



Name \_\_\_\_\_

Date \_\_\_\_\_

## Lesson 8: Estimating Quantities

### Exit Ticket

Most English-speaking countries use the short-scale naming system, in which a trillion is expressed as 1,000,000,000,000. Some other countries use the long-scale naming system, in which a trillion is expressed as 1,000,000,000,000,000,000,000,000. Express each number as a single-digit integer times a power of ten. How many times greater is the long-scale naming system than the short-scale?





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## Lesson 11: Efficacy of the Scientific Notation

### Exit Ticket

1. Two of the largest mammals on earth are the blue whale and the African elephant. An adult male blue whale weighs about 170 tonnes or long tons. (1 tonne = 1000 kg)

Show that the weight of an adult blue whale is  $1.7 \times 10^5$  kg.

2. An adult male African elephant weighs about  $9.07 \times 10^3$  kg.

Compute how many times heavier an adult male blue whale is than an adult male African elephant (i.e., find the value of the ratio). Round your final answer to the nearest one.

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## Lesson 12: Choice of Unit

### Exit Ticket

1. The table below shows an approximation of the national debt at the beginning of each decade over the last century. Choose a unit that would make a discussion about the growth of the national debt easier. Name your unit, and explain your choice.

Year	Debt in Dollars
1900	$2.1 \times 10^9$
1910	$2.7 \times 10^9$
1920	$2.6 \times 10^{10}$
1930	$1.6 \times 10^{10}$
1940	$4.3 \times 10^{10}$
1950	$2.6 \times 10^{11}$
1960	$2.9 \times 10^{11}$
1970	$3.7 \times 10^{11}$
1980	$9.1 \times 10^{11}$
1990	$3.2 \times 10^{12}$
2000	$5.7 \times 10^{12}$

2. Using the new unit you have defined, rewrite the debt for years 1900, 1930, 1960, and 2000.

