MGSE8.EE.3: Scientific Notation: Which is biggest? Name Key

1. Which of these numbers is largest? 3.4×10^3 or 5.6×10^2

2. Which of these numbers is smallest? 2.1×10^{-2} or 2.1×10^{-3}

3. Order these numbers from least to greatest.

$8.6 \times 10^4, 3.2 \times 10^5, 6.7 \times 10^{-2}, 3.4 \times 10^{-2}$

3.4×10^{-2}, 6.7×10^{-2}, 8.6×10^4, 3.2×10^5

4. Attendance at a parade was 1.43×10^5, and attendance at a music festival was 1.27×10^5. Which event had the greatest number of attendees?

music festival Parade

5. The distance between tracks on a CD and DVD are shown in the table. Which disc has the greater distance between tracks?

Disc	Distance (mm)
CD	1.6×10^{-3}
DVD	7.4×1^{-4}

CD - Bigger Space

6. Replace each blank with <, >, or = to make a true sentence.

a) 2.3×10^5 > 1.7×105

b) 0.012 < 1.4×10^{-1}

1.2×10^{-2}

7. Use the table to determine which category in each pair had a greater amount of sales.

Category	Sales ($)
Camping	1.547×10^9
Golf	3.243×10^9
Tennis	3.73×10^8

a) golf or tennis

b) camping or golf

8. The table shows the values of different prefixes that are used in the metric system. Write the units attometer, gigameter, kilometer, nanometer, petameter, and picometer in order from greatest to least measure.

Peta, Giga, kilo, nano, pico, atto

Metric Measures	
Prefix	Meaning
atto	10^{-18} 6
giga	10^9 2
kilo	10^3 3
nano	10^{-9} 4
peta	10^{15} 1
pico	10^{-12} 5

Name : Key

Score : _____

Answer key

Example: 1

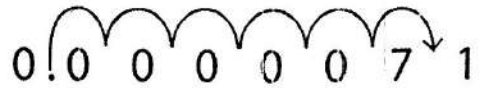
Write 600, 784 in scientific notation.

We should move the decimal point 5 places to the left. So, the exponent will be 5.

$600,784 = \mathbf{6.00784 \times 10^{5}}$

Example: 2

Write 0.0000071 in scientific notation.



We should move the decimal point 6 places to the right. So, the exponent will be -6.

$0.0000071 = \mathbf{7.1 \times 10^{-6}}$

Express each number in scientific notation.

1) 0.0000000026 = $\mathbf{2.6 \times 10^{-9}}$

2) 651, 400 = $\mathbf{6.514 \times 10^{5}}$

3) 0.00000154 = $\mathbf{1.54 \times 10^{-6}}$

4) 200, 000, 000 = $\mathbf{2 \times 10^{8}}$

5) 0.00000087 = $\mathbf{8.7 \times 10^{-7}}$

6) 5, 284, 400, 000 = $\mathbf{5.2844 \times 10^{9}}$

7) 0.000000000044391 = $\mathbf{4.4391 \times 10^{-11}}$

8) 0.0000612 = $\mathbf{6.12 \times 10^{-5}}$

9) 4, 005, 000 = $\mathbf{4.005 \times 10^{6}}$

10) 0.000000000000206 = $\mathbf{2.06 \times 10^{-13}}$

Name : Key

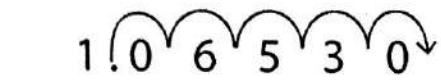
Score : _____

Answer key

Example: 1

Write 1.0653×10^5 in standard notation.

Here the exponent is 5. We should move the decimal point 5 places to the right.



1.0653×10^5 = **106, 530**

Example: 2

Write 7.6×10^{-5} in standard notation.

Here the exponent is -5. We should move the decimal point 5 places to the left.

7.6×10^{-5} = **0.000076**

Express each number in standard notation.

1) 3.012×10^{-11} = **0.00000000003012**

2) 8.1516×10^{8} = **815, 160, 000**

3) 2.21×10^{-7} = **0.000000221**

4) 9.5096×10^{13} = **95, 096, 000, 000, 000**

5) 6.7×10^{-14} = **0.000000000000067**

6) 2.931×10^{10} = **29, 310, 000, 000**

7) 1.19×10^{-9} = **0.00000000119**

8) 7.182×10^{6} = **7, 182, 000**

9) 4.2500×10^{-13} = **0.000000000000425**

10) 2.57×10^{-8} = **0.0000000257**