 is intended to develop a strong conceptual understanding of fractions as numbers. At the core is an understanding that a unit fraction is the quantity formed by a 1 part when a whole is partitioned into equal parts. When the whole is a region, one part is a region. When the whole is the distance from 0 to 1 on a number line, one part is a length. Topic 13 focuses on using models and number sense to understand fraction equivalence and comparison. The general notion of equivalence is an important concept at all levels of mathematics. Equivalent numbers or expressions represent the same amount. The same is true of fractions. Fractions are equivalent when they represent the same amount of a partitioned region or the same distance on a number line. Students often have misconceptions about equivalence. Models can show why two fractions can be equal, even if their numerators and denominators are not the same.

Area and Perimeter:

In Lessons 6-1, 6-2, and 6-3 students count unit squares to find the areas of figures. This explicit focus on area as covering with unit squares helps students to build a strong understanding of area. In Lesson 6-5, students explicitly recognize that the area of rectangles can also be found using multiplication. Then, in Lesson 6-6, students learn that the area is additive. They find the area of a figure by breaking it into non overlapping parts and adding the areas of the parts. Students have previously used the Distributive Property to break apart as they learned multiplication facts. In Lesson 6-5, they use the same property in a different context to find the areas of rectangles by breaking them apart. Topic 16 focuses on recognizing perimeter as an attribute of polygons, finding perimeter using addition and multiplication, and finding an unknown side. Students distinguish the attribute of perimeter from the attribute of area by analyzing rectangles with the same perimeter and different areas or with the same areas of different perimeters.

Course Name, Length, Date of Revision and Curriculum Writer

Math Envisions Grade 3 Curriculum, Entire Year, 1/30/24, Kara Olejnik and Meredith Pisaeno

Table of Contents

Topic 1: Understand Multiplication and Division of Whole Numbers

Content Area: **Mathematics**
Course(s): **Math**
Time Period: **1st Trimester**
Length: **6 days**
Status: **Published**

Summary of the Unit

Topic 1 focuses on understanding multiplication and division of whole numbers. Students will think about how equal groups help you understand the connection between multiplication and division. Topics include relating multiplication and addition, multiplication on a number line, and using arrays and properties to understand multiplication. Throughout Topic 1, students build their conceptual understanding of how multiplication and division relate to equal group situations. They come to understand that equal-group situations can be represented using multiplication or division, depending on what information is known and what is unknown.

Enduring Understandings

- Some real world problems that involve joining or separating equal groups or making comparisons can be solved using multiplication and division.
- Repeated addition that involves joining equal groups in one way to think about multiplication.
- Multiplication on the number line can involve joining equal groups and is one way to think about multiplication.
- An array involves displaying objects in equal rows and columns, and is one way to think about multiplication.
- Two numbers can be multiplied in any order and the product remains the same.
- Sharing involves separating equal groups and is one way to think about division.
- Repeated subtraction involves separating equal groups and is one way to think about division.
- Good math thinkers know how to pick the right tools to solve math.

Essential Questions

- How can thinking about equal groups help you understand the connection between multiplication and division?

- How can unknown multiplication facts be found using patterns and properties?
- What are the different meanings of multiplication and division?
- How can we use joining and separating equal groups to solve real world problems?
- How do we know which math tools to use to solve problems?

Summative Assessment and/or Summative Criteria

Topic Test

Quick Checks

Performance Task

Resources

Pearson SuccessNet Math Series (digital and offline)

Math Notebook

ST Math online digital platform

Xtra Math online digital platform

IXL online digital platform

Discovery Education math resources

Brain Pop online digital platform

My Math Academy

K-5 Math Teaching Resources https://www.k-5mathteachingresources.com/

The Teaching Channel http://www.theteachingchannel.org

Unit Plan

Topic/Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/Assessments
1-1 Relate Multiplication and Addition (1 day)	SWBAT use repeated addition to show the relationship between multiplication and addition.	**Solve and Share**: Students extend their understandings of addition in preparation for exploring the relationship between addition and multiplication **Visual Learning**: How can you find the total number of objects in equal groups? **Convince Me**: Students connect repeated addition with multiplication and use strategies to solve real world problems. **Guided Practice**: portion of "Guided Practice" for the whole group. **Suggested center activities:** • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • Pearson Realize Power House-Equal Groups to 25 Math Game • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" **Technology**:	Guided Practice Independent Practice Problem Solving Practice Buddy Reteaching Build Mathematical Literacy Enrichment Additional Practice Quick Check 1-1

		Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL: identify repeated addition for equal groups • Brain Pop Jr- Repeated Addition **Optional Activities**: Pick a Project Activity pg 3. Students can choose an activity to build. Brain Pop Jr- Repeated Addition	
1-2 Multiplication on the Number Line (1 day)	SWBAT use number lines to join equal groups.	**Solve and Share**: Students will elicit productive struggle that builds understanding by connecting prior knowledge to new ideas. **Visual Learning**: How can you use a number line to show multiplication? **Convince Me**: Students use quantitative reasoning to explain what skip counting by 6 on a number line would look like. **Guided Practice**: portion of "Guided Practice" for the whole group. **Suggested center activities:** • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build"	Guided Practice Independent Practice Problem Solving Practice Buddy Reteaching Build Mathematical Literacy Enrichment Additional Practice Quick Check 1-2

		• "Build Mathematical Literacy" • "Enrichment" **Technology**: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-N.10.multiply using number lines **Optional Activities**: "enVision STEM 1-2"	
1-3 Arrays and Properties (1 day)	SWBAT use arrays and properties to understand multiplication.	**Solve and Share**: Students are introduced to a situation that can be represented as an array and the ways multiplication can be used to find the total in an array. **Visual Learning**: How does an array show multiplication? **Convince Me**: Students draw an array to show joining equal groups, skip count, and write an equation to find the total in an array. **Guided Practice**: portion of "Guided Practice" for the whole group. **Suggested center activities:** • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build"	Guided Practice Independent Practice Problem Solving Practice Buddy Reteaching Build Mathematical Literacy Enrichment Additional Practice Quick Check 1-3

		• "Build Mathematical Literacy" • "Enrichment" **Technology**: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-N.8. write multiplication sentences for arrays • Brain Pop Jr-Arrays **Optional Activities**: Problem-Solving Reading Activity 1-3 and Problem Solving Reading Mat	
1-4 Division: How Many in Each Groups? (1 day)	SWBAT use sharing to separate equal groups to think about division.	**Solve and Share**: Students solve a problem that involves sharing equal groups as their first introduction to the meaning of division. **Visual Learning**: How many are in each group> **Convince Me**: Students learn that they can divide a number in equal groups. **Guided Practice**: portion of "Guided Practice" for the whole group. **Suggested center activities:** • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build"	Guided Practice Independent Practice Problem Solving Practice Buddy Reteaching Build Mathematical Literacy Enrichment Additional Practice Quick Check 1-4

		• "Build Mathematical Literacy" • "Enrichment" **Technology**: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-U.2 write division sentences for groups **Optional Activities**: Sharing Equally activity pg 20A. Students will use two-color counters to share equally. (Teaching Tool 9)	
1-5 Division:How Many Equal Groups? (1 day)	SWBAT use repeated subtraction to show the relationship between division and subtraction.	**Solve and Share**: Students use subtraction to solve a problem in preparation for exploring the relationship between repeated subtraction and division. **Visual Learning**: How can you divide using repeated subtraction? **Convince Me**: Students use what they know about numbers and repeated subtraction and division. **Guided Practice**: portion of "Guided Practice" for the whole group. **Suggested center activities:** • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on	Guided Practice Independent Practice Problem Solving Practice Buddy Reteaching Build Mathematical Literacy Enrichment Additional Practice Quick Check 1-5

		manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" **Technology**: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-U.2 write division sentences for groups • Brain Pop Jr- Repeated Subtraction **Optional Activities**: "enVisionSTEM 1-5" Students will use a chart to answer questions about math.	
1-6 Problem Solving:Use Appropriate Tools (1 day)	SWBAT think strategically about available tools that can be used to solve problems.	**Solve and Share**: Students choose a tool to represent and solve a multi-step problem. **Visual Learning**: How can you use appropriate tools to represent and solve problems? **Convince Me**: Students discuss the use of alternate tools to solve the problem presented. **Guided Practice**: portion of "Guided Practice" for the whole group. **Suggested center activities:** • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent	Guided Practice Independent Practice Problem Solving Practice Buddy Reteaching Build Mathematical Literacy Enrichment Additional Practice Quick Check 1-6

		Practice” • “Problem solving” • hands on manipulatives • “Reteach to Build” • “Build Mathematical Literacy” • “Enrichment” **Technology**: Optional Activities: • ST Math • Xtra Math • My Math Academy **Optional Activities**: Problem-Solving Leveled Reading Mats- Red Hot Rivers with “Problem Solving Reading Activity 1-6” pg 28B	

Standards

MATH.3.OA.A.1	Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each.
MATH.3.OA.A.2	Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe and/or represent a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.
MATH.3.OA.A.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.
MATH.3.OA.B.5	Apply properties of operations as strategies to multiply and divide.

Suggested Modifications for Special Education, ELL and Gifted Students

Consistent with individual plans, when appropriate.

Gifted Learners

- Today’s Challenge before each lesson
- Topic Performance Task Masters pg 36A

- Enrichment Sheet for each lesson
- Provide options, alternatives and choices to differentiate and broaden the curriculum
- Envision Enrichment printables
- Organize and offer flexible small group learning activities (Pick a Project- Envision)
- Use center, stations, or contract
- Organize integrated problem-solving simulations
- Propose interest-based extension activities

Special Education

- Alter assignment lengths if necessary.
- Allow additional time when in full class discussing for processing and discussion.
- Check for understanding by conferencing with the teacher during small group instruction
- Students may choose a partner or teacher may choose a partner to work that student is comfortable with.
- Repeat and clarify any directions given.
- Allow for preferential seating within groups and the whole class.
- Modify amount of vocabulary words used
- Read word problems and directions aloud
- Daily review of facts, skip counting songs, etc.
- Use of manipulatives and real world examples
- Daily lesson Visual Learning Bridge (Envision) and Model with Math
- Envision Intervention kit / reteaching

ELL

- Teach vocabulary (Envision- My Word Cards)- equal groups, multiplication, factors, product, equation, unknown, number line, array, row, column, commutative property of multiplication, division, multiples, identity property of multiplication, zero property of multiplication, associative (grouping) property of multiplication, dividend, divisor, fact family, quotient, even, odd (use visuals/anchor charts)
- Use visuals/visual learning videos/"Another Look" videos and the Animated glossary

- “Listen and Look For” when beginning the topic
- Envision reteach/intervention kit

Suggested Technological Innovations/Use

- IXL
- Xtra Math
- ST Math
- My Math Academy
- Kahoot!
- Tools (Envision 2020)
- Game Center (Envision 2020)
- Create/Complete a Discovery Education Board

Cross Curricular/21st Century Connections

- Pick a Project Activity
- Envision Stem Project
- Problem Solving Reading Activity
- 3 ACT MATH Activity: Page Through

Topic 2: Multiplication Facts: Use Patterns

Content Area: **Mathematics**
Course(s):
Time Period: **1st Trimester**
Length: **6 days**
Status: **Published**

Summary of the Unit

The lessons in Topic 2 present the most accessible facts. The key with all fact development is to focus on strategies and reasoning, and to not move too quickly for students to develop recall. In these lessons, the facts with 2s and 5s build naturally from skip counting. Other lessons present the facts with 0 and 1. Students also focus on patterns with 9s and 10s. Students can recognize and use these patterns in their math problems.

Enduring Understandings

- There are patterns in the products for multiplication with facts of 2 or 5.
- There are patterns in the products for multiplication with a factor of 9
- there are patterns in the products for multiplication with facts 0 or 1
- The product of 0 and any number is 0.
- The product of 1 and any number is that same number
- Patterns can be used to solve multiplication problems with a factor of 10.
- Basic multiplication facts can be found by identifying patterns.
- Good math thinkers choose and apply math they know to show and solve problems from everyday life.

Essential Questions

- How can you use patterns to multiply by 2 and 5?
- How can patterns be used to find 9s facts?
- What are the patterns in multiples of 1 and 0?
- What are the patterns in multiples of 10?
- How can you use multiplication facts to solve problems?

- How can you model with math?

Summative Assessment and/or Summative Criteria

Topic Test

Quick Checks

Performance Task

Resources

Pearson SuccessNet Math Series (digital and offline)

Math Notebook

ST Math online digital platform

Xtra Math online digital platform

IXL online digital platform

Discovery Education math resources

Brain Pop online digital platform

My Math Academy

K-5 Math Teaching Resources https://www.k-5mathteachingresources.com/

The Teaching Channel http://www.theteachingchannel.org

Unit Plan

Topic/Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/Assessments
2-1 2 and 5 as Facts (1 day)	SWBAT gain fluency in multiplication when using 2 and 5 as factors.	**Solve and Share**: Students continue using their knowledge of multiplication to see the patterns that exist in products with whole numbers when 2 and 5 is a factor. **Visual Learning**: How can you use patterns to multiply by 2 and 5? **Convince Me**: Students analyze the relationship between the number of pairs and the number of socks as they skip count by 2s. **Guided Practice**: portion of "Guided Practice" for the whole group. **Suggested center activities:** • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" **Technology**: Optional Activities: • ST Math • Power House-Equal Groups to 25 Power House • Xtra Math • My Math Academy • IXL: 0 multiply by 2 and multiply by 5 • Number Rock Video-Counting by 2, Counting by 5 https://numberock.com/video-library/ **Optional Activities**: Pick a Project	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 2-1

		Activity pg 39. Students will choose a project to work on.	
2-2 9 as a Factor (1 day)	SWBAT gain fluency in multiplication when using 9 as factors.	**Solve and Share**: Students use patterns to gain fluency in the products for multiplication with a factor of 9. **Visual Learning**: How can patterns be used to find 9s facts? **Convince Me**: Students examine patterns with 9s as a factor. **Guided Practice**: portion of "Guided Practice" for the whole group. **Suggested center activities:** • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" **Technology**: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL: multiply by 9 • Brain Pop Jr-Repeated Addition • Number Rock Video-Counting by 9 https://numberock.com/video-library/ **Optional Activities**: "enVision STEM" 2-2. Students will learn about pendulums and answer questions about it.	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 2-2

2-3 Apply Properties:Multiply by 0 and 1 (1 day)	SWBAT gain fluency in multiplication when multiplying by 0 or 1.	**Solve and Share**: Students use patterns to gain fluency in the products for multiplication with a factor of 0 and 1. **Visual Learning**: How can patterns be used to find 0s and 1s facts? **Convince Me**: Students examine patterns with 0s and 1s as a factor. **Guided Practice**: portion of "Guided Practice" for the whole group. **Suggested center activities:** • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" **Technology**: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL: multiply by 0 and 1 • Brain Pop Jr-Multiply by 0 and 1 **Optional Activities**: Problem Solving Leveled Reading Mat Teacher Manual pg 52B, "Problem Solving Reading Activity 2-3"	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 2-3
2-4 Multiply by 10 (1 day)	SWBAT gain fluency in multiplication when multiplying by 10.	**Solve and Share**: Students use patterns to gain fluency in the products for multiplication with a factor of 10. **Visual Learning**: How can patterns be used to find 10s facts? **Convince Me**: Students examine	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 2-4

		patterns with 10s as a factor. **Guided Practice**: portion of "Guided Practice" for the whole group. **Suggested center activities:** • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" **Technology**: Optional Activities: • ST Math • Xtra Math • IXL: multiply by 10 • My Math Academy • Brain Pop Jr-Repeated Addition • Number Rock Video-Counting by 10 https://numberock.com/video-library/ **Optional Activities**: "enVision STEM" 2-4. Students will use baseball stats and answer questions about it.	
2-5 Multiplication Facts: 0,1,2,5,9, and 10 (1 day)	SWBAT use number relationships and patterns to develop reasoning strategies to support their recall of the basic multiplication facts.	**Solve and Share**: Students use patterns to gain fluency in the products for multiplication. **Visual Learning**: How can you use multiplication facts to solve problems? **Convince Me**: Students examine data to answer questions. **Guided Practice**: portion of "Guided Practice" for the whole group.	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 2-5

		Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" **Technology**: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL: N Understanding Multiplication • Number Rock Videos to review facts https://numberock.com/video-library/ **Optional Activities**: "enrichment 2-5" Students will use a code to solve problems.	
2-6 Problem Solving:Model with Math (1 day)	SWBAT use previously learned concepts and skills to represent and solve problems.	**Solve and Share**: Students use previously learned concepts and skills to represent and solve problems. **Visual Learning**: How can you model with math? **Convince Me**: Students examine number lines to answer questions. **Guided Practice**: portion of "Guided Practice" for the whole group. **Suggested center activities:** • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving"	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 2-6

		• hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" **Technology**: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL: N Understanding Multiplication • Number Rock Videos to review facts https://numberock.com/video-library/ **Optional Activities**: "enrichment 2-6" Students will use a code to solve problems.	

