

# Scientific Notation STUDY GUIDE

Name: \_\_\_\_\_

Hour: \_\_\_\_\_

1. Delores researched the populations of various countries. In 2014, she found the populations shown in the following table:

Countries	Populations
Russia	$1.42 \times 10^8$
India	$1.26 \times 10^9$
United States	$3.22 \times 10^8$
China	$1.39 \times 10^9$

Based on the data in the table, which country has the **largest population**?

**Write each of the measurements below in scientific notation.**

2. MEASUREMENT #1: Pauline measured the width of a strand of her hair. She found it had a diameter of **0.0000075** microns (or micrometers).

3. MEASUREMENT #2: In science class, Jesse learned that a strand of human DNA has a diameter of **0.000000025** nanometers.

4. MEASUREMENT #3: There are **25,400,000** nanometers in one inch.

5. Write 1,504,000,000 in scientific notation.

6. Write 0.000257 in scientific notation.

7. Divide  $3.6 \times 10^6$  by  $2.4 \times 10^3$  ?

8. What is the value of  $\frac{1.65 \times 10^3}{2.5 \times 10^{-3}}$  in scientific notation?

9. Solve the following and write the answer in scientific notation:  $\frac{7.2 \times 10^6}{5.7 \times 10^5}$

10. What is the value of  $(6.32 \times 10^9)(8.79 \times 10^8)$  in scientific notation?

11. What is the value of  $(4.25 \times 10^9)(5.37 \times 10^{-6})$  in scientific notation?

12. Complete the table of Fun Facts by writing the decimal notation or the scientific notation in the appropriate space.

Fact	Decimal Notation	Scientific Notation
Venezuela has the largest oil reserve	297,600,000,000 barrels	
Pacific Ocean is the largest ocean		$6.4196 \times 10^7 \text{ mi}^2$
Sahara Desert is the largest desert	$9,100,000 \text{ mi}^2$	
Oil Reserves of the United States	29,000,000,000 barrels	
Average mass of an ant		$4 \times 10^{-3}$
Average rate of growth of a fingernail		$1 \times 10^{-9}$