# Math Unit 1 (23-24) 

| Content Area: | Mathematics |
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| Course(s): | Mathematics $\mathbf{5}$ |
| Time Period: | September |
| Length: | 12 weeks $\mathbf{- 6 0}$ Instructional Days |
| Status: | Published |

## Unit Overview

Students will be working on:

- place value system from the thousandths place in decimals to the millions place in whole numbers
- rounding decimals
- multiplying whole numbers
- evaluate expressions with symbols
- multiplying decimals


## Priority Standards

MATH.5.OA.A. 1

MATH.5.OA.A. 2

MATH.5.NBT.A. 1

MATH.5.NBT.A. 2

MATH.5.NBT.A.3.a

MATH.5.NBT.A.3.b

MATH.5.NBT.A. 4
MATH.5.NBT.B. 5

MATH.5.NBT.B. 7

Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.

Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.

Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $1 / 10$ of what it represents in the place to its left.

Explain patterns in the number of zeros of the product when multiplying a number by powers of 10 , and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10 . Use whole-number exponents to denote powers of 10 .

Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392=3 \times 100+4 \times 10+7 \times 1+3 \times(1 / 10)+9 \times(1 / 100)+2 \times$ (1/1000).

Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

Use place value understanding to round decimals to any place.
With accuracy and efficiency, multiply multi-digit whole numbers using the standard algorithm.

Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

| CCS Priority Standard | Learning Goals | Learning Targets |
| :---: | :---: | :---: |
| MA 5.NBT.A. 1 Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $1 / 10$ of what it represents in the place to its left. | -Students will be able to recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $1 / 10$ of what it represents in the place to its left. | -I can understand the relationship between place value positions. (11) <br> -I can write multi-digit numbers in different forms and compare the values of digits. (1-2) <br> -I can decimals in different forms and compare the values of digits. (1-5) |
| MA 5.NBT.A. 2 Explain patterns in the number of zeros of the product when multiplying a number by powers of 10 , and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10 . Use whole-number exponents to denote powers of 10 . | -Students will be able to use a whole-number exponents to denote powers of 10 <br> -Students will be able to explain patterns in the number of zeros of the product when multiplying a number by powers of 10 . | -I can write numbers using exponents. (1-3) <br> -I can find products involving multiples of 10 and powers of 10 . (4-1) <br> -I can use rounding and compatible numbers to estimate products. (4-2) <br> -I can find products involving decimals and powers of 10 . (5-1) |
| MA .5.NBT.A. 3 Read, write, and compare decimals to thousandths | -Students will be able to read, write, and compare decimals to thousandths. | -I can write thousandths as fractions and decimals. (1-4) <br> -I can write decimals in different forms and compare the values of digits. (1-5) <br> I can compare decimals to the thousandths place. (1-6) |
| MA 5.NBT.A. 4 Use place value understanding to round decimals to any place | -Students will be able to use place value understanding to round decimals to any place | I can use place value to round decimals. (1-7) <br> -I can use rounding or compatible numbers to estimate sums and differences of decimals. (3-1) <br> -I can use rounding and compatible numbers to estimate products of decimals and whole |


|  |  | numbers. (5-1) |
| :---: | :---: | :---: |
| MA 5.NBT.B. 5 Fluently multiply multi-digit whole numbers using the standard algorithm. | -Students will be able to fluently multiply multi-digit whole numbers using the standard algorithm. | -I can multiply multi-digit numbers by one-digit numbers. (43) <br> -I can multiply multi-digit numbers by two-digit numbers.(44) <br> -I can multiply multi-digit whole numbers. (4-5) |
| MA .5.OA.A. 1 <br> Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. <br> MA 5.OA.A. 2 <br> Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. | -Students will be able to use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. <br> -Students can write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. | -I can use number properties. (2-1) <br> -I can use order of operations to evaluate numerical expressions. (2-2) <br> -I can write numerical expressions. (2-3) <br> -I can use order of operations to evaluate expressions with grouping symbols. (2-4) |
| MA .5.NBT.B. 7 <br> Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. | -Students will be able to add decimals. <br> -Students will be able to subtract decimals. <br> -Students will be able to multiply decimals. | -I can use models to add or subtract decimals. (3-2) <br> -I can add decimals and check whether the sum is reasonable. (33) <br> -I can subtract decimals and check my answer. (3-4) <br> -I can use addition and subtraction to evaluate expressions involving decimals.(3-5) <br> -I can use mental math to add or subtract decimals.(3-6) <br> I can solve multi-step word problems involving money. (3-7) |


