General Information

Lesson Parts & Duration

Total Duration: 2 to 2 ½ hours

- Segment 1: Expanded Form: Reading and Writing Decimals Through the Thousandths Place (60 Minutes)
- Segment 2: Comparing Decimals Through the Thousandths Place (60 Minutes)
- Segment 3: Game: "Bigger is Better –or- Less is Best!" (30-45 Minutes)

Subject(s)

- Place Value Through the Thousandths Place: Value of Digits; Expanded Form; Comparing Numbers (5.NBT.3)

Objectives

- Students will read and write decimals to the thousandths place in word form and base-ten numerals.
- Students will write decimals in expanded form through the thousandths place.
- Students will use expanded form and place value to explain the value of digits through the thousandths.
- Students will compare two decimals or fractions to the thousandths place.

Materials

- blank paper (6 pieces per student)
- pencils
- document camera or whiteboard
- small paper clip (1 per group to be used with "Spinner Sheet")
- If unable to print "Spinner Sheet," 10-sided dice and/or coin to flip
- **Optional Printable Student Resources:** "Exit Slips" (page 20) (1 copy per student), "Reading and Writing Decimals: Expanded Form" (page 21) (1 copy per student), "Comparing Decimals Through the Thousandths Place" (page 22) (1 copy per student), "Bigger is Better –or- Less is Best! Comparing Sheet" (page 23) (a few copies per pair) "Spinner Sheet" (page 24) (1 copy per student)
- **Optional Printable Teacher Resources:** "Break Up Your Day" brain/movement break ideas (page 25)

Instructional Setting

- Students should be seated so that they can easily work with a partner.

Throughout these lessons, you will find:

- ***Scripted Text*** indicates things that need to be said directly. Bullets starting with a **"T"** followed by *italicized type* indicate scripted text
- **Clarifiers** within scripted text are in orange
- **Teacher Directions** indicate things you should be doing
- **Side notes** provide helpful hints, ELL strategies, differentiation and information
- **Break Up Your Day** (Brain/Movement Breaks) are in green boxes (at the end)

Remember!

Quality over quantity. All components do not have to be accomplished; lessons may be ended at any time and resumed later.

Instructional Plan: Segment 1: 60 minutes

Subject

- Expanded Form: Reading and Writing Decimals Through the Thousandths Place

Objectives

- Students will read and write decimals to the thousandths place in word form and base-ten numerals.
- Students will write decimals in expanded form through the thousandths place.

Materials

- blank paper
- pencil & crayons/colored pencils
- document camera or whiteboard
- **Optional Printable Student Resources:** "Exit Slips" (page 20) (1 copy per student) "Reading and Writing Decimals: Expanded Form" (page 21) (1 copy per student)

Model the introduction problem on the whiteboard so that students can follow along more easily.

Introduction

T *All digits have a "place" which shows the digit's quantity. Numbers can be compared when you know the digit's place value.*

T *Place value happens in real life.*

T *For example, if you had 9 one dollar bills, 7 ten dollar bills, 5 one-hundred dollar bills, 4 dimes, and 6 pennies you could count the bills and coins in their place values and calculate the amount of cash.*

T *1-hundred-dollar bill has a value of $100, so 5 one-hundred dollar bills has a value of $500.*

T *1 ten-dollar bill has the value of $10, so 7 ten-dollar bill have a value of $70.*

T *1 dollar bill has a value of $1, so 9 one dollar bills have a value of $9.*

T *If I were to add all of those up, how much money would I have?* **Call on students.** Answer **$579.**

T *I would have $579, we were able to figure that out by adding all the values together.*

T *But don't forget the change, we had 4 dimes and 6 pennies too!*

T *A dime has a value of* $\frac{1}{10}$ *or 0.1, so 4 dimes would be 4 x (* $\frac{1}{10}$*) giving us* $\frac{4}{10}$ *or 0.4.*

T *Pennies have a value of* $\frac{1}{100}$ *or 0.01, so 6 pennies would be 6 x (* $\frac{1}{100}$*) giving us* $\frac{6}{100}$ *or 0.06.*

T *If I added together my dimes and pennies I would have* $\frac{4}{10} + \frac{6}{100}$*, I cannot add fractions with unlike denominators, so I would need to convert my tenths to hundreds I know that* $\frac{4}{10} = \frac{40}{100}$*, so* $\frac{40}{100} + \frac{6}{100} = \frac{46}{100}$.

T *Or I can simply add them in decimal form 0.4 + 0.06 = 0.46.* zero and forty-six hundredths

T *Now I will add my two parts, the whole numbers or bills and the fractional parts or coins.*

T *So, $579 + $0.46 = $579.46.*

T *Today we will be using what we know about place value and how it affects the value of a digit in a number to read and write decimals in base-ten numerals, word form, number form, and in expanded value form.*

Whole Group Creating Notes

Pass out a piece of paper to each student. Use graph paper if possible to help in creating a place value chart.

- ***T*** *Write your name and date in the top right-hand corner of your paper.* See example & model so students can follow.
- ***T*** *Then title your paper "Reading and Writing Decimals" and below it write your learning target "I can read and write decimals to the thousandths place in word form, base-ten numerals, and expanded form."* See example & model so students can follow.

Name & Date

Reading and Writing Decimals

I can read and write decimals to the thousand**ths** place in word form, base-ten numerals, and expanded form.

"AND" tells us

- Two parts separated by a decimal
- Decimals or fractional parts are in the number

Whole Number Part **and/"."** **Decimal or Fractional Part**

658.097

Ways to Write Decimals

Word Form: six hundred fifty-eight **and** ninety-seven thousandths

Base-Ten Numerals

Hundreds	Tens	Ones	. "and"	Tenths $\frac{1}{10s}$	Hundredths $\frac{1}{100s}$	Thousandths $\frac{1}{1000s}$
6	5	8	.	0	9	7

Word Form

- ***T*** *When dealing with decimals one of the most important parts is the word "and."*
- ***T*** *When reading a number with a decimal, for example "six hundred fifty-eight and ninety-seven thousandths," the word and tells us two key things.*
- ***T*** *Let's add this to our notes, write "'AND" tells us."* See example & model so students can follow.
- ***T*** *Below it we will write two bullet points, the first thing and tells us is "two parts separated by a decimal."* See example & model so students can follow.
- ***T*** *When I hear the word "and" in a number, I know that the part before the and is the whole number and the part after the and is the fractional part or the decimal.*
- ***T*** *For our second bullet point let's write "decimals or fractional parts are in the number."* See example & model so students can follow.
- ***T*** *Below that I want us to show this by writing "Whole Number Part" leave some space, then "and/." leave some more space and then write "Decimal or Fractional Part."* See example & model so students can follow.
- ***T*** *These two facts are important for us to remember when both when reading and writing numbers containing decimals.*
- ***T*** *Another important thing to keep in mind is that many people make the mistake of saying "and" when reading a number containing commas.*
- ***T*** *Just like in reading, a comma in a number simply tells the reader to pause.*
- ***T*** *Numbers contain commas to help us read them in parts, for example the 6-digit number,* 732,908 write this on the board *is read seven hundred thirty-two thousand,* pause *nine hundred eight.*
- ***T*** *Many people will say thirty-two thousand and nine hundred eight, that is incorrect.*
- ***T*** *Okay, now that we know the importance of the decimal point in a number and what we say when we see a decimal in a number we are ready to start reading and writing some decimals.*
- ***T*** *We will be writing several examples in our notes, this will be helpful to you later when you are working to have an example to look at while completing new problems.*
- ***T*** *We will start by writing our example number in number or numeral form.*
- ***T*** *Please write 6, 5, 8, decimal point, 0, 9, 7.*
- ***T*** *Then below it write, "Ways to Write Decimals," and underline it.* See example & model so students can follow.
- ***T*** *We will start with the word form of writing this number.*
- ***T*** *On the left side of your paper, write "Word Form," followed by a colon.* See example & model so students can follow.
- ***T*** *The most helpful way to write a number or decimal in word form is to read it out loud and write down all of the parts that you say.*
- ***T*** *Let's try this, please say this number I have written on the board out loud slowly.* Give time for all students to attempt to say it out loud.

