Math POR Grade 3: Curriculum Summary

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

Course Overview

The 3rd Grade Math Envision 2.0 Curriculum will help students develop conceptual understanding, procedural knowledge, and problem solving skills in all operations (addition, subtraction, multiplication and division), area and perimeter, fractions, time and capacity. Topic 1 focuses on developing understanding of multiplication and division. Topic 2 focuses on using patterns and properties to begin to build fluency with the multiplication facts involving 0,1,2,5,9, and 10. Topic 3 focuses on using known facts and properties to multiplication to learn the multiplication facts with factors of 3,4,6,7, and 8. Topic 4 focuses on learning division facts by using the relationship between multiplication and division. Topic 5 focuses on applying strategies to achieve fluency with multiplication and division facts within 100. Topic 6 develops understanding of the concept of area. Topic 7 focuses on reading and making scaled picture graphs and scaled graphs that represent data sets that have several categories. Topic 8 focuses on using properties, patterns, and mental math to add and subtract within 1,000. Topic 9 focuses on fluency with adding and subtracting whole numbers within 1,000. Topic 10 focuses on using place-value patterns and properties of operations to multiply 1-digit numbers by multiples of 10. Topic 11 focuses on how to solve two-step word problems involving addition, subtraction, multiplication, and division of whole numbers. Topic 12 focuses on understanding that fractions are numbers that can represent a portion of a whole or a point on the number line. Topic 13 focuses on using models and number sense to understand fraction equivalence and comparison. Topic 14 focuses on extending students' understanding of time and solving problems involving estimation and measurement of time intervals, liquid volume (capacity), and mass. Topic 15 focuses on attributes of two-dimensional shapes, especially quadrilaterals. Topic 16 focuses on recognizing perimeter as an attribute of polygons, finding perimeter using addition and multiplication, and finding an unknown side length.

Course Name, Length, Date of Revision and Curriculum Writer

Math Envision 2.0 Grade 3 Pull-Out Resource Curriculum.

Length of an Entire Year.

June 15, 2024

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Topic 1: Understand Multiplication and Division of Whole Numbers

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

Summary of the Unit

This unit will focus on understanding how to multiply and divide whole numbers. The students will be able to connect multiplication and division by equal groups. The topics will focus on students being able to relate multiplication to addition. Students will use the following strategies of the number line, arrays and properties to help them multiply. Students will build their foundation of conceptually understanding how multiplication and division relate in equal groups. Students will use real-life citations to represent multiplication or division equations based on finding the missing factor.

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

Unit 1 Test

Topic Quick Checks

Multiplication Fact Fluency Timed Test

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

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

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

Unit Plan

*Based on your group, you may do:

- Visual Learning, Solve and Share, and Guided Practice in Whole Group; Independent Practice in Small Group OR

- Visual Learning in Whole Group; Solve and Share, Guided Practice and Independent Practice in Small Group
- You can change order between Visual Learning and Solve & Share

Topic/ Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/ Assessments
1-1: Relate Multiplication and Addition	SWBAT use addition or multiplication make equal groups	Teacher will introduce the vocabulary terms: • Multiplication • Factors • Product • Equal groups • Equations Visual Learning: Teacher will prompt the following question: "How does the addition equation relate to the counters?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given red/yellow counters to help them solve the question prompt using the repeated addition strategy. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL 9K7, GGC, P74 • Practice Center: Students will complete Reteach to Build Understanding 1-1. Students will play Roll and Dice Skip Counting activity. Optional Activity: • Watch Brain-Pop: Repeated Addition • Interactive Notebook 1-1 • Practice Buddy (Online) Closure: Exit Ticket	
1-2: Multiplication on a Number Line	SWBAT use a number line to represent and solve multiplication facts	Teacher will introduce the vocabulary terms: • Number line Visual Learning: Teacher will prompt the following question: "How are quantities in the problem related?" Teacher will play the video. Teacher will stop to explain when needed.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment

		Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given red/yellow counters to help them solve the question prompt using the repeated addition strategy. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL NTV, XHY • Practice Center: Students will complete Reteach to Build Understanding 1-2. Students will play Roll and Dice Skip Counting activity. Optional Activity: • Interactive Notebook 1-2 • Enrichment 1-2 • Practice Buddy (Online)	Exit Ticket Practice Buddy (Online)

		Closure: Exit Ticket	
1-3: Arrays and Properties	SWBAT use arrays and multiply factors in any order to solve multiplication problems	Teacher will introduce the vocabulary terms: • Array • Row • Column Visual Learning: Teacher will prompt the following question: "How does an array show equal groups?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		percentage of the week or more will work on IXL HZL, 5FZ, PPR, UCY • Practice Center: Students will complete Reteach to Build Understanding 1-3. Students will play Roll and Dice Number Line activity. Optional Activity: • Interactive Notebook 1-3 • Enrichment 1-3 • Practice Buddy (Online) Closure: Exit Ticket	
1-4: Division: How Many in Each Group	SWBAT use objects or pictures to show how objects can be divided into equal groups	Teacher will introduce the vocabulary terms: • Division Visual Learning: Teacher will prompt the following question: “Why do you need 3 equal groups?” Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students can use Teaching Tool 9. Guided Practice: Students will complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL UYK, FSX, BWB • Practice Center: Students will complete Reteach to Build Understanding 1-4. Students will play Roll and Dice Create Arrays activity. Optional Activity: • Interactive Notebook 1-4 • Enrichment 1-4 • Practice Buddy (Online) Closure: Exit Ticket	
1-5: Division-How Many Equal Groups	SWBAT use repeated subtraction to understand and solve division problems	Teacher will review repeated addition and how it helped with multiplication and relate it to how repeated subtraction will help with solving division equations. Visual Learning: Teacher will prompt the following question: "How do you know when to stop subtracting?" Teacher will play the video. Teacher	Guided Practice Independent Practice Reteach to Build Understanding

		will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given red/yellow counters to help them solve the question prompt using the repeated subtraction strategy. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL V5C • Practice Center: Students will complete Reteach to Build Understanding 1-5. Students will play Roll and Dice Create Arrays activity. Optional Activity: • Interactive Notebook 1-5	Enrichment Exit Ticket Practice Buddy (Online)

		• Enrichment 1-5 • Practice Buddy (Online) Closure: Exit Ticket	
1-6: Use Appropriate Tools	SWBAT think strategically to determine which tool will be most useful	Visual Learning: Teacher will prompt the following question: "What is the first thing you need to do when solving word problems?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given red/yellow counters, cubes, and grid paper to help them solve the question prompt using the repeated subtraction strategy. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		percentage of the week or more will work on IXL V5C • Practice Center: Students will complete Reteach to Build Understanding 1-6. Students will play Roll and Dice Create Arrays activity. Optional Activity: • Interactive Notebook 1-6 • Enrichment 1-6 • Practice Buddy (Online) Closure: Exit Ticket	
Topic 1 Reteaching	SWBAT use the patterns and properties to solve basic multiplication facts	Complete Reteaching Sets prior to giving Topic Assessment	Reteaching Sets

Informal Observation: Classroom Observation

Formal Assessment: Topic 1 Modified Assessment

Intervention Kit:

B49, B51, B52, B53, B54, B65

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

Cross Curricular/Career Readiness, Life Literacies and Key Skills Practice

- 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:
Length:
Status: **Published**

Summary of the Unit

In this unit, students will be introduced to multiplication facts that have patterns that they can recognize and solve. It focuses on using strategies and reasoning that does not rely on memorization. Students will learn 2's and 5's facts where they can use the foundation of skip counting. They will then be introduced to 0's and 1's facts that focus on properties. Lastly, students will focus on working on patterns to help them solve 9's and 10's facts.

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

Unit 2 Assessment

Reteach to Build Understanding

Multiplication Fact Fluency Timed Test

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

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

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

Unit Plan

*Based on your group, you may do:

- Visual Learning, Solve and Share, and Guided Practice in Whole Group; Independent Practice in Small Group OR
- Visual Learning in Whole Group; Solve and Share, Guided Practice and Independent Practice in Small Group
- You can change order between Visual Learning and Solve & Share

Topic/ Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/ Assessments

2-1: 2 and 5 as Factors	SWBAT use patterns to multiply by 2s and 5s	Teacher will ask students if they can skip count by 2s, then by 5s and explain that will help them multiply. Visual Learning: Teacher will prompt the following question: “Why do you use doubling to solve this problem of 7 x2?” Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given red/yellow counters to help them solve the question prompt to create an array and skip count. Optional: Students will match counters as pairs to represent chicken legs. Guided Practice: Students will complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the “Independent Practice” independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		on the percentage of the week or more will work on IXL 94M, Y9E • Practice Center: Students will complete Reteach to Build Understanding 2-1. Students will play Roll and Dice Skip Counting activity. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker. Optional Activity: • Interactive Notebook 2-1 • Practice Buddy (Online) Closure: Exit Ticket	

2-2: 9 as a Factor	SWBAT use patterns to multiply by 9s	Visual Learning: Teacher will prompt the following question: “How can you use these patterns to find 4x9?” Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given red/yellow counters to help them solve the question prompt to create an array. Guided Practice: Students will complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the “Independent Practice” independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL SUH • Practice Center: Students will complete Reteach to Build Understanding 2-2. Students will play Roll and Dice Skip	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Counting activity. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker. Optional Activity: • Interactive Notebook 2-2 • Practice Buddy (Online) Closure: Exit Ticket	

2-3: Apply Properties- Multiply by 0 and 1	SWBAT use patterns and properties to multiply 0 and 1	Teacher will relate multiplying by 1's as if the other factor is looking at a mirror. Teacher will have students recognize any number multiplied by 0 equal to 0. Visual Learning: Teacher will prompt the following question: "How could you use counters to show the number of oranges on 8 plates?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given red/yellow counters to help them solve the question prompt to create an array. Optional: Students will either create a table or use a drawing to show their solve and share. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Teacher will review comparing symbols to help them solve the bottom half of their independent practice. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL CNG, RBK • Practice Center: Students will complete Reteach to Build Understanding 2-3. Students will play Roll and Dice Skip Counting activity. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker. Optional Activity: • Interactive Notebook 2-3 • Practice Buddy (Online) Closure: Exit Ticket	

2-4: Multiply by 10	SWBAT use patterns to multiply by 10s	Teacher will introduce Multiplying by 10's anchor chart: multiply non-zero digits first and then count how many zeros to add to the final product. Visual Learning: Teacher will prompt the following question: "What do each of the place value rods represent?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given red/yellow counters to help them solve the question prompt to create and array and skip count. Optional: Students will either create a table or create an array to show their solve and share. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		on ST Math. Students who are on the percentage of the week or more will work on IXL 6YD, 7FN • Practice Center: Students will complete Reteach to Build Understanding 2-4. Students will play Roll and Dice Skip Counting activity. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker. Optional Activity: • Interactive Notebook 2-4 • Practice Buddy (Online) Closure: Exit Ticket	

