

Exponent Explanations Answer Key

- 1) Scientific notation: 6.8×10^4 / Sample explanation: I moved the decimal 4 places to the left, so the exponent is 4. It is positive because the original number is greater than 1.
- 2) Scientific notation: 4.25×10^6 / Sample explanation: I moved the decimal 6 places to the left, so the exponent is 6. It is positive because the number is large.
- 3) Scientific notation: 7.9×10^{-3} / Sample explanation: I moved the decimal 3 places to the right, so the exponent is -3. It is negative because the original number is less than 1.
- 4) Scientific notation: 5.4×10^{-5} / Sample explanation: I moved the decimal 5 places to the right, so the exponent is -5. It is negative because the number is a small decimal.
- 5) Scientific notation: 9.1×10^8 / Sample explanation: I moved the decimal 8 places to the left, so the exponent is 8. It is positive because the number is greater than 1.
- 6) Scientific notation: 6.3×10^{-7} / Sample explanation: I moved the decimal 7 places to the right, so the exponent is -7. It is negative because the original number is less than 1.
- 7) Scientific notation: 1.24×10^4 / Sample explanation: I moved the decimal 4 places to the left, so the exponent is 4. It is positive because the number is greater than 1.
- 8) Scientific notation: 4.52×10^{-2} / Sample explanation: I moved the decimal 2 places to the right, so the exponent is -2. It is negative because the original number is less than 1.

Teacher's Guide

- Quick implementation tips
 - o Model one example with a large whole number and one with a small decimal before students begin.
 - o Remind students that the coefficient must be at least 1 and less than 10.
- Engagement ideas
 - o Have students share one explanation with a partner and compare their reasoning.
 - o Ask volunteers to identify whether the exponent should be positive or negative before solving each problem.