- **T** *This number is, six hundred fifty-eight and ninety-seven thousandths.*
- **T** *Let's write this example on our paper, the first part of our number is six hundred, so please write the word six and then the word hundred.* See example & model so students can follow.
- **T** *The next part of the number is fifty-eight, the important part about the tens and ones when written in word form is that you connect them with a hyphen.*
- **T** *So please write, "fifty (hyphen) eight" on your paper.* See example & model so students can follow.
- **T** *Now we come to the decimal point, just like we mentioned in our notes, a decimal point isn't read as "decimal point" or "point," although people will occasionally say it that way.*
- **T** *It is read as "and;" please write "and" after fifty-eight.* See example & model so students can follow.
- **T** *Reading the decimal portion of a number is similar to reading a whole number where we will read the digits in groups of 3, so in this case, we have zero, nine, seven, which would be read as "ninety-seven."*
- **T** *And then we will say the place that the last digit, the 7 is in, so thousandths.*
- **T** *Let's write "ninety (hyphen) seven thousandths" in our notes.*
- **T** *Remember that all of the decimal places: ten**ths**, hundred**ths**, and thousand**ths** end in ths, that ths sound is what lets us know that it is a fractional part and not the whole number part, thousan**ds**.*

Name & Date

Reading and Writing Decimals

I can read and write decimals to the thousand**ths** place in word form, base-ten numerals, and expanded form.

"AND" tells us

- Two parts separated by a decimal
- Decimals or fractional parts are in the number

Whole Number Part **and/"."** **Decimal or Fractional Part**

658.097

Ways to Write Decimals

Word Form: six hundred fifty-eight **and** ninety-seven thousandths

Base-Ten Numerals

Hundreds	Tens	Ones	"and"	Tenths $\frac{1}{10s}$	Hundredths $\frac{1}{100s}$	Thousandths $\frac{1}{1000s}$
6	5	8	.	0	9	7

Base-Ten Numerals

- **T** *If it was challenging for you to know what to say for the decimal place, then writing a number in base-ten numerals may be very helpful for you.*
- **T** *When we write a number in base-ten numerals we are simply drawing out a place value chart and then recording the digits, which are numbers 0-9, in each place.*
- **T** *How many places will we need to make on our chart for the number 658.097* six hundred fifty-eight and ninety-seven thousandths? Call on students. Answer: 6, or 7 including space for the decimal place.
- **T** *There are 6 places in this number, it is a 6-digit decimal.*
- **T** *However, I like to make a separate place for my decimal point.*
- **T** *So, we will draw a chart containing 7 columns.* See example & model so students can follow.
- **T** *Next, I will need to label what each of the places are, I see in this number there are two parts, a whole number part and a decimal part.*
- **T** *The whole number part is 3 digits or 3 places, so the first column I will write hundreds, the second column will be tens, and the third column will be ones.* See example & model so students can follow.
- **T** *Label these first three columns now.* Provide time for students to catch up.
- **T** *The fourth column is technically not a place, it is our separator.*
- **T** *The decimal separates the two parts of a number, the whole number part, and the fractional part.*
- **T** *So, in the fourth column we will put a decimal point and below it write the word "and" to help us to remember what to say when we see the decimal point.* See example & model so students can follow.
- **T** *Now it is time to tackle the second part of our number, the fractional part.*
- **T** *Decimals are another way of writing a fraction.*
- **T** *We will write both the word for the places and the fraction that each place represents.*

- ***T*** *In the first column after the decimal we will write "tenths" and "$\frac{1}{10s}$" below it.* See example & model so students can follow.
- ***T*** *Then in the next column we will write "hundredths" and "$\frac{1}{100s}$" below it.* See example & model so students can follow.
- ***T*** *Finally, in the last column we will write "thousandths" and "$\frac{1}{1000s}$" below it.* See example & model so students can follow.

Name & Date

Reading and Writing Decimals

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Base-Ten Numerals

Hundreds	Tens	Ones	. "and"	Tenths $\frac{1}{10s}$	Hundredths $\frac{1}{100s}$	Thousandths $\frac{1}{1000s}$
6	5	8	.	0	9	7

Fractional Form: $658\ \frac{97}{1000}$

Expanded Form: (2 ways)

1: Shows the value of each digit

Allow time for students to complete their chart on their notes page before moving on. Monitor students and provide assistance as needed.

- ***T*** *Now that we have created our place value chart, let's see if you can place the digits from the number 658.097 in the correct places on this chart.*
- ***T*** *Raise your hand once you have put your numbers on your chart so that I can quickly check your work.*
- ***T*** *Remember, only 1 digit can be in each place.*

Allow time for students to complete filling in the numbers on their place value chart. Check their work once they raise their hand and provide assistance as needed.

- ***T*** *Excellent job getting all of the digits in the correct place.*
- ***T*** *Below our chart I want us to include the "Fractional Form" of this number as well.*
- ***T*** *We write it as 658 with 97 over 1000, or ninety-seven thousandths.*
- ***T*** *Just like when we read the number, if it has 3 digits after the decimal we will write that number over 1000.*
- ***T*** *If it has 2 digits after the decimal we will write that number over 100 and if it has 1 digit we will write that number over 10.*
- ***T*** *Now we are ready to take all of this information we just organized in our notes to help us in examining the values of each digit in our decimal.*
- ***T*** *We will do this by writing our number in expanded form.*

Value of Digits and Expanded Form

- ***T*** *In the previous grades, I am sure you practiced writing numbers in expanded form.*
- ***T*** *However, as a fifth grader however, there are actually 3 ways to write a number in expanded form.*
- ***T*** *The first way, is what most of you are most likely familiar with.*
- ***T*** *This is where I indicate the value of each digit in my number and combine these values as an addition problem.*
- ***T*** *Now in our notes, we will write out our number, 658.097, in expanded form using two different ways or styles.*
- ***T*** *Please label this next section, "Expanded Form (2 ways)" in your notes.* See example & model so students can follow.
- ***T*** *Then, write the number 1 and "Shows the value of each digit."*
- ***T*** *This first way is the one I am confident you have used before.*
- ***T*** *Let's start by examining the values of our whole numbers, starting in the hundreds place.*

T *The first digit is a 6 in the hundreds place which has a value of what?* Call on students. Answer: 600

T *Let's write "600 +" in our notes.*

T *The next digit is a 5 in the tens place, which has a value of what?* Call on students. Answer: 50

T *Now our equation will read "600 + 50."*

T *The last digit in our whole number part is an 8 in the ones place which has a value of what?* Call on students. Answer: 8

T *So, the whole number portion of our equation is "600 + 50 + 8."* See example & model so students can follow.

T *Now we move onto the fractional part.*

T *This can be written out as either a decimal or a fraction.*

T *We will write it both ways in our notes.*

T *Since there is a 0 in the tenths place there is no need for us to write anything.*

T *The next place, the hundredths, we have the digit 9.*

T *A 9 in the hundredths place has a value of 0.09 or* $\frac{9}{100}$.

T *So, let's add that to our addition equation of whole numbers, "600 + 50 + 8 + 0.09."*

T *Then we have the digit 7 in the thousandths place.*

T *A 7 in the thousandths place has a value of 0.007 or* $\frac{7}{1000}$.

Name & Date

Reading and Writing Decimals

I can read and write decimals to the thousand**ths** place in word form, base-ten numerals, and expanded form.

"AND" tells us

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Whole Number Part **and/"."** **Decimal or Fractional Part**

658.097

Ways to Write Decimals

Word Form: six hundred fifty-eight **and** ninety-seven thousandths

Base-Ten Numerals

Hundreds	Tens	Ones	. "and"	Tenths $\frac{1}{10s}$	Hundredths $\frac{1}{100s}$	Thousandths $\frac{1}{1000s}$
6	5	8	.	0	9	7

Fractional Form: $658\frac{97}{1000}$

Expanded Form: (2 ways)

1: Shows the value of each digit

Decimals: 600 + 50 + 8 + 0.09 + 0.007
or
Fractions: $600 + 50 + 8 + \frac{9}{100} + \frac{7}{1000}$

2: Shows what digit is in what place and multiplies it by the value of that place

6 x 100 + **5** x 10 + 8 x 1 + 9 x $(\frac{1}{100})$ + 7 x $(\frac{1}{1000})$
or
6 (100) + 5 (10) + 8 (1) + 9 $(\frac{1}{100})$ + 7 $(\frac{1}{1000})$

T *So, let's add that to our addition equation of whole numbers, "600 + 50 + 8 + 0.09 + 0.007."*

T *The fraction expanded form would look like this: "600 + 50 + 8 +* $\frac{9}{100} + \frac{7}{1000}$."