2-5: Multiplication Facts-0,1,2,5,9, and 10	SWBAT use basic multiplication facts to solve problems	Teacher will review with the students some of the strategies they learned when solving factors of 0,1,2,5,9,10 Visual Learning: Teacher will prompt the following question: "Why can you use multiplication to help solve the following problem?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given red/yellow counters to help them solve the question prompt to create an array and skip count. Optional: Students will either create a table or create an array to show their solve and share. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		on ST Math. Students who are on the percentage of the week or more will work on IXL YZX, Q58 • Practice Center: Students will complete Reteach to Build Understanding 2-5. Students will play Roll and Dice Skip Counting activity. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker. Optional Activity: • Interactive Notebook 2-5 • Practice Buddy (Online) Closure: Exit Ticket	

2-6: Model with Math	SWBAT use math they know to solve problems	Visual Learning: Teacher will prompt the following question: “Why would you use a bar diagram or an equation to represent the math in this problem?” Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will create a bar diagram to help them solve the prompt. Guided Practice: Students will complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the “Independent Practice” independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL 94M, Y9E • Practice Center: Students will complete Reteach to Build Understanding 2-1. Students	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		will play Roll and Dice Skip Counting activity. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker. Optional Activity: • Interactive Notebook 2-1 • Practice Buddy (Online) Closure: Exit Ticket	
Topic 2 Reteaching	SWBAT use the patterns and properties to solve basic multiplication facts	Complete Reteaching Sets prior to giving Topic Assessment	Reteaching Sets

Informal Observation: Classroom Observation

Formal Assessment: Topic 2 Modified Assessment

Intervention Kit:

B49, B51, B52, B53, B54, B65

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.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
- Kahoot!
- Tools (Envision 2020)
- Game Center (Envision 2020)
- Create/Complete a Discovery Education Board

Cross Curricular/Career Readiness, Life Literacies and Key Skills Practice

- 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:
Length:
Status: **Published**

Summary of the Unit

In this unit, students will focus on using the facts and properties they have already learned to help them multiply with the factors of 3,4,6,7,8. Topic 3 primarily focuses on using the Distributive Property, which will help them multiply factors that do not have a pattern, but rather break apart the factor to find an easier factor to multiply with.. This is an important skill to learn as this unit builds the foundation to help them in math for many more years to come. Students will also learn the associative property to help them group and multiply digits in any order. Lastly, students will use repeated reasoning of the known facts 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

Unit 3 Assessment

Reteach to Build Understanding

Multiplication Fact Fluency Timed Test

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

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

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

Unit Plan

*Based on your group, you may do:

- Visual Learning, Solve and Share, and Guided Practice in Whole Group; Independent Practice in Small Group OR
- Visual Learning in Whole Group; Solve and Share, Guided Practice and Independent Practice in Small Group
- You can change order between Visual Learning and Solve & Share

Topic/ Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/ Assessments
3-1: The Distributive Property	SWBAT break apart unknown facts into known facts and solve multiplication problems	Students will be introduced to the "Alien Trick" to help them better understand the Distributive Property. https://www.youtube.com/watch?v=oexnWMOW4ig&t=1s Visual Learning: Teacher will prompt the following question: "What multiplication fact represent 5 rows of 4 chairs?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given red/yellow counters to help them solve the question prompt to create an array and break them apart. Optional: Students will use the "alien trick" template. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL 7VP • Practice Center: Students will complete Reteach to Build Understanding 3-1. Students will play different multiplication games and activities. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker. Optional Activity: • Interactive Notebook 3-1 • Practice Buddy (Online) Closure: Exit Ticket	
3-2: Apply Properties: 3s and 4s as Factors	SWBAT use tools and properties strategically to solve problems when multiplying by 3 or 4	Teacher will review the Distributive Property and the "Alien Trick." https://www.youtube.com/watch?v=oexnWMOW4ig&t=1s Visual Learning: Teacher will prompt the following question: "How does an array help you multiply" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given red/yellow counters to help them solve the question prompt to create an array and break them apart. Optional: Students will use the "alien trick" template. Guided Practice: Students will complete the "Guided	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy

		Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL 38K, 5U6, DWS, 87M, REN, ZEY • Practice Center: Students will complete Reteach to Build Understanding 3-2. Students will play different multiplication games and activities. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker. Optional Activity: • Interactive Notebook 3-2 • Practice Buddy (Online) Closure: Exit Ticket	(Online)
3-3: Apply Properties- 6 and 7 as Factors	SWBAT make and use models to solve multiplication problems that have 6 and 7 as factors	Teacher will review the Distributive Property and the "Alien Trick." https://www.youtube.com/watch?v=oexnWMOW4ig&t=1s Visual Learning: Teacher will prompt the following question: "What facts do you already know that cna help with facts for 6 and 7" Teacher will play the video. Teacher will stop to explain	Guided Practice Independent Practice Reteach to Build Understanding

		when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given red/yellow counters to help them solve the question prompt to create an array and break them apart. Optional: Students will use the "alien trick" template. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Teacher will review comparing symbols to help them solve the bottom half of their independent practice. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL SX6, 9PT • Practice Center: Students will complete Reteach to Build Understanding 3-3. Students will play different multiplication games and activities. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker. Optional Activity: • Interactive Notebook 3-3	Enrichment Exit Ticket Practice Buddy (Online)

		• Practice Buddy (Online) Closure: Exit Ticket	
3-4: Apply Properties-8 as a Factor	SWBAT use known facts and properties to multiply by 8	Teacher will review the Distributive Property and the "Alien Trick." https://www.youtube.com/watch?v=oexnWMOW4ig&t=1s Visual Learning: Teacher will prompt the following question: "Look at the array for 8x8. How would you describe this array?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will use the "alien trick" template. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL SMR, XT7, EEY, TZ7, X7N • Practice Center: Students will complete Reteach to Build Understanding 3-4. Students will play different multiplication games and activities. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		create arrays with a dry erase marker. Optional Activity: • Interactive Notebook 3-4 • Practice Buddy (Online) Closure: Exit Ticket	
3-5: Practice Multiplication Facts	SWBAT use strategies and tools to represent and solve multiplication facts	Teacher will review the Distributive Property and the "Alien Trick." https://www.youtube.com/watch?v=oexnWMOW4ig&t=1s Visual Learning: Teacher will prompt the following question: "How does the bar diagram show the multiplication problem?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given red/yellow counters to help them solve the question prompt to create an array and break them apart. Optional: Students will use the "alien trick" template. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL PNV, SUJ • Practice Center: Students will complete Reteach to Build Understanding 3-5. Students will play different multiplication games and activities. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker. Optional Activity: • Interactive Notebook 3-5 • Practice Buddy (Online) Closure: Exit Ticket	
3-6: The Associative Property- Multiply with 3 Factors	SWBAT multiply 3 factors in any order to find a product	Visual Learning: Teacher will prompt the following question: "How do you think multiplying 3 factors will be different?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL 9DF, S7B • Practice Center: Students will complete Reteach to Build Understanding 3-6. Students will play different multiplication games and activities. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker. Optional Activity: • Interactive Notebook 3-6 • Practice Buddy (Online) Closure: Exit Ticket	
Topic 3 Reteaching	SWBAT use the patterns and properties to solve basic multiplication facts	Complete Reteaching Sets prior to giving Topic Assessment	Reteaching Sets

Informal Observation: Classroom Observation

Formal Assessment: Topic 3 Modified Assessment

Intervention Kit:

B49, B51, B52, B53, B54, B65

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

Cross Curricular/Career Readiness, Life Literacies and Key Skills Practice

- 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:
Status: **Published**

Summary of the Unit

In this unit, students will focus on recognizing the relationship between multiplication and division and how they are inverse to each other (like addition and subtraction). The unit begins with recognizing the inverse relationship through the fact family. With the fact family, students will able to learn their division facts with digits 2,3,4,5,6,7,8, and 9. In lesson 4-7, students will practice their division facts using any strategies they have learned.

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

Unit 4 Assessment

Reteach to Build Understanding

Multiplication Fact Fluency Timed Test

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

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

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

Unit Plan

*Based on your group, you may do:

- Visual Learning, Solve and Share, and Guided Practice in Whole Group; Independent Practice in Small Group OR
- Visual Learning in Whole Group; Solve and Share, Guided Practice and Independent Practice in Small Group
- You can change order between Visual Learning and Solve & Share

Topic/ Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/ Assessments
4-1: Relate Multiplication and Division	SWBAT use fact families to see how multiplication and division are related	Teacher will introduce the following vocabulary: • Fact family • Dividend • Divisor • Quotient Teacher will write an addition and subtraction fact family to see if the students recognize it from second grade to activate their recall memory. Teacher will explain they will use it for multiplication and division. Visual Learning: Teacher will prompt the following question: "What do you notice about the product and the dividend in each pair of equations in the fact family? Why are the same?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given a fact family template. Guided Practice: Students will	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the “Independent Practice” independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL XSK, FTU • Practice Center: Students will complete Reteach to Build Understanding 4-1. Students will play different multiplication games and activities. Additional Materials: Fact Family Template in a communicator and a dry erase marker to give them more space to write their facts. Students will also be given a fact family worksheet with several fact family blanks to show their work during guided and independent practice. Optional Activity: • Interactive Notebook 4-1 • Practice Buddy (Online)	

		Closure: Exit Ticket	
4-2: Use Multiplication to Divide with 2,3,4, and 5	SWBAT divide by 2,3,4, and 5 by thinking about how they multiply with those numbers	Teacher will re-introduce the following vocabulary: • Dividend • Divisor • Quotient Visual Learning: Teacher will prompt the following question: "How can you use repeated addition to check your answer?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given red/yellow counters to help them solve the question prompt to create an array and break them apart. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL ANU, PCL, QGT, C9M, 6HS, E58 • Practice Center: Students will complete Reteach to Build Understanding 4-2. Students will play different multiplication games and activities. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker or Fact Family Template. Optional Activity: • Interactive Notebook 4-2 • Practice Buddy (Online) Closure: Exit Ticket	
4-3: Use Multiplication to Divide with 6 and 7	SWBAT divide by 6 and 7 by thinking about how they multiply with those numbers	Visual Learning: Teacher will prompt the following question: “How does knowing the multiplication fact help you divide?” Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given red/yellow counters to help them solve the question prompt to create an array and break them apart.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment

		Guided Practice: Students will complete the “Guided Practice” section with the teacher together. Teacher will review comparing symbols to help them solve the bottom half of their independent practice. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the “Independent Practice” independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL 97S, D2F, YSD, XDN • Practice Center: Students will complete Reteach to Build Understanding 4-3. Students will play different multiplication games and activities. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker. Optional Activity:	Exit Ticket Practice Buddy (Online)

		• Interactive Notebook 4-3 • Practice Buddy (Online) Closure: Exit Ticket	
4-4: Use Multiplication to Divide with 8 and 9	SWBAT divide by 8 and 9 by thinking about how they multiply with those numbers	Visual Learning: Teacher will prompt the following question: "How does the bar diagram show the division problem?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given red/yellow counters to help them solve the question prompt to create an array and break them apart. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Teacher will review comparing symbols to help them solve the bottom half of their independent practice. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		percentage of the week or more will work on IXL CVD, RTB, YRG, DBB, KQR • Practice Center: Students will complete Reteach to Build Understanding 4-4. Students will play different multiplication games and activities. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker. Optional Activity: • Interactive Notebook 4-4 • Practice Buddy (Online) Closure: Exit Ticket	
4-5: Multiplication Patterns - Even and Odd Numbers	SWBAT find and explain patterns for even and odd numbers	Teacher will review what digits are considered “odd” numbers and which are “even” numbers. Teacher will introduce the anchor chart to odd and even anchor chart: “even x even = even odd x even = even odd x odd = odd” Visual Learning: Teacher will prompt the following question: “What do you notice about the digits in the numbers from row to row? How can this help you understand even and odd numbers?” Teacher will play the video. Teacher will stop to explain when needed.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given red/yellow counters to help them solve the question prompt to create an array and break them apart. Guided Practice: Students will complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the “Independent Practice” independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL U9Q, WS2 • Practice Center: Students will complete Reteach to Build Understanding 4-5. Students will play different multiplication games and activities. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker.	

