

Math Unit 1 (23-24)

Content Area: **Mathematics**
Course(s): **Mathematics 5**
Time Period: **September**
Length: **12 weeks - 60 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	Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.
MATH.5.OA.A.2	Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.
MATH.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.
MATH.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.
MATH.5.NBT.A.3.a	Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.
MATH.5.NBT.A.3.b	Compare two decimals to thousandths based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.
MATH.5.NBT.A.4	Use place value understanding to round decimals to any place.
MATH.5.NBT.B.5	With accuracy and efficiency, multiply multi-digit whole numbers using the standard algorithm.
MATH.5.NBT.B.7	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.

Learning Goals and Targets

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.	<p>-I can understand the relationship between place value positions. (1-1)</p> <p>-I can write multi-digit numbers in different forms and compare the values of digits. (1-2)</p> <p>-I can decimals in different forms and compare the values of digits. (1-5)</p>
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.	<p>-Students will be able to use a whole-number exponents to denote powers of 10</p> <p>-Students will be able to explain patterns in the number of zeros of the product when multiplying a number by powers of 10.</p>	<p>-I can write numbers using exponents. (1-3)</p> <p>-I can find products involving multiples of 10 and powers of 10. (4-1)</p> <p>-I can use rounding and compatible numbers to estimate products. (4-2)</p> <p>-I can find products involving decimals and powers of 10. (5-1)</p>
MA .5.NBT.A.3 Read, write, and compare decimals to thousandths	-Students will be able to read, write, and compare decimals to thousandths.	<p>-I can write thousandths as fractions and decimals. (1-4)</p> <p>-I can write decimals in different forms and compare the values of digits. (1-5)</p> <p>I can compare decimals to the thousandths place. (1-6)</p>
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	<p>I can use place value to round decimals. (1-7)</p> <p>-I can use rounding or compatible numbers to estimate sums and differences of decimals. (3-1)</p> <p>-I can use rounding and compatible numbers to estimate</p>

		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. (4-3) -I can multiply multi-digit numbers by two-digit numbers.(4-4) -I can multiply multi-digit whole numbers. (4-5)
MA .5.OA.A.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. MA 5.OA.A.2 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. -Students can write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.	-I can use number properties. (2-1) -I can use order of operations to evaluate numerical expressions. (2-2) -I can write numerical expressions. (2-3) -I can use order of operations to evaluate expressions with grouping symbols. (2-4)
MA .5.NBT.B.7 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. -Students will be able to subtract decimals. -Students will be able to multiply	-I can use models to add or subtract decimals. (3-2) -I can add decimals and check whether the sum is reasonable. (3-3) -I can subtract decimals and check my answer. (3-4) -I can use addition and subtraction to evaluate expressions involving decimals.(3-5) -I can use mental math to add or subtract decimals.(3-6) I can solve multi-step word problems involving money. (3-7)

	decimals.	<p>-I can use models to multiply decimals and whole numbers. (5-3)</p> <p>-I can multiply decimals and whole numbers. (5-4)</p> <p>-I can use models to multiply decimals (5-5)</p> <p>-I can use partial products to multiply decimals. (5-6)</p> <p>-I can estimation and properties to multiply decimals. (5-7)</p> <p>-I can multiply decimals. (5-8)</p> <p>-I can solve multi-step word problems involving money. (5-9)</p>
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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 $\frac{1}{10}$ 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	Lesson	Standard(s)	Target
Chapter 1 (11 days)	Chapter 1 Opener: Place Value Concepts	Performance Task Preview & Vocabulary	
	Lesson 1.1: Place Value Patterns	5.NBT.A.1	Understand the relationship between place value positions.
	Lesson 1.2: Place Value with Whole Numbers	5.NBT.A.1	Write multi-digit numbers in different forms and compare the values of digits.
	Lesson 1.3: Patterns and Powers of 10	5.NBT.A.2	Write numbers using exponents.
	Lesson 1.4: Decimals to Thousandths	5.NBT.A.1 5.NBT.A.3a	Write thousandths as fractions and decimals.
	Lesson 1.5: Place Value with Decimals	5.NBT.A.1 5.NBT.A.3a	Write decimals in different forms and compare the values of digits.
	Lesson 1.6: Compare Decimals	5.NBT.A.3b	Compare decimals to the thousandths place.
	Lesson 1.7: Round Decimals	5.NBT.A.4	Use place value to round decimals.
	End of Chapter 1: Place	Day 1 Performance	