|  |  | -I can use models to multiply decimals and whole numbers. (53) <br> -I can multiply decimals and whole numbers. (5-4) <br> -I can use models to multiply decimals (5-5) <br> -I can use partial products to multiply decimals. (5-6) <br> -I can estimation and properties to multiply decimals. (5-7) <br> -I can multiply decimals. (5-8) <br> -I can solve multi-step word problems involving money. (5-9) |
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- Students can write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.
- Students will be able to read, write, and compare decimals to thousandths.
- Students will be able to recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and $1 / 10$ of what it represents in the place to its left.
- Students will be able to use place value understanding to round decimals to any place.
- Students will be able to add decimals.
- Students will be able to explain patterns in the number of zeros of the product when multiplying a number by powers of 10 .
- Students will be able to fluently multiply multi-digit whole numbers using the standard algorithm.
- Students will be able to multiply decimals.
- Students will be able to subtract decimals.
- Students will be able to use a whole-number exponents to denote powers of 10
- Students will be able to use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.


## Materials \& Resources

*Big Ideas Materials
*Stop watches/timers
Place value charts (from millions to thousandths)
*Multiplication and division charts
*Manipulatives (cubes, money, coins, counters)
Index cards
*Paper (chart, graph, lined, and blank)
Base ten blocks

## Calculators

Colored pencils, markers, crayons
*Dry erase boards
Google Classroom Math
Iready Math
Reflex Math
SplashLearn

## Khan Academy

Math Aids Place Value: http://www.math-aids.com/Place_Value/
http://www.commoncoresheets.com/Values.php
http://www.printable-math-worksheets.com/place-value-chart.html
https://www.teacherspayteachers.com/FreeDownload/Decimal-Place-Value-Review-Shuffle-431957

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- http://www.printable-math-worksheets.com/place-value-chart.html
- https://www.teacherspayteachers.com/FreeDownload/Decimal-Place-Value-Review-Shuffle-431957
- Index cards
- Iready
- Khan Academy
- Manipulatives (cubes, money, coins, counters)
- Math Aids Place Value: http://www.math-aids.com/Place_Value/
- Multiplication and division charts
- Paper (chart, graph, lined, and blank)
- Place value charts (from millions to thousandths)
- Reflex Math
- Splash Learn
- Stop watches/timers


## Unit Assessments

Big Ideas Chapter Assessments
i-Ready

- Big Ideas assessments
- iReady


## Learning Plan and Pacing Guide

## Time Frame

Chapter 1
(11 days)

## Lesson

Chapter 1 Opener: Place
Value Concepts
Lesson 1.1: Place Value Patterns

Lesson 1.2: Place Value with Whole Numbers

Lesson 1.3: Patterns and Powers of 10

Lesson 1.4: Decimals to Thousandths

Lesson 1.5: Place Value with Decimals

Lesson 1.6: Compare Decimals
Lesson 1.7: Round
Decimals
End of Chapter 1: Place
Value Concepts
End of Chapter 1: Place Value Concepts

## Standard(s) Target

Performance Task
Preview \&
Vocabulary
5.NBT.A. 1
5.NBT.A. 1
5.NBT.A. 2
5.NBT.A. 1
5.NBT.A.3a
5.NBT.A. 1
5.NBT.A.3a
5.NBT.A.3b
5.NBT.A. 4

Day 1 Performance
Task
Day 2 Centers

Understand the relationship between place value positions. Write multi-digit numbers in different forms and compare the values of digits.

Write numbers using exponents.
Write thousandths as fractions and decimals.

Write decimals in different forms and compare the values of digits.
Compare decimals to the thousandths place.
Use place value to round decimals.

|  | End of Chapter 1: Place <br> Value Concepts | Day 3 Chapter <br> Assessment |  |
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| Chapter 2 |  |  |  |
| (8 days) | Chapter 2 Opener: | Performance Task <br>  |  |
|  | Numerical Expressions | Vocabulary |  |
|  | Lesson 2.1: Number | 5.OA.A.1 | Use number properties. |
|  | Properties |  | Use order of operations to |
|  | Lesson 2.2: Order of | 5.OA.A.1 | evaluate numerical expressions. |
|  | Operations | 5esson 2.3: Write | 5.OA.A.1 |