		Optional Activity: • Interactive Notebook 4-5 • Practice Buddy (Online) Closure: Exit Ticket	
4-6: The Associative Property- Multiply with 3 Factors	SWBAT understand the patterns of division with 0 and 1	Teacher will review multiplying 0s and 1s as a factor. Will relate that it is similar to division. Visual Learning: Teacher will prompt the following question: "What does 3 divide by 3 mean?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL FYZ, VTL, XWR • Practice Center: Students will complete Reteach to Build Understanding 4-6. Students will play different multiplication games and activities. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker. Optional Activity: • Interactive Notebook 4-6 • Practice Buddy (Online) Closure: Exit Ticket	
4-7: Practice Multiplication and Division Facts	SWBAT use patterns and related facts to solve multiplication and division problems	Teacher will review a few multiplication and division facts. Visual Learning: Teacher will prompt the following question: "How does knowing a multiplication fact help you divide?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy

		with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL 67L, MBT, 85K, WQT • Practice Center: Students will complete Reteach to Build Understanding 4-7. Students will play different multiplication games and activities. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker. Optional Activity: • Interactive Notebook 4-7 • Practice Buddy (Online) Closure: Exit Ticket	(Online)
4-8: Solve Multiplication and	SWBAT use multiplication and	Teacher will review a few	Guided Practice

Division Equations	division facts to find unknown values in an equation	multiplication and division facts. Visual Learning: Teacher will prompt the following question: “How does the pan balance show that the two sides of the equation are equal?” Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the “Independent Practice” independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL 88D • Practice Center: Students will complete Reteach to Build Understanding 4-7. Students will play different multiplication games and activities.	Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker. Optional Activity: • Interactive Notebook 4-8 • Practice Buddy (Online) Closure: Exit Ticket	
4-9: Problem Solving - Make Sense and Persevere	SWBAT make sense of problems and keep working if they get stuck	Visual Learning: Teacher will prompt the following question: "How can you find the hidden question in the following problem?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL F6C • Practice Center: Students will complete Reteach to Build Understanding 4-9. Students will play different multiplication games and activities. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker. Optional Activity: • Interactive Notebook 4-9 • Practice Buddy (Online) Closure: Exit Ticket	
Topic 4 Reteaching	SWBAT use multiplication to solve division facts	Complete Reteaching Sets prior to giving Topic Assessment	Reteaching Sets

Informal Observation: Classroom Observation

Formal Assessment: Topic 4 Modified Assessment

Intervention Kit:

B49, B51, B52, B53, B54, B65

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

Cross Curricular/Career Readiness, Life Literacies and Key Skills Practice

- 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:
Length:
Status: **Published**

Summary of the Unit

In this topic, students will apply the strategies they have learned to be fluent with multiplying and dividing facts within 100. It is important for them to be fluent with their facts and be able to pick and use the appropriate strategies to solve the equation. It is during this topic that students will continue memorizing the facts by the end of the year. They will use the strategies of multiplication tables, fact families, equations and bar diagrams to help them while seeing division as the 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 problem

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

Unit 5 Assessment

Reteach to Build Understanding

Multiplication Fact Fluency Timed Test

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

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

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

Unit Plan

*Based on your group, you may do:

- Visual Learning, Solve and Share, and Guided Practice in Whole Group; Independent Practice in Small Group OR
- Visual Learning in Whole Group; Solve and Share, Guided Practice and Independent Practice in Small

Group

- You can change order between Visual Learning and Solve & Share

Topic/ Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/ Assessments
5-1: Patterns for Multiplication Facts	SWBAT use structure and properties to explain patterns for multiplication facts	Visual Learning: Teacher will prompt the following question: "How can you use the Distributive Property to show that this pattern is true for other products with 2 and 4 as a factor?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given a fact family template. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL FKS	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		• Practice Center: Students will complete Reteach to Build Understanding 5-1. Students will play different multiplication games and activities. Additional Materials: Fact Family Template in a communicator and a dry erase marker to give them more space to write their facts. Students will also be given a fact family worksheet with several fact family blanks to show their work during guided and independent practice. Optional Activity: • Interactive Notebook 5-1 • Practice Buddy (Online) Closure: Exit Ticket	
5-2: Use a Table to Multiply and Divide	SWBAT use reasoning and the relationship between multiplication and division to find basic facts	Visual Learning: Teacher will prompt the following question: "How does a multiplication table help you solve a multiplication problem?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given red/yellow counters to help them solve the question prompt to create an array and break them apart. Guided Practice: Students will complete the "Guided Practice" section with the teacher together.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL FZA, MPV • Practice Center: Students will complete Reteach to Build Understanding 5-2. Students will play different multiplication games and activities. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker or Fact Family Template. Optional Activity: • Interactive Notebook 5-2 • Practice Buddy (Online) Closure: Exit Ticket	
5-3: Use Strategies to Multiply	SWBAT use different strategies to solve multiplication	Visual Learning: Teacher will prompt the following question: "How does the bar diagram show the multiplication problem?" Teacher will play the video.	Guided Practice

	problems	Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given red/yellow counters to help them solve the question prompt to create an array and break them apart. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Teacher will review comparing symbols to help them solve the bottom half of their independent practice. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL WZA, FPA • Practice Center: Students will complete Reteach to Build Understanding 5-3. Students will play different multiplication games and activities.	Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker. Optional Activity: • Interactive Notebook 5-3 • Practice Buddy (Online) Closure: Exit Ticket	
5-4: Solve Word Problems- Multiplication and Division Facts	SWBAT use strategies to solve word problems that involve multiplication and division	Visual Learning: Teacher will prompt the following question: "How does knowing a related fact help you solve the problem?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given red/yellow counters to help them solve the question prompt to create an array and break them apart. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Teacher will review comparing symbols to help them solve the bottom half of their independent practice. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL 3K8, AZJ, 8XQ • Practice Center: Students will complete Reteach to Build Understanding 5-4. Students will play different multiplication games and activities. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker. Optional Activity: • Interactive Notebook 5-4 • Practice Buddy (Online) Closure: Exit Ticket	
5-5: Write Multiplication and Division Math Stories	SWBAT write and solve math stories for multiplication and division equations	Visual Learning: Teacher will prompt the following question: "How do you know what numbers to use in the multiplication story?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and	Guided Practice Independent Practice Reteach to Build Understanding

		share with the teacher. Students will be given red/yellow counters to help them solve the question prompt to create an array and break them apart. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL EYU, 9TA, CFR • Practice Center: Students will complete Reteach to Build Understanding 5-5. Students will play different multiplication games and activities. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker. Optional Activity:	Enrichment Exit Ticket Practice Buddy (Online)

		• Interactive Notebook 5-5 • Practice Buddy (Online) Closure: Exit Ticket	
5-6: Look For and Use Structure	SWBAT use the structure of multiplication and division to compare expressions	Visual Learning: Teacher will prompt the following question: "What does it mean to compare the expression?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL MTU, DVE, YPF • Practice Center: Students will complete Reteach to Build	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Understanding 5-6. Students will play different multiplication games and activities. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker. Optional Activity: • Interactive Notebook 5-6 • Practice Buddy (Online) Closure: Exit Ticket	
Topic 5 Reteaching	SWBAT fluently solve multiplication and division facts within 1000	Complete Reteaching Sets prior to giving Topic Assessment	Reteaching Sets

Informal Observation: Classroom Observation

Formal Assessment: Topic 5 Modified Assessment

Intervention Kit:

B49, B51, B52, B53, B54, B65

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.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
- Kahoot!
- Tools (Envision 2020)
- Game Center (Envision 2020)
- Create/Complete a Discovery Education Board

Cross Curricular/Career Readiness, Life Literacies and Key Skills Practice

- 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:
Length:
Status: **Published**

Summary of the Unit

The focus of this unit is to use what students know of multiplication and addition with area models. The first three topics focus on counting unit squares to find the areas of figures. By Lesson 6-5, students will be able to recognize they can use multiplication to find the area of rectangles. Following that lesson in 6-6, students will learn that they can find the area of figure by using non-overlapping parts and adding the areas of the parts, which they can use the Distributive Property to break apart facts.