T *The second way that we can write our number in expanded form gives an even clearer picture.*

T *It shows what digit is in what place, but it also shows the math behind what is causing each value.*

T *Let me show you what I mean.*

T *I will write "*$6 \times 100 + 5 \times 10 + 8 \times 1 + 9 \times (\frac{1}{100}) + 7 \times (\frac{1}{1000})$."

T *You can see I am still adding all of my parts together, but now I am writing the digit and then multiplying it by the value of that place.*

T *There is a 6 in the hundreds place, the value of the hundreds place is 100, so we write 6 x 100.*

T *Now you already knew this because that is what you actually did to be able to write 600 in our first way.*

T *Then our next digit 5 gets multiplied by 10 because that is the value of that place.*

T *And then we multiply the digit 8 by 1, since the ones place has a value of 1.*

T *Moving onto our decimal part, we will ignore the tenths place, since it has a 0, and move to the hundredths place.*

T *We will multiply 9 by* $\frac{1}{100}$ *because the value of the hundredths place is* $\frac{1}{100}$.

T *And finally, we will multiply 7 by* $\frac{1}{1000}$ *because the value of the thousandths place is* $\frac{1}{1000}$.

T *Below it I will show this equation the same way, however I will use parentheses to show multiplication, rather than the multiplication symbol.*

T *These are both correct ways of writing the same equation.*

- ***T*** *Finally! We have finished our examples in our notes and are ready to practice!*
- ***T*** *We will do a couple practice problems together as a class on the backside of your notes.*
- ***T*** *Then you will try some on your own and check your answers with a partner.*

Whole Class Practice

- ***T*** *Ok, please turn your notes over to the backside of the paper.*
- ***T*** *We will start by drawing a place value chart, just like we did on the front.* See example & model so students can follow.
- ***T*** *You want to make 4 rows to write in numbers.* See example & model so students can follow.

Allow time for students to create their charts. Monitor and provide assistance as needed.

- ***T*** *I will say the number out loud and then I would like you to write it on your chart as base-ten numerals.*
- ***T*** *Then I will have you check your work with a partner.*
- ***T*** *The first number is five hundred twenty-six and fifty-five thousandths.*

Allow time for students to enter digits on their place value chart. Monitor and provide assistance as needed.

- ***T*** *The second number is two hundred sixty-seven and four thousandths.*

Allow time for students to enter digits on their place value chart. Monitor and provide assistance as needed.

- ***T*** *The third number is two hundred sixty-seven and four hundred four thousandths.*

Allow time for students to enter digits on their place value chart. Monitor and provide assistance as needed.

- ***T*** *The fourth and final number is three hundred twelve and five hundred sixty-seven thousandths.*

Allow time for students to enter digits on their place value chart. Monitor and provide assistance as needed.

- ***T*** *Now with a partner, sitting either next to or near you I would like you to check your answers and discuss if you have different answers.*
- ***T*** *I will slowly read each number again and then give you a minute to compare answers and discuss.*
- ***T*** *Once I have read all 4 numbers again, I will show you the correct answers.*

Make sure everyone has a partner to discuss with before moving on.

- ***T*** *Ok, the first number was: five hundred twenty-six and fifty-five thousandths.*

Allow about a minute for students to discuss with their partners and modify answers as needed.

- ***T*** *The second number was two hundred sixty-seven and four thousandths.*

Allow about a minute for students to discuss with their partners and modify answers as needed.

- ***T*** *The third number was two hundred sixty-seven and four hundred four thousandths.*

Allow about a minute for students to discuss with their partners and modify answers as needed.

- ***T*** *The fourth and final number was three hundred twelve and five hundred sixty-seven thousandths.*

Allow about a minute for students to discuss with their partners and modify answers as needed.

T *Now it's time to check your answers.* Answers on next page.

Write all answers on the board. Allow students to check their answers and discuss any that seemed to confuse the class.

Hundreds	Tens	Ones	"and"	Tenths $\frac{1}{10s}$	Hundredths $\frac{1}{100s}$	Thousandths $\frac{1}{1000s}$
5	2	6	.	0	5	5
2	6	7	.	0	0	4
2	6	7	.	4	0	4
3	1	2	.	5	6	7

$5 \times 100 + 2 \times 10 + 6 \times 1 + 5 \times (\frac{1}{100}) + 5 \times (\frac{1}{1000})$
$2 \times 100 + 6 \times 10 + 7 \times 1 + 4 \times (\frac{1}{1000})$
$2 \times 100 + 6 \times 10 + 7 \times 1 + 4 \times (\frac{1}{10}) + 4 \times (\frac{1}{1000})$
$3 \times 100 + 1 \times 10 + 2 \times 1 + 5 \times (\frac{1}{10}) + 6 \times (\frac{1}{100}) + 7 \times (\frac{1}{1000})$

T *Let's practice one last thing.*
T *This time with your partner I would like you to write each of these 4 numbers from our place value chart in expanded form.*
T *Please use the second way from your notes, so that I can see what you are multiplying and adding.* Indicate if you would prefer they use both ways or just the first way.
T *In about 5 minutes I will share with you the correct answers.*

Allow about a minute for students to discuss with their partners and modify answers as needed.

T *Now it's time to check your answers.*

Write all answers on the board. Allow students to check their answers and discuss any that seemed to confuse the class.

Pass out the "Reading and Writing Decimals: Expanded Form" sheet (page 21) to each student or project it for students to copy.

Independent Practice

T *Now it is your turn to practice independently.*
T *Once most of people have finished, I will let you check your answers with a partner.*

Allow enough time for most to finish. Approximately 10-15 minutes. Monitor and provide assistance as needed.

If time allows have students check their work with partners and then bring the class together as a whole to review the correct answers. If time does not allow, collect papers and leave them for when their teacher returns.

Name: ANSWER KEY

Reading and Writing Decimals: Expanded Form

Directions: Practice writing numbers in the following formats.

Base-Ten Notation

	Hundreds	Tens	Ones	.	Tenths	Hundredths	Thousandths
$863\frac{94}{100}$	8	6	3	.	9	4	
267.004	2	6	7	.	0	0	4
one hundred twenty-three and eighty-two thousandths	1	2	3	.	0	8	2
15.875		1	5	.	8	7	5
$223\frac{16}{1000}$	2	2	3	.	0	1	6
eight hundred seventy-nine and fifty thousandths	8	7	9	.	0	5	0

Expanded Form

Part 1: Write a decimal for each expanded form.

$2 \times 100 + 6 \times 10 + 7 \times 1 + 8 (\frac{1}{10}) + 9 (\frac{1}{100}) + 1 (\frac{1}{1000})$ 267.891

$8 \times 100 + 7 \times 10 + 5 \times 1 + 5 (\frac{1}{10}) + 4 (\frac{1}{100}) + 1 (\frac{1}{1000})$ 875.541

$3 \times 10 + 2 \times 1 + 9 (\frac{1}{100}) + 9 (\frac{1}{1000})$ 32.099

$600 + 20 + 4 + 0.3 + 0.07 + 0.001$ 624.371

Part 2: Write each decimal in expanded form.

