

HW: Scientific Notation Worksheet

Warm up:

What are some examples of things you could measure that would result in a VERY large or a VERY small (less than one) number?

Be ready to share one example of each.

$$6.71 \times 10 = 67.1$$

$$6.71 \times 10^2 = 671$$

$$6.71 \times 10^3 = 6710$$

$$6.71 \times 10^4 = 67100$$

What's the pattern?

$$6.71 \times 10^9$$

6710000000

Scientific Notation

1st Factor - greater than or equal to 1 and less than 10

2nd Factor - power of 10

$$2.7 \times 10^6 = 2.7000000$$

(Handwritten: 2.7000000 with a blue squiggly line under the zeros and an arrow pointing right)

$$2.7 \times 10^6 = 2,700,000$$

(Handwritten: 2,700,000 circled in blue)

$$68,000 = 6.8 \times 10^4$$

(Handwritten: 68,000 with a green squiggly line under it; 6.8 x 10^4 circled in green)

$$72,007,000,000,000 = 7.2007 \times 10^{13}$$

(Handwritten: 7.2007 x 10^13 circled in green)

What would make the decimal point go to the left?

$$\frac{40}{10} = 4$$

$$10^{-1} = \frac{1}{10}$$

$$10^{-2} = \frac{1}{10^2} = \frac{1}{100}$$

$$5.1 \times 10^{-3}$$

$$\begin{array}{c} .0051 \\ \hline 0.0051 \end{array}$$

$$\begin{array}{c} 0.00006 \\ \hline 6 \times 10^{-5} \end{array}$$

Write in standard form.

$$3.25 \times 10^6$$

$$5.013 \times 10^{12}$$

$$2 \times 10^5$$

$$1.3006 \times 10^{11}$$

$$9.1 \times 10^{-4}$$

$$5.75 \times 10^{-8}$$

$$1.0056 \times 10^{-7}$$

Write in scientific notation.

5600

724000000

4050300

0.005

0.00064

0.00000663

0.00000007004

$$3.25 \times 10^6 \quad 3,250,000$$

3,250,000

$$5.013 \times 10^{12} \quad 5,013,000,000,000$$

$$2 \times 10^5$$

200,000

$$1.3006 \times 10^{11}$$

130,060,000,000

$$9.1 \times 10^{-4} \quad .00091$$

0.00091

$$5.75 \times 10^{-8}$$

0.0000000575

$$1.0056 \times 10^{-7}$$

0.00000010056

5600

$$5.6 \times 10^3$$

724000000

$$7.24 \times 10^8$$

4050300

$$4.0503 \times 10^6$$

0.005

$$5 \times 10^{-3}$$

0.00064

$$6.4 \times 10^{-4}$$

0.00000663

$$6.63 \times 10^{-6}$$

0.00000007004

$$7.004 \times 10^{-8}$$