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

Unit 6 Assessment

Reteach to Build Understanding

Multiplication Fact Fluency Timed Test

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

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

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

Unit Plan

*Based on your group, you may do:

- Visual Learning, Solve and Share, and Guided Practice in Whole Group; Independent Practice in Small Group OR
- Visual Learning in Whole Group; Solve and Share, Guided Practice and Independent Practice in Small

Group

- You can change order between Visual Learning and Solve & Share

Topic/ Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/ Assessments
6-1: Cover Regions	SWBAT count unit squares to find the area of a shape	Visual Learning: Teacher will prompt the following question: "Why do you need a unit square to find the area?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given Teaching Tool 8 (two-color tiles) and Teaching Tool 12 (Area of Shapes). Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL FLQ, Z2H	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		• Practice Center: Students will complete Reteach to Build Understanding 6-1. Students will play different multiplication games and activities. Additional Materials: Grid Paper in a communicator to help them visually recognize the unit squares. Optional Activity: • Interactive Notebook 6-1 • Practice Buddy (Online) Closure: Exit Ticket	
6-2: Area - Nonstandard Units	SWBAT count unit squares to find the area of a shape	Visual Learning: Teacher will prompt the following question: “What are you measuring when you measure area?” Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given red/yellow counters to help them solve the question prompt to create an array and break them apart. Guided Practice: Students will complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL EKK, XR6, V73 • Practice Center: Students will complete Reteach to Build Understanding 6-2. Students will play different multiplication games and activities. Additional Materials: Grid Paper in a communicator to help them visually recognize the unit squares. Optional Activity: • Interactive Notebook 6-2 • Practice Buddy (Online) Closure: Exit Ticket	
6-3: Area - Standard Units	SWBAT measure the area of a shape using standard unit	Visual Learning: Teacher will prompt the following question: "How do the names of the standard units of length relate to the names of the units of area?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the	Guided Practice Independent Practice Reteach to Build

		lesson with completing the solve and share with the teacher. Students will be given red/yellow counters to help them solve the question prompt to create an array and break them apart. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Teacher will review comparing symbols to help them solve the bottom half of their independent practice. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL D6T, XR6, V73 • Practice Center: Students will complete Reteach to Build Understanding 6-3. Students will play different multiplication games and activities. Additional Materials: Grid Paper in a communicator to help them visually recognize the unit squares.	Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Optional Activity: • Interactive Notebook 6-3 • Practice Buddy (Online) Closure: Exit Ticket	
6-4: Area of Squares of Rectangles	SWBAT find the area of squares and rectangles by multiplying	Visual Learning: Teacher will prompt the following question: "What is one way to find the area of a wall?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given red/yellow counters to help them solve the question prompt to create an array and break them apart. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Teacher will review comparing symbols to help them solve the bottom half of their independent practice. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		• Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL 8KJ, X66, 5HA, S7G • Practice Center: Students will complete Reteach to Build Understanding 6-4. Students will play different multiplication games and activities. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker. Optional Activity: • Interactive Notebook 6-4 • Practice Buddy (Online) Closure: Exit Ticket	
6-5: Apply Properties - Area and the Distributive Property	SWBAT use properties when multiplying to find the area of squares and rectangles	Visual Learning: Teacher will prompt the following question: “What does the product of 7x8 describe about the rectangle?” Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students will be given red/yellow counters to help them solve the question prompt to create an array and break them apart. Guided Practice: Students will	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket

		complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the “Independent Practice” independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL 6W7 • Practice Center: Students will complete Reteach to Build Understanding 6-5. Students will play different multiplication games and activities. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker. Optional Activity: • Interactive Notebook 6-5 • Practice Buddy (Online) Closure: Exit Ticket	Practice Buddy (Online)
6-6: Apply Properties - Area	SWBAT use properties to find		Guided Practice

of Irregular Shapes	the area of irregular shapes by breaking the shape into smaller parts	Visual Learning: Teacher will prompt the following question: “Why is counting unit squares not a good way to find the area of larger shapes?” Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the “Independent Practice” independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL DVB, SGP • Practice Center: Students will complete Reteach to Build Understanding 6-6. Students will play different multiplication games and activities. Additional Materials: Grid Paper in a communicator to help them organize	Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		their arrays with either counters or create arrays with a dry erase marker. Optional Activity: • Interactive Notebook 6-6 • Practice Buddy (Online) Closure: Exit Ticket	
6-7: Problem Solving - Look For and Use Structure	SWBAT use the relationships between quantities to break a problem into simpler parts	Visual Learning: Teacher will prompt the following question: "How can you check to make sure you solution is correct?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL KTN, KH6 • Practice Center: Students will complete Reteach to Build Understanding 6-7. Students will play different multiplication games and activities. Additional Materials: Grid Paper in a communicator to help them organize their arrays with either counters or create arrays with a dry erase marker. Optional Activity: • Interactive Notebook 6-7 • Practice Buddy (Online) Closure: Exit Ticket	
Topic 6 Reteaching	SWBAT use addition and multiplication to find the area of the shape	Complete Reteaching Sets prior to giving Topic Assessment	Reteaching Sets

Informal Observation: Classroom Observation

Formal Assessment: Topic 6 Modified Assessment

Intervention Kit:

B49, B51, B52, B53, B54, B65; D54, D55, D56

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

Cross Curricular/Career Readiness, Life Literacies and Key Skills Practice

- 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:
Length:
Status: **Published**

Summary of the Unit

This unit focuses on students reading and making scaled picture graphs and bar graphs to represent data. In addition, students will solve problems involving data in graphs. Students will read scaled picture and bar graphs. Students can multiply by the scale to find the total with each picture. Each lesson, students will solve one- and two- step problems using information that is represented in scaled picture graphs and 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

Unit 7 Assessment

Reteach to Build Understanding

Multiplication Fact Fluency Timed Test

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

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

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

Unit Plan

*Based on your group, you may do:

- Visual Learning, Solve and Share, and Guided Practice in Whole Group; Independent Practice in Small Group OR
- Visual Learning in Whole Group; Solve and Share, Guided Practice and Independent Practice in Small Group
- You can change order between Visual Learning and Solve & Share

Topic/ Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/ Assessments
7-1: Read Picture Graphs and Bar	SWBAT use picture graphs and bar	Teacher will introduce the vocabulary	Guided Practice

Graphs	graphs to answer questions about data sets	terms: • Data • Scaled picture graph • Scale Visual Learning: Teacher will prompt the following question: “Why does looking at key help you understand reading the graph?” Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the “Independent Practice” independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL Y5D, V54 • Practice Center: Students will	Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		complete Reteach to Build Understanding 7-1. Students will play different graphing activities. Optional Activity: • Interactive Notebook 7-1 • Practice Buddy (Online) Closure: Exit Ticket	
7-2: Make Picture Graphs	SWBAT make a picture graph to record information and answer questions about a data set	Teacher will introduce the vocabulary terms: • Frequency table • Survey Visual Learning: Teacher will prompt the following question: "Why are 5 and 10 good numbers of unit to use with symbols?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL AVG, 8CW • Practice Center: Students will complete Reteach to Build Understanding 7-2. Students will play different graphing activities. Optional Activity: • Interactive Notebook 7-2 • Practice Buddy (Online) Closure: Exit Ticket	
7-3: Make Bar Graphs	SWBAT make a bar graph to record information and answer questions about a data set	Visual Learning: Teacher will prompt the following question: "What does a scale in a bar graph show?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Teacher will review comparing symbols to help them solve the bottom half of their independent practice.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket

		Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL RPF, WYL, UP6 • Practice Center: Students will complete Reteach to Build Understanding 7-3. Students will play different graphing activities. Optional Activity: • Interactive Notebook 7-3 • Practice Buddy (Online) Closure: Exit Ticket	Practice Buddy (Online)
7-4: Solve Word Problems - Using Information in Graphs	SWBAT use graphs and other tools to solve word problems	Visual Learning: Teacher will prompt the following question: "What is a hidden question?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and	Guided Practice Independent Practice Reteach to Build

		share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Teacher will review comparing symbols to help them solve the bottom half of their independent practice. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL BCJ • Practice Center: Students will complete Reteach to Build Understanding 7-4. Students will play different graphing activities. Optional Activity: • Interactive Notebook 7-4 • Practice Buddy (Online)	Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Closure: Exit Ticket	
7-5: Precision	SWBAT be precise when solving math problems	Visual Learning: Teacher will prompt the following question: “What does it mean to be precise?” Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the “Independent Practice” independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL TLZ • Practice Center: Students will complete Reteach to Build Understanding 7-5. Students will play different graphing activities.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Optional Activity: • Interactive Notebook 7-5 • Practice Buddy (Online) Closure: Exit Ticket	
Topic 7 Reteaching	SWBAT read and interpret given data	Complete Reteaching Sets prior to giving Topic Assessment	Reteaching Sets

Informal Observation: Classroom Observation

Formal Assessment: Topic 7 Modified Assessment

Intervention Kit:

D54, D55, D56

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

Cross Curricular/Career Readiness, Life Literacies and Key Skills Practice

- 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:
Length:
Status: **Published**

Summary of the Unit

In this unit, students will focus on using properties, patterns and mental math to help them add and subtract with 1,000. The students will start the unit focusing on the different addition properties: associative, commutative, and identity properties. They will also use the different strategies they have become familiar with from the previous year of using mental math, rounding and estimating strategies. Through this, the students will gain addition and subtraction fluency and be able to solve word problems presented to them.

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

Unit 8 Assessment

Reteach to Build Understanding

Multiplication Fact Fluency Timed Test

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

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

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

Unit Plan

*Based on your group, you may do:

- Visual Learning, Solve and Share, and Guided Practice in Whole Group; Independent Practice in Small Group OR
- Visual Learning in Whole Group; Solve and Share, Guided Practice and Independent Practice in Small Group

- You can change order between Visual Learning and Solve & Share

Topic/ Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/ Assessments
8-1: Addition Properties	SWBAT use place value and properties to understand addition	Teacher will ask students to answer a few random basic addition facts up to 20. Visual Learning: Teacher will prompt the following question: “How is the Commutative Property of Addition like the Commutative Property of Multiplication?” Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Optional: Teacher will have students check mark each cup to see if it is in each tray. Guided Practice: Students will complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the “Independent Practice” independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL NY2, CGS, KYA • Practice Center: Students will complete Reteach to Build Understanding 8-1. Students will play different addition and subtraction activities. Optional Activity: • Interactive Notebook 8-1 • Practice Buddy (Online) Closure: Exit Ticket	
8-2: Algebra: Addition Patterns	SWBAT find and explain addition patterns	Teacher will do a quick review of addition facts before starting the lesson to activate their prior knowledge of their facts. Visual Learning: Teacher will prompt the following question: "How does the Associative Property help you determine the pattern?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Use colored pencil to shade the boxes for better visual understanding. Guided Practice: Students will complete the "Guided Practice" section with the teacher together.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL L63 • Practice Center: Students will complete Reteach to Build Understanding 8-2. Students will play different addition and subtraction activities. Optional Activity: • Interactive Notebook 8-2 • Practice Buddy (Online) Closure: Exit Ticket	
8-3: Mental Math - Addition	SWBAT use mental math to add.	Teacher will do a quick review of addition facts before starting the lesson to activate their prior knowledge of their facts. Visual Learning: Teacher will prompt the following question: "What does it mean to use an open number line?" Teacher will play the video. Teacher will stop to explain when needed.	Guided Practice Independent Practice Reteach to Build Understanding

		Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Teacher will review comparing symbols to help them solve the bottom half of their independent practice. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL 8XG, BMH • Practice Center: Students will complete Reteach to Build Understanding 8-3. Students will play different addition and subtraction activities. Optional Activity: • Interactive Notebook 8-3 • Practice Buddy (Online)	Enrichment Exit Ticket Practice Buddy (Online)

