

ABOUT THIS RESOURCE



Details :

This 15 day unit reviews expanded form and place value of whole numbers up to one billion and then dives into place value of decimals up to the thousandths place.

Also covered is expanded form using decimals and/or fractions as well as rounding and comparing decimals and properties of operations. If the skills don't

completely align to your state standards, that's OK because this resource is 100% editable! All content can be modified to make this unit perfect for your classroom!

Included Resources :

- Weekly warm up recording sheets
- Weekly exit ticket sheets
- Blank lesson plans
- Unit tracking pages
- Unit vocabulary sheet
- Unit pre-assessment
- Warm ups
- Partner Activities
- Traditional notes
- Fold and Flip Notes
- Practice assignments (HW or CW)
- End of Unit Performance Task
- A complete PDF of the unit
- An editable PPT version of the unit.
- A binder cover and spine labels

Lessons :

- Lesson 1 : Place Value to the Billions
- Lesson 2 : Place Value to the Thousandths
- Lesson 3 : Rounding Decimals
- Lesson 4 : Base Ten and Expanded Form
- Lesson 5 : Properties of Operations

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 **STAY IN TOUCH!**

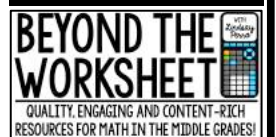


Meet the Author :

My name is Lindsay Perro and I have been an educational writer and content developer since 2009. After spending 8 years as a Middle School Math Teacher and Interventionist, I am now following my passion and focusing on creating quality educational resources to make your job easier and keep students engaged and excited about math!



Lindsay Perro



Place Value & Algebraic Thinking

5th Grade Math

**15 DAY
UNIT**

LESSON	RESOURCES
Unit Prep (pgs. 7 – 13)	<ul style="list-style-type: none"> • Weekly Warm Up Sheet • Exit Tickets • Lesson Plan Template • Vocabulary • Pre-Assessment
1) Place Value to the Billions (pgs. 14 – 25)	<ul style="list-style-type: none"> • Two Warm Ups • Place Value Exploration • Place Value Notes - To The Billions (2 pages) • Place Value Fold and Flip Notes <ul style="list-style-type: none"> • Two levels of completion – either color or black and white • Place Value Practice Worksheets (2)
2) Place Value to the Thousandths (pgs. 26 – 35)	<ul style="list-style-type: none"> • Two Warm Ups • Place Value Notes - To The Thousandths • Comparing Decimals Notes • Comparing Decimals Toolkit <ul style="list-style-type: none"> • Two per page. Laminate so dry erase markers can be used. • Place Value with Decimals Practice Worksheet • Comparing Decimals Practice Worksheet • Comparing Decimals Sort Cards • Place Value Quiz
3) Rounding Decimals (pgs. 36 – 46)	<ul style="list-style-type: none"> • Two Warm Ups • Rounding Decimals Notes • Rounding Decimals Matching Activity • Rounding Decimals Practice Worksheets (2)
4) Base Ten and Expanded Form (pgs. 47 – 65)	<ul style="list-style-type: none"> • Three Warm Ups • Base Ten and Expanded Form Notes <ul style="list-style-type: none"> • One with decimals and one with fractions – same content. • Ways to Write Whole Numbers Graphic Organizer • Ways to Write Decimals Graphic Organizer • Base Ten and Expanded Form Practice Worksheet • Base Ten Form Matching Activity • Base Ten, Expanded Form and Rounding Decimals Quiz
5) Properties of Operations (pgs. 66 – 81)	<ul style="list-style-type: none"> • Two Warm Ups • Properties of Operations Notes • Properties of Addition Fold and Flip Notes <ul style="list-style-type: none"> • Color or black and white and 3 levels of completion • Properties of Multiplication Fold and Flip Notes <ul style="list-style-type: none"> • Color or black and white and 3 levels of completion • Properties of Operations Practice • Properties of Operations Quiz
End of Unit (pgs. 82 – 92)	<ul style="list-style-type: none"> • End of Unit Task • Study Guide/Reference Sheet • Unit Exam

Name _____ Date _____ **two**

Place Value Warm Up To The Billions

Skill : Place Value to the Billions

- | | |
|--|---|
| 1) Write the place of the underlined digit and then write the value of the digit.

54,8 <u>7</u> 0

Place : _____
Value : _____ | 2) Write the place of the underlined digit and then write the value of the digit.

8,423,64 <u>6</u> ,000

Place : _____
Value : _____ |
| 3) Write at least two statements to compare and contrast the value of the underlined digits above. | |
| 4) Write the given number using words : 9,445,200 | |
| 5) Write the given number using words : 7,213,743,002 | |

Place Value Warm Up

Skill : Place Value to the Billions

- | | |
|--|---|
| 1) What is the value of the underlined digit?