658.397 $6 \times 100 + 5 \times 10 + 8 \times 1 + 3 (\frac{1}{10}) + 9 (\frac{1}{100}) + 7 (\frac{1}{1000})$
$600 + 50 + 8 + 0.3 + 0.09 + 0.007$

236.298 $2 \times 100 + 3 \times 10 + 6 \times 1 + 2 (\frac{1}{10}) + 9 (\frac{1}{100}) + 8 (\frac{1}{1000})$
$200 + 30 + 6 + 0.2 + 0.09 + 0.008$

630.042 $6 \times 100 + 3 \times 10 + 4 (\frac{1}{100}) + 2 (\frac{1}{1000})$
$600 + 30 + 0.04 + 0.002$

362.359 $3 \times 100 + 6 \times 10 + 2 \times 1 + 3 (\frac{1}{10}) + 5 (\frac{1}{100}) + 9 (\frac{1}{1000})$
$300 + 60 + 2 + 0.3 + 0.05 + 0.009$

Check with a Partner

T *We will need a partner for to help us check our answers.*
T *Please count up the number of letters in your first name.*
T *I would like you to find a partner whose name has the same number of letters.*
T *If you are unable to find a partner I will pair you up.*

Allow students to find a partner, if they are unable to find a partner, simply pair them up.

T *With your partner, please check over your answers.*
T *If you have different answers, please discuss why you wrote what you did.*
T *You are free to change any answers.*

Differentiation:

Struggling Students: Pull groups of students who are having difficulty and work with them as a small group.

Early Finishers: Have them flip their papers over any test their partner on the value of digits in different numbers.

Optional Assessment Component Exit Slip

*You may use the exit slip at the end of this lesson as a quick assessment of student understanding. Either print them out (page 20), or simply have students copy the problems on a half sheet of paper.

Name: ANSWER KEY Date: _____

Exit Slip: Segment 1

Directions: Write the following numbers in the missing forms.

1. **two-hundred seventy-five and sixty-two thousandths**:

   Expanded Form: 200 + 70 + 5 + 0.06 + 0.002 -OR- 2 x 100 + 7 x 10 + 5 x 1 + 6 x $(\frac{1}{100})$ + 2 x $(\frac{1}{1000})$

   Number Form: 275.062

2. **34.167**

   Expanded Form: 30 + 4 + 0.1 + 0.06 + 0.007 -OR- 3 x 10 + 4 x 1 + 1 x $(\frac{1}{10})$ + 6 x $(\frac{1}{100})$ + 7 x $(\frac{1}{1000})$

   Word Form: thirty-four and one hundred, sixty-seven thousandths

3. **290 $\frac{34}{1000}$**

   Expanded Form: 200 + 90 + 0.03 + 0.004 -OR- 2 x 100 + 9 x 10 + 3 x $(\frac{1}{100})$ + 4 x $(\frac{1}{1000})$

   Decimal Number Form: 290.034

Make sure to "Break Up Your Day!"

Now is a great time to take a break and get students re-energized.
See our list of engaging movement and brain break ideas to get your students moving and ready to refocus! (see page 25)

Instructional Plan: Segment 2: 60 minutes

Subject

- Comparing Decimals Through the Thousandths Place

Objectives

- Students will read and write decimals to the thousandths place.
- Students will use place value to explain the value of digits through the thousandths.
- Students will compare two decimals or fractions to the thousandths place.

Materials

- blank paper
- pencil
- document camera or whiteboard
- **Optional Printable Student Resources:** "Exit Slips" (page 20) (1 copy per student), "Comparing Decimals Through the Thousandths Place" (page 22) (1 copy per student)

Introduction

T *Knowing how to read and write decimals in a variety of ways will help you when you have a situation where you need to compare decimals.*

T *Who can think of a situation where a person might want to compare two decimals to see which one is larger and which one is smaller.*

Provide a few moments for students to think.

T *Turn and share with someone sitting next to or near you what a situation would be when someone would need to compare numbers containing decimals.*

Provide a few minutes for students to share.

T *Let's hear a few of the scenarios that you thought of.* **Call on students to share with the class.**

Possible ideas may include: comparing pricing at stores to see which is the cheaper product, or comparing times of a race to see who had the fastest time and won.

T *Being able to compare numbers containing decimals is an important skill to have.*

T *As we previously learned there are several ways that numbers can be written.*

T *It is very important that you have the numbers you are comparing written in a common form before you are able to compare them properly.*

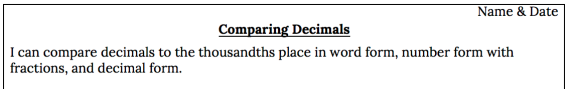
T *Since our focus today is decimals, you will want to make sure all numbers are written in number form containing a decimal and not a fraction.*

T *This way you can more easily compare the value of each digit.*

T *Let's take some notes so that you have an example to use later.*

Pass out a piece of blank paper to each student for them to use as notes.

Whole Group Setting up the Paper


Name & Date

Comparing Decimals

I can compare decimals to the thousandths place in word form, number form with fractions, and decimal form.

T *Write your name and date in the top right-hand corner of your paper.* See example & model so students can follow.

T *We will title our notes, "Comparing Decimals."* See example & model so students can follow.

T *Below that let's write our learning target for today.*

T *Please write, "I can compare decimals to the thousandths place in word form, number form with fractions, and decimal form."* See example & model so students can follow.

- ***T*** *Who can tell us what symbols we use when comparing things in math?* Call on students. Answer: > greater than, < less than, and = equal to.
- ***T*** *Just below our learning target, let's write each of these symbols in our notes.*
- ***T*** *The greater than symbol has what looks like a mouth opening up to the left, draw this and write "Greater Than" next to it.* See example & model so students can follow.
- ***T*** *The less than symbol has what looks like a mouth opening up to the right, draw this and write "Less Than" next to it.* See example & model so students can follow.
- ***T*** *Finally, the equal sign which looks like two horizontal parallel lines, draw this and write "Equal To."* See example & model so students can follow.
- ***T*** *Knowing how to correctly read these symbols will help you when reading a comparison statement.*
- ***T*** *For example, 5 is less than 7, or 6 is equal to* $\frac{36}{6}$ *or eight and two tenths is greater than seven and two tenths.*

Name & Date

Comparing Decimals

I can compare decimals to the thousandths place in word form, number form with fractions, and decimal form.

Symbols Used:
> Greater Than
< Less Than
= Equal To

Step 1: Convert to make them the same **Example:** Make both numbers look the same. Decimal and Decimal or Fraction and Fraction.

863.59	◯	**863** $\frac{59}{1000}$
Option 1: 863.59	◯	**863.059**
Option 2: 863 $\frac{59}{100}$	◯	**863** $\frac{59}{1000}$

Step 2: Compare- Determine which has a greater value

Option 1:
- First check the whole numbers
- **Then check the decimals:**
  - the tenths place is like the dimes
  - the hundredths place is like the pennies
- **Comparing Order:** tenths, then hundredths, last thousandths

- ***T*** *As I mentioned earlier, today you will be building on what you have already learned about reading and writing decimals in a variety of ways.*
- ***T*** *Especially the skill of writing a decimal in expanded form.*
- ***T*** *You will need to be able to compare the value of digits in specific places in order to determine which number is greater.*
- ***T*** *There are 2 steps that I would like us to add to our notes to help us in this process.*
- ***T*** *Step 1: is to convert to make the numbers the same.* See example & model so students can follow.
- ***T*** *Below this step we will write, "Example: make both numbers look the same. Decimal and Decimal. Fraction and Fraction."*
- ***T*** *We will use the following numbers as our example: 863.59* eight hundred sixty-three and fifty-nine hundredths *and 863* $\frac{59}{1000}$ eight hundred sixty-three and fifty-nine thousandths *as a fraction.* See example & model so students can follow.
- ***T*** *We will draw a circle between the two numbers to show that we are comparing them.* See example & model so students can follow.
- ***T*** *I will now write out this comparison in 2 ways.*

Option 1:

- ***T*** *Option one will be converting both into decimal form and option two will be to convert both into fraction form.* See example & model so students can follow.
- ***T*** *Using your knowledge about writing decimals in different ways, please write out these two options on your paper as well.*
- ***T*** *Then below these two comparison statements I would like you to list some steps or things to consider when comparing using that option.*
- ***T*** *Option 1: First check or compare the whole numbers.* See example & model so students can follow.
- ***T*** *Always compare digit by digit starting in the highest place or the left side of the number.*
- ***T*** *So, in this case we will start at in the hundreds place.*
- ***T*** *Both numbers have an 8 in the hundreds place or a value of 800.*
- ***T*** *Next, I will look at the tens place, both numbers contain a 6, giving them both a value of 60.*
- ***T*** *Finally, I will check the ones places, both numbers have a 3 in the ones place, giving them each a value of 3.*

