

Powers of Ten and Scientific Notation

Name: _____

Date: _____

Part A: Writing Powers of Ten

Write each number as a power of ten.

1. $100 =$ _____

2. $1,000 =$ _____

3. $10,000 =$ _____

4. $1,000,000 =$ _____

5. $0.1 =$ _____

6. $0.01 =$ _____

Part B: Evaluating Powers of Ten

Write each power of ten as a standard number.

7. $10^3 =$ _____

8. $10^5 =$ _____

9. $10^{-2} =$ _____

10. $10^{-4} =$ _____

11. $10^6 =$ _____

12. $10^{-1} =$ _____

Part C: Writing in Scientific Notation

Express each number in scientific notation ($a \times 10^n$, where $1 \leq a < 10$).

13. $3,500 =$ _____

14. $48,000 =$ _____

15. $620,000 =$ _____

16. $0.0072 =$ _____

17. $0.000045 =$ _____

18. $7,200,000 =$ _____

Part D: Converting from Scientific Notation

Write each number in standard form.

19. $2.5 \times 10^4 =$ _____

20. $6.8 \times 10^3 =$ _____

21. $3.2 \times 10^{-3} =$ _____

22. $9.1 \times 10^5 =$ _____

23. $4.7 \times 10^{-2} =$ _____

24. $1.5 \times 10^6 =$ _____

Part E: Challenge Questions

25. The distance from Earth to the Sun is approximately 150,000,000 km. Write this in scientific notation.

26. A bacterium measures 5×10^{-6} metres. Write this as a standard number.
