

ENGAGE NY MATH MODULE 1

Lesson 6



FIND THE MIDPOINT

PLACE IN YOU MATH NOTEBOOK

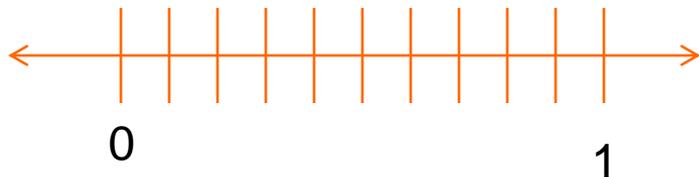
- Draw a number line. Label the first vertical line 0 and the last one 10.



- Now look at your number a line and decide what is half way between 0 and 10.

- 5 is half way between 0 and 10

- Draw a second number line directly under the first number line. Label the first vertical line 0 and the last vertical line 1.



FIND THE MIDPOINT

PLACE IN YOUR MATH NOTEBOOK

- How many tenths is 1?
 - 1 is 10 tenths
 - Write 10 tenths below 1



- What number is half way between 0 and 1? Draw the midpoint and label it.
 - 5 tenths or .5 is the midpoint
- Draw 3 more numbers lines and find the midpoint between 10 and 20, 0.7 and 0.8, and 0.9 and 1.
 - 15 is the midpoint between 10 and 20
 - 0.75 is the midpoint between 0.7 and 0.8
 - 0.95 is the midpoint between 0.9 and 1.



RENAME THE UNITS (ORAL)

- 100 cm = 1 m
- 200 cm = 2 m
- 700 cm = 7 m
- 750 cm = 7 m 50 cm
- Write the next 3 problems in your math journal and label rename the units.
 - 430 cm
 - 925 cm
 - 650 cm



MULTIPLY BY DECIMAL FRACTIONS

- Write the problem in expanded form as you are answering the questions
 - $3 \times 10 = \underline{30}$ write 3 under the tens
 - $4 \times 1 = \underline{4}$ write 4 under the ones
 - $6 \times 1/10 = \underline{.6}$ write 6 under the tenths
 - $5 \times 1/100 = \underline{.05}$ write 5 under the hundredths
 - $2 \times 1/1000 = \underline{.002}$ write the 2 under the thousandths
- $30 + 4 + 0.6 + 0.05 + 0.002 = 34.652$

Millions			Thousands			Units					
hundred	ten	one	hundred	ten	one	hundred	ten	one	tenths	hundredths	thousandths
							3				
								4			
									6		
										5	
											2



MULTIPLY BY DECIMAL FRACTIONS

- Fill in 75.614 on the place value chart and write the expanded form.
- Fill in 20.197 on the place value chart and write the expanded form.
- Fill in 40.803 on the place value chart and write the expanded form.

Millions			Thousands			Units					
hundred	ten	one	hundred	ten	one	hundred	ten	one	tenths	hundredths	thousandths
							7	5	6	1	4
							2	0	1	9	7
							4	0	8	0	3



APPLICATION PROBLEMS

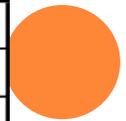
- Review word form, unit form, expanded form as fractions and decimals.
- Ms. Meyer measured the edge of her dining table to the hundredths of a meter. The edge of the table measured 32.15 meters. Write her measurement in word form, unit form and in expanded form using fractions and decimals.
- Students should think of the decimal by decomposing it into various units, e.g. 3,215 hundredths; 321 tenths, 5 hundredths; 32 ones 15 hundredths.



CONCEPT DEVELOPMENT – PROBLEM 1 COMPARING NUMBERS

- Compare 13,196 and 13,296
 - Read the numbers aloud
 - Write both numbers in your place value charts
- What number is greater?
 - Look at the ten thousands value and decide if they are equal. If they are equal then look at the thousands and decide if they are equal. Continue this until you find a number in the same place value that is not equal. Then look at the two numbers and decide which number is greater.
- Suggestion cross out each number as you check them until they are not equal.

Millions			Thousands			Units					
hundred	ten	one	hundred	ten	one	hundred	ten	one	tenths	hundredths	thousandths
				1	3	1	9	6			
				1	3	2	9	6			



CONCEPT DEVELOPMENT – PROBLEM 3 COMPARING NUMBERS

- Compare $299/1000$ and $3/10$
 - Read the numbers aloud
 - Write both numbers in your place value charts
- What number is greater?
- Repeat for $705/1000$ and $7/10$, 15.203 and 15.21

Millions			Thousands			Units					
hundred	ten	one	hundred	ten	one	hundred	ten	one	tenths	hundredths	thousandths
									2	9	9
								→	3		
								→	7	0	5
									7		

CONCEPT DEVELOPMENT – PROBLEM 4 COMPARING NUMBERS

- What does it mean to order numbers from least to greatest?
- What does it mean to order numbers from greatest to least?

- Order the following numbers from least to greatest.
 - 0.413, 0.056, 0.164, & 0.531

- What does it mean to order your numbers in ascending order?
- What does it mean to order your numbers in descending order?

- Order the following numbers in ascending order.
 - 27.006, 29.04, 27.019 & 229.5

- Order the following numbers in descending order.
 - 119.177, 119.173, 119.078, & 119.18



CONCEPT DEVELOPMENT – PROBLEM 4 COMPARING NUMBERS - ANSWERS

- The smallest number is first and then you keep comparing until they are in order from the lowest number to the highest number.
- This is where the largest number is first and then you keep comparing until the smallest number is last.
- 0.056, 0.164, 0.413, & 0.531
- It means you are ordering your numbers from the smallest to the largest. (The numbers are getting larger as you are ordering them)
- It means you are ordering your numbers from the biggest to the smallest. (The numbers are getting smaller as you are ordering them.)
- 27.006, 27.019, 29.04. & 229.5
- 119.18, 119.177 119.173, & 119.078



PROBLEM SETS, DEBRIEFING, EXIT TICKET, AND HOMEWORK

- Problem Sets – in small groups
- Check answers and discuss where the students had difficulties.
- Handout Exit Ticket and collect. (individual work)
- Handout Homework.