- ***T*** *Since both whole numbers are equivalent, we must now check the decimals.*
- ***T*** *Let's write another bullet point under Option 1 that says" Then check the decimals."* See example & model so students can follow.
- ***T*** *Below that I want you to write a comparison to the value of the decimals with the value of coins.*
- ***T*** *Please write, "the tenths place is like the dimes" and "the hundredths place is like the pennies."* See example & model so students can follow.
- ***T*** *Also write, "Comparing Order: tenths, then hundredths, last thousandths."*
- ***T*** *Just like comparing whole numbers the largest values of decimals are those that are closest to the decimal point.*
- ***T*** *So, tenths are greater than hundredths, and hundredths are greater in value than thousandths.*
- ***T*** *The closest place to the decimal is the tenths place.*
- ***T*** *My first number has a 5 in the tenths place or a value of 0.5 or* $\frac{5}{10}$ five tenths.
- ***T*** *The second number has a 0 in the tenths place giving it a value of 0.*
- ***T*** *Because the first number has a larger value, you do not need to continue to compare the rest of the digits.*

Name & Date

Comparing Decimals

I can compare decimals to the thousandths place in word form, number form with fractions, and decimal form.

Symbols Used:
> Greater Than
< Less Than
= Equal To

Step 1: Convert to make them the same **Example:** Make both numbers look the same.
Decimal and Decimal or Fraction and Fraction.

863.59	◯	**863** $\frac{59}{1000}$
Option 1: **863.59**	◯	**863.059**
Option 2: **863** $\frac{59}{100}$	◯	**863** $\frac{59}{1000}$

Step 2: Compare- Determine which has a greater value

Option 1:
- First check the whole numbers
- **Then check the decimals:**
  - the tenths place is like the dimes
  - the hundredths place is like the pennies
- **Comparing Order:** tenths, then hundredths, last thousandths

Option 2:
- First check the whole numbers
- **Then check the fractions:**
- **Must have a common denominator to compare**
  - The denominator tells how many pieces 1 whole is cut into
  - The more pieces, the smaller each piece is
  - 1 piece of a whole cut into tenths is much larger than 1 piece of a whole cut into 1000s

- ***T*** *As soon as you find one with a greater value you are done.*
- ***T*** *So, I can now say that 863.59* eight hundred sixty-three and fifty-nine hundredths *is greater than 863.059* eight hundred sixty-three and fifty-nine thousandths.

Option 2:

- ***T*** *Just like with comparing decimals, when we are comparing numbers containing fractions we will start by comparing the whole numbers.* See example & model so students can follow.
- ***T*** *Since we are illustrating how to compare the same numbers, but in two different ways we will not go through and compare the whole numbers again.*
- ***T*** *We already know they are equivalent.*
- ***T*** *Now we must check the fractions.*
- ***T*** *In order to compare fractions, we must have common denominators to compare.* See example & model so students can follow.
- ***T*** *The denominator tells how many pieces 1 whole is cut into.* See example & model so students can follow.
- ***T*** *The larger the denominator is, the more pieces that whole is cut into.* See example & model so students can follow.
- ***T*** *Imagine two identical cakes.*
- ***T*** *One is cut into 100 pieces and the other is cut into 1000 pieces.*
- ***T*** *Both cakes are the same size, but the pieces are much smaller in the cake cut into 1000 pieces.*
- ***T*** *So, one piece of a whole cut into tenths is much larger than 1 piece of a whole cut into 1000s.* See example & model so students can follow.
- ***T*** *You must always convert to the larger of the two denominators.*
- ***T*** *Our first number has* $\frac{59}{100}$ *fifty-nine hundredths and the second number has* $\frac{59}{1000}$ *fifty-nine thousandths.*

T *We can turn* $\frac{59}{100}$ *to* $\frac{590}{1000}$*, by multiply both our numerator and denominator by ten.*

T *When doing this, we are essentially adding a zero to the end of both our numerator and denominator.*

T *Now that both fractions share a denominator of 1000, which is greater,* $\frac{590}{1000}$ *or* $\frac{59}{1000}$*?* Call on students to answer. Answer: $\frac{590}{1000}$

T *So, I can now say that 863.59* eight hundred sixty-three and fifty-nine hundredths *is greater than 863.059* eight hundred sixty-three and fifty-nine thousandths.

T *Now you know two ways to compare decimals or whole numbers with fractional parts.*

T *I wanted you to see that comparing in both ways would get you the same answer, but today I would like us to focus on converting to decimals and comparing decimal places like in option 1.*

T *Let's turn our paper over and make some more comparisons.*

T *But first let's find a partner to practice with.*

Partner Practice

T *Please stand up and put your hand up.*

T *I would like you to walk all around the room until I say stop.*

T *When I say stop you will find the closest person to you.*

T *That will be your partner.*

T *You cannot walk alongside of someone else to try to guarantee they are your partner.*

T *If I see this you will automatically, NOT, be partners.*

T *Please take your paper and pencil with you.*

T *Ready, start walking until I say stop.*

Watch for any students that may be pacing each other.

T *Ok, stop!*

T *Please quickly and quietly partner up with the closest person to you.*

T *Then sit down and number the back side of your notes 1-10.*

T *We will do 10 practice comparisons and then you will continue to practice on your own.*

T *A great way to work with a partner is to first try to solve each on your own and then discuss.*

T *I will write the comparisons on the board for you to solve.* Partner Practice Problems found on the right.

T *Remember you need to first convert each into decimal form!*

Write the 10 practice problems on the board or project them for students to copy. Then monitor and provide assistance as needed.

Partner Practice

1. 774.627 ◯ seven hundred seventy-four and sixty-two hundredths
2. 879.050 ◯ $362\frac{5}{100}$
3. 709.821 ◯ 790.821
4. $267\frac{4}{1000}$ ◯ two hundred sixty-seven and four tenths
5. 875.541 ◯ 875.514
6. 100.231 ◯ 100.321
7. 741.4 ◯ 741.004
8. 236.298 ◯ $236\frac{698}{1000}$
9. 658.397 ◯ 68.397
10. $69\frac{821}{1000}$ ◯ 68.397

Allow 10-15 minutes for students to solve comparisons.

Differentiation:

Support: If students are struggling to convert to decimal form, you can convert for the student(s) and have them work on just comparing decimals. Also, lining decimals on top of each other can help students to more easily compare 1 place at a time.

Checking Answers

T *Let's quickly go over these answers before you try some on your own!*
T *To help us practice reading our decimals and symbols we will read each one together as a class, if you say the wrong symbol please correct yours as we go.*

Read each comparison slowly and encourage students to read them along with you each time. This will give them practice at reading decimals properly.

T *#1 seven hundred seventy-four and six hundred twenty-seven thousandths is **greater than** seven hundred seventy-four and sixty-two hundredths.* Pause for students to correct their work. 774.627 > 774.62
T *#2 eight hundred seventy-nine and fifty thousandths is **greater than** three hundred sixty-two and five hundredths.* Pause for students to correct their work. 879.050 > 362.05
T *#3 seven hundred nine and eight hundred twenty-one thousandths is **less than** seven hundred ninety and eight hundred twenty-one thousandths.* Pause for students to correct their work. 709.821 < 790.821
T *#4 two hundred sixty-seven and four thousandths is **less than** two hundred sixty-seven and four tenths.* Pause for students to correct their work. 267.004 < 267.4
T *#5 eight hundred seventy-five and five hundred forty-one is **greater than** eight hundred seventy-five and five hundred fourteen.* Pause for students to correct their work. 875.542 > 875.514
T *#6 one hundred and two hundred thirty-one thousandths is **less than** one hundred and three hundred twenty-one thousandths.* Pause for students to correct their work. 100.231 < 100.321
T *#7 seven hundred forty-one and four tenths is **greater than** seven hundred forty-one and four thousandths.* Pause for students to correct their work. 741.4 > 741.004
T *#8 two hundred thirty-six and two hundred ninety-eight thousandths is **less than** two hundred thirty-six and six hundred ninety-eight thousandths.* Pause for students to correct their work. 236.298 < 236.698
T *#9 six hundred fifty-eight and three hundred ninety-seven thousandths is **greater than** sixty-eight and three hundred ninety-seven thousandths.* Pause for students to correct their work. 658.397 < 68.397
T *#10 sixty-nine and eight hundred twenty-one thousandths is **greater than** sixty-eight and three hundred ninety-seven thousandths.* Pause for students to correct their work. 69.821 > 68.397
T *Great job reading these decimal comparisons.*

Independent Practice

If students seemed to struggle with the 10 practice problems you may choose to keep all of them or some of them in partners to continue to practice. You can also pull small groups of students to review the skill further.

