

Significant Digits Worksheet

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Part 1: Building a Foundation
Which of the following digits is always considered significant?
Hint: Think about the rules for significant digits.
A) Leading zeros
○ B) Trailing zeros in a whole number
C) Non-zero digits
O) Placeholder zeros
Which of the following statements about significant digits are true? (Select all that apply)
Hint: Consider the definitions of significant digits.
A) All non-zero digits are significant.
B) Leading zeros are significant.
C) Trailing zeros in a decimal number are significant.
D) Zeros between non-zero digits are significant.
Explain why significant digits are important in scientific measurements.
Hint: Consider the implications of precision in measurements.

List the rules for identifying significant digits in a number.



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Hint: Think about the different types of digits in a number.
1. Rule 1
2. Rule 2
3. Rule 3
4. Rule 4
Dout 1. Comprehension and Application
Part 2: Comprehension and Application
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Describe how scientific notation can help clarify the number of significant digits in a measurement.

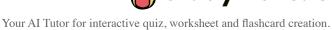
Hint: Think about how scientific notation represents numbers.



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When adding 12.11 and 0.023, what is the correct number of decimal pla	ices in the result?
Hint: Consider the number of decimal places in each number.	
○ A) 1	
○ B) 2	
○ C) 3	
○ D) 4	
You are multiplying 3.24 by 0.006. Which of the following results correct significant digits? (Select all that apply)	tly reflects the number of
Hint: Consider the number of significant digits in each factor.	
A) 0.01944	
B) 0.0194	
☐ C) 0.019	
D) 0.02	
Convert the number 0.0005678 to scientific notation, ensuring the corre digits is maintained.	ct number of significant
Hint: Think about how to express the number in scientific notation.	
Part 3: Analysis, Evaluation, and Creation	

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Which of the following operations will result in a number with the same number of significant digits as the original measurement with the fewest significant digits?		
Hint: Consider the significant digits in each operation.		
○ A) 5.67 + 0.12		
○ B) 8.1 × 3.456		
○ C) 9.876 - 0.54		
○ D) 7.00 ÷ 2.1		
Analyze the following scenarios and identify which correctly apply the rules of significant digits. (Select all that apply)		
Hint: Think about the rules for addition, subtraction, multiplication, and division.		
☐ A) Adding 2.5 and 3.45 gives 5.95		
☐ B) Multiplying 4.56 by 1.2 gives 5.472		
☐ C) Subtract 10.0 from 10.5 gives 0.5		
D) Dividing 100 by 3.0 gives 33.3		
Explain how the rules for significant digits differ between addition/subtraction and multiplication/division.		
Hint: Consider the different rules for each operation.		
In which situation would significant digits be most critical?		
Hint: Think about the precision required in different scenarios.		
A) Estimating the number of people in a crowd		
○ B) Measuring the width of a human hair		
C) Counting the number of books on a shelf		
O) Timing a race with a stopwatch		



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n real-world scenarios. (Select all that apply)
lint: Consider the importance of significant digits in various fields.
A) Using significant digits in reporting scientific data ensures consistency.
B) Significant digits are irrelevant in financial calculations.
C) Significant digits help in determining the precision of a measurement.
D) All zeros in a number are always significant.
create a real-world scenario where understanding and applying significant digits would be crucial. Explain the importance of significant digits in this context.

Evaluate the following statements and identify which correctly apply the concept of significant digits