Scientific Notation

Grade 9–10 Math · Grades 9–10 · About 25 minutes · 8 questions

Name _____ Date _____ Score / 8

WHAT YOU WILL PRACTISE

- 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 working 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/ca**

Written for students aged 13 to 16 and suitable for Grades 9–10. Check your school’s curriculum for the exact order of topics. YFCampus is independent and is not affiliated with any exam board or education ministry.