54,6 <u>7</u> 8,300 | 2) What is the value of the underlined digit?

1,400,540,9 <u>0</u> |
| 3) Write a number where the digit in the hundreds place is exactly triple the digit in the ones place. | 4) Write a number where the digit in the billions place is double the digit in the ten-thousands place and half of the digit in the hundreds place. |
| 5) Compare and contrast the value of the underlined digits.

22,64 <u>2</u> ,700 | 6) Compare and contrast the value of the underlined digits.

18,904,580,3 <u>0</u> |

Name _____ Date _____ **two**

Rounding Decimals Warm Up

Skill : Rounding Decimals

Directions : Round according to the directions.

- | | |
|---|---|
| 1. Round to the nearest tenth.
0.3 <u>5</u> 6 | 4. Round to the nearest hundredth.
164.00 <u>6</u> |
| 2. Round to the nearest tenth.
22.8 <u>0</u> 5 | 5. Round to the nearest whole
18.0 <u>9</u> 9 |
| 3. Round to the nearest hundredth.
324.85 <u>3</u> | 6. Round to the nearest whole
1,445.9 <u>9</u> 9 |

Name _____ Date _____ **two**

Properties of Operations Warm Up

Skill : Properties of Operations

- | | |
|--|--|
| 1. Write an example of the associative property for each :

Addition : _____
Multiplication : _____ | 3. Write an example of the commutative property for each :

Addition : _____
Multiplication : _____ |
| 2. Write an example of the identity property for each :

Addition : _____
Multiplication : _____ | 4. Which property is illustrated below?

$(4 + 2) + 3 = 3 + (4 + 2)$ |

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Warm Ups

Place Value Notes To The Billions

Big Idea :

- Place value helps you organize the value of each digit in a number.

Key Words :

- Digit
- Place value
- Value

Place Value :

- Place value represents the value of a digit based on its location in a number
- Explore place value up through one billion.

billions			millions			thousands			ones
hundreds	tens	ones	hundreds	tens	ones	hundreds	tens	ones	tens
		8		7	3		4	2	4
							0	0	0
									0

Explore the number in the place value chart above :

- Written in Standard Form : _____
- How do you say it?
 - _____ billion, _____ thousand.
- Each "period" on the place value chart is broken down into three values.

Rounding Decimals

Big Idea :

- Place value helps you organize the value of each digit in a number.

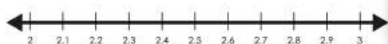
Key Words :

- Decimal
- Decimal point

Explore :

Anika is trying to figure out the cost of fruit. When she multiplies the cost per pound by the number of pounds (1.35) she is purchasing, she gets \$2.6865.

- Does it make sense for her to think she will pay \$2.6865 for the fruit? _____
- Explain, _____
- What place value should she round to? _____
- Explain, _____



- Use the number line above to determine how much will Anika pay for the fruit? _____

See it, Try it :

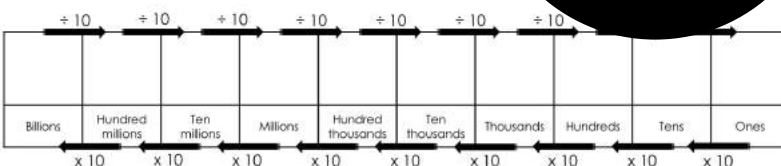
- Underline the digit in the place you are rounding to.
- Circle the digit that will tell you to round up (digits _____) or stay the same (digits _____).
- Re-write the digit in the underlined place if necessary, change all numbers behind it to zero.

Billions Period	Millions Period	Thousands Period	Ones Period
Place Value			

Place Value Notes

Moving Left and Right :

- The value of each digit is 10 times larger than the digit in the place before it.



- The value of each digit is 10 times smaller than the digit in the place before it.

Practice : Write two statements comparing the underlined digits in each number.

1. 5,426,512

2. 42,345,800,231

Practice : Complete the table.

Base Ten & Expanded Form Notes With Fractions

Big Idea :

- Base ten form is the sum of the products of each digit and its place.
- Expanded form is the sum of the values of each digit.

Key Words :

- Digit
- Place

Explore :

- How would you break apart \$14.45 into bills and coins? _____
- This time break it down based on the value of each place.
 - _____ ten dollar bills = _____ x 10
 - _____ one dollar bills = _____ x 1
 - _____ dimes = _____ x 0.10
 - _____ pennies = _____ x 0.01

By breaking down the \$14.45 into bills and coins, you broke it down into the value of each digit in each place. The sum of those individual multiplied values is the original amount.

The problem above is written in base ten form.

