EUREKA MATH²™

Module 4 - Lesson 10:

Add decimal numbers by using place value understanding.
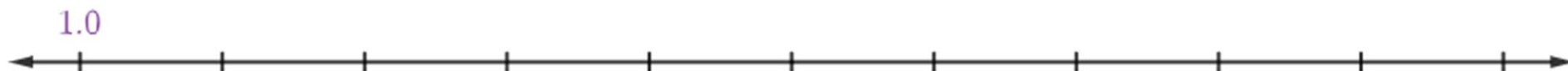
CCSS Standard – 5.NBT.B.7

Use the number line to count by tenths to 2.0.
The first number you say is 1.0. Ready?

1.0

Now, count forward by hundredths. Rename the tenths as hundredths.
The first number you say is 1.00. Ready?

When I give the signal, read the number shown in standard form. Ready?

*You should be comfortable now knowing the difference between **standard form, unit form, & fraction form.***

Write the number in UNIT FORM.

Write the number in UNIT FORM.

Now, write the number in UNIT FORM by using only TENTHS.

Write the number in UNIT FORM.

Now, write the number in UNIT FORM by using only TENTHS.

Whiteboard Exchange: Standard Form to Unit Form

When I give the signal, read the number shown in standard form. Ready?

*You should be comfortable now knowing the difference between **standard form, unit form, & fraction form.***

Write the number in UNIT FORM.

Write the number in UNIT FORM.

Now, write the number in UNIT FORM by using only HUNDREDTHS.

Write the number in UNIT FORM.

Now, write the number in UNIT FORM by using only HUNDREDTHS.

Determine the unknown part to make the next whole number.

Write and complete the equation:

$0.9 + \underline{\hspace{1.5cm}} = 1$ $\underline{\hspace{1.5cm}} + 0.7 = 1$ $0.2 + \underline{\hspace{1.5cm}} = 1$

$\underline{\hspace{1.5cm}} + 0.4 = 1$

Consider possible methods for adding decimal numbers.

Sasha sells spices at a market.
She weighs 5.64 grams of garlic and 2.7 grams of black pepper for a customer.

5.64 + 2.7

So far, we have used the following methods to add decimals:

- *Using a number line.*
- *Writing decimals in unit form.*
- *Renaming units (tenths to hundredths).*
- *Using number bonds.*
- *Writing decimals in fraction form.*

The methods we have learned could be used to solve this problem, but they are **not especially helpful or efficient for these numbers**. **Why do you think that is?**

Consider possible methods for adding decimal numbers.

5.64 + 2.7

Today, we will write decimal numbers in **VERTICAL FORM** to add, just as we do when adding whole numbers.
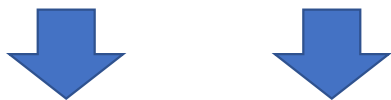
$$
\begin{array}{r}
5.64 \\
+\ 2.7 \\
\hline
\mathbf{8.34}
\end{array}
$$

Use Place Value Units to Add Decimal Numbers
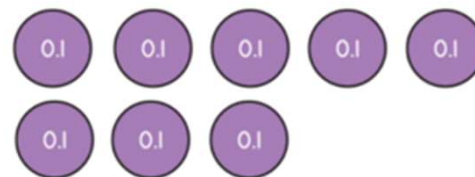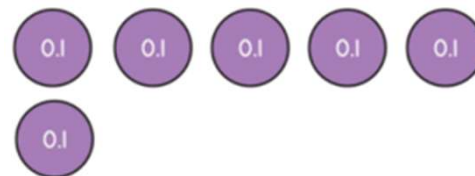
First, estimate the sum.

$$4.6 + 2.8$$

$$5 + 3 = 8$$

$$\begin{array}{r} 4.6 \\ +\ 2.8 \\ \hline 7.4 \end{array}$$

Now, let's represent these decimals with place value disks.

Just like when we add whole numbers, we start with the smallest unit. What is 6 tenths + 8 tenths?

