



Unit 4

Operations with Decimals

Lesson 1

Adding and Subtracting Decimals

CCSS: 6.NS.B.3

UNIT 4: ESSENTIAL QUESTIONS

01.

How do decimals and fractions relate to one another?

02.

What do decimals describe?

03.

In what ways do decimals apply to real-world problems?



LEARNING OBJECTIVES



Apply knowledge of operations with decimals and of division of multi-digit numbers to word problems.



Add and subtract decimals (up to the ten-thousandths place) using the standard algorithm.



Warm-Up: Adding and Subtracting Decimals

Solve the following on your own:

$$\begin{array}{r} 1) \ 77 \\ + 35 \\ \hline \end{array}$$

$$\begin{array}{r} 2) \ 104 \\ - 46 \\ \hline \end{array}$$

$$\begin{array}{r} 3) \ 89 \\ + 28 \\ \hline \end{array}$$

$$\begin{array}{r} 4) \ 62 \\ - 37 \\ \hline \end{array}$$



Warm-Up: Adding and Subtracting Decimals

ANSWERS

Solve the following on your own:

$$\begin{array}{r} 1) \ 77 \\ + 35 \\ \hline 112 \end{array}$$

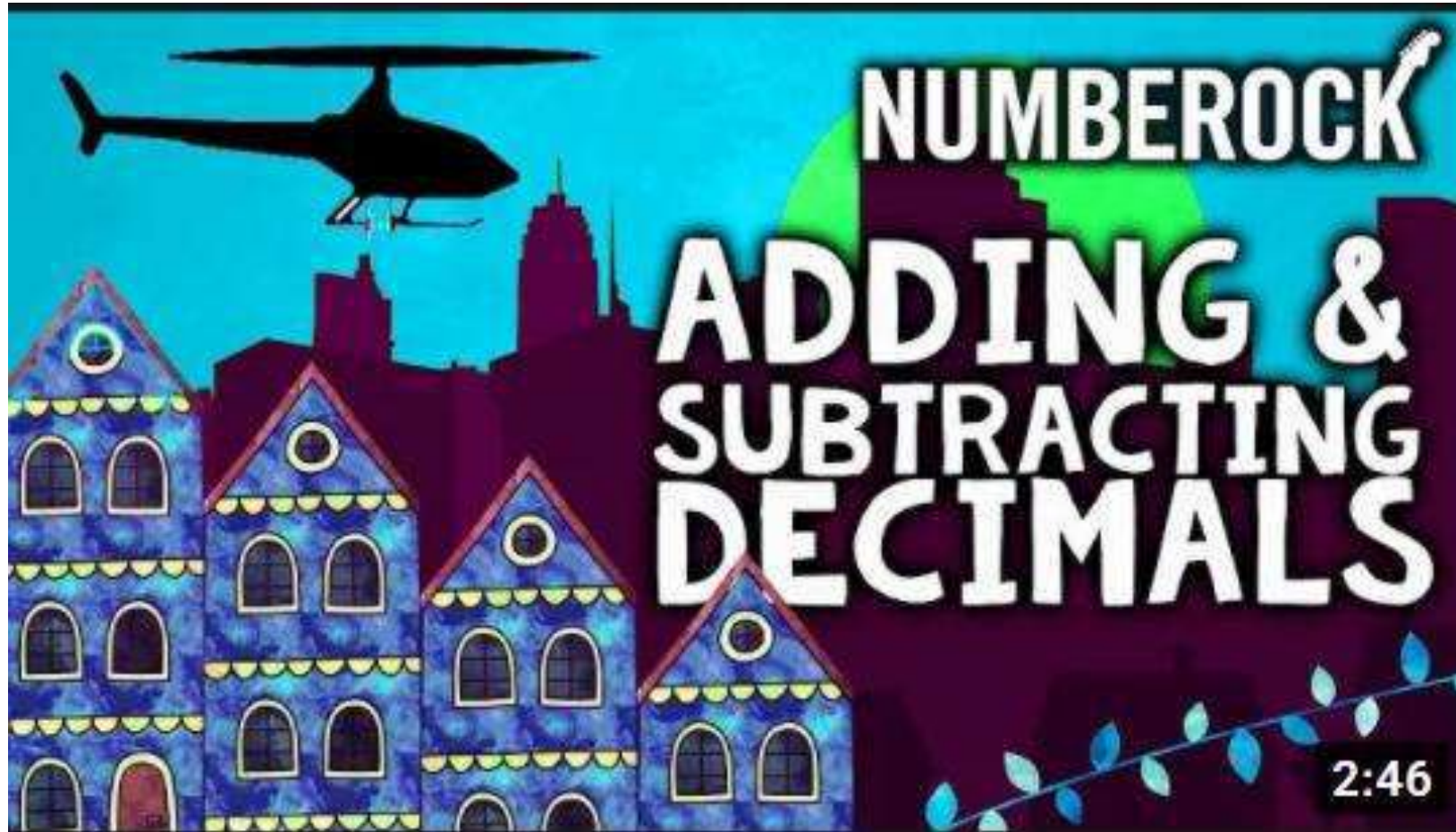
$$\begin{array}{r} 2) \ 104 \\ - 46 \\ \hline 58 \end{array}$$

