

COMPARING MEASUREMENTS USING SCIENTIFIC NOTATION

LEARNING GOAL

1. I can compare measurements using scientific notation.

ASSIGNMENT

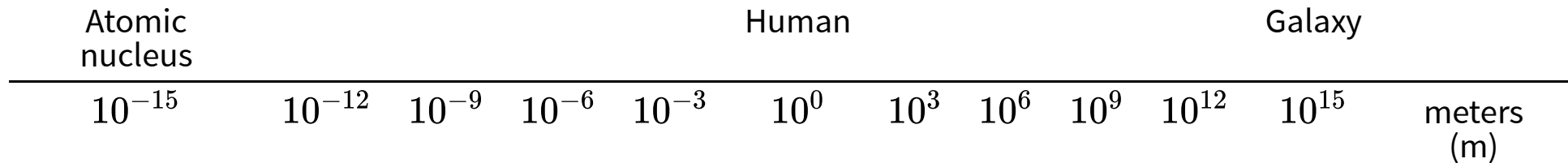
Choose one thing that is very small and one thing that is very small, and compare the two sizes using scientific notation. **Show all of the steps to receive credit!**

Thing one: _____

Thing two: _____

DISTANCE SCALE

Mark approximately where the two things you chose fit on the scale.
(**Note:** If your measurement is not a distance, use the scale on the next slide).



NON-DISTANCE SCALE

Use this scale if your measurements are not lengths.

Mark approximately where the two things you chose fit on the scale.

10^{-15} 10^{-12} 10^{-9} 10^{-6} 10^{-3} 10^0 10^3 10^6 10^9 10^{12} 10^{15}

Use the table to lookup how to write measurements (like km, cm, mm, etc.) using scientific notation.

The Prefixes Used with SI Units

Prefix	Symbol	Meaning	Scientific Notation
<i>exa-</i>	E	1,000,000,000,000,000,000	10^{18}
<i>peta-</i>	P	1,000,000,000,000,000	10^{15}
<i>tera-</i>	T	1,000,000,000,000	10^{12}
<i>giga-</i>	G	1,000,000,000	10^9
<i>mega-</i>	M	1,000,000	10^6
<i>kilo-</i>	k	1,000	10^3
<i>hecto-</i>	h	100	10^2
<i>deka-</i>	da	10	10^1
—	—	1	10^0
<i>deci-</i>	d	0.1	10^{-1}
<i>centi-</i>	c	0.01	10^{-2}
<i>milli-</i>	m	0.001	10^{-3}
<i>micro-</i>	μ	0.000 001	10^{-6}
<i>nano-</i>	n	0.000 000 001	10^{-9}
<i>pico-</i>	p	0.000 000 000 001	10^{-12}
<i>femto-</i>	f	0.000 000 000 000 001	10^{-15}

COMPARE THE SIZES

In the space below, calculate the ratio of the sizes, and write 1-3 sentences to interpret your ratio.

PRACTICE WRITING MEASUREMENTS USING SCIENTIFIC NOTATION

Convert each measurements into meters using
scientific notation:

35,650 km $k = 10^3$ km = kilometers Found on slide 5

$$35,650 \cdot 10^3 \text{ m}$$

124 mm $m = 10^{-3}$ mm = millimeters Found on slide 5

$$124 \cdot 10^{-3} \text{ m}$$

51 cm

0.051 mm