Scientific Notation

Grade 8–10 Math · Grades 8–10 · About 25 minutes · 8 questions

Name _____ Date _____ Score / 8

WHAT YOU WILL PRACTICE

- Write large and small numbers in scientific notation
- Convert numbers in scientific notation back to ordinary numbers
- Multiply and divide numbers in scientific notation

WORKED EXAMPLE

Work out $(6 \times 10^3) \times (4 \times 10^4)$. Give your answer in scientific notation.

1. Multiply the front numbers: $6 \times 4 = 24$.
2. Add the powers of ten: $10^3 \times 10^4 = 10^7$.
3. This gives 24×10^7, which is not yet in scientific notation because 24 is not less than 10.
4. Rewrite 24 as 2.4×10, so the answer is 2.4×10^8.

Answer: 2.4×10^8

Questions

Show your work in the space under each question.

1. Write 45,000 in scientific notation

2. Write 0.0032 in scientific notation

3. Write 6.1×10^5 as an ordinary number

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4. Write 7.4×10^{-4} as an ordinary number

5. Work out $(3 \times 10^{4}) \times (2 \times 10^{5})$. Give your answer in scientific notation.

6. Work out $(8 \times 10^{7}) \div (2 \times 10^{3})$. Give your answer in scientific notation.

7. Work out $(4 \times 10^{5}) \times (5 \times 10^{3})$. Give your answer in scientific notation.

8. The distance from the Earth to the Sun is about 1.5×10^{8} km. Light travels at about 3×10^{5} km per second. How many seconds does light take to travel from the Sun to the Earth?

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Answers: Scientific Notation

Mark your own work, then go back to any question you got wrong before reading the tutor tip.

Q	QUESTION	ANSWER
1	Write 45,000 in scientific notation	**4.5×10^{4}**
2	Write 0.0032 in scientific notation	**3.2×10^{-3}**
3	Write 6.1×10^{5} as an ordinary number	**610,000**
4	Write 7.4×10^{-4} as an ordinary number	**0.00074**
5	Work out $(3 \times 10^{4}) \times (2 \times 10^{5})$. Give your answer in scientific notation.	**6×10^{9}**
6	Work out $(8 \times 10^{7}) \div (2 \times 10^{3})$. Give your answer in scientific notation.	**4×10^{4}**
7	Work out $(4 \times 10^{5}) \times (5 \times 10^{3})$. Give your answer in scientific notation.	**2×10^{9}**
8	The distance from the Earth to the Sun is about 1.5×10^{8} km. Light travels at about 3×10^{5} km per second. How many seconds does light take to travel from the Sun to the Earth?	**500 seconds**

TUTOR TIP

The front number must be at least 1 and less than 10. If you reach 20×10^{8}, adjust it to 2×10^{9}.

Stuck on a question? Work through it live with a tutor.

YFCampus offers one-to-one online Math tutoring matched to your school curriculum. Book a free trial class at **www.yfcampus.com/ph**

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