3ʳᵈ Grade Math

Module 2: Place Value and Problem Solving with Units of Measure

Math Parent Letter

This document is created to give parents and students a better understanding of the math concepts found in Eureka Math (© 2013 Common Core, Inc.) that is also posted as the Engage New York material which is taught in the classroom. Module 2 of Eureka Math (Engage New York) covers Place Value and Problem-Solving with Units of Measure. This newsletter will discuss Module 2, Topic C.

Topic C. Rounding to the Nearest Ten and Hundred

Vocabulary Words

- Halfway
- Round
- About
- Vertical
- ≈ Approximate
- Endpoint
- Point
- Plot
- Tick Marks

Helpful Hints!

Included in this newsletter are different questions that could be used to help students understand the concept of rounding.

Rounding to tens: If the number ends with 5-9 then round up to the higher ten. Ex. 15 rounds to 20.

Rounding to hundreds: If the number ends with 50-99 then round to the higher hundred. Ex. 250 rounds to 300.

OBJECTIVE OF TOPIC C

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1	Round two-digit measurements to the nearest ten on the vertical number line.
2	Round two-digit and three-digit numbers to the nearest ten on a vertical number line.
3	Round to the nearest hundred on a vertical number line.

Focus Area– Topic C

Rounding to the Nearest Ten and Hundred

Draw a vertical number line. Plot 48 mL on the number line.

1. Numbers are continuous; to show this an arrow is drawn on both sides of the number line.

2. Place **a tick mark** at the top of the number line and the bottom of the number line. How many tens are in 48? 4 tens or 40. The lowest tick mark will be 40. What is 1 more ten than 4 tens? 5 tens or 50. The highest tick mark is 50.

3. Find the **halfway** point on the number line and put a tick mark. What number is halfway between 40 and 50? 45. Label the halfway point 45.
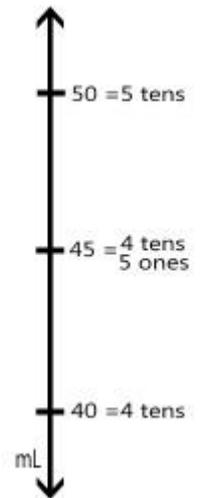
4. The number measured is 48 mL. So label the unit measured on the number line mL.

5. Now **plot** 48 mL on the number line. 48 is larger than 45 and smaller than 50, so the tick mark should be between those numbers. 48 is a little more than halfway between 45 and 50 so draw the tick mark a little more than halfway between the two numbers.

6. Look at the number line. What is the nearest 10 to 48? 50, so **round** 48 to 50.

Label First

- 50 = 5 tens
- 45 = 4 tens 5 ones
- 40 = 4 tens

mL

Plot Next

- 50 = 5 tens
- 48
- 45 = 4 tens 5 ones
- 40 = 4 tens

mL
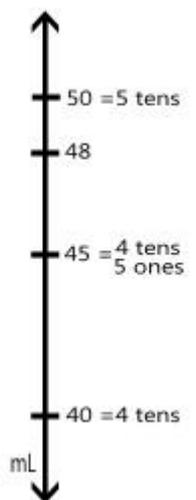
Rounding 13 cm to the nearest 10

Look at the number line and round to the nearest ten.
Is 13 more than halfway or less than halfway between 10 and 20? 13 is less than 15 and 15 is the number halfway between 10 and 20, so 13 is less than halfway. 13 should be rounded to 10 because it is less than halfway between 10 and 20. Another way to say this is 13 cm is about 10 cm. **About** means that it is not an exact amount.