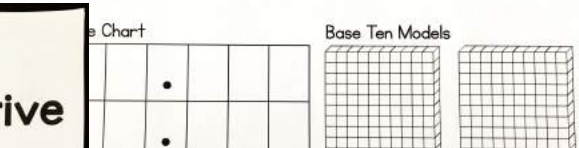
Try it : Write the number 102,805 in the place value chart.

Write a number _____

Properties of Addition	Commutative
Properties of Multiplication	Associative
Properties of Subtraction	Identity

Comparing Decimals Toolkit

Number Line



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Notes

COMPLETELY
EDITABLE

The Place Value Game ~ Partner Game Board

Player 1

Player 2

16

15

12

14

Is your number LARGER or SMALLER than your partner's?

Is your number L or S than your

Write your number in expanded form :

$1000 + 600 + 10 + 5 + 0.1 + 0.02$

Write your number

$1000 + 400 +$

Write your number in base ten form :

$(1 \times 1000) + (6 \times 100) + (1 \times 10) + (5 \times 1) + (1 \times \frac{1}{10}) + (2 \times \frac{1}{100})$

Write your number

$(1 \times 1000) + (4 \times 100) + (1 \times 1) +$

Rounding Decimals Practice

Directions : Using a pencil and paper clip, spin the spinner to the right for each number. Round the number according to the place value indicated by the spinner.

- 1) 9.235 =
- 2) 15.820 =
- 3) 3.088 =
- 4) 65.855 =
- 5) 76.333 =
- 6) 815.518 =
- 7) 118.387 =
- 8) 67.048 =
- 9) 4.529 =

Round to the nearest...



- 15) 14.003 =

Name _____ Date _____ two

Place Value Practice With Whole Numbers

Directions : Fill in the blanks with the missing numbers. Write out the number in written form.

- 1) $763 = 700 + 60 + \square$
- 2) $15,830 = \square + 5,000 + \square + 30$
- 3) $4,998 = \square + 900 + 90 + \square$
- 4) $806,700 = \square + 6,000 + \square$
- 5) $3,550,800 = 3,000,000 + \square + \square + 800$
- 6) $745,000,050 = 700,000,000 + \square + 5,000,000 + \square$
- 7) $32,600,110 = \square + \square + 600,000 + 100 + \square$

Name _____ Date _____ one

Base Ten & Expanded Form Practice

Directions : Read each question carefully.

1. Write in base ten form using decimals.
4.874
2. Write in expanded form.
705,300
3. Write in base ten form using fractions.
12.80
4. Write in standard form.
 $(2 \times 1,000) + (4 \times 1)$
5. Write in standard form.
 $(7 \times 10,000) + (9 \times 1,000) + (4 \times 100) + (3 \times \frac{1}{10})$
6. Write in standard form.
 $(9 \times 1) + (6 \times \frac{1}{10}) + (2 \times \frac{1}{100})$

Directions : Think of a number that

7. When rounded to the nearest number is 14.89
8. When rounded to the nearest number is 9.2.

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Worksheets

Name _____ Date _____ Score: _____

Place Value Quiz

Directions : For numbers 1 – 3, fill in the blanks with the missing numbers. Write out the number in word form.

1) $7.63 = 700 + \square + \square =$ _____

2) $2,904 = 2,000 + 900 + \square =$ _____

3) $0.998 = \square + \square + \square =$ _____

4) Compare and contrast the value of the underlined digits in 4,325,400.

Directions : For numbers 5 – 6, write the place of the underlined digit in each number and then write the value of the digit.

5) 285,700,000 6) 24.496

Place : _____ Place : _____

Value : _____ Value : _____

Name _____ Date _____

Base Ten & Expanded Form

Directions : Complete the table for numbers 1 – 5.

	Standard Form	Expanded Form
1)	1,408	
2)		$800 + 40 + 0.07$
3)		$5 + 0.4 + 0.009$
4)	14.754	
5)	6,000.008	

COMPLETELY EDITABLE

Name _____ Date _____ Score: _____

Properties of Operations Quiz

1) Which equation shows the commutative property of multiplication?

a) $8 \times 1 = 8$ c) $8 \times (2 \times 3) = 8 \times (2 \times 3)$

b) $8 \times 2 \times 3 = 3 \times 2 \times 8$ d) $8 \times 2 - 8 \times 3 = 8 \times 3 - 8 \times 2$

2) Which equation shows the associative property of addition?

a) $4 + 5 + 3 = 3 + 4 + 5$ c) $5 + 0 = 5$

b) $(4 + 5) + 3 = (5 + 4) + 3$ d) $(4 + 5) + 3 = 4 + (5 + 3)$

3) Which equation shows the identity property of addition?

a) $9 + 0 = 9$ c) $9 + 1 = 10$

b) $9 \times 1 = 9$ d) $9 + 8 + 1 = 1 + 9 + 8$

4) Which equation shows the associative property of multiplication?

a) $2 \times 3 \times 4 = 4 \times 2 \times 3$ c) $4 \times 2 = 2 \times 4$

b) $4 \times 1 = 4$ d) $(2 \times 3) \times 4 = 2 \times (3 \times 4)$

5) Which property is shown? $(3 \times 2) \times 8 = 8 \times (3 \times 2)$

a) Associative Property c) Identity Property

b) Commutative Property d) Multiplication Property

6) Which property is shown? $12 \times 1 = 12$

Round to the nearest tenth. 7) Round to the nearest hundredth.