Standards

MATH.3.OA.A.1	Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects i 5 groups of 7 objects each.
MATH.3.OA.A.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.
MATH.3.OA.B.5	Apply properties of operations as strategies to multiply and divide.
MATH.3.OA.C.7	With accuracy and efficiency, multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
MATH.3.OA.D.9	Identify arithmetic patterns (including patterns in the addition table or multiplication table) and explain them using properties of operations.

Suggested Modifications for Special Education, ELL and Gifted Students

Consistent with individual plans, when appropriate.

Gifted Learners

- Today's Challenge before each lesson
- Topic Performance Task Masters pg 36A
- Enrichment Sheet for each lesson
- Provide options, alternatives and choices to differentiate and broaden the curriculum
- Envision Enrichment printables
- Organize and offer flexible small group learning activities (Pick a Project- Envision)
- Use center, stations, or contract
- Organize integrated problem-solving simulations
- Propose interest-based extension activities

Special Education

- Alter assignment lengths if necessary.
- Allow additional time when in full class discussing for processing and discussion.
- Check for understanding by conferencing with the teacher during small group instruction
- Students may choose a partner or teacher may choose a partner to work that student is comfortable with.
- Repeat and clarify any directions given.
- Allow for preferential seating within groups and the whole class.
- Modify amount of vocabulary words used
- Read word problems and directions aloud
- Daily review of facts, skip counting songs, etc.
- Use of manipulatives and real world examples
- Daily lesson Visual Learning Bridge (Envision) and Model with Math
- Envision Intervention kit / reteaching

ELL

- Teach vocabulary (Envision- My Word Cards)- equal groups, multiplication, factors, product, equation, unknown, number line, array, row, column, commutative property of multiplication, division, multiples, identity property of multiplication, zero property of multiplication, associative (grouping) property of multiplication, dividend, divisor, fact family, quotient, even, odd (use

visuals/anchor charts)

- Use visuals/visual learning videos/"Another Look" videos and the Animated glossary
- "Listen and Look For" when beginning the topic
- Envision reteach/intervention kit

Suggested Technological Innovations/Use

- IXL
- Xtra Math
- ST Math
- My Math Academy
- Kahoot!
- Tools (Envision 2020)
- Game Center (Envision 2020)
- Create/Complete a Discovery Education Board

Cross Curricular/21st Century Connections

- Pick a Project Activity
- Envision Stem Project
- Problem Solving Reading Activity
- 3 ACT MATH Activity: Page Through

Topic 3: Apply Properties: Multiplication Facts for 3, 4, 6, 7, 8

Content Area: **Mathematics**
Course(s):
Time Period: **1st Trimester**
Length: **7 days**
Status: **Published**

Summary of the Unit

Topic 3 focuses on using known facts and properties of multiplication to learn the multiplication facts with factors of 3,4,6,7, and 8. The Distributive Property is used extensively in Topic 3. It is an important property that students will use throughout their mathematics education. It says that multiplying a sum (or difference) by a factor is the same as multiplying each number in the sum (or difference) by that factor and adding (or subtracting) the products. Students will also learn how the associative property can be used to group and multiply numbers in any order. In the last lesson of this chapter, students will use repeated reasoning with known facts to make generalizations when multiplying.

Enduring Understandings

- The Distributive Property can be used to break a large array into smaller arrays.
- Basic multiplication facts with 3 or 4 as a factor can be found by breaking apart the unknown fact into known facts. The answers to the known facts are added to find the final product.
- Basic multiplication facts with 6 or 7 as a factor can be found by breaking apart the unknown fact into known facts.
- Basic multiplication facts with 8 as a factor can be found by breaking apart the unknown fact into known facts.
- Strategies such as bar diagrams and arrays with known facts can be used to solve multiplication problems.
- Three or more numbers can be grouped and multiplied in any order.
- Good math thinkers look for things that repeat, and they make generalizations.

Essential Questions

- How can you use known multiplication facts to solve unknown facts?
- How can you break up a multiplication fact?

- How can you break apart arrays to multiply with 3?
- How can you break up arrays to multiply?
- How can you use doubles to multiply with 8?
- How do you use strategies to multiply?
- How can you multiply 3 numbers using Associative Property?
- How can you use repeated reasoning when multiplying?

Summative Assessment and/or Summative Criteria

Topic Test

Quick Checks

Performance Task

Resources

Pearson SuccessNet Math Series (digital and offline)

Math Notebook

ST Math online digital platform

Xtra Math online digital platform

IXL online digital platform

Discovery Education math resources

Brain Pop online digital platform

My Math Academy

K-5 Math Teaching Resources https://www.k-5mathteachingresources.com/

The Teaching Channel http://www.theteachingchannel.org

Unit Plan

Topic/Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/Assessments
3-1 The Distributive Property (1 day)	SWBAT use the Distributive Property to solve problems involving multiplication within 100.	Solve and Share: Students use arrays to understand the Distributive Property and break apart a multiplication fact into the sum of other multiplication facts. Visual Learning: How can you break up a multiplication fact? Convince Me: Students analyze the relationship between arrays and multiplication facts. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology:	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 3-1

		Optional Activities:
		• ST Math
		• Xtra Math
		• My Math Academy
		• IXL: RMultiplication Properties
		  ○ 4 Write two multiplication sentences for an array
		  ○ 5 Distributive property: find the missing factor
		  ○ 7 Multiply using the distributive property
		• Number Rock Properties https://numberock.com/lessons/the-properties-of-multiplication/
		
		Optional Activities: "Problem Solving Leveled Reading Mats 3-1"	

3-2 Apply Properties: 3 and 4 as Factors (1 day)	SWBAT use the Distributive Property to break apart unknown facts with 3 or 4 as a factor.	Solve and Share: Students extend their understanding of arrays in preparation for exploring the relationship between arrays and multiplication. Visual Learning: How can you break apart arrays to multiply with 3? Convince Me: Students explain how they can use known facts to find the total number of canoes. Guided Practice: portion of "Guided Practice" for the whole group.	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 3-2

		Suggested center activities:
		• teacher led small group instruction with differentiated groupings
		• additional “Guided Practice”
		• “Independent Practice”
		• “Problem solving”
		• hands on manipulatives
		• “Reteach to Build”
		• “Build Mathematical Literacy”
		• “Enrichment”
		
		Technology:
		
		Optional Activities:
		• ST Math
		• Xtra Math
		• My Math Academy
		• IXL: R Multiplication Properties
		  ○ 4 Write two multiplication sentences for an array
		  ○ 5 Distributive property: find the missing factor
		  ○ 7 Multiply using the distributive property
		• Number Rock Properties https://numberock.com/lessons/the-properties-of-multiplication/
		
		Optional Activities: “enVision STEM	

		3-2" Students will learn about loggerhead turtles and answer questions about them.	
3-3 Apply Properties:6 and 7 as Factors (1 day)	SWBAT use the Distributive Property to break apart unknown facts with 6 or 7 as a factor.	Solve and Share: Students extend their understanding of arrays in preparation for exploring the relationship between arrays and multiplication. Visual Learning: How can you break up an array to multiply? Convince Me: Students use Distributive Property to find the product of unknown facts. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 3-3

		• Xtra Math
		• My Math Academy
		• IXL: R Multiplication Properties
		  ○ 4 Write two multiplication sentences for an array
		  ○ 5 Distributive property: find the missing factor
		  ○ 7 Multiply using the distributive property
		• Number Rock Properties https://numberock.com/lessons/the-properties-of-multiplication/
		
		Optional Activities: Pick a Project on pg 75 of Student's Edition.	

3-4 Apply Properties: 8 as a Factor (1 day)	SWBAT use the Distributive Property to break apart unknown facts with 8 as a factor.	Solve and Share: Students will use their knowledge of 2s facts to multiply by 8 and use Distributive Property. Visual Learning: How can you use doubles to multiply by 8? Convince Me: Students use Distributive Property to find the product of unknown facts. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 3-4

		groupings • additional “Guided Practice” • “Independent Practice” • “Problem solving” • hands on manipulatives • “Reteach to Build” • “Build Mathematical Literacy” • “Enrichment” Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL: R Multiplication Properties o 4 Write two multiplication sentences for an array o 5 Distributive property: find the missing factor o 7 Multiply using the distributive property • Number Rock Properties https://numberock.com/lessons/the-properties-of-multiplication/ Optional Activities: “enVisionSTEM 3-4” Students will read about chimpanzee behavior and answer questions.	

3-5 Practice Multiplication Facts (1 day)	SWBAT use strategies such as bar diagrams and arrays with known facts to solve multiplication facts.	Solve and Share: Students use previously learned strategies, such as the use of bar diagrams and arrays, with known facts to find products for unknown facts. Visual Learning: How do you use strategies to multiply? Convince Me: Students use reasoning to find other known facts in which the combined sum equals the product of 9 x 3. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 3-5

		• Xtra Math • My Math Academy • IXL: P multiplication up to 10 • Number Rock Videos Optional Activities: Pick a Project on pg 75 of Student's Edition.	
3-6 The Associative Property: multiply with 3 Factors (1 day)	SWBAT use the Associate Property of Multiplication to group factors when multiplying 3 factors.	Solve and Share: Students use the Associative Property of Multiplication to group factors to learn that they can multiply the facts in any order to find the product. Visual Learning: How can you multiply three numbers? Convince Me: Students use the Associative Property of Multiplication to explore two ways to solve the problem. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 3-6

		• "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL: T two digit multiplication ○ 8 multiply three numbers ○ 9 multiply three numbers word problems • Number Rock Videos Optional Activities: Pick a Project on pg 75 of Student's Edition.	
3-7 Problem Solving: Repeated Reasoning (1 day)	SWBAT use repeated reasoning with known facts to make generalizations when multiplying.	Solve and Share: Students use known facts to gain fluency in the products for multiplication with unknown facts. Visual Learning: How can you use repeated reasoning when multiplying? Convince Me: Students use generalizations to break 7 x 5 and 7x6 into known facts. Guided Practice: portion of "Guided Practice" for the whole group.	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 3-7

		Suggested center activities:
		• teacher led small group instruction with differentiated groupings
		• additional “Guided Practice”
		• “Independent Practice”
		• “Problem solving”
		• hands on manipulatives
		• “Reteach to Build”
		• “Build Mathematical Literacy”
		• “Enrichment”
		
		Technology:
		Optional Activities:
		• ST Math
		• Xtra Math
		• My Math Academy
		• IXL: O Multiplication Skill Builders
		  ○ Multiply by 6
		  ○ Multiply by 7
		• Number Rock Videos
		
		Optional Activities: “Enrichment 3-7” Students will make geometric Patterns.	

Standards

MATH.3.OA.A.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.
MATH.3.OA.B.5	Apply properties of operations as strategies to multiply and divide.
MATH.3.OA.C.7	With accuracy and efficiency, multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
MATH.3.OA.D.9	Identify arithmetic patterns (including patterns in the addition table or multiplication table) and explain them using properties of operations.

Suggested Modifications for Special Education, ELL and Gifted Students

Consistent with individual plans, when appropriate.

Gifted Learners

- Today's Challenge before each lesson
- Topic Performance Task Masters pg 36A
- Enrichment Sheet for each lesson
- Provide options, alternatives and choices to differentiate and broaden the curriculum
- Envision Enrichment printables
- Organize and offer flexible small group learning activities (Pick a Project- Envision)
- Use center, stations, or contract
- Organize integrated problem-solving simulations
- Propose interest-based extension activities

Special Education

- Alter assignment lengths if necessary.
- Allow additional time when in full class discussing for processing and discussion.
- Check for understanding by conferencing with the teacher during small group instruction
- Students may choose a partner or teacher may choose a partner to work that student is comfortable with.
- Repeat and clarify any directions given.
- Allow for preferential seating within groups and the whole class.

- Modify amount of vocabulary words used
- Read word problems and directions aloud
- Daily review of facts, skip counting songs, etc.
- Use of manipulatives and real world examples
- Daily lesson Visual Learning Bridge (Envision) and Model with Math
- Envision Intervention kit / reteaching

ELL

- Teach vocabulary (Envision- My Word Cards)- equal groups, multiplication, factors, product, equation, unknown, number line, array, row, column, commutative property of multiplication, division, multiples, identity property of multiplication, zero property of multiplication, associative (grouping) property of multiplication, dividend, divisor, fact family, quotient, even, odd (use visuals/anchor charts)
- Use visuals/visual learning videos/"Another Look" videos and the Animated glossary
- "Listen and Look For" when beginning the topic
- Envision reteach/intervention kit

Suggested Technological Innovations/Use

- IXL
- Xtra Math
- ST Math
- My Math Academy
- Kahoot!
- Tools (Envision 2020)
- Game Center (Envision 2020)
- Create/Complete a Discovery Education Board

Cross Curricular/21st Century Connections

- Pick a Project Activity
- Envision Stem Project
- Problem Solving Reading Activity
- 3 ACT MATH Activity: Page Through

Topic 4: Use Multiplication to Divide: Division Facts

Content Area: **Mathematics**
Course(s):
Time Period:
Length: **9 days**
Status: **Published**

Summary of the Unit

Topic 4 focuses on learning division facts by using the relationship between multiplication and division. Like addition and subtraction, multiplication and division have an inverse relationship. Inverse operations undo each other. Lesson 4-1 introduces the inverse relationship between multiplication and division in problems without remainders. Students use this relationship to generate fact families and learn division facts with 2,3,4,5,6,7,8, and 9 throughout the chapter. They practice division facts in lesson 4-7.

Enduring Understandings

- Multiplication and vision have an inverse relationship.
- The inverse relationship between multiplication and division can be used to find division facts.
- Every division fact has a related multiplication fact.
- Factors and products can be identified by patterns as well as other characteristics such as odd and even.
- Any number (except 0) divided by itself is equal to 1.
- Any number divided by 1 is that number.
- Zero divided by any number (except 0) is 0. Zero cannot be a divisor.
- Patterns and known facts can be used to find unknown multiplication facts.
- You can use multiplication or division facts to find the unknown value in the equation.
- Good math thinkers make sense of problems and think of ways to solve them.