T *Now it is time for you to try out your skills independently.*
T *Please use both your notes and these examples to help you if you get stuck.*
T *If we have time, I will allow you to get back together with your partner and check your answers, or we will check them as a whole group.*

Pass out "Comparing Decimals Through the Thousandths Place" (page 22) to each student or project it for them to copy. Allow about 10-15 minutes to complete.

If time allows either have students correct their work with their previous partner or correct it as a whole class. If there is no more time, please collect papers and leave them for their teacher to review.

Name: ANSWER KEY

Comparing Decimals Through the Thousandths Place

Directions: Use >, <, or = to compare the decimal pairs below.

1. 630.042 (<) six-hundred thirty and forty-two hundredths 630.42
2. 362.359 (<) $362\frac{89}{100}$ 362.89
3. 31.087 (>) 15.875
4. $123\frac{82}{1000}$ 123.082 (<) one hundred seventy-two and four hundred fifty-four thousandths 172.454
5. 267.891 (>) sixty-seven and three hundred seventy-two thousandths 67.372
6. twenty-one and ninety-one hundredths 21.91 (<) twenty-one and nine hundred ninety-one thousandths 21.991
7. 863.94 (>) eight hundred sixty-three and nine tenths 863.90
8. 172.454 (=) $172\frac{454}{1000}$ 172.454
9. 810.054 (<) 810.54 810.540
10. $709\frac{821}{1000}$ 709.821 (>) seventy-nine and eight hundred twenty-one thousandths 79.821
11. 774.627 (>) seven hundred seventy-four and six hundred seven thousandths 774.607
12. seven and ninety-one hundredths 7.91 (<) seventy and nine hundred ninety-one thousandths 70.991

Optional Assessment Component Exit Slip

*You may use the exit slip at the end of this lesson as a quick assessment of student understanding. Either print them out (page 20), or simply have students copy the problems on a half sheet of paper.
Answer Key on next page.

Name: ANSWER KEY Date: _____

Exit Slip: Segment 2
Comparing Numbers

Directions: Convert numbers as needed to help you compare. Use >, <, and =.

1. 223.16 > 223.016
2. $863\ \frac{94}{1000}$ < eight hundred sixty-three and ninety-four hundredths
3. eight hundred ten and fifty-four thousandths < 810.504
4. sixty-seven and four thousandths = $67\ \frac{4}{1000}$

Make sure to "Break Up Your Day!"

Now is a great time to take a break and get students re-energized.
See our list of engaging movement and brain break ideas to get your students moving and ready to refocus! (see page 25)

Instructional Plan: Segment 3: 30-45 minutes

Subject

- Game: "Bigger is Better –or- Less is Best!"

Objectives

- Students will read and write decimals to the thousandths place in word form and base-ten numerals.
- Students will write decimals in expanded form through the thousandths place.
- Students will use expanded form and place value to explain the value of digits through the thousandths.
- Students will compare two decimals or fractions to the thousandths place.

Materials

- blank paper (several pieces) –or- student dry erase boards and markers
- pencil
- small paper clip
- document camera or whiteboard
- 10-sided dice or number cards (used if unable to print the "Spinner Sheet" for each pair)
- **Optional Printable Student Resources:** "Bigger is Better –or- Less is Best! Comparing Sheet" (page 23) (a few copies per pair) "Spinner Sheet" (page 24) (1 copy per student),

Each Group will need:

- **Something to write their 6-digit numbers on (student dry erase boards and markers, blank paper and pencil to create a place value chart, or a printable "Bigger is Better –or- Less is Best! Comparing Sheet."**
- **Printable "Spinner Sheet," a 10-sided die, or Number Cards.**
- **If you didn't print the "Spinner Sheets": a die (even numbers are greater than and odd numbers are less than) or a coin (heads is greater than and tails is less than)**

Introduction

T *Today we will play a game where you will need to compare two 6-digit numbers containing decimals to the thousandths place.*

T *Sometimes in life having a bigger number or amount is better, but sometimes the smaller amount is best.*

T *Think of a scenario where it would be better to have a bigger amount/number and one where it would be better to have a smaller amount/number.*

Provide a few moments for students to think.

T *Turn and share with someone sitting next to or near you what a situation would be when someone would want to have a larger amount/number and another where someone would want a smaller amount/number.*

Provide a few minutes for students to share.

T *Let's hear a few of the scenarios that you thought of.* **Call on students to share with the class.**

Possible ideas may include: Larger amount: paychecks, gifts, candy Smaller amount: penalty in hockey, time in a race, fine on a ticket, price on an item you want.

T *The game we will be playing is called "Bigger is Better –or- Less is Best!"*

T *You and your partner will each be building 6-digit numbers, but you won't know if you want to build a bigger or smaller number.*

T *Once both partners have a 6-digit number, containing at least 1 decimal place (tenths) you will need to compare the two numbers and see whose number has a greater value than the other.*
T *But like the name of the game, you don't know who won until you spin the wheel.*
T *If it lands on "Bigger is Better," the person with the greater value wins a point.*
T *If it lands on "Less is Best," the person with the smaller value wins a point.*
T *Then you will each create a new 6-digit number and spin again!*

How to Play

T *Let me show you how to play with a pretend practice round.*
T *There will be two imaginary players, player 1 and player 2.*
T *I will start by drawing a place value chart.*
T *The rule is that the 6-digit number must have at least 1 decimal place.*
T *So, if it was a 6-digit number containing 1 decimal place, how many whole number places would I need?*
Call on students. Answer: 5 places
T *I would need 5 places for whole numbers.*
T *A 5-digit whole number would be a number with digits to the ten-thousands place.*
T *On the whole number side, I will include places through the ten-thousands place, but then I want to allow for numbers to be created with 3 decimal places.*
T *So, my chart will go from the ten-thousands place to the thousandths place.*
T *Remember your number needs a minimum of 1 decimal place, but it can contain up to 3 decimal places.*

Bigger is Better -or- Less is Best!
Comparing Sheet

	Ten-Thousand	Thousand	Hundred	Tens	Ones	.	Tenths	Hundredths	Thousandths
Player 1						.			
Player 2						.			
Player 1						.			
Player 2						.			
Player 1						.			
Player 2						.			
Player 1						.			
Player 2						.			
Player 1						.			
Player 2						.			
Player 1						.			
Player 2						.			
Player 1						.			
Player 2						.			
Player 1						.			
Player 2						.			
Player 1						.			
Player 2						.			

You can print copies of the "Bigger is Better –or– Less is Best! Comparing Sheet," (page 23) or project it for students to copy on blank paper. Or if there are student dry erase boards and markers students can create the place value chart using those.

