Name: _____   Period: _____   Date: _____

Math Unit 6: Integers and the Coordinate Plane

6.4-Absolute Value

SWBAT:	**Paraphrase:**

Essential Question: How can you describe how far an object is from sea level?

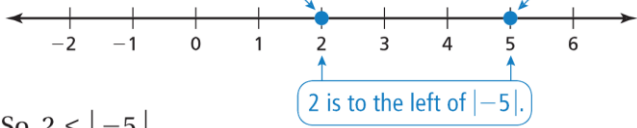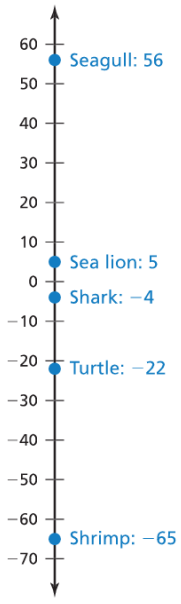| **Vocabulary**	Absolute Value: Absolute value DOES NOT mean opposite-it is ALWAYS positive!
Example 1	a. **Find the absolute value of 3.** Graph 3 on a number line. The distance between 3 and 0 is 3. So, $\lvert 3 \rvert = 3$.
	b. **Find the absolute value of** $-2\frac{1}{2}$**.** Graph $-2\frac{1}{2}$ on a number line. The distance between $-2\frac{1}{2}$ and 0 is $2\frac{1}{2}$. So, $\left\lvert -2\frac{1}{2} \right\rvert = 2\frac{1}{2}$.
Your Turn	a. Find the absolute value of -10 b. Find the absolute value of 8.3
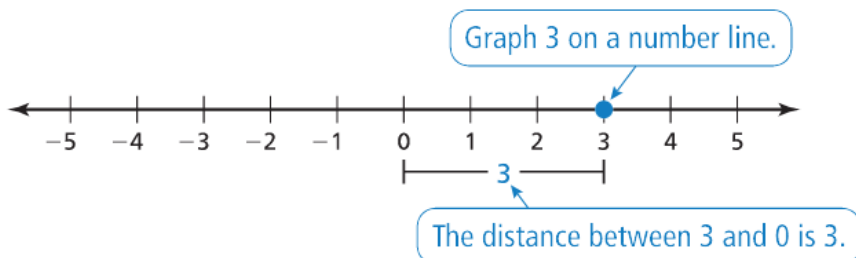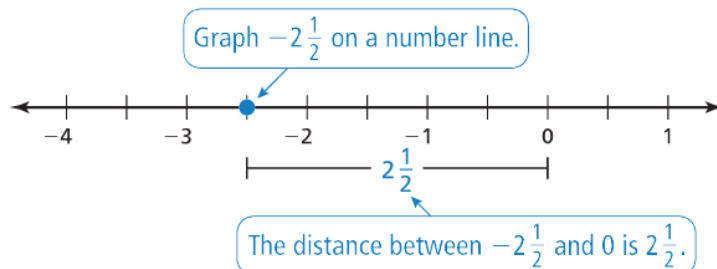
Example 2	**Compare 2 and $\lvert-5\rvert$.** (Graph 2 on a number line.) (Graph $\lvert-5\rvert = 5$ on a number line.) A number line from -2 to 6 with points at 2 and 5. (2 is to the left of $\lvert-5\rvert$.) ∴ So, $2 < \lvert-5\rvert$.
Your Turn	Compare $\lvert-10\rvert$ and 4.
Example 3		Animal	Elevation (ft)	 |---|---
Shark	-4
Sea lion	5
Seagull	56
Shrimp	-65

Turtle	-22 |
	
	The table shows the elevations of several animals.
	a. Which animal is the deepest? Explain.
	
	  Graph each elevation.
	
	  The lowest elevation represents the animal that is the deepest. The integer that is lowest on the number line is -65.
	
	∴ So, the shrimp is the deepest.
	
	Vertical number line showing: Seagull: 56, Sea lion: 5, Shark: -4, Turtle: -22, Shrimp: -65.

	b. Is the shark or the sea lion closer to sea level?
	
	  Because sea level is at 0 feet, use absolute values.
	
	  Shark: $\lvert-4\rvert = 4$ **Sea lion:** $\lvert5\rvert = 5$
	
	∴ Because 4 is less than 5, the shark is closer to sea level than the sea lion.

Your Turn	The table shows the elevations of a bird and a fish. Which is closer to sea level? 	Animal	Elevation (ft)
Bird	10
Fish	-9	
Notes / Questions	