Essential Questions

- How can multiplication facts help you divide?
- What multiplication fact can you use?
- How do you divide with 6 and 7?
- How can you explain multiplication patterns for even and odd numbers?
- How do you divide with 0 and 1?
- What fact can you use?

- How do multiplication and division equations work?
- How can you make sense of a problem and persevere in solving it?

Summative Assessment and/or Summative Criteria

Topic Test

Quick Checks

Performance Task

Resources

Pearson SuccessNet Math Series (digital and offline)

Math Notebook

ST Math online digital platform

Xtra Math online digital platform

IXL online digital platform

Discovery Education math resources

Brain Pop online digital platform

My Math Academy

K-5 Math Teaching Resources https://www.k-5mathteachingresources.com/

The Teaching Channel http://www.theteachingchannel.org

Unit Plan

Topic/Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/Assessments
4-1 Relate Multiplication and	SWBAT use multiplication facts to divide.	Solve and Share: Students use multiplication and fact	Guided Practice

Division (1 day)		families to find division facts. Visual Learning: How can multiplication facts help you divide? Convince Me: Students use an array and fact families to represent the same relationship in different ways. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities:	Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 4-1

		• ST Math • Xtra Math • My Math Academy • IXL: Optional Activities: Enrichment 4-1 Students will Find the Pairs	
4-2 Use Multiplication to Divide with 2, 3, 4, and 5 (1 day)	SWBAT use multiplication facts to find related division facts.	Solve and Share: Students use multiplication facts and families to solve a division fact. Visual Learning: What Multiplication Fact Can You Use? Convince Me: Students will use a related multiplication fact to explain a division fact. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving"	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 4-2

		• hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL:Relate Multiplication and Division for groups Optional Activities: Pick a Project pg 115-116	
4-3 Use Multiplication to Divide with 6 and 7 (1 day)	SWBAT use multiplication facts to find related division facts.	Solve and Share: Students use their knowledge of multiplication and fact families to solve a division fact. Visual Learning: How do you divide with 6 and 7? Convince Me: Students use fact families and a known multiplication fact to find a division fact. Guided Practice: portion of "Guided Practice" for the	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 4-3

		whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL:Multiply by 6 • IXL:Multiply by 7 Optional Activities: Reading Map 4-3	
4-4 Use Multiplication to Divide with 8 and 9	SWBAT use multiplication facts to find related division facts.	Solve and Share: Students use their knowledge of multiplication and fact families to find division facts	Guided Practice Independent Practice

(1 day)		with 8 and 9. Visual Learning: What Multiplication Fact Can You Use? Convince Me: Students analyze the relationship between multiplication and division by solving division facts using related groups. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology:	Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 4-4

		Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL: multiply by 8 • IXL:multiply by 9 Optional Activities: Today's Challenge	
4-5 Multiplication Patterns:Even and Odd Numbers (1 day)	SWBAT use knowledge of even and odd numbers to identify multiplication patterns.	Solve and Share: Students use their knowledge of even and odd numbers to identify multiplication patterns. Visual Learning: How can you explain multiplication patterns for even and odd numbers? Convince Me: Students explain that a number multiplied by 8 results in an even number because 8 is a multiple of 2. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 4-5

		Practice” • “Independent Practice” • “Problem solving” • hands on manipulatives • “Reteach to Build” • “Build Mathematical Literacy” • “Enrichment” Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • Review if needed:BrainPOP Jr.-Even and Odd Optional Activities: enVisionSTEM 4-5	
4-6 Division Involving 0 and 1 (1 day)	SWBAT use properties to understand division involving 0 and 1.	Solve and Share: Students use their knowledge of division and multiplication properties as they learn about division involving 0 and 1. Visual Learning: How can you divide with 1 or 0? Convince Me: Students use precision to understand the word problem and the objects	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 4-6

		that the number represents. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL:Divide by 0 • IXL:Divide by 1 Optional Activities: Problem-	

		Solving Leveled	
4-7 Practice Multiplication and Division Facts (1 day)	SWBAT use patterns and known facts to find unknown facts.	Solve and Share: Students use patterns and known facts to find unknown facts. Visual Learning: What facts can you use? Convince Me: Students construct arguments to explain the relationship between multiplication and division. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment"	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 4-7

		Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL:Division Facts 2,3,4,5,10 (a variety of programs to choose from) Optional Activities: Problem-Solving Leveled	
4-8 Solve Multiplication and Division Equations (1 day)	SWBAT use multiplication and division facts to find unknown values in equations.	Solve and Share: Students use pan balances to learn that an unknown value can be on either side of the equal sign. Visual Learning: How do multiplication and division equations work? Convince Me: Students use reasoning to find a multiplication fact to solve for an unknown in a multiplication equation. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 4-8

		groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy Optional Activities: EnvisionSTEM 4-8	
4-9 Problem Solving:Make Sense and Persevere (1 day)	SWBAT use previously learned concepts to find and answer hidden questions to solve problems.	Solve and Share: Students find answers to hidden questions to solve multi-step problems using different operations. Visual Learning: How can you make sense of a problem and persevere in Solving it? Convince Me: Students make sense of the problem by checking their work with	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 4-9

		related division and multiplication facts. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy Optional Activities: EnVision STEM	

Standards

MATH.3.OA.A.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.
MATH.3.OA.B.5	Apply properties of operations as strategies to multiply and divide.
MATH.3.OA.B.6	Understand division as an unknown-factor problem.
MATH.3.OA.C.7	With accuracy and efficiency, multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
MATH.3.OA.D.9	Identify arithmetic patterns (including patterns in the addition table or multiplication table) and explain them using properties of operations.

Suggested Modifications for Special Education, ELL and Gifted Students

Consistent with individual plans, when appropriate.

Gifted Learners

- Today's Challenge before each lesson
- Topic Performance Task Masters pg 36A
- Enrichment Sheet for each lesson
- Provide options, alternatives and choices to differentiate and broaden the curriculum
- Envision Enrichment printables
- Organize and offer flexible small group learning activities (Pick a Project- Envision)
- Use center, stations, or contract
- Organize integrated problem-solving simulations
- Propose interest-based extension activities

Special Education

- Alter assignment lengths if necessary.
- Allow additional time when in full class discussing for processing and discussion.
- Check for understanding by conferencing with the teacher during small group instruction
- Students may choose a partner or teacher may choose a partner to work that student is comfortable with.

- Repeat and clarify any directions given.
- Allow for preferential seating within groups and the whole class.
- Modify amount of vocabulary words used
- Read word problems and directions aloud
- Daily review of facts, skip counting songs, etc.
- Use of manipulatives and real world examples
- Daily lesson Visual Learning Bridge (Envision) and Model with Math
- Envision Intervention kit / reteaching

ELL

- Teach vocabulary (Envision- My Word Cards)- equal groups, multiplication, factors, product, equation, unknown, number line, array, row, column, commutative property of multiplication, division, multiples, identity property of multiplication, zero property of multiplication, associative (grouping) property of multiplication, dividend, divisor, fact family, quotient, even, odd (use visuals/anchor charts)
- Use visuals/visual learning videos/"Another Look" videos and the Animated glossary
- "Listen and Look For" when beginning the topic
- Envision reteach/intervention kit

Suggested Technological Innovations/Use

- IXL
- Xtra Math
- ST Math
- My Math Academy
- Kahoot!
- Tools (Envision 2020)
- Game Center (Envision 2020)
- Create/Complete a Discovery Education Board

Cross Curricular/21st Century Connections

- Pick a Project Activity
- Envision Stem Project
- Problem Solving Reading Activity
- 3 ACT MATH Activity: Page Through

Topic 5: Fluently Multiply and Divide Within 100

Content Area: **Mathematics**
Course(s):
Time Period: **1st Trimester**
Length: **6 days**
Status: **Published**

Summary of the Unit

Topic 5 focuses on applying strategies to achieve fluency with multiplication and division facts within 100. Fluency includes a strong focus on selecting and using appropriate strategies. The work in this topic moves students towards knowing from memory all products of two 1-digit numbers by the end of Grade 3. Throughout topic 5, students explore multiplication tables, fact families, equations, and bar diagrams. These representations provide opportunities for students to see division as missing-factor problems.

Enduring Understandings

- There are patterns in the factors and the products for multiplication facts.
- Any division problem can be thought of as a missing factor multiplication problem.
- Strategies and reasoning can be used to recall multiplication facts.
- Strategies such as using properties of operations, drawings, and skip counting can be used to multiply.
- Some real world problems can be represented and solved using different multiplication and division strategies.
- Some real world problems that involve equal groups can be solved using multiplication and division.
- Good man thinkers look for relationships in math to help solve problems.

Essential Questions

- What are strategies to solve multiplication and division facts?
- How can you explain patterns in the multiplication chart?
- How can you use a multiplication table to solve division problems?
- How do you use strategies to multiply?
- How can you solve real world problems using multiplication and division?

- How can you describe a multiplication fact?
- How can you use the structure of mathematics?

Summative Assessment and/or Summative Criteria

Topic Test

Quick Checks

Performance Task

Resources

Pearson SuccessNet Math Series (digital and offline)

Math Notebook

ST Math online digital platform

Xtra Math online digital platform

IXL online digital platform

Discovery Education math resources

Brain Pop online digital platform

My Math Academy

K-5 Math Teaching Resources https://www.k-5mathteachingresources.com/

The Teaching Channel http://www.theteachingchannel.org

Unit Plan

Topic/Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/Assessments
5-1 Patterns for	SWBAT use the multiplication table	Solve and Share: Students find patterns in factors and	Guided Practice

Multiplication Facts (1 day)	and the Distributive Property to find patterns in factors and products.	products by using known facts and the Distributive Property. Visual Learning: What are strategies to solve multiplication and division facts? Convince Me: Students identify patterns for finding ways that products are similar when 2 or 4 is a factor. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities:	Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 5-1

		• ST Math • Xtra Math • My Math Academy Optional Activities: EnVision STEM	
5-2 Use a Table to Multiply and Divide (1 day)	SWBAT use number sense and reasoning while practicing multiplication and division of basic facts.	Solve and Share: Students what they know about multiplication to find the missing factors in division equations. Visual Learning: How can you use a multiplication table to help with division problems? Convince Me: Students identify division facts while using a table. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 5-2

		• "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy Optional Activities: EnVision STEM	
5-3 Use Strategies to Multiply (1 day)	SWBAT use strategies such as skip counting and properties of operations to multiply.	Solve and Share: Students use different strategies to solve a multiplication problem. Visual Learning: How do you use strategies to solve multiplication problems? Convince Me: Students use the Distributive Property to solve unknown problems. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 5-3

		groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy Optional Activities: EnVision STEM	
5-4 Solve Word Problems: Multiplication and Division Facts (1 day)	SWBAT solve multiplication and division problems that involve different strategies and representations.	Solve and Share: Students use different strategies that they have learned to solve multiplication and division problems. Visual Learning: How can you solve multiplication and division problems word problems? Convince Me: Students solve a new fact.	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 5-4

		Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL:Multiplication Word Problems Optional Activities: EnVision STEM	
5-5 Write Multiplication and Division Math	SWBAT use multiplication and division to write and solve real world	Solve and Share: Students use multiplication and division facts to solve real world	Guided Practice Independent Practice

Stories (1 day)	problems involving equal groups	problems. Visual Learning: How can you describe a multiplication fact? Convince Me: Students communicate their understanding of multiplication with story writing. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math	Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 5-5

		• Xtra Math • My Math Academy Optional Activities: Problem-Solving Leveled	
5-6 Problem Solving: Look For and Use Structure (1 day)	SWBAT use the structures of multiplication and division to compare expressions.	Solve and Share: Students use their prior knowledge of comparing numbers and their knowledge of multiplication properties to find patterns when comparing multiplication expressions. Visual Learning: How can you use the structure of multiplication? Convince Me: Students use multiplication properties to show their understanding. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 5-6

		• "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy Optional Activities: Problem-Solving Leveled	

Standards

MATH.3.OA.A.1	Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects i 5 groups of 7 objects each.
MATH.3.OA.A.2	Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the numbe of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. For example, describe and/or represent a context in which a number of shares or a number o groups can be expressed as 56 ÷ 8.
MATH.3.OA.A.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.
MATH.3.OA.C.7	With accuracy and efficiency, multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
MATH.3.OA.D.9	Identify arithmetic patterns (including patterns in the addition table or multiplication table) and explain them using properties of operations.

Suggested Modifications for Special Education, ELL and Gifted Students

Consistent with individual plans, when appropriate.

Gifted Learners

- Today's Challenge before each lesson
- Topic Performance Task Masters pg 36A
- Enrichment Sheet for each lesson
- Provide options, alternatives and choices to differentiate and broaden the curriculum
- Envision Enrichment printables
- Organize and offer flexible small group learning activities (Pick a Project- Envision)
- Use center, stations, or contract
- Organize integrated problem-solving simulations
- Propose interest-based extension activities

Special Education

- Alter assignment lengths if necessary.
- Allow additional time when in full class discussing for processing and discussion.
- Check for understanding by conferencing with the teacher during small group instruction
- Students may choose a partner or teacher may choose a partner to work that student is comfortable with.
- Repeat and clarify any directions given.
- Allow for preferential seating within groups and the whole class.
- Modify amount of vocabulary words used
- Read word problems and directions aloud
- Daily review of facts, skip counting songs, etc.
- Use of manipulatives and real world examples
- Daily lesson Visual Learning Bridge (Envision) and Model with Math
- Envision Intervention kit / reteaching

ELL

- Teach vocabulary (Envision- My Word Cards)- equal groups, multiplication, factors, product, equation, unknown, number line, array, row, column, commutative property of multiplication, division, multiples, identity property of multiplication, zero property of multiplication, associative (grouping) property of multiplication, dividend, divisor, fact family, quotient, even, odd (use

visuals/anchor charts)

- Use visuals/visual learning videos/"Another Look" videos and the Animated glossary
- "Listen and Look For" when beginning the topic
- Envision reteach/intervention kit

Suggested Technological Innovations/Use

- IXL
- Xtra Math
- ST Math
- My Math Academy
- Kahoot!
- Tools (Envision 2020)
- Game Center (Envision 2020)
- Create/Complete a Discovery Education Board

Cross Curricular/21st Century Connections

- Pick a Project Activity
- Envision Stem Project
- Problem Solving Reading Activity
- 3 ACT MATH Activity: Page Through

Topic 6: Connect Area to Multiplication and Addition

Content Area: **Mathematics**
Course(s):
Time Period: **2nd Trimester**
Length: **7 days**
Status: **Published**

Summary of the Unit

In Lessons 6-1, 6-2, and 6-3 students count unit squares to find the areas of figures. This explicit focus on area as covering with unit squares helps students to build a strong understanding of area. In Lesson 6-5, students explicitly recognize that the area of rectangles can also be found using multiplication. Then, in Lesson 6-6, students learn that the area is additive. They find the area of a figure by breaking it into non overlapping parts and adding the areas of the parts. Students have previously used the Distributive Property to break apart as they learned multiplication facts. In Lesson 6-5, they use the same property in a different context to find the areas of rectangles by breaking them apart.

Enduring Understandings

- The amount of space inside a shape is its area, and area can be found or estimated using unit squares.
- Area can be measured using nonstandard units, including unit squares of different sizes.
- Standard measurement units are used for consistency in finding and communicating measurements.
- The amount of space inside a region is its area, and area can be found by counting unit squares or by multiplying the length sides.
- The areas of rectangles can be used to model the Distributive Property.
- The area of some irregular shapes can be found by dividing the original shape into rectangles, finding the area of each rectangle and adding all of the areas.
- Good math thinkers look for relationships in math to help solve problems.