T *Using the "Digit Spinner," a 10-sided die, or number cards you will create a 6-digit number.*
T *Each player will take turns spinning, rolling a die, or picking a digit card.*
T *Both of your final numbers will be comprised of all 6 of the same 6 digits.*
T *The only difference will be the order you choose to put them in.*
T *So, let's say that the first spin, it landed on 9.*
T *Both players would decide where on the chart to put it.*
T *The catch is you have no idea if you will want the larger or smaller number.*
T *9 is the largest digit there is, so by putting a 9 in the ten-thousands place I would have a value of 90,000!*
T *But say I chose to put the digit 9 in the tenths place, I would have a value of nine tenths (0.9).*
T *You won't know until after the number is created which is a better choice!*
T *That is the fun part!*

Bigger is Better -or- Less is Best!
Comparing Sheet

	Ten-Thousand	Thousand	Hundred	Tens	Ones	.	Tenths	Hundredths	Thousandths
Player 1			9			.			
Player 2						.	9		

- ***T*** *So, let's continue this example with player 1 placing the digit 9 in the hundreds place and player 2 placing their 9 in the tenths place.* See example & model so students can follow.
- ***T*** *Now player 2 spins and it lands on a 2.*
- ***T*** *Player 1 puts the digit 2 in the tenths place and player 2 puts the digit 2 in the tens place.* See example & model so students can follow.
- ***T*** *4 more spins!*
- ***T*** *The third spin and it lands on a 6.*
- ***T*** *Player 1 puts the digit 6 in the ones place and player 2 puts the digit 6 in the hundredths place.*
- ***T*** *Fourth spin is a 4.*
- ***T*** *Player 1 puts the 4 in the tens place and player 2 puts the digit 4 in the ones place.*
- ***T*** *Spin number 5, it lands on a 9 again.*
- ***T*** *Player 1 puts the 9 in the hundredths place and player 2 puts the 9 in the hundreds place.*
- ***T*** *Sixth and final digit spin and it lands on a 1.*
- ***T*** *Both players put the one in the thousands place.*
- ***T*** *Each player must now read their number out loud correctly.*
- ***T*** *Player one reads, one thousand, nine hundred forty-six and twenty-nine hundredths.*
- ***T*** *Player two reads, one thousand, nine hundred twenty-four and ninety-six hundredths.*
- ***T*** *Together they will read the two numbers as a comparison sentence: "one thousand, nine hundred forty-six and twenty-nine hundredths is **greater than** one thousand, nine hundred twenty-four and ninety-six hundredths.*
- ***T*** *Now they are ready to spin the wheel and see who gets the point.*
- ***T*** *If they land on "Bigger is Better" or "Greater Than" player one gets a point.*
- ***T*** *If the spinner lands on "Less is Best" or "Less Than" player two gets a point.*
- ***T*** *Let's spin and see who would have earned a point in this imaginary round, player 1 or 2.*
- ***T*** *Hold up with your fingers a 1 if you think 1 will win and a 2 if you think player 2 will win!*
- ***T*** *Ready?!*
- ***T*** *I will hold my pencil in place on the dot so that the paper clip won't slide out when I spin it.*

Bigger is Better –or– Less is Best! Comparing Sheet

	Ten-Thousand	Thousand	Hundred	Tens	Ones	.	Tenths	Hundredths	Thousandths
Player 1			9			.	2		
Player 2				2		.	9		

Bigger is Better –or– Less is Best! Comparing Sheet

	Ten-Thousand	Thousand	Hundred	Tens	Ones	.	Tenths	Hundredths	Thousandths
Player 1			9		6	.	2		
Player 2				2		.	9	6	

Bigger is Better –or– Less is Best! Comparing Sheet

	Ten-Thousand	Thousand	Hundred	Tens	Ones	.	Tenths	Hundredths	Thousandths
Player 1			9	4	6	.	2		
Player 2				2	4	.	9	6	

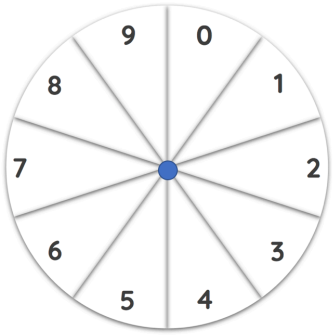
Bigger is Better –or– Less is Best! Comparing Sheet

	Ten-Thousand	Thousand	Hundred	Tens	Ones	.	Tenths	Hundredths	Thousandths
Player 1			9	4	6	.	2	9	
Player 2			9	2	4	.	9	6	

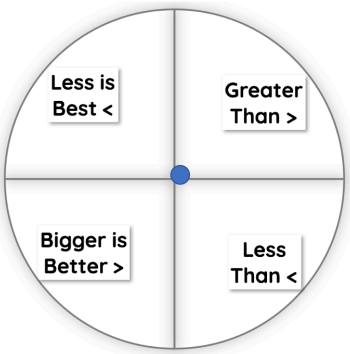
Bigger is Better –or– Less is Best! Comparing Sheet

	Ten-Thousand	Thousand	Hundred	Tens	Ones	.	Tenths	Hundredths	Thousandths
Player 1		1	9	4	6	.	2	9	
Player 2		1	9	2	4	.	9	6	

Digit Spinner



Greater Than -OR- Less Than Spinner



Spin the "Greater Than –or– Less Than Spinner." No printed spinners: flip a coin- heads greater than and tails less than, or roll a die- even numbers are greater than and odd numbers are less than

- ***T*** Announce what it landed on *just earned a point!*
- ***T*** *Before I put you in partners and let you start playing let's make things a bit more fun and I will demonstrate one more round.*
- ***T*** *This time I will be player 1 and you as a whole class will be player 2.*

T *I will call on one of you for each spin to decide where to place the digit for your team!*

Model playing with the class.

1. **Call on different students to come up and spin the wheel or roll the die each time.**
2. **Once both 6-digit numbers have been created read your 6-digit number out loud first.**
3. **Then have the class read their 6-digit number out loud.**
4. **Then with the class determine whose number is greater.**
5. **Altogether you will read player 1's number, then use the correct comparison term (greater than or less than) and then player 2's number.**
6. **Finally, pick one lucky student to come up and spin the "Greater Than –or Less Than Spinner," flip a coin, or roll a die to determine if you or the class won!**

Assigning Partners

T *Ok, I think everyone seems ready to get a partner and play.*
T *Think of the digits in your birthday.*
T *For example, if your birthday was February 23rd, the digits are 2 and 3 or the number 23.*
T *I would like you to find a partner who has the same value of the digit in the tens place of their birthdate.*
T *Someone who was born on the 23rd has a value of 20 in the tens place, so they need to find someone else with a value of 20.*
T *That would be anyone born on a date starting with a 2.*
T *If you were born at the beginning of the month the value in the tens place for you is a 0.*
T *If you cannot find a partner, please see me and I will assign you one.*

Once students have a partner pass out materials.

Each Group will need:

- **Something to write their 6-digit numbers on (student dry erase boards and markers, blank paper and pencil to create a place value chart, or a printable "Bigger is Better –or- Less is Best! Comparing Sheet."**
- **Printable "Spinner Sheet," a 10-sided die, or Number Cards.**
- **If you didn't print spinner sheets: a die or coin to determine greater than or less than.**

Differentiation:

Support: Assign students to a certain place value layout of numbers. For example: both player 1 and 2 must have their number be from hundreds to thousandths. Or have them create a spinner and just compare on digit in a specific place that the spinner lands on.
Challenge: Allow students to create additional rules for either creating numbers or the things they are comparing.

Make sure to "Break Up Your Day!"

Now is a great time to take a break and get students re-energized.
See our list of engaging movement and brain break ideas to get your students moving and ready to refocus! (see page 25)

Name: _____Date: _____

Exit Slip: Segment 1

Directions: Write the following numbers in the missing forms.

1. **two-hundred seventy-five and sixty-two thousandths:**

   Expanded Form: _____

   Number Form: _____

2. **34.167**

   Expanded Form: _____

   Word Form: _____

3. **290 $\frac{34}{1000}$**

   Expanded Form: _____

   Decimal Number Form: _____

Name: _____Date: _____

Exit Slip: Segment 2

Comparing Numbers

Directions: Convert numbers as needed to help you compare. Use >, <, and =.

1. 223.16 ◯ 223.016
2. 863 $\frac{94}{1000}$ ◯ eight hundred sixty-three and ninety-four hundredths
3. eight hundred ten and fifty-four thousandths ◯ 810.504
4. sixty-seven and four thousandths ◯ 67 $\frac{4}{1000}$

Name: _____

Reading and Writing Decimals: Expanded Form

Directions: Practice writing numbers in the following formats.