14 tenths

Can we make a new unit? How? 14 tenths can become 1 one 4 tenths

What do we have left? 7 ones 4 tenths
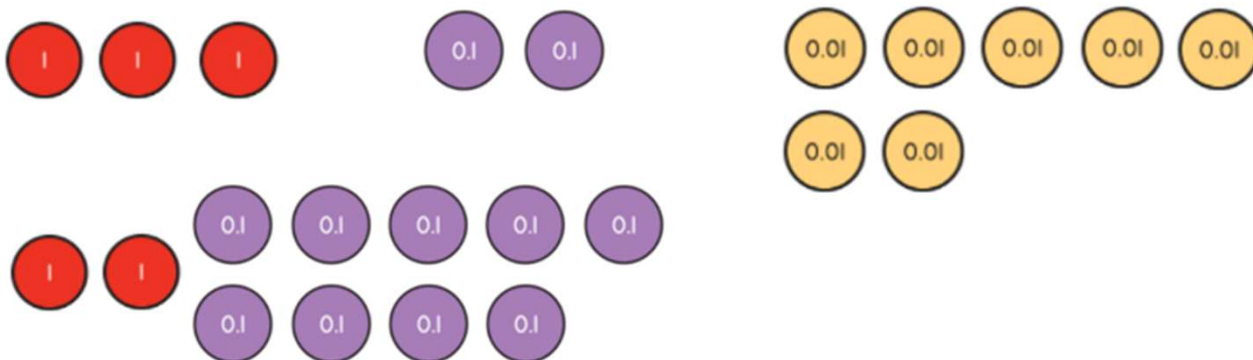
Use Place Value Units to Add Decimal Numbers

First, estimate the sum.

$$3.27 + 1.9$$

$$3 + 2 = 5$$

Now, let's represent these decimals with place value disks.

Can we make a new unit? How? **11 tenths can become 1 one 1 tenths**

What do we have left? **5 ones 1 tenth 7 hundredths**

$$
\begin{array}{r}
3.27 \\
+\ 1.9 \\
\hline
5.17
\end{array}
$$

Please Notice This

First, estimate the sum.

2.93 + 1.08

3 + 1 = 4

$$\begin{array}{r} 2.93 \\ +\,1.08 \\ \hline 4.01 \end{array}$$

| ones | tenths | hundredths |
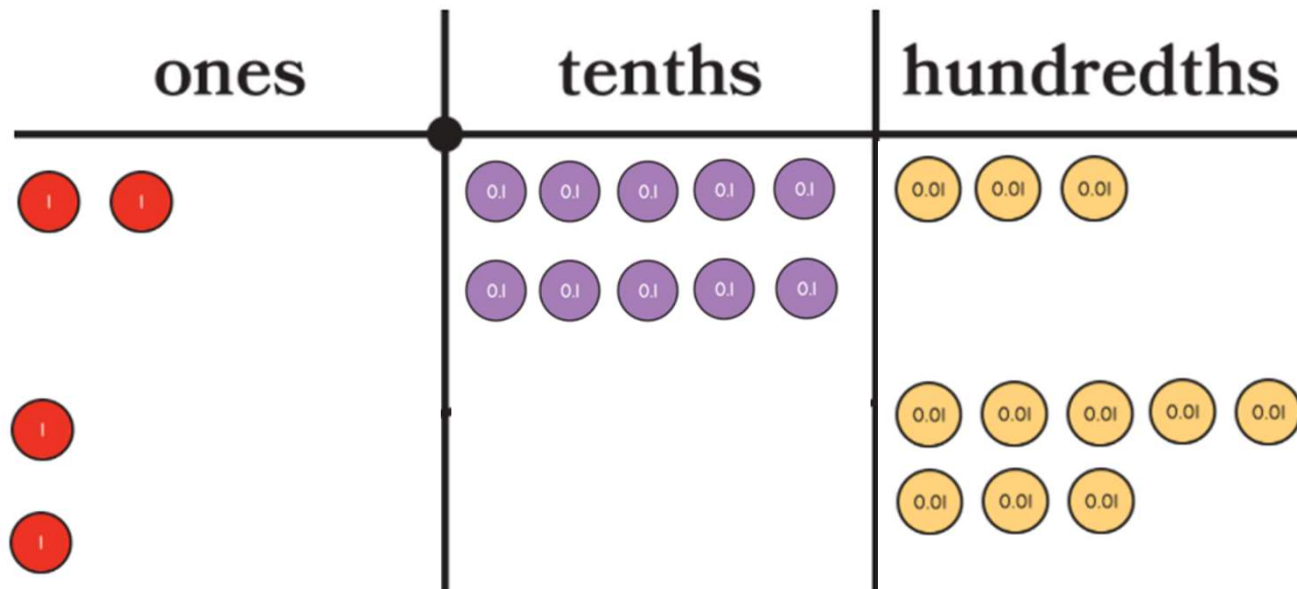
Can we make a new units with the hundredths? How?
Can we make a new units with the tenths? How?
What do we have left? 4 ones 1 hundredth
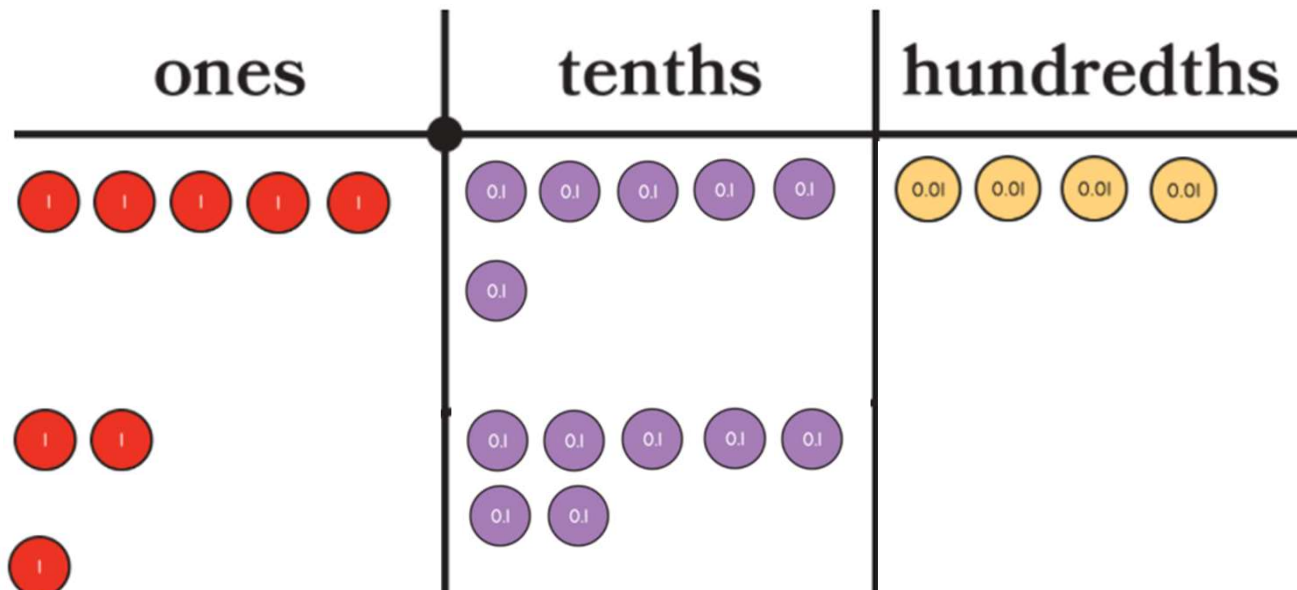
Use Place Value Units to Add Decimal Numbers