Essential Questions

- How does area connect to multiplication and addition?
- How can you measure an area using non-standard units?
- How can you measure area using standard units of length?

- How can you find the area of a figure?
- How can the area of rectangles represent the Distributive Property?
- How can you find the area of an irregular shape?
- How can you use structure to solve problems?

Summative Assessment and/or Summative Criteria

Topic Test

Quick Checks

Performance Task

Resources

Pearson SuccessNet Math Series (digital and offline)

Math Notebook

ST Math online digital platform

Xtra Math online digital platform

IXL online digital platform

Discovery Education math resources

Brain Pop online digital platform

My Math Academy

K-5 Math Teaching Resources https://www.k-5mathteachingresources.com/

The Teaching Channel http://www.theteachingchannel.org

Unit Plan

Topic/Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/Assessments
6-1 Cover Regions (1 day)	SWBAT use unit squares to find the area of a shape.	Solve and Share: Students use unit squares to find the areas of two postcards set on grids with unit squares of different sizes. Visual Learning: How do you measure area? Convince Me: Students explain how they know that Karen is wrong in her assessment in the area of the red shape. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy"	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 6-1

		• "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL:Find the area of figures made of unit squares • IXL:Select figures with a given area Optional Activities: Problem-Solving Leveled EnVision STEM 6-1	
6-2 Area: Nonstandard Units	SWBAT use unit squares to find the area of a figure.	Solve and Share: Students use unit squares to find the area of two postcards. Visual Learning: How can you measure area using non-standard units? Convince Me: Students will use what they know about area and different units of measurement. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities:	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 6-2

		• teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Tile a rectangle and find the area Optional Activities: EnVision STEM	
6-3 Area: Standard Units (1 day)	SWBAT use standard units to measure the area of a shape.	Solve and Share: Students use what they have learned about rectangles and unit squares to draw a unit square with an area of 8 square units. Visual Learning: How can you measure area using standard units of length?	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment

		Convince Me: Students determine how many stickers would be needed to fill a box. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Create rectangles with a given area • IXL-Find the area of rectangles and squares	Additional Practice Quick Check 6-3

		• BrainPOP Jr.-Area Optional Activities: Problem-Solving Reading Mat and Activity BrainPOP Jr.-Area	
6-4 Area of Squares and Rectangles	SWBAT use unit squares and multiplication to find the area of squares and rectangles.	Solve and Share: Students use what they know about unit squares to find the area of a room. Visual Learning: How can you find the area of a figure? Convince Me: Students use their understanding of unit squares to find an area of Mike's living room. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 6-4

		Literacy” • “Enrichment” Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Find the area of rectangles: word problems Optional Activities: EnVision STEM	
6-5 Apply Properties: Area and the Distributive Property (1 day)	SWBAT use areas of rectangles to model the Distributive Property of Multiplication.	Solve and Share: Students use what they know about rectangles and area to find the area of a floor that is not covered by a rug. Visual Learning: How can the area of rectangles represent the Distributive Property? Convince Me: Students break up a 7 x 8 rectangle into smaller parts. Guided Practice: portion of “Guided Practice” for the whole group. Suggested center activities: • teacher led small group	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 6-5

		instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy Optional Activities: EnVision STEM	
6-6 Apply Properties: Area of Irregular Shapes (1 day)	SWBAT use areas of rectangles to find the area of irregular shapes.	Solve and Share: Students use what they know about rectangles and area to find the area of an irregularly shaped desk. Visual Learning: How can you find the shape of an irregular shape? Convince Me: Students discuss more than one way to	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 6-6

		get an area of a shape. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Find the area of complex figures by dividing them into rectangles • IXL-Find the area of complex figures	

		Optional Activities: EnVision STEM	
6-7 Look for and Use Structure (1 day)	SWBAT solve problems by breaking apart the problem into simpler problems.	Solve and Share: Students will use what they know to break a problem into smaller parts. Visual Learning: How can you use appropriate tools to represent and solve problems? Convince Me: Students discuss the use of alternate tools to solve the problem presented. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment"	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 6-7

		Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy Optional Activities: EnVision STEM	

Standards

MATH.3.M.B.3.a	A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.
MATH.3.M.B.3.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.
MATH.3.M.B.4	Measure areas by counting unit squares (square cm, square m, square in, square ft, and non-standard units).
MATH.3.M.B.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.
MATH.3.M.B.5.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.
MATH.3.M.B.5.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 $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.
MATH.3.M.B.5.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.

Suggested Modifications for Special Education, ELL and Gifted Students

Consistent with individual plans, when appropriate.

Gifted Learners

- Today's Challenge before each lesson
- Topic Performance Task Masters pg 36A
- Enrichment Sheet for each lesson

- Provide options, alternatives and choices to differentiate and broaden the curriculum
- Envision Enrichment printables
- Organize and offer flexible small group learning activities (Pick a Project- Envision)
- Use center, stations, or contract
- Organize integrated problem-solving simulations
- Propose interest-based extension activities

Special Education

- Alter assignment lengths if necessary.
- Allow additional time when in full class discussing for processing and discussion.
- Check for understanding by conferencing with the teacher during small group instruction
- Students may choose a partner or teacher may choose a partner to work that student is comfortable with.
- Repeat and clarify any directions given.
- Allow for preferential seating within groups and the whole class.
- Modify amount of vocabulary words used
- Read word problems and directions aloud
- Daily review of facts, skip counting songs, etc.
- Use of manipulatives and real world examples
- Daily lesson Visual Learning Bridge (Envision) and Model with Math
- Envision Intervention kit / reteaching

ELL

- Teach vocabulary (Envision- My Word Cards)- equal groups, multiplication, factors, product, equation, unknown, number line, array, row, column, commutative property of multiplication, division, multiples, identity property of multiplication, zero property of multiplication, associative (grouping) property of multiplication, dividend, divisor, fact family, quotient, even, odd (use visuals/anchor charts)
- Use visuals/visual learning videos/"Another Look" videos and the Animated glossary
- "Listen and Look For" when beginning the topic

- Envision reteach/intervention kit

Suggested Technological Innovations/Use

- IXL
- Xtra Math
- ST Math
- My Math Academy
- Kahoot!
- Tools (Envision 2020)
- Game Center (Envision 2020)
- Create/Complete a Discovery Education Board

Cross Curricular/21st Century Connections

- Pick a Project Activity
- Envision Stem Project
- Problem Solving Reading Activity
- 3 ACT MATH Activity: Page Through

Topic 7: Represent and Interpret Data

Content Area: **Mathematics**
Course(s):
Time Period: **2nd Trimester**
Length: **5 days**
Status: **Published**

Summary of the Unit

Topic 7 focuses on reading and making scaled picture graphs and scaled bar graphs that represent data sets that have several categories. Students also solve problems involving the data represented in the graphs. In these lessons, students read scaled picture graphs and bar graphs. When each picture or interval represents more than one unit, students can multiply by the scale to find the total. In these lessons, students solve one- and two step "how many more" or "how many less" problems using information represented in scaled picture graphs and scaled bar graphs.

Enduring Understandings

- Certain types of graphs are appropriate for certain kinds of data.
- Picture and bar graphs make it easy to compare data.
- The type of graph used is based on the data being presented.
- The key for a picture graph determines the number of pictures needed to represent the data.
- In a scaled bar, the scale determines how long each bar needs to be to represent every number in the data set.

Essential Questions

- How can data be represented, analyzed, and interpreted?
- How can you read a picture graph?
- How do you make picture graphs?
- How do you make a bar graph?
- How can you solve problems using graphs?
- How can you be precise when solving math problems?

Summative Assessment and/or Summative Criteria

Topic Test

Quick Checks

Performance Task

Resources

Pearson SuccessNet Math Series (digital and offline)

Math Notebook

ST Math online digital platform

Xtra Math online digital platform

IXL online digital platform

Discovery Education math resources

Brain Pop online digital platform

My Math Academy

K-5 Math Teaching Resources https://www.k-5mathteachingresources.com/

The Teaching Channel http://www.theteachingchannel.org

Unit Plan

Topic/Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/Assessments
7-1 Read Picture Graphs and Bar Graphs (1 day)	SWBAT use graphs to compare and interpret data.	Solve and Share: Students interpret the graph and describe the data being represented Visual Learning: How can you read picture graphs?	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach

		Convince Me: Students analyze a picture graph and share information. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • BrainPOP Jr.-Pictographs • BrainPOP Jr.-Bar	Build Mathematical Literacy Enrichment Additional Practice Quick Check 7-1

		Graphs • IXL-Data and Graphs(many to choose from) Optional Activities: EnVision STEM	
7-2 Make Picture Graphs (1 day)	SWBAT use frequency tables and picture graphs to compare and interpret data.	Solve and Share: Students interpret data from a frequency table and describe the data represented. Visual Learning: How can you make picture graphs? Convince Me: Students examine a graph and add to it. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 7-2

		Literacy” • “Enrichment” Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Create picture graphs Optional Activities: EnVision STEM	
7-3 Make a Bar Graph (1 day)	SWBAT use scaled bar graphs to represent data sets.	Solve and Share: Students use a data table to create a bar graph. Visual Learning: How can you make a bar graph? Convince Me: Students write new amounts for how much Greg saved on the graph. Guided Practice: portion of “Guided Practice” for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 7-3

		• additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Create bar graphs Optional Activities: EnVision STEM	
7-4 Solve Word Problems using Information in Graphs (1 day)	SWBAT use graphs to solve problems.	Solve and Share: Students interpret data in a bar graph and draw conclusions about that data to solve a problem. Visual Learning: How can you solve problems using graphs? Convince Me: Students discuss the use of alternate tools to solve the problem presented.	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 7-4

		Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL • Interpret picture graphs Optional Activities: EnVision STEM	
7-5 Problem Solving: Precision	SWBAT use words, symbols, and numbers to accurately and	Solve and Share: Students use words, symbols, and numbers to accurately and precisely	Guided Practice

(1 day)	precisely solve math problems.	solve problems. Visual Learning: How can you be precise when solving math problems? Convince Me: Students discuss the use of alternate way to solve the gift basket problem. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math	Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 7-5

		• Xtra Math • My Math Academy Optional Activities: EnVision STEM	

Standards

MATH.3.OA.A.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.
MATH.3.OA.D.8	Solve two-step word problems, including problems involving money, 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.
MATH.3.DL.A.1	Develop data-based questions and decide what data will answer the question. (e.g., "What size shoe does a 3rd grader wear?", "How many books does a 3rd grader read?")
MATH.3.DL.A.2	Collect student-centered data (e.g., collect data on students' favorite ice cream flavor) or use existing data to answer data-based questions.
MATH.3.DL.B.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.

Suggested Modifications for Special Education, ELL and Gifted Students

Consistent with individual plans, when appropriate.

Gifted Learners

- Today's Challenge before each lesson
- Topic Performance Task Masters pg 36A
- Enrichment Sheet for each lesson
- Provide options, alternatives and choices to differentiate and broaden the curriculum
- Envision Enrichment printables
- Organize and offer flexible small group learning activities (Pick a Project- Envision)
- Use center, stations, or contract
- Organize integrated problem-solving simulations

- Propose interest-based extension activities

Special Education

- Alter assignment lengths if necessary.
- Allow additional time when in full class discussing for processing and discussion.
- Check for understanding by conferencing with the teacher during small group instruction
- Students may choose a partner or teacher may choose a partner to work that student is comfortable with.
- Repeat and clarify any directions given.
- Allow for preferential seating within groups and the whole class.
- Modify amount of vocabulary words used
- Read word problems and directions aloud
- Daily review of facts, skip counting songs, etc.
- Use of manipulatives and real world examples
- Daily lesson Visual Learning Bridge (Envision) and Model with Math
- Envision Intervention kit / reteaching

ELL

- Teach vocabulary (Envision- My Word Cards)- equal groups, multiplication, factors, product, equation, unknown, number line, array, row, column, commutative property of multiplication, division, multiples, identity property of multiplication, zero property of multiplication, associative (grouping) property of multiplication, dividend, divisor, fact family, quotient, even, odd (use visuals/anchor charts)
- Use visuals/visual learning videos/"Another Look" videos and the Animated glossary
- "Listen and Look For" when beginning the topic
- Envision reteach/intervention kit

Suggested Technological Innovations/Use

- IXL
- Xtra Math

- ST Math
- My Math Academy
- Kahoot!
- Tools (Envision 2020)
- Game Center (Envision 2020)
- Create/Complete a Discovery Education Board

Cross Curricular/21st Century Connections

- Pick a Project Activity
- Envision Stem Project
- Problem Solving Reading Activity
- 3 ACT MATH Activity: Page Through

Topic 8: Use Strategies and Properties to Add and Subtract

Content Area: **Mathematics**
Course(s):
Time Period: **2nd Trimester**
Length: **8 days**
Status: **Published**

Summary of the Unit

Topic 8 focuses on using properties, patterns, and mental math to add and subtract within 1,000. The properties of addition (associative, commutative, and identity) are formally presented. Mental math, rounding, and estimating will be taught. Fluency with addition and subtraction will be developed, and strategies will be used to solve word problems.

Enduring Understandings

- Some real world problems that involve joining, separating, part-part whole, or comparing can be solved using addition.
- There are patterns in addition and verbalizing an understanding of them is important.
- There is more than one way to do mental math and/or solve a problem.
- Rounding whole numbers assists in determining the reasonableness of answers.
- Math thinkers choose and apply math they know to show and solve everyday problems.

Essential Questions

- How can sums and differences be estimated and found mentally?
- How can patterns and relationships on an addition table help solve problems with greater numbers?
- How does rounding help determine the reasonableness of an answer?
- What are some ways that math can be modeled to show understanding?
- How can you round to find multiples of 10 and 100?
- How can you solve multi step word problems?
- What are some of the ways to estimate a difference?

