

Grade 8 - Scientific Notation - Worksheet

Common Core 8.EE.A.3, 8.EE.A.4 · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

These 20 problems practice scientific notation, comparing sizes and calculating with very large and very small numbers (Common Core 8.EE.A.3 and 8.EE.A.4). Each problem has its own space for work, so print the page and write directly on it.

The problems start with direct skill checks and grow harder as you go. Later items add, multiply and divide in scientific notation and use real measurements. Use the answer key afterwards to check every step.

Grade 8 · Common Core State Standards: **8.EE.A.3, 8.EE.A.4**

Exercise 1 - Large number



Move the decimal point 3 places

Move the point 3 places left.

Write 4,500 in scientific notation.

Exercise 2 - Small number



Move the decimal point 4 places right

Move the point 4 places right.

Write 0.00032 in scientific notation.

Exercise 3 - Standard form 1

Write 6.2×10^5 in standard form.

Exercise 4 - Standard form 2

Write 7.1×10^{-3} in standard form.

Exercise 5 - Distance to the Sun

Earth is about 93,000,000 miles from the Sun. Write this distance in scientific notation.

Exercise 6 - Tiny length

A virus is about 0.000000025 meter long. Write this length in scientific notation.

Exercise 7 - Which is larger

Which is greater, 3.2×10^5 or 4.1×10^4 ? Explain.

Exercise 8 - How many times

The mass of a truck is 8×10^9 milligrams and a bicycle is 4×10^6 milligrams. How many times as massive is the truck?

Exercise 9 - Multiply

Multiply $(5 \times 10^3)(1.2 \times 10^2)$ and write the result in scientific notation.

Exercise 10 - Multiply and adjust

Compute $(4 \times 10^5)(5 \times 10^3)$. Write the answer in scientific notation.

Exercise 11 - Divide

Compute $\frac{8.4 \times 10^6}{2.1 \times 10^2}$.

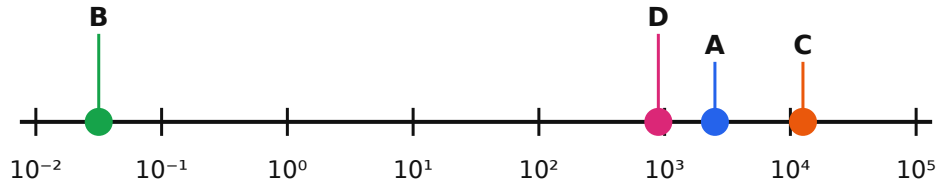
Exercise 12 - Add

Compute $3.5 \times 10^4 + 4.2 \times 10^3$ in scientific notation.

Exercise 13 - Subtract

Compute $5.6 \times 10^{-3} - 2.1 \times 10^{-3}$.

Exercise 14 - Order



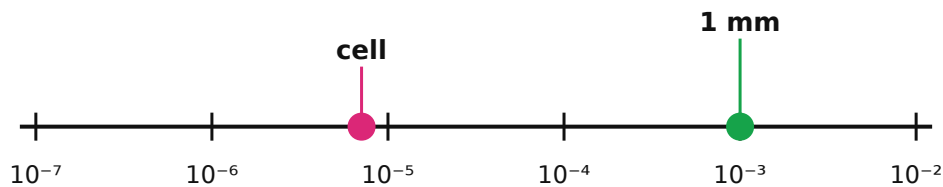
Points A to D mark four numbers.

Order from least to greatest: A 2.5×10^3 , B 3×10^{-2} , C 1.2×10^4 , D 9×10^2 .

Exercise 15 - Population comparison

The population of the United States is about 3.3×10^8 and the population of Wyoming is about 5.8×10^5 . About how many times as large is the U.S. population? Round the front number to the nearest tenth.

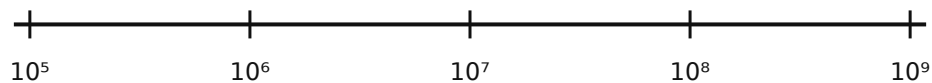
Exercise 16 - Red blood cells



A cell is about 7×10^{-6} m; 1 mm is 10^{-3} m.

A red blood cell is about 7×10^{-6} meter wide. About how many cells fit side by side across 1 millimeter (1×10^{-3} meter)?

Exercise 17 - Light from the Sun



Powers of ten for distances in miles.

Light travels about 1.86×10^5 miles per second. Sunlight takes about 5×10^2 seconds to reach Earth. How far is that? Round the front number to the nearest tenth.

Exercise 18 - Movie downloads

Ethan's phone has 6.4×10^{10} bytes of free storage. Each movie file is 2.4×10^9 bytes. How many whole movies fit?

Exercise 19 - Earth and Moon

The mass of Earth is about 5.97×10^{24} kg and the mass of the Moon is about 7.35×10^{22} kg. About how many times the Moon's mass is Earth's mass?

Exercise 20 - Find the error

Ava wrote 45×10^3 as her answer in scientific notation. Explain the mistake and write the correct form.