First, estimate the sum.

$$5.64 + 2.7$$

$$6 + 3 = 9$$

$$\begin{array}{r} 5.64 \\ + \; 2.7 \\ \hline \mathbf{8.34} \end{array}$$

ones	tenths	hundredths

Can we make a new units with the **hundredths**? **No, not enough!**

Can we make a new units with the **tenths?** How?

What do we have left? **8 ones 3 tenths 4 hundredths**

Add Decimal Numbers to Solve Word Problems

LEARN book page 93.

Use the Read–Draw–Write process to solve the problem.

1. Sana orders a sandwich and a salad from a café. The sandwich costs $8.55. The salad costs $2.54 more than the sandwich. How much does the sandwich and the salad cost in all?

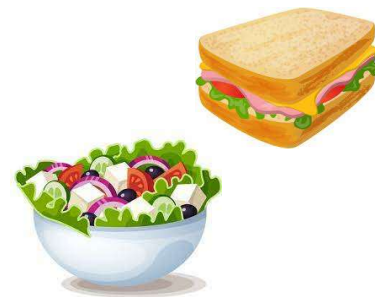**Let's use a tape diagram to understand the problem.**

First, estimate the sum.

sandwich | **$8.55**

salad | **$8.55** | **$2.54**

?

$9
$9 + $3

$21

$$\begin{array}{r} 8.55 \\ +\ 2.54 \\ \hline \mathbf{\$11.09} \end{array}$$

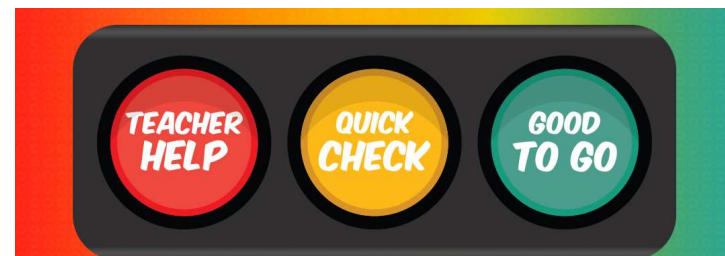$$\begin{array}{r} 11.09 \\ +\ 8.55 \\ \hline \mathbf{\$19.64} \end{array}$$

TEACHER HELP   QUICK CHECK   GOOD TO GO

✉ 10

_____   _____
Name   Date

Add. Show your work.

1. 1.9 + 7.2 = _____

Exit Ticket – PAGE 99

Small Group Time:
Problem Set Pages 95-98

Homework:
Page 65   APPLY BOOK

2. 3.28 + 2.93 = _____