Summative Assessment and/or Summative Criteria

Topic Test

Quick Checks

Performance Task

Resources

Pearson SuccessNet Math Series (digital and offline)

Math Notebook

ST Math online digital platform

Xtra Math online digital platform

IXL online digital platform

Discovery Education math resources

Brain Pop online digital platform

My Math Academy

K-5 Math Teaching Resources https://www.k-5mathteachingresources.com/

The Teaching Channel http://www.theteachingchannel.org

Unit Plan

Topic/Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/Assessments
8-1 Addition Properties (1 day)	SWBAT solve real world problems using properties of addition.	Solve and Share: Students add sets of numbers in different orders and determine that their sums are the same. Visual Learning: What are	Guided Practice Independent Practice Problem Solving

		some properties of addition? Convince Me: Students choose a property of addition and explain how a number line can be used to show how the chosen property can be applied. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy	Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 8-1

		• IXL-Add using properties • IXL-Complete the equation using properties of addition • IXL-Properties of addition Optional Activities: EnVision STEM	
8-2 Algebra: Addition Patterns (1 day)	SWBAT identify patterns in the addition table and explain them using algebraic thinking.	Solve and Share: Students find sums in an addition table and find how each sum is related to another number. Visual Learning: How can you find addition patterns? Convince Me: Students discover a pattern and explain it. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving"	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 8-2

		• hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy Optional Activities: Problem-Solving Reading Activity	
8-3 Mental Math:Addition (1 day)	SWBAT use mental math to add.	Solve and Share: Students use their knowledge of place value with different mental math techniques to solve an addition problem. Visual Learning: How can you add with mental math? Convince Me: Students use two methods to break apart a 3-digit number into hundreds, tens, and ones to add mentally. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities:	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 8-3

		• teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy Optional Activities: EnVision STEM	
8-4 Mental Math:Subtraction (1 day)	SWBAT use mental math to subtract.	Solve and Share: Students use different mental math techniques to solve a problem involving addition and subtraction. Visual Learning: How can you subtract with mental math? Convince Me: Students decide on a plan as they subtract two	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 8-4

		numbers mentally. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy Optional Activities: EnVision STEM	
8-5 Round Whole Numbers (1 day)	SWBAT use place value and a number line to round numbers.	Solve and Share: Students use a number line to round a 3 digit number.	Guided Practice Independent Practice

		Visual Learning: How can you round numbers? Convince Me: Students find different numbers that round to 500. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • BrainPOP Jr.- Rounding	Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 8-5

		• IXL-Round to the nearest ten or hundred Optional Activities: Build Mathematical Literacy	
8-6 Estimate Sums (1 day)	SWBAT use rounding or compatible numbers to estimate a sum.	Solve and Share: Students choose a method for finding the sum of the mass of two bears without finding an exact answer. Visual Learning: How can you estimate sums? Convince Me: Students use place value as they consider two 3-digit numbers. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy"	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 8-6

		• "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Estimate sums by rounding: word problems • IXL-Estimate sums using compatible numbers • IXL-Estimate sums by rounding: up to 1,000 Optional Activities: Build Mathematical Literacy	
8-7 Estimate Differences (1 day)	SWBAT use rounding or compatible numbers to estimate a difference.	Solve and Share: Students estimate the difference between two 3-digit numbers. Visual Learning: How can you estimate differences? Convince Me: Students estimate how many people have not yet arrived at a concert. Guided Practice: portion of "Guided Practice" for the whole group.	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 8–7

		Suggested center activities: • teacher led small group instruction with differentiated groupings • additional “Guided Practice” • “Independent Practice” • “Problem solving” • hands on manipulatives • “Reteach to Build” • “Build Mathematical Literacy” • “Enrichment” Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Estimate differences by rounding: word problems • IXL-Estimate differences using compatible numbers • IXL-Estimate differences by rounding: up to 1,000 Optional Activities: EnVision STEM	

8-8 Model with Math (1 day)	SWBAT solve one-step and multi- step problems by modeling with math.	Solve and Share: Students use what they know about the relationship between addition and subtraction to model a multi-step problem with 3-digit numbers. Visual Learning: How can you model with math? Convince Me: Students explain how a bar diagram helps them model with math. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology:	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 8-8

		Optional Activities: • ST Math • Xtra Math • My Math Academy • BrainPOP-Multi-step problem Optional Activities: EnVision STEM	

Standards

MATH.3.OA.C.7	With accuracy and efficiency, multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
MATH.3.OA.D.8	Solve two-step word problems, including problems involving money, 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.
MATH.3.OA.D.9	Identify arithmetic patterns (including patterns in the addition table or multiplication table) and explain them using properties of operations.
MATH.3.NBT.A.1	Use place value understanding to round whole numbers to the nearest 10 or 100.
MATH.3.NBT.A.2	With accuracy and efficiency, add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

Suggested Modifications for Special Education, ELL and Gifted Students

Consistent with individual plans, when appropriate.

Gifted Learners

- Today's Challenge before each lesson
- Topic Performance Task Masters pg 36A
- Enrichment Sheet for each lesson
- Provide options, alternatives and choices to differentiate and broaden the curriculum
- Envision Enrichment printables

- Organize and offer flexible small group learning activities (Pick a Project- Envision)
- Use center, stations, or contract
- Organize integrated problem-solving simulations
- Propose interest-based extension activities

Special Education

- Alter assignment lengths if necessary.
- Allow additional time when in full class discussing for processing and discussion.
- Check for understanding by conferencing with the teacher during small group instruction
- Students may choose a partner or teacher may choose a partner to work that student is comfortable with.
- Repeat and clarify any directions given.
- Allow for preferential seating within groups and the whole class.
- Modify amount of vocabulary words used
- Read word problems and directions aloud
- Daily review of facts, skip counting songs, etc.
- Use of manipulatives and real world examples
- Daily lesson Visual Learning Bridge (Envision) and Model with Math
- Envision Intervention kit / reteaching

ELL

- Teach vocabulary (Envision- My Word Cards)- equal groups, multiplication, factors, product, equation, unknown, number line, array, row, column, commutative property of multiplication, division, multiples, identity property of multiplication, zero property of multiplication, associative (grouping) property of multiplication, dividend, divisor, fact family, quotient, even, odd (use visuals/anchor charts)
- Use visuals/visual learning videos/"Another Look" videos and the Animated glossary
- "Listen and Look For" when beginning the topic
- Envision reteach/intervention kit

Suggested Technological Innovations/Use

- IXL
- Xtra Math
- ST Math
- My Math Academy
- Kahoot!
- Tools (Envision 2020)
- Game Center (Envision 2020)
- Create/Complete a Discovery Education Board

Cross Curricular/21st Century Connections

- Pick a Project Activity
- Envision Stem Project
- Problem Solving Reading Activity
- 3 ACT MATH Activity: Page Through

Topic 9: Fluently Add and Subtract Within 100

Content Area: **Mathematics**
Course(s):
Time Period: **2nd Trimester**
Length: **7 days**
Status: **Published**

Summary of the Unit

Topic 9 focuses on fluency with adding and subtracting whole numbers within 1,000. Students use the partial sums strategy. They add like place values to find the partial sum, and then add the partial sums to find the final sum. Some of the strategies in Topic 9 are based on adding or subtracting values, one with ones, tens and tens, hundreds and hundreds. Students need a deep understanding regrouping with both addition and subtraction.

Enduring Understandings

- The expanded algorithm for adding 3 digit numbers breaks the addition problem into a series of easier problems based on place value.
- Answers to the simpler problems are then used to find the final sum.
- The process for regrouping and adding 3 digit numbers is an extension of the process for regrouping and adding 2-digit numbers.
- The addition of three or more numbers is an extension of adding two numbers.
- The expanded algorithm for subtracting 3 digit numbers breaks a larger subtraction problem into a series of easier problems based on place value.
- Answers to the simpler problems are then used to find the final difference.
- The process for regrouping and subtracting3 digit numbers is an extension of the process for regrouping and subtracting 2-digit numbers.
- There are a variety of strategies that can be used to add or subtraction 3 digit numbers.
- Good math thinkers use math to explain why they are right.

Essential Questions

- How can you break apart addition problems to solve?
- How can you use regrouping to solve addition problems?

- How can you add more than 2 numbers?
- How can you use partial differences to subtract?
- How can you use regrouping to solve subtraction problems?
- How can you use strategies to add or subtract?
- How can you construct an argument?

Summative Assessment and/or Summative Criteria

Topic Test

Quick Checks

Performance Task

Resources

Pearson SuccessNet Math Series (digital and offline)

Math Notebook

ST Math online digital platform

Xtra Math online digital platform

IXL online digital platform

Discovery Education math resources

Brain Pop online digital platform

My Math Academy

K-5 Math Teaching Resources https://www.k-5mathteachingresources.com/

The Teaching Channel http://www.theteachingchannel.org

Unit Plan

Topic/Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/Assessments
9-1 Use Partial Sums to Add (1 day)	SWBAT add two 3-digit numbers by breaking apart problems into simpler problems.	Solve and Share: Students use what they know about place value and breaking apart numbers to add 3 digit numbers. Visual Learning: How can you break apart addition problems to solve? Convince Me: Students critique reasoning by explaining how another student used partial sums. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment"	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 9-1

		Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Use number lines to add three-digit numbers Optional Activities: EnVision STEM	
9-2 Use Regrouping to Add (1 day)	SWBAT use regrouping to add 3 digit numbers.	Solve and Share: Students draw on what they have learned to solve a 3 digit addition problem. Visual Learning: How can you use regrouping to solve addition problems? Convince Me: Students model regrouping. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 9-2

		Practice” • “Independent Practice” • “Problem solving” • hands on manipulatives • “Reteach to Build” • “Build Mathematical Literacy” • “Enrichment” Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Add two numbers up to three digits: with regrouping Optional Activities: EnVision STEM BrainPOP Jr.-Adding with Regrouping	
9-3 Add 3 or More Numbers (1 day)	SWBAT add three or more numbers using addition strategies.	Solve and Share: Students use what they have learned about addition, multiplication and place value to solve a problem. Visual Learning: How can you add more than 2 numbers? Convince Me: Students use models, properties, or an equation that shows the	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 9-3

		solution. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Add two numbers up to three digits Optional Activities: EnVision STEM	

9-4 Use Partial Differences to Subtraction (1 day)	SWBAT subtract multi-digit numbers using the expanded algorithm.	Solve and Share: Students use what they have learned about place value to subtract multi digit numbers. Visual Learning: How can you use partial differences to subtract? Convince Me: Students explain how place value helps them solve problems. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities:	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 9-4

		• ST Math • Xtra Math • My Math Academy Optional Activities: EnVision STEM	
9-5 Use Regrouping to Subtract (1 day)	SWBAT use regrouping to subtract 3 digit numbers.	Solve and Share: Students use what they have learned about place value to add or subtract. Visual Learning: How can you use regrouping to solve subtraction problems? Convince Me: Students select and use a tool to show how to find 326-143. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 9-5

		Literacy” • “Enrichment” Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Subtract three-digit numbers: with regrouping Optional Activities: EnVision STEM	
9-6 Use Strategies to Add and Subtraction (1 day)	SWBAT use strategies to add or subtract 3 digit numbers with one or more zeros.	Solve and Share: Students use what they have learned about place value to add or subtract multi-digit numbers Visual Learning: How can you use strategies to add or subtract? Convince Me: Students use another tool to model the cell phone tower problem. Guided Practice: portion of “Guided Practice” for the whole group. Suggested center activities: • teacher led small group instruction with	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 9-6

		differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy Optional Activities: EnVision STEM	
9-7 Construct Arguments (1 day)	SWBAT use addition and subtraction to justify a conjecture.	Solve and Share: Students use what they know about addition to create addends with the greatest possible sum. Visual Learning: How can you construct arguments? Convince Me: Students think about how they would construct another math argument to justify the conjecture.	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 9-7

		Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy Optional Activities: EnVision STEM	

Standards

MATH.3.OA.C.7	With accuracy and efficiency, multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
MATH.3.OA.D.8	Solve two-step word problems, including problems involving money, 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.
MATH.3.NBT.A.2	With accuracy and efficiency, add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

Suggested Modifications for Special Education, ELL and Gifted Students

Consistent with individual plans, when appropriate.

Gifted Learners

- Today's Challenge before each lesson
- Topic Performance Task Masters pg 36A
- Enrichment Sheet for each lesson
- Provide options, alternatives and choices to differentiate and broaden the curriculum
- Envision Enrichment printables
- Organize and offer flexible small group learning activities (Pick a Project- Envision)
- Use center, stations, or contract
- Organize integrated problem-solving simulations
- Propose interest-based extension activities

Special Education

- Alter assignment lengths if necessary.
- Allow additional time when in full class discussing for processing and discussion.
- Check for understanding by conferencing with the teacher during small group instruction
- Students may choose a partner or teacher may choose a partner to work that student is comfortable with.
- Repeat and clarify any directions given.

- Allow for preferential seating within groups and the whole class.
- Modify amount of vocabulary words used
- Read word problems and directions aloud
- Daily review of facts, skip counting songs, etc.
- Use of manipulatives and real world examples
- Daily lesson Visual Learning Bridge (Envision) and Model with Math
- Envision Intervention kit / reteaching

ELL

- Teach vocabulary (Envision- My Word Cards)- equal groups, multiplication, factors, product, equation, unknown, number line, array, row, column, commutative property of multiplication, division, multiples, identity property of multiplication, zero property of multiplication, associative (grouping) property of multiplication, dividend, divisor, fact family, quotient, even, odd (use visuals/anchor charts)
- Use visuals/visual learning videos/"Another Look" videos and the Animated glossary
- "Listen and Look For" when beginning the topic
- Envision reteach/intervention kit

Suggested Technological Innovations/Use

- IXL
- Xtra Math
- ST Math
- My Math Academy
- Kahoot!
- Tools (Envision 2020)
- Game Center (Envision 2020)
- Create/Complete a Discovery Education Board

Cross Curricular/21st Century Connections

- Pick a Project Activity
- Envision Stem Project
- Problem Solving Reading Activity
- 3 ACT MATH Activity: Page Through

Topic 10: Multiply by Multiples of 10

Content Area: **Mathematics**
Course(s):
Time Period: **2nd Trimester**
Length: **3 days**
Status: **Published**

Summary of the Unit

Topic 10 focuses on using place-value patterns and properties of operations to multiply 1-digit numbers by multiples of 10. Students use place-value blocks to discern patterns when multiplying by multiples of 10. It is foundational to the various strategies used in this topic for students to see a multiple of 10, such as 80, as 8 tens, or 8 x 10.

Enduring Understandings

- Patterns can be used to find products when one factor is a multiple of 10.
- Different strategies can be used to find products when one factor is a multiple of 10.
- Basic multiplication facts and protopies of multiplication can be used to find products when one factor is a multiple of 10.
- Good math thinkers look for relationships in math to help solve problems.

Essential Questions

- How can you use patterns to multiply?
- How can place value help you use mental math to multiply by a multiple of 10?
- How can you use properties to multiply by multiples of 10?
- How can I use structure to multiply with multiples of 10?

Summative Assessment and/or Summative Criteria

Topic Test

Quick Checks

Performance Task

Resources

Pearson SuccessNet Math Series (digital and offline)

Math Notebook

ST Math online digital platform

Xtra Math online digital platform

IXL online digital platform

Discovery Education math resources

Brain Pop online digital platform

My Math Academy

K-5 Math Teaching Resources https://www.k-5mathteachingresources.com/

The Teaching Channel http://www.theteachingchannel.org

Unit Plan

Topic/Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/Assessments
10-1 Use Patterns to Multiply (1 day)	SWBAT use patterns to find products when one factor is a multiple of 10.	Solve and Share: Students use patterns to find products when one factor is a multiple of 10. Visual Learning: How can you use patterns to multiply? Convince Me: Students use place-value patterns to find the product of a different multiple of 10.	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 10-1

		Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-multiply by 10 Optional Activities: EnVision STEM	
10-2 Use Mental Math to Multiply (1 day)	SWBAT use different strategies to find products when one factor is a multiple of 10.	Solve and Share: Students use what they have learned about basic multiplication facts to multiply by multiples of 10.	Guided Practice Independent Practice Problem Solving

		Visual Learning: How can place value help you use mental math to multiply by a multiple of 10. Convince Me: Students use the Associative Property of multiplication to multiply a 1-digit number by the multiple of 10. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math	Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 10-2

		• Xtra Math • My Math Academy • IXL-IXL-multiply by a multiple of 10 Optional Activities: EnVision STEM	
10-3 Use Properties to Multiply (1 day)	SWBAT use the properties of multiplication to find products when one factor is a multiple of 10.	Solve and Share: Students use basic facts and properties of multiplication to find products when one of the factors is a multiple of 10. Visual Learning: How can use properties to multiply by multiples of 10? Convince Me: Students use properties of multiplication to explain why 3 x 60 = 18 x 10. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving"	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 10-3

		• hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy Optional Activities: EnVision STEM	
10-4 Look For and Use Structure (1 day) Optional Only if needed	SWBAT use the structure of multiplication and place value to find products when one factor is a multiple of 10.	Solve and Share: Students look for and use the structure of place value. Visual Learning: How can you use structure to multiply with multiples of 10? Convince Me: Students discuss the use of alternate tools to solve the problem presented. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 10-4

		instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy Optional Activities: EnVision STEM	

Standards

MATH.3.OA.A.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.
MATH.3.OA.B.5	Apply properties of operations as strategies to multiply and divide.
MATH.3.OA.D.8	Solve two-step word problems, including problems involving money, 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.
MATH.3.OA.D.9	Identify arithmetic patterns (including patterns in the addition table or multiplication table) and explain them using properties of operations.