Value Concepts	Task
End of Chapter 1: Place Value Concepts	Day 2 Centers
End of Chapter 1: Place Value Concepts	Day 3 Chapter Assessment

Chapter 2 (8 days)

Chapter 2 Opener: Numerical Expressions	Performance Task Preview & Vocabulary	
Lesson 2.1: Number Properties	5.OA.A.1	Use number properties.
Lesson 2.2: Order of Operations	5.OA.A.1	Use order of operations to evaluate numerical expressions.
Lesson 2.3: Write Numerical Expressions	5.OA.A.1 5.OA.A.2	Write numerical expressions.
Lesson 2.4: Evaluate Expressions with Grouping Symbols	5.OA.A.1 5.OA.A.2	Use order of operations to evaluate expressions with grouping symbols.
End of Chapter 2: Place Value Concepts	Day 1 Performance Task	
End of Chapter 2: Place Value Concepts	Day 2 Centers	
End of Chapter 2: Place Value Concepts	Day 3 Chapter Assessment	

Chapter 3 (10 days)

Chapter 3 Opener: Add and Subtract Decimals	Performance Task Preview & Vocabulary	
Lesson 3.1: Estimate Sums and Differences	5.NBT.A.4 5.NBT.B.7	Use rounding or compatible numbers to estimate sums and differences of decimals.
Lesson 3.2: Use Models to Add or Subtract Decimals	5.NBT.B.7	Use models to add or subtract decimals.
Lesson 3.3: Add Decimals	5.NBT.B.7	Add decimals and check whether the sum is reasonable.
Lesson 3.4: Subtract Decimals	5.NBT.B.7	Subtract decimals and check my answer.
Lesson 3.5: Add and Subtract Decimals	5.NBT.B.7	Use addition and subtraction to evaluate expressions involving decimals.
Lesson 3.6: Use Mental Math to Add or Subtract Decimals	5.NBT.B.7	Use mental math to add or subtract decimals.
Lesson 3.7: Problem Solving: Money	5.NBT.B.7	Solve multi-step word problems involving money.
End of Chapter 3: Add and Subtract Decimals	Day 1 Performance Task & Centers	
End of Chapter 3: Add and	Day 2 Chapter	

Subtract Decimals
Review multiplication
skills for Chapter 4

Assessment

Chapter 4

(8 days) Need to start on
11/14 to finish the
standards)

Chapter 4 Opener: Multiply Whole Numbers

Performance Task
Preview &
Vocabulary

Lesson 4.1: Multiplication
Patterns

5.NBT.A.2

Find products involving
multiples of 10 and powers of
10.

Lesson 4.2: Estimate
Products

5.NBT.A.2

Use rounding and compatible
numbers to estimate products.

Lesson 4.3: Multiply by
One-Digit Numbers

5.NBT.B.5

Multiply multi-digit numbers by
one-digit numbers.

Lesson 4.4: Multiply by
Two-Digit Numbers

5.NBT.B.5

Multiply multi-digit numbers by
two-digit numbers.

Lesson 4.5: Multiply
Multi-Digit Whole
Numbers

5.NBT.B.5

Multiply multi-digit whole
numbers.

End of Chapter 4:
Multiply Whole Numbers

Day 1 Performance
Task & Review

End of Chapter 4:
Multiply Whole Numbers

Day 2 Chapter
Assessment

Chapter 5

(10 days)

Lesson 5.1: Multiplication
Patterns with Decimals

5.NBT.A.2

Find products involving
decimals and powers of 10.

Lesson 5.2: Estimate
Products of Decimals and
Whole Numbers

5.NBT.B.7

5.NBT.A.4

5.NBT.B.7

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

Lesson 5.3: Use Models to
Multiply Decimals and
Whole Numbers

5.NBT.B.7

Use models to multiply decimals
and whole numbers.

Lesson 5.4: Multiply
Decimals and Whole
Numbers

5.NBT.B.7

Multiply decimals and whole
numbers.

Lesson 5.5: Use Models to
Multiply Decimals

5.NBT.B.7

Use models to multiply
decimals.

Lesson 5.6: Use Partial
Products to Multiply
Decimals

5.NBT.B.7

Use partial products to multiply
decimals.

Lesson 5.7: Use Strategies
to Multiply Decimals

5.NBT.B.7

Use estimation and properties to
multiply decimals.

Lesson 5.8: Multiply
Decimals

5.NBT.B.7

Multiply decimals.

Lesson 5.9: Problem
Solving: Multiply with

5.NBT.B.7

Solve multi-step word problems
involving money.

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.