Base-Ten Notation

	Hundreds	Tens	Ones	.	Tenths	Hundredths	Thousandths
$863\frac{94}{100}$							
267.004							
one hundred twenty-three and eighty-two thousandths							
15.875							
$223\frac{16}{1000}$							
eight hundred seventy-nine and fifty thousandths							

Expanded Form

Part 1: Write a decimal for each expanded form.

$2 \times 100 + 6 \times 10 + 7 \times 1 + 8 (\frac{1}{10}) + 9 (\frac{1}{100}) + 1 (\frac{1}{1000})$ _____

$8 \times 100 + 7 \times 10 + 5 \times 1 + 5 (\frac{1}{10}) + 4 (\frac{1}{100}) + 1 (\frac{1}{1000})$ _____

$3 \times 10 + 2 \times 1 + 9 (\frac{1}{100}) + 9 (\frac{1}{1000})$ _____

$600 + 20 + 4 + 0.3 + 0.07 + 0.001$ _____

Part 2: Write each decimal in expanded form.

658.397

236.298

630.042

362.359

Name: _____

Comparing Decimals Through the Thousandths Place

Directions: Use >, <, or = to compare the decimal pairs below.

1. 630.042 ◯ six-hundred thirty and forty-two hundredths

2. 362.359 ◯ $362\frac{89}{100}$

3. 31.087 ◯ 15.875

4. $123\frac{82}{1000}$ ◯ one hundred seventy-two and four hundred fifty-four thousandths

5. 267.891 ◯ sixty-seven and three hundred seventy-two thousandths

6. twenty-one and ninety-one hundredths ◯ twenty-one and nine hundred ninety-one thousandths

7. 863.94 ◯ eight hundred sixty-three and nine tenths

8. 172.454 ◯ $172\frac{454}{1000}$

9. 810.054 ◯ 810.54

10. $709\frac{821}{1000}$ ◯ seventy-nine and eight hundred twenty-one thousandths

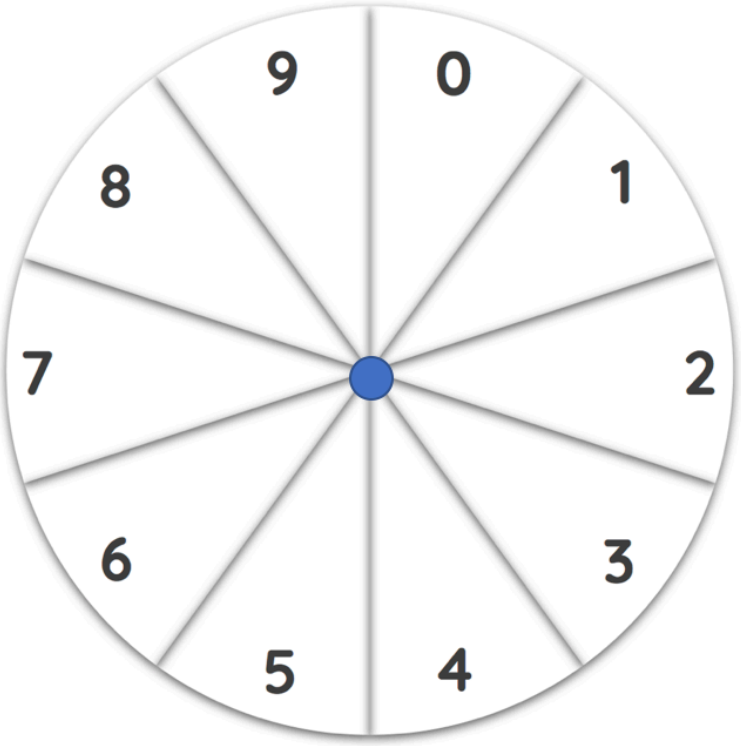
11. 774.627 ◯ seven hundred seventy-four and six hundred seven thousandths

12. seven and ninety-one hundredths ◯ seventy and nine hundred ninety-one thousandths

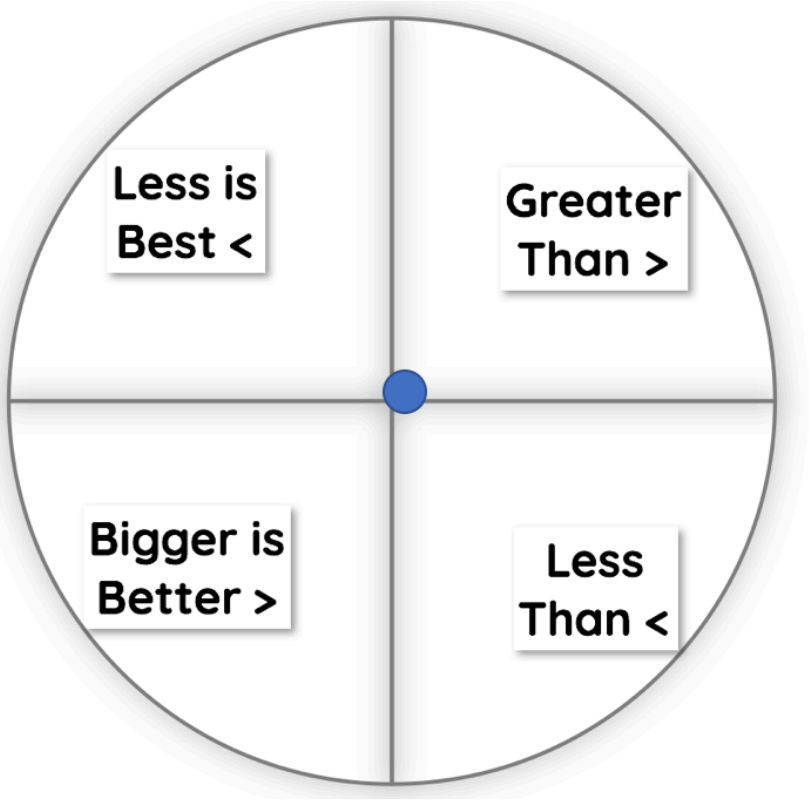
Bigger is Better -or- Less is Best!
Comparing Sheet

	Ten-Thousand	Thousand	Hundred	Tens	Ones	.	Tenths	Hundredths	Thousandths
Player 1						.			
Player 2						.			
Player 1						.			
Player 2						.			
Player 1						.			
Player 2						.			
Player 1						.			
Player 2						.			
Player 1						.			
Player 2						.			
Player 1						.			
Player 2						.			
Player 1						.			
Player 2						.			
Player 1						.			
Player 2						.			
Player 1						.			
Player 2						.			

Digit Spinner



Greater Than -OR- Less Than Spinner



Make sure to "Break Up Your Day!"

These can be used in the middle of a lesson or at the end of your lesson.

Here are a few engaging movement and brain break ideas to get your students moving and ready to refocus!

Break Up Your Day: Notation Kid!

- Challenge students to write as many expanded notation 5-digit numbers (to the ten thousands place) as possible in one minute. (example: 15,432 = 10,000 + 5,000 + 400 + 30 + 2, etc.)
- Students trade papers with a shoulder buddy and the buddy counts the correct expanded notations.
- Whoever has the most correct expanded notations may share their facts with the class (if document camera is available) or they simply become the new Notation Kid!

Break Up Your Day: Math Outside!

- Students take scratch paper/pencil and find comparisons outside.
- Students draw and label numbers that can be compared. (examples: 2 slides $<$ 4 swings, 12 trees $>$ 2 basketball courts)
- Challenge: find anything that has a decimal or fractional part.

Break Up Your Day: Body Stretches!

10 minutes

FORMATION: Standing at desks

- Have students begin the day with a series of simple activities lasting 30 seconds or more: jumping jacks, knee lifts, flap arms like a bird, hopping, scissors (feet apart then cross in front, feet apart then cross in back)…
- Follow each activity with a basic stretching movement:
- Reach for the sky runner's stretch
- Butterfly stretch (sit with bottom of feet together)
- Knee to chest, rotate ankles, scratch your back

Hold stretches for 10 - 30 seconds. Repeat a different simple activity followed by a new basic stretch as many times as desired.