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

Suggested Modifications for Special Education, ELL and Gifted Students

Consistent with individual plans, when appropriate.

Gifted Learners

- Today's Challenge before each lesson
- Topic Performance Task Masters pg 36A
- Enrichment Sheet for each lesson
- Provide options, alternatives and choices to differentiate and broaden the curriculum
- Envision Enrichment printables
- Organize and offer flexible small group learning activities (Pick a Project- Envision)
- Use center, stations, or contract
- Organize integrated problem-solving simulations
- Propose interest-based extension activities

Special Education

- Alter assignment lengths if necessary.
- Allow additional time when in full class discussing for processing and discussion.
- Check for understanding by conferencing with the teacher during small group instruction
- Students may choose a partner or teacher may choose a partner to work that student is comfortable with.
- Repeat and clarify any directions given.
- Allow for preferential seating within groups and the whole class.
- Modify amount of vocabulary words used
- Read word problems and directions aloud
- Daily review of facts, skip counting songs, etc.
- Use of manipulatives and real world examples
- Daily lesson Visual Learning Bridge (Envision) and Model with Math

- Envision Intervention kit / reteaching

ELL

- Teach vocabulary (Envision- My Word Cards)- equal groups, multiplication, factors, product, equation, unknown, number line, array, row, column, commutative property of multiplication, division, multiples, identity property of multiplication, zero property of multiplication, associative (grouping) property of multiplication, dividend, divisor, fact family, quotient, even, odd (use visuals/anchor charts)
- Use visuals/visual learning videos/"Another Look" videos and the Animated glossary
- "Listen and Look For" when beginning the topic
- Envision reteach/intervention kit

Suggested Technological Innovations/Use

- IXL
- Xtra Math
- ST Math
- My Math Academy
- Kahoot!
- Tools (Envision 2020)
- Game Center (Envision 2020)
- Create/Complete a Discovery Education Board

Cross Curricular/21st Century Connections

- Pick a Project Activity
- Envision Stem Project
- Problem Solving Reading Activity
- 3 ACT MATH Activity: Page Through

Topic 11: Use Operations with Whole Numbers to Solve Problems

Content Area: **Sample Content Area**
Course(s):
Time Period: **2nd Trimester**
Length: **4 days**
Status: **Published**

Summary of the Unit

Topic 11 focuses on how to solve two-step word problems involving addition, subtraction, multiplication and division of whole numbers. Students begin to use formal algebraic language by using letters to represent unknown quantities in a problem. When solving two-step problems, students use one letter to represent the answer to a hidden question. As students interpret word problems, they need to draw on the various meanings of the operations to help them determine which operations they should use to solve the problem.

Enduring Understandings

- Bar diagrams show relationships in a two-step word problem and help identify the operation or operations needed to solve the problem.
- The way quantities in a two-step problem are related determines the operations used to solve the problem. Equations show these relationships.
- Good man thinkers use math to explain why they are right. They can also talk about the math that others do.

Essential Questions

- How can you use diagrams to solve two-step problems?
- How can you solve two-step problems?
- How can you critique the reasoning of others?

Summative Assessment and/or Summative Criteria

Topic Test

Quick Checks

Performance Task

Resources

Pearson SuccessNet Math Series (digital and offline)

Math Notebook

ST Math online digital platform

Xtra Math online digital platform

IXL online digital platform

Discovery Education math resources

Brain Pop online digital platform

My Math Academy

K-5 Math Teaching Resources https://www.k-5mathteachingresources.com/

The Teaching Channel http://www.theteachingchannel.org

Unit Plan

Topic/Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/Assessments
11-1 Solve 2-Step Word Problems:Addition and Subtraction (1 day)	SWBAT draw diagrams and write equations to solve two-step problems, involving addition and subtraction of whole numbers.	Solve and Share: Students use bar diagrams, questions, and information from a table to solve a two-step word problem. Visual Learning: How can you use diagrams to solve 2-step problems?	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice

		Convince Me: Students explain why an estimate is not reasonable. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Two-step addition and subtraction word problems	Quick Check 11-1

		Optional Activities: EnVision STEM	
11-2 Solve 2-Step Word Problems: Multiplication and Division (1 day)	SWBAT draw diagrams and write equations to solve two-step problems involving multiplication and division of whole numbers.	Solve and Share: Students use bar diagrams and equations to solve a two-step multiplication and division problems. Visual Learning: How can you use diagrams to solve 2 -step problems? Convince Me: Students solve a problem about baseball tournament. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment"	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 11-2

		Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Two-step multiplication and division word problems Optional Activities: EnVision STEM	
11-3 Solve 2-Step Word Problems (1 day)	SWBAT examine relationships between quantities in a two-step word problem by writing equations.	Solve and Share: Students solve two-step multiplication and addition problems. Visual Learning: How can you solve 2-step problems? Convince Me: Students explain how a similar two-step problem is different from the previous two-step problem. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 11-3

		Practice” • “Independent Practice” • “Problem solving” • hands on manipulatives • “Reteach to Build” • “Build Mathematical Literacy” • “Enrichment” Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Two-step mixed operation word problems Optional Activities: EnVision STEM	
11-4 Critique Reasoning (1 day)	SWBAT critique the reasoning of others by asking questions, identifying mistakes, and providing suggestions for improvement.	Solve and Share: Students critique the reasoning of another student and explain the answer. Visual Learning: How can you critique the reasoning of others? Convince Me: Students critique another person’s thinking.	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 11-4

		Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXLTwo-step word problems: identify reasonable answers Optional Activities: EnVision STEM	

Standards

MATH.3.OA.C.7	With accuracy and efficiency, multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
MATH.3.OA.D.8	Solve two-step word problems, including problems involving money, 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.
MATH.3.NBT.A.2	With accuracy and efficiency, add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
MATH.3.DL.B.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.

Suggested Modifications for Special Education, ELL and Gifted Students

Consistent with individual plans, when appropriate.

Gifted Learners

- Today's Challenge before each lesson
- Topic Performance Task Masters pg 36A
- Enrichment Sheet for each lesson
- Provide options, alternatives and choices to differentiate and broaden the curriculum
- Envision Enrichment printables
- Organize and offer flexible small group learning activities (Pick a Project- Envision)
- Use center, stations, or contract
- Organize integrated problem-solving simulations
- Propose interest-based extension activities

Special Education

- Alter assignment lengths if necessary.
- Allow additional time when in full class discussing for processing and discussion.
- Check for understanding by conferencing with the teacher during small group instruction
- Students may choose a partner or teacher may choose a partner to work that student is comfortable

with.

- Repeat and clarify any directions given.
- Allow for preferential seating within groups and the whole class.
- Modify amount of vocabulary words used
- Read word problems and directions aloud
- Daily review of facts, skip counting songs, etc.
- Use of manipulatives and real world examples
- Daily lesson Visual Learning Bridge (Envision) and Model with Math
- Envision Intervention kit / reteaching

ELL

- Teach vocabulary (Envision- My Word Cards)- equal groups, multiplication, factors, product, equation, unknown, number line, array, row, column, commutative property of multiplication, division, multiples, identity property of multiplication, zero property of multiplication, associative (grouping) property of multiplication, dividend, divisor, fact family, quotient, even, odd (use visuals/anchor charts)
- Use visuals/visual learning videos/"Another Look" videos and the Animated glossary
- "Listen and Look For" when beginning the topic
- Envision reteach/intervention kit

Suggested Technological Innovations/Use

- IXL
- Xtra Math
- ST Math
- My Math Academy
- Kahoot!
- Tools (Envision 2020)
- Game Center (Envision 2020)
- Create/Complete a Discovery Education Board

Cross Curricular/21st Century Connections

- Pick a Project Activity
- Envision Stem Project
- Problem Solving Reading Activity
- 3 ACT MATH Activity: Page Through

Topic 12: Understand Fractions as Numbers

Content Area: **Mathematics**
Course(s):
Time Period: **3rd Trimester**
Length: **8 days**
Status: **Published**

Summary of the Unit

Topic 12 focuses on understanding that fractions are numbers that can represent a portion of a whole or point on the number line. The work in this topic also includes measuring lengths to the nearest half inch or fourth inch and showing the data on a line plot. Topic 12 is intended to develop a strong conceptual understanding of fractions as numbers. At the core is an understanding that a unit fraction is the quantity formed by a 1 part when a whole is partitioned into equal parts. When the whole is a region, one part is a region. When the whole is the distance from 0 to 1 on a number line, one part is a length.

Enduring Understandings

- A unit fraction represents one part of a whole that has been divided into equal parts.
- A fraction can represent multiple copies of a unit fraction.
- The whole can be found given a fractional part.
- Points on a number line can represent fractions.
- The denominator represents the number of equal parts between 0 and 1.
- The numerator represents the number of parts between 0 and the point.
- A number line can represent fractions greater than one.
- A line plot is a way to organize data on a number line.
- Good math thinkers make sense of problems and think of ways to solve them.

Essential Questions

- How can you name the equal parts of a whole?
- How can you show and name parts of a region?
- How can you use a fractional part to find the whole?
- How can you record fractions on a number line?

- How can you use a number line to represent fractions greater than one?
- How can you measure lengths and use line plots to show the data?
- How can you use and make line plots?
- How can you make sense of a problem and persevere in solving it?

Summative Assessment and/or Summative Criteria

Topic Test

Quick Checks

Performance Task

Resources

Pearson SuccessNet Math Series (digital and offline)

Math Notebook

ST Math online digital platform

Xtra Math online digital platform

IXL online digital platform

Discovery Education math resources

Brain Pop online digital platform

My Math Academy

K-5 Math Teaching Resources https://www.k-5mathteachingresources.com/

The Teaching Channel http://www.theteachingchannel.org

Unit Plan

Topic/Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/Assessments

12-1 Partition Regions into Equal Parts (1 day)	SWBAT understand how to read and write unit fractions for equal sized parts of a region.	Solve and Share: Students use what they learned about unit squares and area to divide two equal sized regions each into six equal parts. Visual Learning: How can you name equal parts of a whole? Convince Me: Students critique the reasoning of two other students who examine the difference data. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology:	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 12-1

		Optional Activities: • ST Math • Xtra Math • My Math Academy • BrainPOP Jr.-Parts of a Whole • IXL-Identify equal parts • IXL-Make halves, thirds, and fourths Optional Activities: EnVision STEM	
12-2 Fractions and Regions (1 day)	SWBAT use a fraction to represent multiple copies of a unit fraction.	Solve and Share: Students use their understanding of fractions to create models that show a region divided into 4 equal parts. Visual Learning: How can you show and name parts of a region? Convince Me: Students show that a fraction of a whole pie remains in parts. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 12-2

		groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Match fractions to models Optional Activities: EnVision STEM	
12-3 Understand the Whole (1 day)	SWBAT determine and draw the whole (unit) given one part of a unit fraction,	Solve and Share: Students use their understanding of parts of a whole to create the whole. Visual Learning: How can you use a fractional part to find the whole? Convince Me: Students can reason that the fractional part of the whole determines the	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 12-3

		size of the whole. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Understand fractions: fraction bars Optional Activities: EnVision STEM	

12-4 Number Line: Fractions Less than 1	SWBAT represent fractions less than 1 on a number line.	Solve and Share: Students use what they know about fractions and the whole to show where fractions are located on a number line. Visual Learning: How can you record fractions on a number line? Convince Me: Students compare the fraction ¼ located on two different number lines. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology:	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 12-4

		Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Identify unit fractions on number lines • IXL-Identify fractions on number lines Optional Activities: EnVision STEM	
12-5 Number Line: Fractions Greater Than 1 (1 day)	SWBAT represent fractions greater than one on a number line.	Solve and Share: Students use what they know about fractions and the whole to show how to fold strips of paper to create four halves. Visual Learning: How can you use a number line to represent fractions greater than 1? Convince Me: Students use a number of equal parts and given fraction on a number line to help them name the missing fraction on the number line. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 12-5

		groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • BrainPOP Jr.-Mixed Fractions • IXL-Graph fractions equivalent to 1 on number lines Optional Activities: EnVision STEM	
12-6 Line Plots and Lengths (1 day)	SWBAT measure length to the nearest half inch and show the data on a line plot.	Solve and Share: Students use what they have learned about fractions to measure the length of objects and record the data using a line plot. Visual Learning: How can you measure lengths and use line plots to show the data?	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment

		Convince Me: Students explain how the line plot changes when an additional measurement of 4 ½ inches is recorded. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Graph and compare fractions with	Additional Practice Quick Check 12-6

		like denominators on number lines Optional Activities: EnVision STEM	
12-7 More Line Plots and Length (1 day)	SWBAT measure length to the nearest fourth inch and show the data on a line plot.	Solve and Share: Students use what they have learned about fractions to measure length to the nearest fourth inch and record the data by marking dots on the line plot. Visual Learning: How can you make and use line plots? Convince Me: Students analyze a different line plot and then tell three different things about data. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 12-7

		Literacy” • “Enrichment” Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy Optional Activities: EnVision STEM	
12-8 Make Sense and Persevere (1 day)	SWBAT determine when a problem has either extra or missing information	Solve and Share: Students use what they know about fractions and making sense of problems to determine if the given problem has missing or extra information. Visual Learning: How can you make sense of a problem and persevere in solving it? Convince Me: Students explain how they can check to make sure an answer is correct. Guided Practice: portion of “Guided Practice” for the whole group. Suggested center activities: • teacher led small group instruction with differentiated	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 12-8

		groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy Optional Activities: EnVision STEM	

Standards

MATH.3.NF.A.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 $1/b$.
MATH.3.NF.A.2.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.
MATH.3.NF.A.2.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.
MATH.3.NF.A.3.c	Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers.
MATH.3.M.B.4	Measure areas by counting unit squares (square cm, square m, square in, square ft, and non-standard units).

MATH.3.G.A.2	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.

Suggested Modifications for Special Education, ELL and Gifted Students

Consistent with individual plans, when appropriate.