		Closure: Exit Ticket	
8-4: Mental Math - Subtraction	SWBAT use mental math to subtract	Teacher will do a quick review of addition facts before starting the lesson to activate their prior knowledge of their facts. Visual Learning: Teacher will prompt the following question: "What does it mean to use mental math to solve a problem?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Teacher will review comparing symbols to help them solve the bottom half of their independent practice. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		percentage of the week or more will work on IXL EHT, 8VH • Practice Center: Students will complete Reteach to Build Understanding 8-4. Students will play different addition and subtraction activities. Optional Activity: • Interactive Notebook 8-4 • Practice Buddy (Online) Closure: Exit Ticket	
8-5: Round Whole Numbers	SWBAT use place value and a number line to round whole numbers	Teacher will do a quick review of addition facts before starting the lesson to activate their prior knowledge of their facts. Teacher will introduce the "Rounding Chant" Anchor Chart. Teacher will also show how a number like can help with rounding. Visual Learning: Teacher will prompt the following question: "When you round to the nearest ten, what numbers might you use?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL GST, Q65 • Practice Center: Students will complete Reteach to Build Understanding 8-5. Students will play different rounding activities. Optional Activity: • Interactive Notebook 8-5 • Practice Buddy (Online) Closure: Exit Ticket	
8-6: Estimate Sums	SWBAT use what they know about addition and place value to estimate sums	Teacher will do a quick review of addition facts before starting the lesson to activate their prior knowledge of their facts. Teacher will re-introduce the "Rounding Chant" Anchor Chart. Teacher will also show how a number like can help with rounding.	Guided Practice Independent Practice Reteach to Build

		Visual Learning: Teacher will prompt the following question: “Why does 255 round to 300?” Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the “Independent Practice” independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL 3Y9, WB2, HRT • Practice Center: Students will complete Reteach to Build Understanding 8-6. Students will play different addition and subtraction activities.	Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Optional Activity: • Interactive Notebook 8-6 • Practice Buddy (Online) Closure: Exit Ticket	
8-7: Estimate Differences	SWBAT use place value and a number line to round whole numbers	Teacher will do a quick review of addition facts before starting the lesson to activate their prior knowledge of their facts. Teacher will re-introduce the "Rounding Chant" Anchor Chart. Teacher will also show how a number like can help with rounding. Visual Learning: Teacher will prompt the following question: "Why are the estimates different when you round to the nearest tens than when you round to the nearest hundreds?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL A47, M42, PVS • Practice Center: Students will complete Reteach to Build Understanding 8-7. Students will play different addition and subtraction activities. Optional Activity: • Interactive Notebook 8-7 • Practice Buddy (Online) Closure: Exit Ticket	
8-8: Model with Math	SWBAT apply the math they know to solve problems	Teacher will do a quick review of addition facts before starting the lesson to activate their prior knowledge of their facts. Visual Learning: Teacher will prompt the following question: "A model visually represents something. How is a bar diagram a model?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket

		Guided Practice: Students will complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the “Independent Practice” independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL V7P • Practice Center: Students will complete Reteach to Build Understanding 8-8 . Students will play different addition and subtraction activities. Optional Activity: • Interactive Notebook 8-8 • Practice Buddy (Online) Closure: Exit Ticket	Practice Buddy (Online)
Topic 8 Reteaching	SWBAT use the patterns and properties to add and subtract	Complete Reteaching Sets prior to giving Topic Assessment	Reteaching Sets

Informal Observation: Classroom Observation

Formal Assessment: Topic 8 Modified Assessment

Intervention Kit:

C25, C28, C29, C32

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.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
- Kahoot!
- Tools (Envision 2020)
- Game Center (Envision 2020)
- Create/Complete a Discovery Education Board

Cross Curricular/Career Readiness, Life Literacies and Key Skills Practice

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

Topic 9: Fluently Add and Subtract Within 1,000

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

Summary of the Unit

This unit will focus on students becoming fluent when adding and subtracting whole numbers within 1,000. Students will place value skills to help them find the partial sum and use that to find the final sum of an equation. They will also do this for partial difference of a subtraction equation. By adding and subtracting the place values, students will start with the ones place value and move left to each place value until they find the sum/difference. Students will gain a deep understanding of regroup with both addition and subtraction equations by using the different strategies.

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

Unit 9 Assessment

Reteach to Build Understanding

Multiplication Fact Fluency Timed Test

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

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

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

Unit Plan

*Based on your group, you may do:

- Visual Learning, Solve and Share, and Guided Practice in Whole Group; Independent Practice in Small Group OR
- Visual Learning in Whole Group; Solve and Share, Guided Practice and Independent Practice in Small Group
- You can change order between Visual Learning and Solve & Share

Topic/ Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/ Assessments
9-1: Use Partial Sums to Add	SWBAT use place value to break apart and add numbers	Teacher will review place value blocks. Song about place value blocks: https://www.youtube.com/watch?v=a4FXl4zb3E4&pp=ygUScGxhY2UgdmFsdWUgYmxvY2tz Visual Learning: Teacher will prompt the following question: "What does 300 represent in place value?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Optional: Teacher place value block manipulatives Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL RPC, ZBB, 39M	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		• Practice Center: Students will complete Reteach to Build Understanding 9-1. Students will play different addition and subtraction activities. Additional Materials: Teacher will have place value blocks available and "Adding Partial Sums" template in a communicator for students to use. Optional Activity: • Interactive Notebook 9-1 • Practice Buddy (Online) Closure: Exit Ticket	
9-2: Use Regrouping to Add	SWBAT use different strategies to regroup when adding 3-digit numbers	Teacher will review adding with place value blocks and adding partial sums. Visual Learning: How can you break apart the problem when you are regrouping?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Optional: Teacher place value block manipulatives and place value template Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		work on IXL NWW, 96M, 9NH, LYB,E83, QU2, MUE • Practice Center: Students will complete Reteach to Build Understanding 9-2. Students will play different addition and subtraction activities. Additional Materials: Teacher will have place value blocks available and "Adding Partial Sums" template in a communicator for students to use. Optional Activity: • Interactive Notebook 9-2 • Practice Buddy (Online) Closure: Exit Ticket	
9-3: Add 3 or More Numbers	SWBAT add three or more numbers using what I know about adding 3-digit numbers	Teacher will do a quick review of addition facts before starting the lesson to activate their prior knowledge of their facts. Visual Learning: Teacher will prompt the following question: "When we estimated the sum, why did we rebound to the nearest ten?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Optional: Teacher place value block manipulatives and place value template Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Teacher will review comparing symbols to help them solve the bottom half of their independent practice. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL GSY, NPU • Practice Center: Students will complete Reteach to Build Understanding 9-3. Students will play different addition and subtraction activities. Additional Materials: Teacher will have place value blocks available and "Adding Partial Sums" template in a communicator for students to use. Optional Activity: • Interactive Notebook 9-3 • Practice Buddy (Online) Closure: Exit Ticket	
9-4: Use Partial Differences to Subtract	SWBAT use place value to solve simpler problems when subtracting multi-digit numbers	Teacher will do a quick review of subtraction facts before starting the lesson to activate their prior knowledge of their facts. Visual Learning: Teacher will prompt the following question: "How does knowing place value help you break apart a subtraction problem?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Optional: Teacher place value block manipulatives and place value template Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Teacher will review comparing symbols to help them solve the bottom half of their independent practice.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket

		Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL EHT, 8VH • Practice Center: Students will complete Reteach to Build Understanding 9-4. Students will play different addition and subtraction activities. Additional Materials: Teacher will have place value blocks available and "Adding Difference Sums" template in a communicator for students to use. Optional Activity: • Interactive Notebook 9-4 • Practice Buddy (Online) Closure: Exit Ticket	Practice Buddy (Online)
9-5: Use Regrouping to Subtract	SWBAT use place value reasoning to subtract 3-digit numbers	Teacher will do a quick review of subtraction facts before starting the lesson to activate their prior knowledge of their facts. Visual Learning: Teacher will prompt the following question: "How do you know when you should subtract to solve the problem?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Optional: Teacher place value block manipulatives and place value template	Guided Practice Independent Practice Reteach to Build Understanding

		Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Teacher will review comparing symbols to help them solve the bottom half of their independent practice. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL UPT, WR8, 93U, K88, V63 • Practice Center: Students will complete Reteach to Build Understanding 9-5. Students will play different addition and subtraction activities. Additional Materials: Teacher will have place value blocks available, number line and a "Adding Difference Sums" template in a communicator for students to use. Optional Activity: • Interactive Notebook 9-5 • Practice Buddy (Online) Closure: Exit Ticket	Enrichment Exit Ticket Practice Buddy (Online)
9-6: Use Strategies to Add and Subtract	SWBAT use place value reasoning to add and	Teacher will do a quick review of addition and subtraction facts before starting the lesson to activate their prior knowledge of their facts. Visual Learning: Teacher will prompt the following question: "How does partial difference help when subtracting?" Teacher will play the video.	Guided Practice Independent Practice

	subtract 3 digit numbers	Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL • Practice Center: Students will complete Reteach to Build Understanding 9-6. Students will play different addition and subtraction activities. Optional Activity: • Interactive Notebook 9-6 • Practice Buddy (Online) Closure: Exit Ticket	Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)
9-7: Construct Arguments	SWBAT construct math arguments using what I know about addition and	Visual Learning: Teacher will prompt the following question: "Why are number lines a good way to prove this conjecture?"Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher.	Guided Practice Independent Practice Reteach to

	subtraction	Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL XSH, 2TD, 9Z7 • Practice Center: Students will complete Reteach to Build Understanding 9-7. Students will play different addition and subtraction activities. Optional Activity: • Interactive Notebook 9-7 • Practice Buddy (Online) Closure: Exit Ticket	Build Understanding Enrichment Exit Ticket Practice Buddy (Online)
Topic 9 Reteaching	SWBAT use differently strategies to add and subtract fluently within 1,000	Complete Reteaching Sets prior to giving Topic Assessment	Reteaching Sets

Informal Observation: Classroom Observation

Formal Assessment: Topic 9 Modified Assessment

Intervention Kit:

C25, C28, C29, C32

Standards

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.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.

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
- Kahoot!

- Tools (Envision 2020)
- Game Center (Envision 2020)
- Create/Complete a Discovery Education Board

Cross Curricular/Career Readiness, Life Literacies and Key Skills Practice

- 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:
Length:
Status: **Published**

Summary of the Unit

This unit will focus on using place value patterns and the different multiplication properties. Students will focus on multiplying 1-digit numbers by multiples of 10. Students will have the opportunity to use place value blocks. Using various strategies in this topic creates the foundation for them to see the multiple of 10, ie: 80 is 8 tens or 8x10.