$$\begin{array}{r} 3) \ 89 \\ + 28 \\ \hline 117 \end{array}$$

$$\begin{array}{r} 4) \ 62 \\ - 37 \\ \hline 25 \end{array}$$



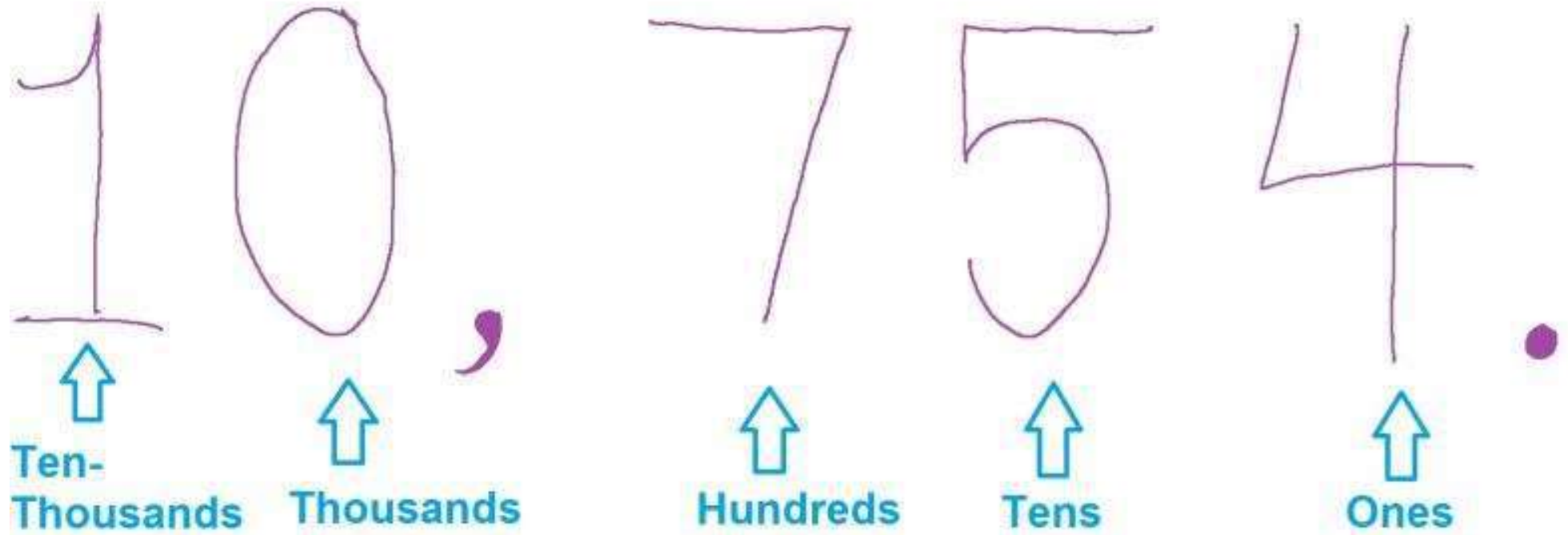
Engage





Place Value- Whole Numbers

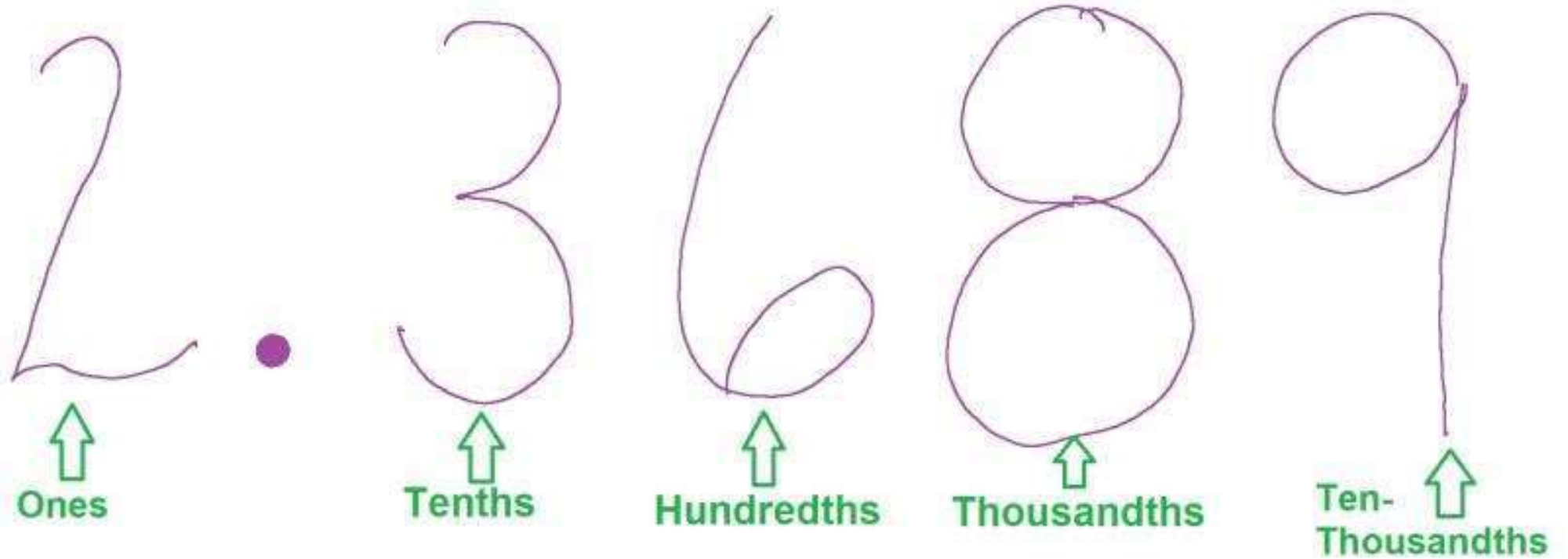
Whole Number Place Values





Place Value- Decimals

Decimal Place Values





Place Value- Whole Number & Decimals

Whole Number and Decimal Place Values





I Do: Subtracting Decimals

Solve the following: $545.23 - 243.39 = ?$

Step 1: Line up Tenths, Hundredths, and Thousandths to Subtract

	Hundreds	Tens	Ones	.	Tenths	Hundredths	Thousandths
+							

Step 2: Subtract the numbers moving from right to left, same as whole numbers.



I Do: Subtracting Decimals

Solve the following: $545.23 - 243.39 = ?$

5 4 5 . 2 3

— 2 4 3 . 3 9



I Do: Subtracting Decimals

ANSWERS

Solve the following: $545.23 - 243.39 = ?$

$$\begin{array}{r} \begin{array}{|c|} \hline 5 \\ \hline \end{array} \begin{array}{|c|} \hline 4 \\ \hline \end{array} \begin{array}{|c|} \hline \cancel{5}^4 \\ \hline \end{array} . \begin{array}{|c|} \hline \cancel{2}^{11} \\ \hline \end{array} \begin{array}{|c|} \hline \cancel{3}^{13} \\ \hline \end{array} \\ - \begin{array}{|c|} \hline 2 \\ \hline \end{array} \begin{array}{|c|} \hline 4 \\ \hline \end{array} \begin{array}{|c|} \hline 3 \\ \hline \end{array} . \begin{array}{|c|} \hline 3 \\ \hline \end{array} \begin{array}{|c|} \hline 9 \\ \hline \end{array} \\ \hline \begin{array}{|c|} \hline 3 \\ \hline \end{array} \begin{array}{|c|} \hline 0 \\ \hline \end{array} \begin{array}{|c|} \hline 1 \\ \hline \end{array} . \begin{array}{|c|} \hline 8 \\ \hline \end{array} \begin{array}{|c|} \hline 4 \\ \hline \end{array} \end{array}$$