Gifted Learners

- Today's Challenge before each lesson
- Topic Performance Task Masters pg 36A
- Enrichment Sheet for each lesson
- Provide options, alternatives and choices to differentiate and broaden the curriculum
- Envision Enrichment printables
- Organize and offer flexible small group learning activities (Pick a Project- Envision)
- Use center, stations, or contract
- Organize integrated problem-solving simulations
- Propose interest-based extension activities

Special Education

- Alter assignment lengths if necessary.
- Allow additional time when in full class discussing for processing and discussion.
- Check for understanding by conferencing with the teacher during small group instruction
- Students may choose a partner or teacher may choose a partner to work that student is comfortable with.
- Repeat and clarify any directions given.
- Allow for preferential seating within groups and the whole class.
- Modify amount of vocabulary words used
- Read word problems and directions aloud
- Daily review of facts, skip counting songs, etc.
- Use of manipulatives and real world examples
- Daily lesson Visual Learning Bridge (Envision) and Model with Math

- Envision Intervention kit / reteaching

ELL

- Teach vocabulary (Envision- My Word Cards)- equal groups, multiplication, factors, product, equation, unknown, number line, array, row, column, commutative property of multiplication, division, multiples, identity property of multiplication, zero property of multiplication, associative (grouping) property of multiplication, dividend, divisor, fact family, quotient, even, odd (use visuals/anchor charts)
- Use visuals/visual learning videos/"Another Look" videos and the Animated glossary
- "Listen and Look For" when beginning the topic
- Envision reteach/intervention kit

Suggested Technological Innovations/Use

- IXL
- Xtra Math
- ST Math
- My Math Academy
- Kahoot!
- Tools (Envision 2020)
- Game Center (Envision 2020)
- Create/Complete a Discovery Education Board

Cross Curricular/21st Century Connections

- Pick a Project Activity
- Envision Stem Project
- Problem Solving Reading Activity
- 3 ACT MATH Activity: Page Through

Topic 13: Fraction Equivalence and Comparison

Content Area: **Mathematics**
Course(s):
Time Period: **3rd Trimester**
Length: **8 days**
Status: **Published**

Summary of the Unit

Topic 13 focuses on using models and number sense to understand fraction equivalence and comparison. The general notion of equivalence is an important concept at all levels of mathematics. Equivalent numbers or expressions represent the same amount. The same is true of fractions. Fractions are equivalent when they represent the same amount of a partitioned region or the same distance on a number line. Students often have misconceptions about equivalence. Models can show why two fractions can be equal, even if their numerators and denominators are not the same.

Enduring Understandings

- The same fractional amount can be represented by an infinite set of different but equivalent fractions.
- There are a limitless number of fraction names for each point on a number line.
- These points can be used to name equivalent fractions.
- If two fractions have the same denominator, the fraction with the greater numerator is the greater fraction.
- If two fractions have the same numerator, the fraction with the greater denominator is less than the other fraction.
- Benchmark numbers such as 0, ½, and 1 can be used to compare fractions.
- You can use a number line to compare fractions.
- Whole fractions can be represented by many different fraction names.
- Good math thinkers use math to explain why they are right. They also talk about the math that others do.

Essential Questions

- What are different ways to compare fractions?
- How can different fractions name the same part of a whole?

- How can you use number lines to find equivalent fractions?
- How can you compare fractions with the same denominator?
- How can you compare fractions with the same numerator?
- How can benchmark numbers be used to compare fractions?
- How can you use a number line to compare fractions?
- How can you use fraction names to represent whole numbers?
- How can you construct arguments?

Summative Assessment and/or Summative Criteria

Topic Test

Quick Checks

Performance Task

Resources

Pearson SuccessNet Math Series (digital and offline)

Math Notebook

ST Math online digital platform

Xtra Math online digital platform

IXL online digital platform

Discovery Education math resources

Brain Pop online digital platform

My Math Academy

K-5 Math Teaching Resources https://www.k-5mathteachingresources.com/

The Teaching Channel http://www.theteachingchannel.org

Unit Plan

Topic/Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/Assessments
13- 1 Equivalent Fractions:Use Models (1 day)	SWBAT find equivalent fractions that name the same pa rt of the whole.	Solve and Share: Students use what they know about fractions to create a representation of an equivalent fraction. Visual Learning: How can different fractions name the same part of a whole? Convince Me: Students will use fraction strips to visualize fractions. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 13-1

		Literacy” • “Enrichment” Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Compare fractions using models Optional Activities: EnVision STEM	
13-2 Equivalent Fractions Use the Number Line (1 day)	SWBAT represent equivalent fractions on a number line.	Solve and Share: Students use what they know about number lines and fractions to find equivalent fractions. Visual Learning: How can you use number lines to find equivalent fractions? Convince Me: Students use models of equivalent fractions to visualize them. Guided Practice: portion of “Guided Practice” for the whole group. Suggested center activities: • teacher led small group instruction with differentiated	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 13-2

		groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Graph and order fractions on number lines Optional Activities: EnVision STEM	
13-3 Use Models to Compare Fractions: Same Denominator (1 day)	SWBAT use models such as fraction strips to compare fractions that refer to the same whole and have the same denominator.	Solve and Share: Students use quantitative reasoning and models such as fraction strips to compare two fractions that have the same denominator. Visual Learning: How can you compare fractions with the same denominator? Convince Me: Students will	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 13-3

		draw fraction strips to show if two fractions have the same denominator. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Compare fractions using models • IXL-Compare fractions	

		Optional Activities: EnVision STEM	
13-4 Use Models to Compare Fractions:Same Numerator (1 day)	SWBAT use models such as a fraction strip to compare fractions that refer to the same whole and have the same numerator.	Solve and Share: Students use quantitative reasoning and models such as fraction strips to compare fractions that have the same numerator. Visual Learning: How can you compare fractions with the same numerator? Convince Me: Students explain why Julia's reasoning and comparison of two fractions is incorrect. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment"	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 13-4

		Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • BrainPOP Jr.- Equivalent Fractions • IXL-Order fractions with like numerators Optional Activities: EnVision STEM	
13-5 Compare Fractions: Use Benchmarks (1 day)	SWBAT use benchmark numbers to compare fractions.	Solve and Share: Students use benchmark numbers to determine which fractions are closer to 0 than to 1. Visual Learning: How can benchmark numbers be used to compare fractions? Convince Me: Students explain why Candice's reasoning is incorrect. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 13-5

		groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy Optional Activities: EnVision STEM	
13-6 Compare Fractions: Use the Number Line (1 day)	SWBAT use the number line to compare fractions.	Solve and Share: Students use what they know about number lines and fractions to locate and compare fractions on a number line. Visual Learning: How can you compare fractions using the number line? Convince Me: Students use the number line to compare another length of ribbon to the other ribbons.	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 13-6

		Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy Optional Activities: EnVision STEM	
13-7 Whole Numbers and Fractions (1 day)	SWBAT use fraction names to represent whole numbers.	Solve and Share: Students apply what they've learned about equivalencies as they represent whole numbers with equivalent fraction names.	Guided Practice Independent Practice Problem Solving

		Visual Learning: How can you use fraction names to represent whole numbers? Convince Me: Students find equivalent fraction names for the number 4. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy	Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 13-7

		• BrainPOP Jr.-More Fractions Optional Activities: EnVision STEM	
13-8 Problem Solving:Construct Arguments (1 day)	SWBAT construct math arguments using fractions.	Solve and Share: Students use what they know to name two equivalent fractions and construct a math argument to support their answer. Visual Learning: How can you construct an argument? Convince Me: Students construct another math argument using numbers to justify the conjecture given in Box A. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build"	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 13-8

		• "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy Optional Activities: EnVision STEM	

Standards

MATH.3.NF.A.3.a	Understand two fractions as equivalent (equal) if they are the same size. Understand two fractions as equivalent if they are located at the same point on a number line.
MATH.3.NF.A.3.b	Recognize and generate simple equivalent fractions by reasoning about their size, (e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent with the support of a visual fraction model.
MATH.3.NF.A.3.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 with the support of a visual fraction model.

Suggested Modifications for Special Education, ELL and Gifted Students

Consistent with individual plans, when appropriate.

Gifted Learners

- Today's Challenge before each lesson
- Topic Performance Task Masters pg 36A
- Enrichment Sheet for each lesson
- Provide options, alternatives and choices to differentiate and broaden the curriculum

- Envision Enrichment printables
- Organize and offer flexible small group learning activities (Pick a Project- Envision)
- Use center, stations, or contract
- Organize integrated problem-solving simulations
- Propose interest-based extension activities

Special Education

- Alter assignment lengths if necessary.
- Allow additional time when in full class discussing for processing and discussion.
- Check for understanding by conferencing with the teacher during small group instruction
- Students may choose a partner or teacher may choose a partner to work that student is comfortable with.
- Repeat and clarify any directions given.
- Allow for preferential seating within groups and the whole class.
- Modify amount of vocabulary words used
- Read word problems and directions aloud
- Daily review of facts, skip counting songs, etc.
- Use of manipulatives and real world examples
- Daily lesson Visual Learning Bridge (Envision) and Model with Math
- Envision Intervention kit / reteaching

ELL

- Teach vocabulary (Envision- My Word Cards)- equal groups, multiplication, factors, product, equation, unknown, number line, array, row, column, commutative property of multiplication, division, multiples, identity property of multiplication, zero property of multiplication, associative (grouping) property of multiplication, dividend, divisor, fact family, quotient, even, odd (use visuals/anchor charts)
- Use visuals/visual learning videos/"Another Look" videos and the Animated glossary
- "Listen and Look For" when beginning the topic
- Envision reteach/intervention kit

Suggested Technological Innovations/Use

- IXL
- Xtra Math
- ST Math
- My Math Academy
- Kahoot!
- Tools (Envision 2020)
- Game Center (Envision 2020)
- Create/Complete a Discovery Education Board

Cross Curricular/21st Century Connections

- Pick a Project Activity
- Envision Stem Project
- Problem Solving Reading Activity
- 3 ACT MATH Activity: Page Through

Topic 14: Solve Time, Capacity, and Mass Problems

Content Area: **Mathematics**
Course(s):
Time Period: **3rd Trimester**
Length: **9 days**
Status: **Published**

Summary of the Unit

Topic 14 focuses on extending students' understanding of time and solving problems involving estimation and measurement of time intervals, liquid volume (capacity), and mass. Students tell time on an analog clock to the nearest minute. They learn to first consider the hour hand, and then the minute hand. Students use counting up as a strategy to find elapsed time and hours. Students need to understand that liquid volume is the amount of liquid a container can hold. Mass is a measure of the amount of matter in an object. Although mass does not change on different planets, weight does change.

Enduring Understandings

- Clocks can be used to tell time to the nearest minute.
- Elapsed time can be found by finding the total amount of time that has passed between a starting time and an ending time.
- TIme intervals can be added or subtracted to solve problems.
- Benchmarks can be used to estimate capacity.
- Capacity is a measure of the amount of liquid a container can hold.
- Mass is a measure of the quantity of matter in an object.
- Mass is a measure of the quantity of matter in an object.
- Problems involving mass and volume can often be solved with a picture or a diagram.
- Good math thinkers know how to think about words and numbers to solve problems.

Essential Questions

- How do you tell time to the nearest minute?
- How can you find elapsed time?
- How can you add or subtract time intervals?

- How do you estimate capacity?
- How do you measure capacity?
- How can you use reasoning to estimate mass?
- How do you measure mass?
- How can you solve problems involving mass and liquid volume?
- How can you use reasoning to solve problems?

Summative Assessment and/or Summative Criteria

Topic Test

Quick Checks

Performance Task

Resources

Pearson SuccessNet Math Series (digital and offline)

Math Notebook

ST Math online digital platform

Xtra Math online digital platform

IXL online digital platform

Discovery Education math resources

Brain Pop online digital platform

My Math Academy

K-5 Math Teaching Resources https://www.k-5mathteachingresources.com/

The Teaching Channel http://www.theteachingchannel.org

Unit Plan

Topic/Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/Assessments
14-1 Time to the Minute (1 day)	SWBAT show and tell time to the nearest minute using analog and digital clocks.	Solve and Share: Students tell time to the hour, half hour, and 5 minutes on analog clock faces. Visual Learning: How can you tell time to the nearest minute? Convince Me: Students write arrival time of a train in digital form as well as two other ways using words and numbers. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 14-1

		Mathematical Literacy” • “Enrichment” Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • BrainPOP Jr.-Parts of a Clock • BrainPOP Jr.-Time to the Minute Optional Activities: EnVision STEM	
14-2 Units of Time: Measure Elapsed Time (1 day)	SWBAT tell and write time to the nearest minute and measure time intervals in minutes.	Solve and Share: Students use their understanding of measuring time by using clock faces to determine elapsed time. Visual Learning: How can you find elapsed time? Convince Me: Students learn to measure elapsed time. Guided Practice: portion of “Guided Practice” for the whole group. Suggested center activities:	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 14-2

		• teacher led small group instruction with differentiated groupings • additional “Guided Practice” • “Independent Practice” • “Problem solving” • hands on manipulatives • “Reteach to Build” • “Build Mathematical Literacy” • “Enrichment” Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • BrainPOP Jr.-Elapsed Time • BrainPOP-Elapsed TIme • IXL-Find the elapsed time Optional Activities: EnVision STEM	
14-3 Units of Time: solve Word Problems	SWBAT solve word problems involving addition and subtraction to	Solve and Share: Students extend their understanding of units of time using number lines, bar diagrams,	Guided Practice Independent Practice

(1 day)	measure quantities of time.	or tables to measure quantities of time. Visual Learning: How can you Convince Me: Students Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math	Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 14-3

		• Xtra Math • My Math Academy • IXL-Find the elapsed time: word problems Optional Activities: EnVision STEM	
14-4 Estimate Liquid Volume (1 day)	SWBAT use standard units to estimate liquid volume.	Solve and Share: Students use what they know about estimating to measure the capacity of a container. Visual Learning: How do you estimate capacity? Convince Me: Students consider what the number of half liters would be for the capacity of the pail. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 14-4

		manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • BrainPOP Jr.- Milliliters and Liters Optional Activities: EnVision STEM	
14-5 Measure Liquid Volume (1 day)	SWBAT use standard units to measure liquid volume.	Solve and Share: Students use what they know about estimating capacity to measure the capacity of several containers. Visual Learning: How do you measure capacity? Convince Me: Students consider alternatives ways to measure capacity. Guided Practice: portion of "Guided Practice" for the whole group.	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 14-5

		Suggested center activities: • teacher led small group instruction with differentiated groupings • additional “Guided Practice” • “Independent Practice” • “Problem solving” • hands on manipulatives • “Reteach to Build” • “Build Mathematical Literacy” • “Enrichment” Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy Optional Activities: EnVision STEM	
14-6 Estimate Mass (1 day)	SWBAT use standard units to estimate the massed of solid objects.	Solve and Share: Students use reasoning skills to estimate the masses of objects in grams and kilograms. Visual Learning: How can	Guided Practice Independent Practice Problem Solving Practice Buddy

		you use reasoning to estimate mass? Convince Me: Students Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy	Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 14-6

		• BrainPOP Jr.- Grams and Kilograms Optional Activities: EnVision STEM	
14-7 Measure Mass (1 day)	SWBAT use a pan balance with metric weights to measure the mass of objects in grams and kilograms.	Solve and Share: Students build on what they know about grams and kilograms as they estimate and measure the masses of several different objects. Visual Learning: How do you measure mass? Convince Me: Students decide whether grams, kilogram, various combinations of metric weights will balance. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 14-7

		manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy Optional Activities: EnVision STEM	
14-8 Solve Word Problems Involving Mass and LIquid Volume (1 day)	SWBAT use pictures to solve problems about mass and volume.	Solve and Share: Students build on what they know about capacity and mass as they use pictures to solve word problems. Visual Learning: How can you solve problems involving mass and liquid volume? Convince Me: Students use their knowledge of addition to solve problems by adding another beaker of juice. Guided Practice: portion of "Guided Practice" for the whole group.	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 14-8

		Suggested center activities: • teacher led small group instruction with differentiated groupings • additional “Guided Practice” • “Independent Practice” • “Problem solving” • hands on manipulatives • “Reteach to Build” • “Build Mathematical Literacy” • “Enrichment” Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy Optional Activities: EnVision STEM	
14-9 Problem Solving:Reasoning (1 day)	SWBAT make sense of quantities and relationships in problems.	Solve and Share: Students solve problems. Visual Learning: How can you use reasoning to solve problems?	Guided Practice Independent Practice Problem Solving Practice Buddy

		Convince Me: Students check if the solution to the problem makes sense. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy	Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 14-9

		Optional Activities: EnVision STEM	

Standards

MATH.3.M.A.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, e.g., by representing the problem on a number line diagram.
MATH.3.M.A.2	Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.