20 = 2 tens

15 = 1 ten 5 ones

13

10 = 1 ten

cm
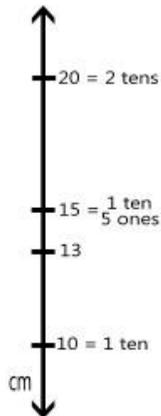
Rounding 128 kg to the nearest 100

Look at the number line and round to the nearest hundred.
Is 128 more than halfway or less than halfway between 100 and 200? 128 is less than 150 and 150 is the number halfway between 100 and 200, so 128 is less than halfway. 128 should be rounded to 100 because it is less than halfway between 100 and 200. Another way to say this is 128 km is approximately 100 cm. The symbol for **approximately** is ≈. So 128 kg ≈ 100 kg.

200 = 2 hundreds

150 = 1 hundred 5 tens

128

100 = 1 hundred

kg
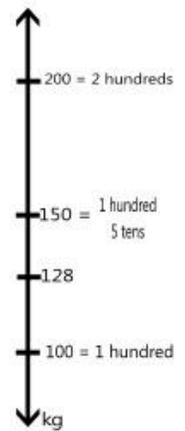
To round 48 to the nearest ten use the first number line. How will the endpoints change to round 148 to the nearest ten?

50 = 5 tens

48

45 = 4 tens 5 ones

40 = 4 tens

mL

150 = 15 tens

148

145 = 14 tens 5 ones

140 = 14 tens

mL
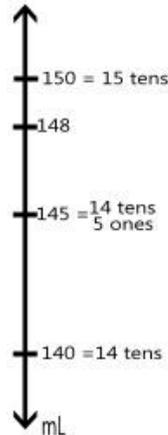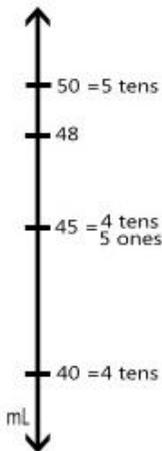
How many tens are in 148? <u>14 tens</u>. What is 1 more ten that 14? <u>15 tens.</u> What is the halfway point? <u>145.</u> Is 148 more or less than 145? <u>more</u>. *So 148 would round to 150.*

To round 328 to the nearest hundred use the first number line. How will the endpoints change to round 1328 to the nearest hundred?

400 = 4 hundreds

350 = 3 hundreds 5 tens

328

300 = 3 hundreds

kg

1400 = 14 hundreds

1350 = 13 hundreds 5 tens

1328

1300 = 13 hundreds

kg
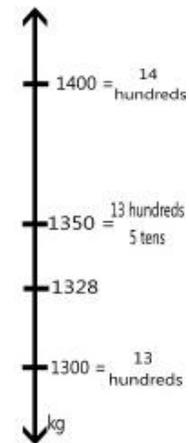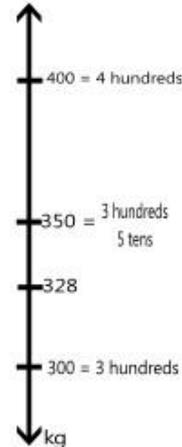
How many hundreds are in 1328? <u>13 hundreds</u>. What is 1 more hundred that 13? <u>14 hundreds.</u> What is the halfway point? <u>1350</u>. Is 1328 more or less than 1350? <u>less</u>. *So 1328 would round to 1300.*

In previous units students used a horizontal number line to represent and understand numbers. A horizontal number line is drawn from left to right.

Horizontal Line

Students will now use a vertical number line. Vertical number lines are drawn up and down. A vertical number line is helpful when representing numbers that needed to be rounded. When plotting a number on a vertical number line the student can visually see which ten or hundred the number is closer to and also reminds the student to round UP or round DOWN. The same direction the number line is drawn.

Vertical

40

38 Closer to 40 Round Up

35

30

kg
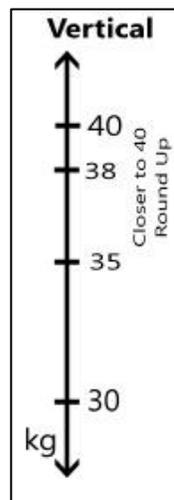
38 rounds up to 40

32 rounds down to 30

Vertical

40

35

32 Closer to 30 Round Down

30

kg