Success Practice – Scientific Notation

🎯 Learning Target: I can convert a number in standard notation into scientific notation.

Match the problem number to the correct letter and answer.

Answer	Problems	Solutions
	1. Convert to scientific notation: 0.0012345	A. 1.2345×10^{-3}
	2. Convert to scientific notation: 12,345	B. 1.2345×10^{0}
	3. Convert to scientific notation: 1,234.5	C. 1.2345×10^{-2}
	4. Convert to scientific notation: 1.2345	D. 67,890
	5. Convert to scientific notation: 0.012345	E. 1.2345×10^{4}
	6. Convert to scientific notation: 123.45	F. 1.2345×10^{2}
	7. Convert to decimal notation: 6.789×10^{-3}	G. 0.6789
	8. Convert to decimal notation: 6.789×10^{3}	H. 0.006789
	9. Convert to decimal notation: 6.789×10^{0}	I. 1.2345×10^{3}
	10. Convert to decimal notation: 6.789×10^{-1}	J. 6.789
	11. Convert to decimal notation: 6.789×10^{4}	K. 6,789
	12. Convert to decimal notation: 6.789×10^{-2}	L. 0.06789

13. The Earth's average distance from the Sun is 9.3×10^{7} miles. How would this distance be represented in standard form?

    A. 930,000,000

    B. 0.00000093

    C. 93,000,000

    D. 9.30000000

14. An atomic mass unit is approximately 1.6604×10^{-24} gram. How would an atomic mass unit be written in standard form?

    A. 1,660,400,000,000,000,000,000,000

    B. 16,604,000,000,000,000,000,000,000,000

    C. 0.000000000000000000000016604

    D. 0.00000000000000000000016604

15. The diameter of a proton is 2×10^{-14} meters. How would an atomic mass unit be written in standard form?

      A. 0.000000000002

      B. 0.00000000000002

      C. 200,000,000,000,000

      D. 2,000,000,000,000,000

16. Explain the process for writing a number in scientific notation.

17. When a number is in scientific notation, what does the exponent indicate?

18. The table below shows the debt of the three most populous states and the three least populous states.

State	Debt (in dollars)	Population (2012)
California	407,000,000,000	38,000,000
New York	337,000,000,000	19,000,000
Texas	276,000,000,000	26,000,000
North Dakota	4,000,000,000	69,000
Vermont	4,000,000,000	62,600
Wyoming	2,000,000,000	57,600

   a. What is the sum of the debts for the three most populous states? Express your answer in scientific notation.

   b. What is the sum of the debt for the three least populated states? Express your answer in scientific notation.

   c. How much larger is the combined debt of the three most populated states than that of the three least populated states? Express you answer in scientific notation.

19. If a number written in scientific notation is $a \times 10^{-3}$, which of the following could be the number?

   A 23,000

   B 3,200

   C 0.00023

   D 0.0057

20. Which of the following is NOT written in scientific notation?

   F 32.7×10^{3}

   G 1.27×10^{3}

   H 4.7×10^{2}

   J 6.1×10^{-3}