Suggested Modifications for Special Education, ELL and Gifted Students

Consistent with individual plans, when appropriate.

Gifted Learners

- Today's Challenge before each lesson
- Topic Performance Task Masters pg 36A
- Enrichment Sheet for each lesson
- Provide options, alternatives and choices to differentiate and broaden the curriculum
- Envision Enrichment printables
- Organize and offer flexible small group learning activities (Pick a Project- Envision)
- Use center, stations, or contract
- Organize integrated problem-solving simulations
- Propose interest-based extension activities

Special Education

- Alter assignment lengths if necessary.
- Allow additional time when in full class discussing for processing and discussion.
- Check for understanding by conferencing with the teacher during small group instruction
- Students may choose a partner or teacher may choose a partner to work that student is comfortable

with.

- Repeat and clarify any directions given.
- Allow for preferential seating within groups and the whole class.
- Modify amount of vocabulary words used
- Read word problems and directions aloud
- Daily review of facts, skip counting songs, etc.
- Use of manipulatives and real world examples
- Daily lesson Visual Learning Bridge (Envision) and Model with Math
- Envision Intervention kit / reteaching

ELL

- Teach vocabulary (Envision- My Word Cards)- equal groups, multiplication, factors, product, equation, unknown, number line, array, row, column, commutative property of multiplication, division, multiples, identity property of multiplication, zero property of multiplication, associative (grouping) property of multiplication, dividend, divisor, fact family, quotient, even, odd (use visuals/anchor charts)
- Use visuals/visual learning videos/"Another Look" videos and the Animated glossary
- "Listen and Look For" when beginning the topic
- Envision reteach/intervention kit

Suggested Technological Innovations/Use

- IXL
- Xtra Math
- ST Math
- My Math Academy
- Kahoot!
- Tools (Envision 2020)
- Game Center (Envision 2020)
- Create/Complete a Discovery Education Board

Cross Curricular/21st Century Connections

- Pick a Project Activity
- Envision Stem Project
- Problem Solving Reading Activity
- 3 ACT MATH Activity: Page Through

Topic 15: Attributes of Two Dimensional Shapes

Content Area: **Mathematics**
Course(s):
Time Period: **3rd Marking Period**
Length: **4 days**
Status: **Published**

Summary of the Unit

Topic 15 foxes on attributes to two-dimensional shapes, especially quadrilaterals. Students learn that shapes in different categories may share attitudes that place them in a larger or smaller category. Students learn about the attributes of trapezoids, parallelograms, rectangles, rhombuses, and squares. Students demonstrate their understanding that shapes in two different categories may have common attributes.

Enduring Understandings

- Quadrilaterals can be described and classified by their sides and angles.
- Shapes can be classified by their attributes.
- Quadrilaterals can be classified by their attributes.
- Good math thinkers are careful about what they write and say, so their ideas about math are clear.

Essential Questions

- How can two-dimensional shapes be described, analyzed, and classified?
- What are some attributes of quadrilaterals?
- How can you describe different groups of shapes?
- How can you analyze and compare shapes?
- How can you be precise when solving math problems?

Summative Assessment and/or Summative Criteria

Topic Test

Quick Checks

Performance Task

Resources

Pearson SuccessNet Math Series (digital and offline)

Math Notebook

ST Math online digital platform

Xtra Math online digital platform

IXL online digital platform

Discovery Education math resources

Brain Pop online digital platform

My Math Academy

K-5 Math Teaching Resources https://www.k-5mathteachingresources.com/

The Teaching Channel http://www.theteachingchannel.org

Unit Plan

Topic/Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/Assessments
15-1 Describe Quadrilaterals (1 day)	SWBAT identify quadrilaterals and use attributes to describe them.	Solve and Share: Students use what they know about polygons and angles to identify and describe quadrilaterals. Visual Learning: What are some attributes of quadrilaterals? Convince Me: Students draw a quadrilateral that is an	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 15-1

		example of one of the shapes listed. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • Review if needed:BrainPOP Jr.-Plane Shapes • BrainPOP Jr.-Quadrilaterals	

		Optional Activities: EnVision STEM	
15-2 Classify Shapes (1 day)	SWBAT classify shapes according to their attributes.	Solve and Share: Students classify attributes to polygons. Visual Learning: How can you describe different groups of shapes? Convince Me: Students draw a quadrilateral that does not belong to the group. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment"	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 15-2

		Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • BrainPOP Jr.-Polygons Optional Activities: EnVision STEM	
15-3 Analyze and Compare Quadrilaterals (1 day)	SWBAT analyze and compare quadrilaterals and group them by their attributes.	Solve and Share: Students tell what is different and the same about five quadrilaterals. Visual Learning: How can you analyze and compare shapes? Convince Me: Students analyze which shapes can be covered in unit squares without gaps. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice"	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 15-3

		• "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • BrainPOP Jr.- Congruent and Similar Shapes Optional Activities: EnVision STEM	
15-4 Problem Solving: Precision (1 day)	SWBAT solve math problems precisely, efficiently, and accurately.	Solve and Share: Students draw shapes that match all the clues and then name them. Visual Learning: How can you be precise when solving math problems? Convince Me: Students draw a shape that matches the given riddle. Guided Practice: portion of "Guided Practice" for the whole group.	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 15-4

		Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy Optional Activities: EnVision STEM	

Standards

MATH.3.NF.A.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 $1/b$.
MATH.3.M.B.5.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.

MATH.3.G.A.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.
MATH.3.G.A.2	Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.

Suggested Modifications for Special Education, ELL and Gifted Students

Consistent with individual plans, when appropriate.

Gifted Learners

- Today's Challenge before each lesson
- Topic Performance Task Masters pg 36A
- Enrichment Sheet for each lesson
- Provide options, alternatives and choices to differentiate and broaden the curriculum
- Envision Enrichment printables
- Organize and offer flexible small group learning activities (Pick a Project- Envision)
- Use center, stations, or contract
- Organize integrated problem-solving simulations
- Propose interest-based extension activities

Special Education

- Alter assignment lengths if necessary.
- Allow additional time when in full class discussing for processing and discussion.
- Check for understanding by conferencing with the teacher during small group instruction
- Students may choose a partner or teacher may choose a partner to work that student is comfortable with.
- Repeat and clarify any directions given.
- Allow for preferential seating within groups and the whole class.
- Modify amount of vocabulary words used
- Read word problems and directions aloud

- Daily review of facts, skip counting songs, etc.
- Use of manipulatives and real world examples
- Daily lesson Visual Learning Bridge (Envision) and Model with Math
- Envision Intervention kit / reteaching

ELL

- Teach vocabulary (Envision- My Word Cards)- equal groups, multiplication, factors, product, equation, unknown, number line, array, row, column, commutative property of multiplication, division, multiples, identity property of multiplication, zero property of multiplication, associative (grouping) property of multiplication, dividend, divisor, fact family, quotient, even, odd (use visuals/anchor charts)
- Use visuals/visual learning videos/"Another Look" videos and the Animated glossary
- "Listen and Look For" when beginning the topic
- Envision reteach/intervention kit

Suggested Technological Innovations/Use

- IXL
- Xtra Math
- ST Math
- My Math Academy
- Kahoot!
- Tools (Envision 2020)
- Game Center (Envision 2020)
- Create/Complete a Discovery Education Board

Cross Curricular/21st Century Connections

- Pick a Project Activity
- Envision Stem Project

- Problem Solving Reading Activity
- 3 ACT MATH Activity: Page Through

Topic 16: Solve Perimeter Problems

Content Area: **Mathematics**
Course(s):
Time Period: **3rd Trimester**
Length: **6 days**
Status: **Published**

Summary of the Unit

Topic 16 focuses on recognizing perimeter as an attribute of polygons, finding perimeter using addition and multiplication, and finding an unknown side. Students distinguish the attribute of perimeter from the attribute of area by analyzing rectangles with the same perimeter and different areas or with the same areas of different perimeters.

Enduring Understandings

- The distance around a figure is its perimeter.
- To find the perimeter of a polygon, add the lengths of the sides.
- Polygons with the same perimeter may have different areas or perimeters.
- Good math thinkers know how to think about words and numbers to solve problems.

Essential Questions

- How can perimeter be measured and found?
- How do you find perimeter?
- How can you find the perimeters of common shapes?
- How can you find an unknown side length from the perimeter?
- Can rectangles have different areas but the same perimeter?
- Can rectangles have the same areas but different perimeters?
- How can you use reasoning to solve problems?

Summative Assessment and/or Summative Criteria

Topic Test

Quick Checks

Performance Task

Resources

Pearson SuccessNet Math Series (digital and offline)

Math Notebook

ST Math online digital platform

Xtra Math online digital platform

IXL online digital platform

Discovery Education math resources

Brain Pop online digital platform

My Math Academy

K-5 Math Teaching Resources https://www.k-5mathteachingresources.com/

The Teaching Channel http://www.theteachingchannel.org

Unit Plan

Topic/Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/Assessments
16-1 Understand Perimeter (1 day)	SWBAT find the perimeter of different polygons.	Solve and Share: Students find the perimeter of a shape outlined on grid paper. Visual Learning: How do you find perimeter? Convince Me: Students draw	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy

		different designs for the dog park. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Perimeter of rectangles Optional Activities: EnVision STEM	Enrichment Additional Practice Quick Check 16-1

16-2 Perimeter of Common Shapes (1 day)	SWBAT find the perimeter of different polygons with common shapes.	Solve and Share: Students find the perimeter of a rectangle. Visual Learning: How can you find the perimeters of common shapes? Convince Me: Students find the perimeter of a parallelogram. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 16-2

		• Xtra Math • My Math Academy • BrainPOP Jr.-Perimeter • IXL-Perimeter of quadrilaterals • IXL-Perimeter of polygons Optional Activities: EnVision STEM	
16-3 Perimeter and Unknown Side Lengths (1 day)	SWBAT use the given sides of a polygon and the known perimeter to find the unknown side length.	Solve and Share: Students find the length of an unknown side in a polygon. Visual Learning: How can you find an unknown side length from the perimeter? Convince Me: Students find the length of an unknown side of the decoration given a different perimeter. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice"	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 16-3

		• "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Perimeter: find the missing side length Optional Activities: EnVision STEM	
16-4 Same Perimeter, Different Area (1 day)	SWBAT understand the relationship of shapes with the same perimeter and different areas.	Solve and Share: Students use what they know about the perimeter of rectangles to compare the relationship between perimeter and area. Visual Learning: Can rectangles have different areas but the same perimeter? Convince Me: Students find possible rectangular pens with same perimeter and different areas. Guided Practice: portion of "Guided Practice" for the	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 16-4

		whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional “Guided Practice” • “Independent Practice” • “Problem solving” • hands on manipulatives • “Reteach to Build” • “Build Mathematical Literacy” • “Enrichment” Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy • IXL-Relationship between area and perimeter: find the perimeter Optional Activities: EnVision STEM	
16-5 Same Area, Different Perimeter (1 day)	SWBAT understand the relationship of shapes with the same area and different perimeter.	Solve and Share: Students use what they know about rectangles to understand perimeter and area.	Guided Practice Independent Practice

		Visual Learning: Can rectangles have the same areas but different perimeters? Convince Me: Students critique another person's reasoning. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical Literacy" • "Enrichment" Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy	Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 16-5

		• IXL-Relationship between area and perimeter: find the area Optional Activities: EnVision STEM	
16-6 Problem Solving:Reasoning (1 day)	SWBAT understand the relationship between numbers to simplify and solve problems involving perimeter.	Solve and Share: Students find a possible length for a strap to go around a math book. Visual Learning: How can you use reasoning to solve problems? Convince Me: Students calculate the number of people who can be seated. Guided Practice: portion of "Guided Practice" for the whole group. Suggested center activities: • teacher led small group instruction with differentiated groupings • additional "Guided Practice" • "Independent Practice" • "Problem solving" • hands on manipulatives • "Reteach to Build" • "Build Mathematical	Guided Practice Independent Practice Problem Solving Practice Buddy Reteach Build Mathematical Literacy Enrichment Additional Practice Quick Check 16-6

		Literacy” • “Enrichment” Technology: Optional Activities: • ST Math • Xtra Math • My Math Academy Optional Activities: EnVision STEM	

Standards

MATH.3.OA.A.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.
MATH.3.OA.C.7	With accuracy and efficiency, multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.
MATH.3.NBT.A.2	With accuracy and efficiency, add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
MATH.3.M.A.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, e.g., by representing the problem on a number line diagram.
MATH.3.M.C.6	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.

Suggested Modifications for Special Education, ELL and Gifted Students

Consistent with individual plans, when appropriate.

Gifted Learners

- Today’s Challenge before each lesson

- Topic Performance Task Masters pg 36A
- Enrichment Sheet for each lesson
- Provide options, alternatives and choices to differentiate and broaden the curriculum
- Envision Enrichment printables
- Organize and offer flexible small group learning activities (Pick a Project- Envision)
- Use center, stations, or contract
- Organize integrated problem-solving simulations
- Propose interest-based extension activities

Special Education

- Alter assignment lengths if necessary.
- Allow additional time when in full class discussing for processing and discussion.
- Check for understanding by conferencing with the teacher during small group instruction
- Students may choose a partner or teacher may choose a partner to work that student is comfortable with.
- Repeat and clarify any directions given.
- Allow for preferential seating within groups and the whole class.
- Modify amount of vocabulary words used
- Read word problems and directions aloud
- Daily review of facts, skip counting songs, etc.
- Use of manipulatives and real world examples
- Daily lesson Visual Learning Bridge (Envision) and Model with Math
- Envision Intervention kit / reteaching

ELL

- Teach vocabulary (Envision- My Word Cards)- equal groups, multiplication, factors, product, equation, unknown, number line, array, row, column, commutative property of multiplication, division, multiples, identity property of multiplication, zero property of multiplication, associative (grouping) property of multiplication, dividend, divisor, fact family, quotient, even, odd (use visuals/anchor charts)

- Use visuals/visual learning videos/"Another Look" videos and the Animated glossary
- "Listen and Look For" when beginning the topic
- Envision reteach/intervention kit

Suggested Technological Innovations/Use

- IXL
- Xtra Math
- ST Math
- My Math Academy
- Kahoot!
- Tools (Envision 2020)
- Game Center (Envision 2020)
- Create/Complete a Discovery Education Board

Cross Curricular/21st Century Connections

- Pick a Project Activity
- Envision Stem Project
- Problem Solving Reading Activity
- 3 ACT MATH Activity: Page Through

Math Third Grade Scope and Sequence

Trimester 1	Trimester 2	Trimester 3
Topic 1- Understand multiplication and division of whole numbers Topic 2- Multiplication Facts: Use Patterns Topic 3- Apply Properties: Multiplication Facts for 3, 4, 6, 7, 8 Topic 4- Use Multiplication to Divide Topic 5- - Fluently Multiply and Divide within 100	Topic 6- Connect Area to Multiplication and Addition Topic 7- Represent and Interpret Data Topic 8- Use Strategies and Properties to Add and Subtract Topic 9- Fluently Add and Subtract within 1,000 Topic 10- Multiply by Multiples of 10 (complete lessons 1-3) **Topic 16- Solve Perimeter Problems**	Topic 11- Use Operations with Whole Numbers to Solve Problems. Topic 12- Understand Fractions as Numbers Topic 13- Fraction Equivalence and Comparison Topic 14- Solve Time, Capacity, and Mass Problems Topic 15- Attributes of Two-Dimensional Shapes ***If time allows, complete the remainder of Topic 10 lessons.**