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

Unit 10 Assessment

Reteach to Build Understanding

Multiplication Fact Fluency Timed Test

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

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

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

Unit Plan

*Based on your group, you may do:

- Visual Learning, Solve and Share, and Guided Practice in Whole Group; Independent Practice in Small Group OR
- Visual Learning in Whole Group; Solve and Share, Guided Practice and Independent Practice in Small Group
- You can change order between Visual Learning and Solve & Share

Topic/ Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/ Assessments
10-1:Use Patterns to Multiply	SWBAT use patterns to multiply by multiples of 10	Teacher will do a quick review of multiplication facts before starting the lesson to activate their prior knowledge of their facts. Teacher will introduce “Multiplying by	Guided Practice Independent Practice

		10s Anchor Chart" Visual Learning: Teacher will prompt the following question: "How do the place value blocks show 5x50?"Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Optional: Teacher place value block manipulatives or number line template Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL MS6 • Practice Center: Students will complete Reteach to Build Understanding 10-1. Students will play different	Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		multiplication activities. Optional Activity: • Interactive Notebook 10-1 • Practice Buddy (Online) Closure: Exit Ticket	
10-2: Use Mental Math to Multiply	SWBAT use different strategies to find products when one factor is a multiple of 10	Teacher will do a quick review of multiplication facts before starting the lesson to activate their prior knowledge of their facts. Teacher will re-introduce "Multiplying by 10s Anchor Chart" Visual Learning: Teacher will prompt the following question: "Why would you use multiplication to find the total of crayons in the following problem?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL GPN • Practice Center: Students will complete Reteach to Build Understanding 10-2. Students will play different multiplication activities. Optional Activity: • Interactive Notebook 10-2 • Practice Buddy (Online) Closure: Exit Ticket	
10-3: Use Properties to Multiply	SWBAT use properties of multiplication to find a product when one factor is a multiple of 10	Teacher will do a quick review of multiplication facts before starting the lesson to activate their prior knowledge of their facts. Teacher will re-introduce "Multiplying by 10s Anchor Chart" Visual Learning: Teacher will prompt the following question: "Why can you group 4x20 as 4x(2x10)?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket

		Guided Practice: Students will complete the “Guided Practice” section with the teacher together. Teacher will review comparing symbols to help them solve the bottom half of their independent practice. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the “Independent Practice” independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL • Practice Center: Students will complete Reteach to Build Understanding 9-3. Students will play multiplication activities. Additional Materials: Teacher will have place value blocks available and “Adding Partial Sums” template in a communicator for students to use. Optional Activity:	Practice Buddy (Online)

		• Interactive Notebook 9-3 • Practice Buddy (Online) Closure: Exit Ticket	
10-4: Look For and Use Structure	SWBAT use patterns to describe relationships between quantities	Teacher will do a quick review of multiplication facts before starting the lesson to activate their prior knowledge of their facts. Teacher will re-introduce "Multiplying by 10s Anchor Chart" Visual Learning: Teacher will prompt the following question: "How can you look for relationships in the multiplication table?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Teacher will review comparing symbols to help them solve the bottom half of their independent practice. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL SYC • Practice Center: Students will complete Reteach to Build Understanding 10-4. Students will play different addition and subtraction activities. Optional Activity: • Interactive Notebook 10-4 • Practice Buddy (Online) Closure: Exit Ticket	
Topic 10 Reteaching	SWBAT multiply 1-digit digits by multiple of 10s	Complete Reteaching Sets prior to giving Topic Assessment	Reteaching Sets

Informal Observation: Classroom Observation

Formal Assessment: Topic 10 Modified Assessment

Intervention Kit:

B49, B51, B52, B53, B54, B65, A72

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

Cross Curricular/Career Readiness, Life Literacies and Key Skills Practice

- 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: **Mathematics**
Course(s):
Time Period:
Length:
Status: **Published**

Summary of the Unit

This unit, students will focus on solving addition, subtraction, multiplication and division two-step word problems. Students will get the foundation of using formal algebraic language where they use letters that represent unknown quantities in the problem. Students will use one letter to represent the answer and they will interpret word problems. They will also draw the various meanings of the operation to help them determine which operation to use.

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

Unit 11 Assessment

Reteach to Build Understanding

Multiplication Fact Fluency Timed Test

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

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

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

Unit Plan

*Based on your group, you may do:

- Visual Learning, Solve and Share, and Guided Practice in Whole Group; Independent Practice in Small Group OR
- Visual Learning in Whole Group; Solve and Share, Guided Practice and Independent Practice in Small Group
- You can change order between Visual Learning and Solve & Share

Topic/ Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/ Assessments
11-1: Solve 2-Step Word Problems - Addition and	SWBAT draw diagrams and equations to show	Visual Learning: Teacher will prompt the following question: “Why can estimation help you check your	Guided Practice

Subtraction	how the quantities in a problem are related	answer?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL CBA • Practice Center: Students will complete Reteach to Build Understanding 11-1. Students will work on word problem task cards. Additional Materials: Teacher will have "CUBES" graphic organizer for them	Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Optional Activity: • Interactive Notebook 11-1 • Practice Buddy (Online) Closure: Exit Ticket	
11-2: Solve 2-Step Word Problems - Multiplication and Division	SWBAT draw diagrams and write equations to show how the quantities in a problem are related	Visual Learning: Teacher will prompt the following question: "What does the 24 and the 3 represent in the following problem?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL 8FP, ZNN	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		• Practice Center: Students will complete Reteach to Build Understanding 11-2. Students will work on word problem task cards. Additional Materials: Teacher will have “CUBES” graphic organizer for them Optional Activity: • Interactive Notebook 11-2 • Practice Buddy (Online) Closure: Exit Ticket	
11-3: Solve 2-Step Word Problems - All Operations	SWBAT solve two-step word problems involving different operations	Visual Learning: Teacher will prompt the following question: “Why is it important to first find and answer the hidden question?” Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL SRL, U6P • Practice Center: Students will complete Reteach to Build Understanding 11-3. Students will work on word problem task cards. Additional Materials: Teacher will have "CUBES" graphic organizer for them Optional Activity: • Interactive Notebook 11-3 • Practice Buddy (Online) Closure: Exit Ticket	
11-4: Critique Reasoning	SWBAT critique the reasoning of others using what they know about estimating	Visual Learning: Teacher will prompt the following question: "How can you find the main question you will need to answer?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will	Guided Practice Independent Practice Reteach to Build Understanding Enrichment

		complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the “Independent Practice” independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL V5A • Practice Center: Students will complete Reteach to Build Understanding 11-4. Students will work on word problem task cards. Additional Materials: Teacher will have “CUBES” graphic organizer for them Optional Activity: • Interactive Notebook 11-4 • Practice Buddy (Online) Closure: Exit Ticket	Exit Ticket Practice Buddy (Online)
Topic 8 Reteaching	SWBAT solve word problems using different operations	Complete Reteaching Sets prior to giving Topic Assessment	Reteaching Sets

Informal Observation: Classroom Observation

Formal Assessment: Topic 11 Modified Assessment

Intervention Kit:

E6, E7

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

Cross Curricular/Career Readiness, Life Literacies and Key Skills Practice

- 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:
Length:
Status: **Published**

Summary of the Unit

This unit, students will be introduced to how fractions are numbers that are represented by a portion of a whole or a point on the number line. They will be able to measure lengths to the nearest half inch or fourth inch and be able to show that on a line plot. Students will have a deep conceptual understanding of fractions as numbers. There is an emphasis on the students having an understanding that a unit fraction is the quantity formed by a 1 part when a whole is partitioned into equal parts. They will also understand that the whole is the distance from 0 to one on a number line.

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

Unit 12 Test

Topic Quick Checks

Multiplication Fact Fluency Timed Test

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

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

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

Unit Plan

*Based on your group, you may do:

- Visual Learning, Solve and Share, and Guided Practice in Whole Group; Independent Practice in Small Group OR
- Visual Learning in Whole Group; Solve and Share, Guided Practice and Independent Practice in Small Group
- You can change order between Visual Learning and Solve & Share

Topic/ Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/ Assessments
12-1: Partition Regions into Equal Parts	SWBAT read and write a unit fraction	Teacher will introduce the vocabulary terms: • Fraction • Unit Fraction Visual Learning: Teacher will prompt the following question: "What is a fraction?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students can use a number line or fraction strips. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL FHY, JHE, CPK, UV8 • Practice Center: Students will complete Reteach to Build Understanding 12-1. Students will play any of the Fraction Center Games. Optional Activity: • Interactive Notebook 12-1 • Practice Buddy (Online) Closure: Exit Ticket	
12-2: Fractions and Regions	SWBAT use a fraction to represent multiple copies of a unit fraction	Teacher will introduce the vocabulary terms: • Denominator • Numerator Visual Learning: Teacher will prompt the following question: "Why can each part be named with the unit fraction ⅙?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket

		share with the teacher. Guided Practice: Students will complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the “Independent Practice” independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL RTW, NLE, YHL, 6JL, ZPW • Practice Center: Students will complete Reteach to Build Understanding 12-2. Students will play any of the Fraction Center Games. Optional Activity: • Interactive Notebook 12-2 • Enrichment 12-2 • Practice Buddy (Online) Closure: Exit Ticket	Practice Buddy (Online)
12-3: Understand the Whole	SWBAT determine and draw the whole	Visual Learning: Teacher will prompt the following question: “How does the	Guided Practice

	(unit) given one part (unit fraction)	fraction you are given tell you how many parts to use to make the whole?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL 9PU • Practice Center: Students will complete Reteach to Build Understanding 12-3. Students will play any of the Fraction Center Games. Optional Activity: • Interactive Notebook 12-3	Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		• Enrichment 12-3 • Practice Buddy (Online) Closure: Exit Ticket	
12-4: Number Line - Fraction Less than 1	SWBAT represent fractions less than 1 on a number line	Visual Learning: Teacher will prompt the following question: "What does the distance from 0 to 1 on the number line represent?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students can use a number line or fraction strips. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL CBW, AWH, PYB • Practice Center: Students will	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		complete Reteach to Build Understanding 12-4. Students will play any of the Fraction Center Games. Optional Activity: • Interactive Notebook 12-4 • Enrichment 12-4 • Practice Buddy (Online) Closure: Exit Ticket	
12-5: Number Line - Fractions Greater Than 1	SWBAT represent fractions greater than 1 on a number line	Visual Learning: Teacher will prompt the following question: "How can you represent a whole on a number line?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students can use a number line or fraction strips. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL 7QM • Practice Center: Students will complete Reteach to Build Understanding 12-5. Students will play any of the Fraction Center Games. Optional Activity: • Interactive Notebook 12-5 • Enrichment 12-5 • Practice Buddy (Online) Closure: Exit Ticket	
12-6: Line Plots and Lengths	SWBAT measure length to the nearest half inch and show the data on a line plot	Visual Learning: Teacher will prompt the following question: “Do all rulers give the same results?” Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students can use a number line or fraction strips. Guided Practice: Students will complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL 5R3, YUR • Practice Center: Students will complete Reteach to Build Understanding 12-6. Students will play any of the Fraction Center Games. Optional Activity: • Interactive Notebook 12-6 • Enrichment 12-6 • Practice Buddy (Online) Closure: Exit Ticket	
12-7: More Line Plots and Lengths	SWBAT measure length to the nearest fourth inch and show the data on a line plot	Visual Learning: Teacher will prompt the following question: "How is a ruler like a number line?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students can use a number line or fraction strips. Guided Practice: Students will	Guided Practice Independent Practice Reteach to Build Understanding Enrichment

		complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the “Independent Practice” independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL LC2, 6RC • Practice Center: Students will complete Reteach to Build Understanding 12-7. Students will play any of the Fraction Center Games. Optional Activity: • Interactive Notebook 12-7 • Enrichment 12-7 • Practice Buddy (Online) Closure: Exit Ticket	Exit Ticket Practice Buddy (Online)
12-8: Problem Solving - Make Sense and Persevere	SWBAT determine when a problem has either extra or missing information	Visual Learning: Teacher will prompt the following question: “What does it mean for each part to be ⅛?” Teacher will play the video. Teacher will stop to explain when needed.	Guided Practice Independent Practice

		Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students can use a number line or fraction strips. Guided Practice: Students will complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the “Independent Practice” independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL BV7, HM7 • Practice Center: Students will complete Reteach to Build Understanding 12-8. Students will play any of the Fraction Center Games. Optional Activity: • Interactive Notebook 12-8 • Enrichment 12-8 • Practice Buddy (Online)	Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Closure: Exit Ticket	
Topic 12 Reteaching	SWBAT solve problems using fractions	Complete Reteaching Sets prior to giving Topic Assessment	Reteaching Sets

Informal Observation: Classroom Observation

Formal Assessment: Topic 12 Modified Assessment

Intervention Kit:

A52, A53, A55, A57, A59, A60

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.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
- Kahoot!
- Tools (Envision 2020)
- Game Center (Envision 2020)
- Create/Complete a Discovery Education Board

Cross Curricular/Career Readiness, Life Literacies and Key Skills Practice

- 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:
Length:
Status: **Published**

Summary of the Unit

This unit, students focus on using models and number sense so they can understand how fractions are equivalent to each other and how to compare fractions. They will gain the foundation that equivalence is an important concept in all levels in math. Equivalent fractions or expresents will represent the same amount when being compared, which they can recognize is the same with fractions. Students will notice that fractions are equivalent when they have the same amount of partitioned region or the same distance on the number line. Since students often have misconceptions about equivalence, models are a great way to show how fractions can be equal even if the denominator or numerator are different.