We Do: Adding and Subtracting Decimals

Solve the following: $3.36 + 1.94 = ?$

$$\begin{array}{r} \boxed{} \boxed{} \boxed{} . \boxed{} \boxed{} \\ + \boxed{} \boxed{} \boxed{} . \boxed{} \boxed{} \\ \hline \end{array}$$



We Do: Adding and Subtracting Decimals

Solve the following: $3.36 + 1.94 = ?$

$$\begin{array}{r} \overset{1}{3} . \overset{1}{3} 6 \\ + 1 . 9 4 \\ \hline 5 . 3 0 \end{array}$$



You Do: Adding and Subtracting Decimals

Solve the following: $27.65 - 14.50 = ?$

27.65

— 14.50



You Do: Adding and Subtracting Decimals

ANSWERS

Solve the following: $27.65 - 14.50 = ?$

2 7 . 6 5

— 1 4 . 5 0

1 3 . 1 5



Mid-Lesson Check In

Answer the following questions using the emoji's below:

How are you feeling about the pace of today's lesson?



HAPPY



NERVOUS



SURPRISED



FRUSTRATED



SAD

Does today's lesson feel intense?



THUMBS UP



THUMBS DOWN

How would you rate your confidence with multiplying fractions by fractions so far?



HAPPY



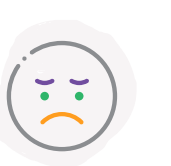
NERVOUS



SURPRISED



FRUSTRATED



SAD

Let's Summarize

Whole Number and Decimal Place Values



Let's Summarize

Addition Model

Step 1: Line up Tenths, Hundredths, and Thousandths to Add

	Hundreds	Tens	Ones	.	Tenths	Hundredths	Thousandths
+	Hundreds	Tens	Ones	.	Tenths	Hundredths	Thousandths
	Hundreds	Tens	Ones	.	Tenths	Hundredths	Thousandths

Step 2: Add the numbers from right to left, same as if they were whole numbers.

Let's Summarize

Subtraction Model

Step 1: Line up Tenths, Hundredths, and Thousandths to Subtract

	Hundreds	Tens	Ones	.	Tenths	Hundredths	Thousandths
–	Hundreds	Tens	Ones	.	Tenths	Hundredths	Thousandths
	Hundreds	Tens	Ones	.	Tenths	Hundredths	Thousandths

Step 2: Subtract the numbers moving from right to left, same as whole numbers.



QZ/EXIT TICKET

QZ TIME



We Do: Adding and Subtracting Decimals

Solve the following: $13.645 + 12.34 = ?$

$$\begin{array}{r} \boxed{} \boxed{} \boxed{} . \boxed{} \boxed{} \boxed{} \\ + \boxed{} \boxed{} \boxed{} . \boxed{} \boxed{} \boxed{} \\ \hline \end{array}$$



We Do: Adding and Subtracting Decimals

Solve the following: $2.471 - 1.345 = ?$

			.			
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			.			
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We Do: Adding and Subtracting Decimals

ANSWERS

Solve the following: $2.471 - 1.345 = ?$

$$\begin{array}{r} 2.4\cancel{7}\cancel{1} \\ - 1.345 \\ \hline 1.126 \end{array}$$

The diagram illustrates the subtraction $2.471 - 1.345$ using place value blocks. The top row (minuend) consists of six green boxes: two empty, followed by '2', a decimal point, '4', a green '7' with a red diagonal line through it and a red '6' above it, and a green '1' with a red diagonal line through it and a red '11' above it. The bottom row (subtrahend) consists of six blue boxes: two empty, followed by '1', a decimal point, '3', '4', and '5'. A thick black horizontal line is drawn below the subtrahend row. Below this line, the result '1.126' is shown in purple, with '1' under the first empty box, '1' under the second empty box, a decimal point under the '2' box, '1' under the '4' box, '2' under the '7' box, and '6' under the '1' box.



You Do: Adding and Subtracting Decimals

Solve the following: $57.54 + 39.14 = ?$

			.		
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+				.		



ANSWERS

1

$$9 \quad 6 \quad \cdot \quad 6 \quad 8$$



You Do: Adding and Subtracting Decimals

Solve the following: $27.65 - 14.50 = ?$

			.		
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			.		



You Do: Adding and Subtracting Decimals

ANSWERS

Solve the following: $27.65 - 14.50 = ?$

27.65

14.50

13.15