

Scientific Notation: Real Object Measurement Hunt

Name: _____ Date: _____

LEARNING OBJECTIVE

Students will convert numbers between standard form and scientific notation accurately.

MATERIALS NEEDED

- measuring tape or ruler
- calculator
- notebook
- 5 household objects of varying sizes
- internet-connected device (for reference facts)

HANDS-ON ACTIVITY

1. Measure or look up 5 real quantities of very different sizes, such as the thickness of a coin, the length of your room, and one very large distance such as Earth's diameter.
2. Record each measurement in standard (decimal) form in a table.
3. Convert each measurement to scientific notation by hand, showing your work of moving the decimal point and counting places.
4. Convert 3 additional given numbers from scientific notation back into standard form: 4.5×10^6 , 7.2×10^{-3} , and 1.06×10^0 .
5. Double-check two of your conversions using a calculator's scientific notation function.

QUESTIONS

1. Convert 45,000,000 to scientific notation.
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2. Convert 0.00032 to scientific notation.
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3. Convert 6.02×10^5 to standard form.
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4. For your smallest measured object, write its measurement in scientific notation and explain how you determined the exponent's sign.
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