18.048 1,234.543

Round to the nearest tenth. 9) Round to the nearest whole number.

19.653 4.095

Think of a number that meets the criteria below.

When rounded to the nearest tenth, this number is 4.5

When rounded to the nearest whole number, this number is 4.

Place Value and Algebraic Thinking

END OF UNIT TASK

Teacher Prep

THE PLACE VALUE GAME

Objective :

- Students will use what they know about place value, comparing decimals, expanded form, and base ten form to play a card game.

Prep :

Copy and cut one set of cards for each pair of students. The two digit cards are meant to be used and take up two places. So, a 14 and a 16 placed next to each other in front of the decimal would be read as 1.416. If you do not wish to use the two digit numbers, you can simply not give those to your students.

Distribute the Partner Game Boards or place them in a sheet protector so students can use dry erase markers.

Name _____ Date _____ Score: _____

Place Value and Algebraic Thinking

Assessment

1) Write the given number in expanded form: 1,602 2) Write the given number in expanded form: 14,530,900

3) Compare and contrast the value of the underlined digits in 14,325,420.

Directions : For numbers 4 – 5, write the place of the underlined digit in each number and then write the value of the digit.

4) 15,436 5) 104.49

Place : _____ Place : _____

Value : _____ Value : _____

Student Steps :

Each student picks three cards. They take the biggest number. They complete the bottom.

- Circle whether their number is greater, less, or equal.
- Write their number in expanded form.
- Write their number in base ten form.

decimal or fraction form.

student response sheet

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Assessments

Directions : For numbers 8 – 12, compare each number using <, >, or =.

8) 71.8 71.705 10) 21.13 21.103

Unit I : Place Value and Algebraic Thinking

EDITABLE BINDER COVER

Place Value and Algebraic

Place Value and Algebraic Thinking

Place Value Algebraic Thinking

Place Value and Algebraic Thinking

5th Grade Math Curriculum

STUDENT TRACKING

[illegible]

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STUDENT TRACKING

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Perro

Tracking Sheets & Binder Labels

Place Value & Algebraic Thinking

5th Grade Math

VOCABULARY	OBJECTIVES
<ul style="list-style-type: none"> ➤ Associative property ➤ Commutative property ➤ Decimal ➤ Decimal point ➤ Digit ➤ Expanded form ➤ Identity property ➤ Place value ➤ Value 	<ul style="list-style-type: none"> • Recognize place value • Explain patterns in the number of zeroes when numbers are multiplied or divided by powers of ten • Read and write decimals in standard form to the thousandths using base ten blocks and expanded form • Compare two decimals to hundredths • Use place value to round decimals to any place • Understand and use properties of addition and multiplication (associative, commutative and identity)
	<ul style="list-style-type: none"> • 5.NBT.1 • 5.NBT.2 • 5.NBT.3 • 5.NBT.4

Name _____ Week of _____ to _____

Weekly Warm Up Sheet

Date:	
Date:	
Date:	
Date:	



Place Value and Algebraic Thinking

Lesson 4 : Base Ten & Expanded Form

Suggested Time Frame : 3 Days

Resources Included:

- Three Warm Ups
- Base Ten and Expanded Form Notes
 - One with decimals and one with fractions – same content.
- Ways to Write Whole Numbers Graphic Organizer
 - Color or black and white
- Ways to Write Decimals Graphic Organizer
 - Color or black and white
- Base Ten and Expanded Form Practice Worksheet
 - Can be used for classwork or homework
- Base Ten Form Matching Activity
 - Base ten form cards come in both a fraction and a decimal version
- Base Ten and Expanded Form Quiz

Place Value And Algebraic Thinking Lesson Plan

Card(s): _____ Date(s): _____

Student Materials:

- | | | | |
|--|-------------------------------------|--------------------------------------|--------------------------------|
| <input type="checkbox"/> Calculator | <input type="checkbox"/> Scissors | <input type="checkbox"/> Compass | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Colored pencils | <input type="checkbox"/> Glue | <input type="checkbox"/> Graph paper | <input type="checkbox"/> _____ |
| <input type="checkbox"/> Ruler | <input type="checkbox"/> Protractor | <input type="checkbox"/> Dry erase | <input type="checkbox"/> _____ |

Lesson Progression:

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Planning Pages