Lesson 7 8°

Name	Date	
	2410	

Lesson 7: Magnitude

Exit Ticket

1. Let M = 118,526.65902. Find the smallest power of 10 that will exceed M.

2. Scott said that 0.09 was a bigger number than 0.1. Use powers of 10 to show that he is wrong.



A STORY OF RATIOS Lesson 8 8•1

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. 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?



Lesson 8: Estimating Quantities 1

Lesson 9 8°1

Name Date	<u></u>
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Lesson 9: Scientific Notation

Exit Ticket

1. The approximate total surface area of Earth is $5.1 \times 10^8 \ \mathrm{km^2}$. All the salt water on Earth has an approximate surface area of $352,000,000 \ \mathrm{km^2}$, and all the freshwater on Earth has an approximate surface area of $9 \times 10^6 \ \mathrm{km^2}$. How much of Earth's surface is covered by water, including both salt and fresh water? Write your answer in scientific notation.

2. How much of Earth's surface is covered by land? Write your answer in scientific notation.

3. Approximately how many times greater is the amount of Earth's surface that is covered by water compared to the amount of Earth's surface that is covered by land?



Lesson 9: Scientific Notation

A STORY OF RATIOS Lesson 10 8 • 1

Name	Date

Lesson 10: Operations with Numbers in Scientific Notation

Exit Ticket

1. The speed of light is 3×10^8 meters per second. The sun is approximately 230,000,000,000 meters from Mars. How many seconds does it take for sunlight to reach Mars?

2. If the sun is approximately 1.5×10^{11} meters from Earth, what is the approximate distance from Earth to Mars?



A STORY OF RATIOS Lesson 11 8•1

Name	Date

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 $1.7 \times 10^5~\mathrm{kg}$.

- 2. An adult male African elephant weighs about 9.07×10^3 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.



Lesson 11: Efficacy of Scientific Notation

Lesson 12 8•

Name	Date

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	2.1×10^{9}
1910	2.7×10^{9}
1920	2.6×10^{10}
1930	1.6×10^{10}
1940	4.3×10^{10}
1950	2.6×10^{11}
1960	2.9×10^{11}
1970	3.7×10^{11}
1980	9.1×10^{11}
1990	3.2×10^{12}
2000	5.7×10^{12}

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



A STORY OF RATIOS Lesson 13 8•1

Name	Date

Lesson 13: Comparison of Numbers Written in Scientific Notation and Interpreting Scientific Notation Using Technology

Exit Ticket

1. Compare 2.01×10^{15} and 2.8×10^{13} . Which number is larger?

2. The wavelength of the color red is about 6.5×10^{-9} m. The wavelength of the color blue is about 4.75×10^{-9} m. Show that the wavelength of red is longer than the wavelength of blue.