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

Unit 13 Test

Topic Quick Checks

Multiplication Fact Fluency Timed Test

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

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

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

Unit Plan

*Based on your group, you may do:

- Visual Learning, Solve and Share, and Guided Practice in Whole Group; Independent Practice in Small Group OR
- Visual Learning in Whole Group; Solve and Share, Guided Practice and Independent Practice in Small Group
- You can change order between Visual Learning and Solve & Share

Topic/ Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/ Assessments
13-1: Equivalent Fractions - Use Models	SWBAT find equivalent fractions that name the same part of the whole	Teacher will introduce the vocabulary terms: • Equivalent Fractions Visual Learning: Teacher will prompt the following question: "What is another way to name ½?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students can use a number line or fraction strips. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL LXP, ZJ2, 7DA, 6DY • Practice Center: Students will complete Reteach to Build Understanding 13-1. Students will play any of the Fraction Center Games. Optional Activity: • Interactive Notebook 13-1 • Practice Buddy (Online) Closure: Exit Ticket	
13-2:Equivalent Fractions - Use the Number Line	SWBAT represent equivalent fractions on the number line	Visual Learning: Teacher will prompt the following question: "If two number lines are the same size, how do you know the fractions are equivalent?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket

		Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL HYM, JL8, WPQ, WMX • Practice Center: Students will complete Reteach to Build Understanding 13-2. Students will play any of the Fraction Center Games. Optional Activity: • Interactive Notebook 13-2 • Enrichment 13-2 • Practice Buddy (Online) Closure: Exit Ticket	Practice Buddy (Online)
13-3: Use Models to Compare Fractions - Same Denominator	SWBAT use models such as fraction strips to compare fractions that refer to the same whole and have the same denominator	Visual Learning: Teacher will prompt the following question: "What can you use to compare fractions when the denominators are the same?" Teacher will play the video. Teacher will stop to explain when needed.	Guided Practice Independent Practice Reteach to Build

		Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the “Independent Practice” independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL TDE, 63U, 8SU, HYZ • Practice Center: Students will complete Reteach to Build Understanding 13-3. Students will play any of the Fraction Center Games. Optional Activity: • Interactive Notebook 13-3 • Enrichment 13-3 • Practice Buddy (Online) Closure: Exit Ticket	Understanding Enrichment Exit Ticket Practice Buddy (Online)

13-4: USe Models to Compare Fractions - Same Numerator	SWBAT use models such as fraction strips to compare fractions that refer to the same whole and have the same numerator	Visual Learning: Teacher will prompt the following question: “What is important to know before you compare fractions?” Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students can use a number line or fraction strips. Guided Practice: Students will complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the “Independent Practice” independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL RGM, HVV, ZPD, 7LX, PCW • Practice Center: Students will complete Reteach to Build Understanding 12-4. Students will play any of the Fraction Center Games.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Optional Activity: • Interactive Notebook 13-4 • Enrichment 13-4 • Practice Buddy (Online) Closure: Exit Ticket	
13-5: Compare Fractions - Use Benchmarks	SWBAT use benchmark numbers to compare fractions	Visual Learning: Teacher will prompt the following question: "Without looking at the model, how can you tell 2/6 is less than ⅔?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students can use a number line or fraction strips. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		will work on IXL 78D, D8B, EEU • Practice Center: Students will complete Reteach to Build Understanding 13-5. Students will play any of the Fraction Center Games. Optional Activity: • Interactive Notebook 13-5 • Enrichment 13-5 • Practice Buddy (Online) Closure: Exit Ticket	
13-6: Compare Fractions - Use the Number Line	SWBAT use the number line to compare fractions	Visual Learning: Teacher will prompt the following question: "How is the number line divided when we are trying to compare fractions?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students can use a number line or fraction strips. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL 38T, 6HS, T7E • Practice Center: Students will complete Reteach to Build Understanding 12-6. Students will play any of the Fraction Center Games. Optional Activity: • Interactive Notebook 13-6 • Enrichment 13-6 • Practice Buddy (Online) Closure: Exit Ticket	
13-7: Whole Numbers and Fractions	SWBAT use fraction names to represent whole numbers	Visual Learning: Teacher will prompt the following question: "How many ⅙ pieces are in 1 whole pie?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Students can use a number line or fraction strips. Guided Practice: Students will complete the "Guided Practice" section with the teacher together.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket

		Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL 7BL, KCE, GHZ • Practice Center: Students will complete Reteach to Build Understanding 13-7. Students will play any of the Fraction Center Games. Optional Activity: • Interactive Notebook 13-7 • Enrichment 13-7 • Practice Buddy (Online) Closure: Exit Ticket	Practice Buddy (Online)
13-8: Problem Solving - Construct Arguments	SWBAT construct math arguments using fractions	Visual Learning: Teacher will prompt the following question: "What is a conjecture?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the	Guided Practice Independent Practice Reteach to Build

		lesson with completing the solve and share with the teacher. Students can use a number line or fraction strips. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL 9BK • Practice Center: Students will complete Reteach to Build Understanding 13-8. Students will play any of the Fraction Center Games. Optional Activity: • Interactive Notebook 13-8 • Enrichment 13-8 • Practice Buddy (Online) Closure: Exit Ticket	Understanding Enrichment Exit Ticket Practice Buddy (Online)
Topic 13	SWBAT compare	Complete Reteaching Sets prior to	Reteaching Sets

Reteaching	fractions and find equivalent fractions	giving Topic Assessment	

Informal Observation: Classroom Observation

Formal Assessment: Topic 13 Modified Assessment

Intervention Kit:

A52, A53, A55, A57, A59, A60

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.c	Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers.
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
- Kahoot!
- Tools (Envision 2020)
- Game Center (Envision 2020)
- Create/Complete a Discovery Education Board

Cross Curricular/Career Readiness, Life Literacies and Key Skills Practice

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

Topic 14: Solve Time, Capacity, and Mass Problem

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

Summary of the Unit

This unit, students will extend their knowledge and understanding of time and solve problems that has them estimate and measure time intervals, liquid volume (capacity), and mass. Students will have to tell the time using an analog clock to the nearest time. First, they will look at the hour hand and then the minute hand. Students will count up to find the elapsed time. Students will also gain the understanding of liquid volume is the amount of liquid a container can hold. They will learn how mass is a measure of the amount of matter in an object and will understand that with mass, only the weight changes.

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

Unit 14 Test

Topic Quick Checks

Multiplication Fact Fluency Timed Test

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

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

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

Unit Plan

*Based on your group, you may do:

- Visual Learning, Solve and Share, and Guided Practice in Whole Group; Independent Practice in Small Group OR
- Visual Learning in Whole Group; Solve and Share, Guided Practice and Independent Practice in Small Group
- You can change order between Visual Learning and Solve & Share

Topic/ Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/ Assessments
14-1: Time to the Minute	SWBAT show and tell time to the nearest minute using analog and digital clocks	Visual Learning: Teacher will prompt the following question: "What does each hand on the clock represent?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Students will have their own manipulative clock. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Math. Students who are on the percentage of the week or more will work on IXL 5ZQ, EQS, LPT, L5U • Practice Center: Students will complete Reteach to Build Understanding 14-1. Students will play any of the Time and Capacity Center Games. Optional Activity: • Interactive Notebook 14-1 • Practice Buddy (Online) Closure: Exit Ticket	
14-2: Units of Time - Measure Elapsed Time	SWBAT tell and write time to the nearest minute and measure time intervals in minutes	Teacher will introduce the vocabulary terms: • Elapsed Time • A.M. • P.M. Visual Learning: Teacher will prompt the following question: "How can you describe what elapsed time means?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Students will have their own manipulative clock.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL SCQ, V9D, U7B • Practice Center: Students will complete Reteach to Build Understanding 14-2. Students will play any of the Time and Capacity Center Games. Optional Activity: • Interactive Notebook 14-2 • Practice Buddy (Online) Closure: Exit Ticket	
14-3: Units of Time - Solve Word Problems	SWBAT solve word problems involving addition and subtraction measure quantities of time	Teacher will introduce the vocabulary terms: • Time Interval Visual Learning: Teacher will prompt the following question: "What are some strategies we can use to help us solve word problems?"	Guided Practice Independent Practice Reteach to Build Understanding

		Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the “Guided Practice” section with the teacher together. Students will have their own manipulative clock. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the “Independent Practice” independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL SVC, 7VM • Practice Center: Students will complete Reteach to Build Understanding 14-3. Students will play any of the Time and Capacity Center Games. Optional Activity: • Interactive Notebook 14-3 • Practice Buddy (Online)	Enrichment Exit Ticket Practice Buddy (Online)

