Cornell Notes	Topic/Objective: Scientific Notation (8.2C)	Name: KEY
		Class/Period:
		Date:

Essential Question: How do I convert between standard decimal notation and scientific notation?

Questions:	Notes:
	Standard decimal notation is the **typical** way we see numbers written.
	Example: 2,310,000
	0.000973
	Scientific notation is a way to express ____**very large**____ and
	very small numbers.
	Scientific notation is written as a **product** of a number **greater than** or
	equal to 1 and **less than** 10, times a power of 10.
	Example: 2.31×10^{6} ← Very large number
	9.73×10^{-4} ← Very small number
	→ The first **factor** in scientific notation **MUST** be between 1 and 10. ←
	$1 \leq x < 10$
	Are all of these written correctly in scientific notation? Why or why not?
	1.8×10^{3} 0.6×10^{-8} 45×10^{4}
	Yes! 1.8 is b/w 1 and 10 **No! 0.6 isn't between 1 and 10** **No! 45 isn't between 1 and 10**

Summary:

Questions:	Notes:
	Standard Decimal Notation → Scientific Notation
	1. Draw an arrow so there is one number to the left of the arrow. Put a decimal point at the tip of the arrow. You just created a number between 1 and 10.
	2. Count the spaces from the arrow to the original **decimal** point. This number is your exponent number. It will be **positive** or **negative** depending on which way you moved when you went from arrow to decimal.
	Move right: **positive** exponent
	Move left: **negative** exponent
	3. Write in scientific notation by using the number from Step 1 (with the new decimal instead of the arrow) times 10 raised up to the exponent number from Step 2.
	62,000 = 6.2×10^4 **125 = 1.25×10^2**
	0.00008852 = 8.852×10^{-5} **0.073 = 7.3×10^{-2}**
	Scientific Notation → Standard Decimal Notation
	1. Circle the exponent.
	2. Move the **decimal** point left or right the number of times shown by the exponent.
	Positive exponent: Move decimal **right**
	Negative exponent: Move decimal **left**
	3. Rewrite the number
	4. Put zeros in the **empty spaces**.
	7.25×10^5 = 725,000 **5×10^{-2} = 0.05**
	9.06×10^{-4} = 0.00906 **6.024×10^6 = 6,024,000**