

Name _____ Class _____ Date _____

Measurement & Inquiry: Study Guide

Objectives	
Define the following:	
1. accuracy	
2. constants	
3. control	
4. data table	
5. dependent variable	
6. experimental group	
7. control group	
8. hypothesis	
9. independent variable	
10. inductive reasoning	
11. multiple trials	
12. observation	
13. phenomenon	
14. precision	
15. qualitative data	
16. quantitative data	
17. scientific law	
18. significant figures (digits)	
19. theory	
20. uncertain digits	
21. variable.	

22. Measure the physical properties of matter in metric units. Sketch a ruler with units at right.	
23. Determine the correct number of decimal places to report a result including the uncertain digit. Make a sketch at the right.	
24. All measurements have uncertainty.	
25. I can state the relationship between millimeters, centimeters, decimeters, base units and kilometers. Write the relationships at the right side. (examples: ___mm = 1 cm, ___mm = 1 m)	
26. I can state the value relative to the base unit for the following prefixes: micro, milli, centi, deci, and killo	
27. I can state the relationships between the base unit, micro, milli, centi, deci, and kilo. (Example ___base units = ____kilos).	
28. I can convert metric system units involving length (smaller unit → bigger unit = smaller number , bigger unit → smaller unit = bigger number. Show examples at right	
29. Given a measurement data, I can identify the number of significant figures in that measurement.	
30. Explain what the following statement means: Every experiment has a cause and effect.	

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31. I can explain what experimental constants are.	
32. I can explain how an experiment is controlled so that the only the independent and dependent variables change.	
33. I can recognize that multiple trials in an investigation produce accurate results.	
34. I can interpret data tables	
35. I can express data graphically.	
36. I can formulate an experimental hypothesis based on the independent and dependent variables.	
37. I can use the RODEO FRED format to write a valid conclusion based on data from an experiment.	
38. I can defend a conclusion recognizing whether or not it supports or rejects a hypothesis.	