		Closure: Exit Ticket	
14-4: Estimate Liquid Volume	SWBAT use standard units to estimate liquid volume	Teacher will introduce the vocabulary terms: • Capacity (liquid volume) • Liter (L) Visual Learning: Teacher will prompt the following question: "Think about a water bottle, how many liters do you think the pail will hold?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		will work on IXL LYS • Practice Center: Students will complete Reteach to Build Understanding 14-4. Students will play any of the Time and Capacity Center Games. Optional Activity: • Interactive Notebook 14-4 • Practice Buddy (Online) Closure: Exit Ticket	
14-5: Measure Liquid Volume	SWBAT use standard units to measure liquid volume	Visual Learning: Teacher will prompt the following question: "How can you use the beaker to estimate the capacity of another container?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL RK2 • Practice Center: Students will complete Reteach to Build Understanding 14-5. Students will play any of the Time and Capacity Center Games. Optional Activity: • Interactive Notebook 14-5 • Practice Buddy (Online) Closure: Exit Ticket	
14-6: Estimate Mass	SWBAT use standard units to estimate the masses of solid objects	Teacher will introduce the vocabulary terms: • Mass • Grams • Kilograms Visual Learning: Teacher will prompt the following question: “What is similar about the words grams and kilograms?” Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Guided Practice: Students will complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the “Independent Practice” independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL PTF, FTA • Practice Center: Students will complete Reteach to Build Understanding 14-6. Students will play any of the Time and Capacity Center Games. Optional Activity: • Interactive Notebook 14-62 • Practice Buddy (Online) Closure: Exit Ticket	
14-7: Measure Mass	SWBAT use a pan balance with metric weights to measure the mass of objects in grams and kilograms	Visual Learning: Teacher will prompt the following question: “What object can you use to estimate the mass of other objects?” Teacher will play the video. Teacher will stop to explain when needed.	Guided Practice Independent Practice

		Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL C9Z • Practice Center: Students will complete Reteach to Build Understanding 14-7. Students will play any of the Time and Capacity Center Games. Optional Activity: • Interactive Notebook 14-7 • Practice Buddy (Online) Closure: Exit Ticket	Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

14-8: Solve Word Problems Involving Mass and Liquid Volume	SWBAT use pictures to help solve problems about mass volume	Visual Learning: Teacher will prompt the following question: "How does a bar diagram represent the information you are given in the problem?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL VPW • Practice Center: Students will complete Reteach to Build Understanding 14-8. Students will play any of the Time and Capacity Center Games. Optional Activity:	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		• Interactive Notebook 14-8 • Practice Buddy (Online) Closure: Exit Ticket	
14-9: Problem Solving: Reasoning	SWBAT make sense of quantities and relationships in problems	Visual Learning: Teacher will prompt the following question: "What data do you need to help you solve the problems?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL C95 • Practice Center: Students will complete Reteach to Build Understanding 14-9. Students	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		will play any of the Time and Capacity Center Games. Optional Activity: • Interactive Notebook 14-9 • Practice Buddy (Online) Closure: Exit Ticket	
Topic 14 Reteaching	SWBAT solve problems involving measurement of time intervals, liquid volume, and mass	Complete Reteaching Sets prior to giving Topic Assessment	Reteaching Sets

Informal Observation: Classroom Observation

Formal Assessment: Topic 14 Modified Assessment

Intervention Kit:

D6, D8, D24, D26

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

Cross Curricular/Career Readiness, Life Literacies and Key Skills Practice

- 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:
Length:
Status: **Published**

Summary of the Unit

This unit, students will focus on the attributes of two-dimensional shapes, especially quadrilaterals. They will learn the different categories that may have based on their attributes. Students will also learn the attributes of trapezoids, parallelograms, rectangles, rhombuses, and squares. They will show their understanding in putting shapes in two different categories.

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

Unit 15 Test

Topic Quick Checks

Multiplication Fact Fluency Timed Test

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

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

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

Unit Plan

*Based on your group, you may do:

- Visual Learning, Solve and Share, and Guided Practice in Whole Group; Independent Practice in Small Group OR
- Visual Learning in Whole Group; Solve and Share, Guided Practice and Independent Practice in Small Group
- You can change order between Visual Learning and Solve & Share

Topic/ Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/ Assessments
15-1: Describe Quadrilaterals	SWBAT identify quadrilaterals and use attributes to describe them	Teacher will introduce the vocabulary terms: • Polygon	Guided Practice Independent

		• Sides • Quadrilateral • Angles • Vertex • Trapezoid • Parallelogram • Rectangle • Right Angles • Rhombus • Square • Convex • Concave Visual Learning: Teacher will prompt the following question: “What shapes in your classroom look like a quadrilateral?” Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the “Guided Practice” section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with	Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL 47T, V6L, ZSD, 67A, C2P • Practice Center: Students will complete Reteach to Build Understanding 15-1. Students will complete Shapes Center Games. Optional Activity: • Interactive Notebook 15-1 • Practice Buddy (Online) Closure: Exit Ticket	
15-2: Classify Shapes	SWBAT classify shapes according to their attributes	Visual Learning: Teacher will prompt the following question: "Can a triangle have a right angle?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment

		Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL CNJ, GWA, 6E9, 2YR • Practice Center: Students will complete Reteach to Build Understanding 15-2. Students will complete Shapes Center Games. Optional Activity: • Interactive Notebook 15-2 • Practice Buddy (Online) Closure: Exit Ticket	Exit Ticket Practice Buddy (Online)
15-3: Analyze and Compare Quadrilaterals	SWBAT analyze and compare quadrilaterals and group them by their attributes	Visual Learning: Teacher will prompt the following question: "What are common attributes for quadrilaterals?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the	Guided Practice Independent Practice Reteach to Build

		lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL (previous unit skills; there is no specific skills for this lesson) • Practice Center: Students will complete Reteach to Build Understanding 15-3. Students will complete Shapes Center Games. Optional Activity: • Interactive Notebook 15-3 • Practice Buddy (Online) Closure: Exit Ticket	Understanding Enrichment Exit Ticket Practice Buddy (Online)
15-4: Problem Solving -	SWBAT solve math problems precisely,	Visual Learning: Teacher will prompt the following question: "Which shapes	Guided Practice

Precision	efficiently, and accurately using appropriate tools and mathematics vocabulary	have 4 sides and 4 right angles?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Students will have their own manipulative clock. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL 5KS • Practice Center: Students will complete Reteach to Build Understanding 15-4.Students will complete Shapes Center Games. Optional Activity: • Interactive Notebook 15-4	Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		• Practice Buddy (Online) Closure: Exit Ticket	
Topic 15 Reteaching	SWBAT find attributes of two-dimensional shapes	Complete Reteaching Sets prior to giving Topic Assessment	Reteaching Sets

Informal Observation: Classroom Observation

Formal Assessment: Topic 15 Modified Assessment

Intervention Kit:

D37, D40, D42

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.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
- Kahoot!
- Tools (Envision 2020)
- Game Center (Envision 2020)
- Create/Complete a Discovery Education Board

Cross Curricular/Career Readiness, Life Literacies and Key Skills Practice

- 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:
Length:
Status: **Published**

Summary of the Unit

This unit, students will focus on recognizing perimeter as an attribute of polygons. They will find the perimeter using addition and multiplication. Students will be able to notice the attribute of perimeter from the attribute of an area by analyzing rectangles with the same perimeter and different areas, or 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

Unit 16 Test

Topic Quick Checks

Multiplication Fact Fluency Timed Test

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

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

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

Unit Plan

*Based on your group, you may do:

- Visual Learning, Solve and Share, and Guided Practice in Whole Group; Independent Practice in Small Group OR
- Visual Learning in Whole Group; Solve and Share, Guided Practice and Independent Practice in Small Group
- You can change order between Visual Learning and Solve & Share

Topic/ Selection Timeframe	General Objectives	Instructional Activities	Benchmarks/ Assessments

16-1: Understand Perimeter	SWBAT find the perimeter of different polygons	Teacher will introduce the vocabulary terms: • perimeter Visual Learning: Teacher will prompt the following question: "What shapes in your classroom look like a quadrilateral?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL TQP, 65Z, ZJT • Practice Center: Students will	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		complete Reteach to Build Understanding 16-1. Students will complete Area and Perimeter Center Games. Optional Activity: • Interactive Notebook 16-1 • Practice Buddy (Online) Closure: Exit Ticket	

16-2: Perimeter of Common Shapes	SWBAT find the perimeter of different polygons with common shapes	Teacher will introduce the vocabulary terms: • Equilateral Triangle Visual Learning: Teacher will prompt the following question: "What numbers do you need to add to find the perimeter?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL AT2, LLY, PCZ • Practice Center: Students will	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		complete Reteach to Build Understanding 16-2. Students will complete Area and Perimeter Center Games. Optional Activity: • Interactive Notebook 16-2 • Practice Buddy (Online) Closure: Exit Ticket	

16-3: Perimeter and Unknown Side Lengths	SWBAT use the given sides of a polygon and the known perimeter to find the unknown side length	Visual Learning: Teacher will prompt the following question: "What do you need to know to find the length of the unknown side?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL T2V, DKC • Practice Center: Students will complete Reteach to Build Understanding 16-3. Students will complete Area and Perimeter Center Games.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Optional Activity: • Interactive Notebook 16-3 • Practice Buddy (Online) Closure: Exit Ticket	

16-4: Same Perimeter, Different Area	SWBAT understand their relationship of shapes with the same perimeter and different areas	Visual Learning: Teacher will prompt the following question: "How do you find the area of a rectangle? How do you label the area?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL KNR • Practice Center: Students will complete Reteach to Build Understanding 16-4. Students will complete Area and Perimeter Center Games.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Optional Activity: • Interactive Notebook 16-4 • Practice Buddy (Online) Closure: Exit Ticket	

16-5: Same Area, Different Perimeter	SWBAT understand their relationship of shapes with the same area and different perimeters	Visual Learning: Teacher will prompt the following question: "What information do need to find the perimeter of a rectangle?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL XWE, ZWF, PMF • Practice Center: Students will complete Reteach to Build Understanding 16-5. Students will complete Area and Perimeter Center Games.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Optional Activity: • Interactive Notebook 16-5 • Practice Buddy (Online) Closure: Exit Ticket	

16-6: Problem Solving - Reasoning	SWBAT understand the relationship between numbers to simplify and solve problems involving perimeter	Visual Learning: Teacher will prompt the following question: "How does the picture help you with your reasoning?" Teacher will play the video. Teacher will stop to explain when needed. Solve & Share: Students will begin the lesson with completing the solve and share with the teacher. Guided Practice: Students will complete the "Guided Practice" section with the teacher together. Independent Practice/ Centers Activities: • Work with Teacher: Students will work in small groups with the teacher completing the Solve & Share and Guided Practice together. Students will complete the "Independent Practice" independently with teacher monitoring and offering guidance when needed. Students will complete the Exit Ticket Prompt. • Technology: Students will work on XtraMath and then go on ST Math. Students who are on the percentage of the week or more will work on IXL CLD, 8H8 • Practice Center: Students will complete Reteach to Build Understanding 16-6. Students will complete Area and Perimeter Center Games.	Guided Practice Independent Practice Reteach to Build Understanding Enrichment Exit Ticket Practice Buddy (Online)

		Optional Activity: • Interactive Notebook 16-6 • Practice Buddy (Online) Closure: Exit Ticket	
Topic 16 Reteaching	SWBAT find the perimeter of a shape	Complete Reteaching Sets prior to giving Topic Assessment	Reteaching Sets

Informal Observation: Classroom Observation

Formal Assessment: Topic 16 Modified Assessment

Intervention Kit:

D18, D21, D22

Standards

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

Cross Curricular/Career Readiness, Life Literacies and Key Skills Practice

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