## Chapter 4

|  | Chapter 4 Opener: | Performance Task |
| :--- | :--- | :--- |
| (8 days) Need to start on | Multiply Whole |  |
| 11/14 to finish the | Numbers | Vocabulary |
| standards) |  |  |

Lesson 4.1: Multiplication 5.NBT.A 2
Patterns
Lesson 4.2: Estimate
Products
5.NBT.A. 2

Lesson 4.3: Multiply by
One-Digit Numbers
Lesson 4.4: Multiply by
Two-Digit Numbers
Lesson 4.5: Multiply
Multi-Digit Whole
Numbers
End of Chapter 4: Day 1 Performance
Multiply Whole Numbers Task \& Review
End of Chapter 4: Day 2 Chapter
Multiply Whole Numbers Assessment

## Chapter 5

(10 days)
Lesson 5.1: Multiplication
Patterns with Decimals
Lesson 5.2: Estimate
Products of Decimals and
Whole Numbers
Lesson 5.3: Use Models to
Multiply Decimals and 5.NBT.B. 7
Whole Numbers
Lesson 5.4: Multiply
Decimals and Whole
Numbers
Lesson 5.5: Use Models to
Multiply Decimals
Lesson 5.6: Use Partial
Products to Multiply
Decimals
Lesson 5.7: Use Strategies to Multiply Decimals
Lesson 5.8: Multiply
Decimals
Lesson 5.9: Problem
Solving: Multiply with
5.NBT.B. 7

Money
End of Chapter 5: Chapter
Multiply Decimals

Find products involving multiples of 10 and powers of 10.

Use rounding and compatible numbers to estimate products.
Multiply multi-digit numbers by one-digit numbers.
Multiply multi-digit numbers by two-digit numbers.

Multiply multi-digit whole numbers.

Find products involving decimals and powers of 10 .

Use rounding and compatible numbers to estimate products of decimals and whole numbers.

Use models to multiply decimals and whole numbers.

Multiply decimals and whole numbers.

Use models to multiply decimals.

Use partial products to multiply decimals.

Use estimation and properties to multiply decimals.

Multiply decimals.
Solve multi-step word problems involving money.

Multiply decimals.

## Strategies for Students in Need of Intervention

*When students struggle with facts: Reflex Math, multiplication chart, flash cards, timed tests
*When students struggle with word problems: highlight clue words, underline question, break down steps, read aloud, review vocabulary
*Reteach pages from each chapter
*Iready pathway
*Use manipulatives when needed

- Flexible Grouping based on STAR Scores
- Highlight key terms in word problems
- Math games on topics of instruction/ review
- 1:1 Conferencing
- Big Ideas Enrichment pages/ problems
- Big Ideas Extra Practice Pages
- Big Ideas Reteaching pages/problems
- Chart with keywords for word problems to determine operation used
- Choice Boards-Ex: Word Problems, Place Value problems, operations problems
- Constant progress monitoring and use of data to drive instruction
- Draw pictures to solve problems
- Extended pacing for lessons
- Incorporate centers that focus on skills that students are struggling with
- Iready Math
- LearnZillion videos on topics of study
- Multiplication chart
- Pre-typed notes on unit of study
- Provide opportunities for higher-level activities to be completed
- Provide opportunities for independent projects
- Provide place value charts
- Provide written notes/directions
- Skill Review Handbook
- Small group and flexible grouping based on the progress monitoring data (Tier 1,2 and/or 3
interventions)
- Tic-Tac Toe Boards- Ex: Word Problems, place value, operations, etc.
- Tiered Activities/ Lessons
- Use approaching level problems/assignments
- Use graph paper
- Use of a calculator for multi-step problems
- Use of manipulatives
- Use of Prodigy Math
- Use visual aids such as graphic organizers, drawings, etc
- Visual Vocabulary/ Vocabulary journal


## Technology Integration

- Big Ideas Exit Ticket
- Google Classroom
- http://www.abcya.com/fifth_grade_computers.htm
- http://www.learningfarm.com/web/practicePassThrough.cfm?TopicID=636
- http://www.mathchimp.com/5th-grade-math-resources
- https://www.illustrativemathematics.org/5
- https://www.khanacademy.org/commoncore/grade-5-NBT
- Iready Math
- Prodigy to help review skills
- SplashLearn


## 21st Century Life \& Career Ready Practices

- CRP11. Use technology to enhance productivity.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason
- CRP6. Demonstrate creativity and innovation.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

