

- 1) List three examples of a QUALITATIVE piece of data?
- 2) List three examples of a QUANTITATIVE piece of data?
- 3) What type of process is represented by the scientific method?
- 4) What is the S.I. standard for length?
- 5) What is the S.I. standard for mass?
- 6) What is the S.I. standard for volume?
- 7) What is the S.I. standard for temperature?
- 8) What is the S.I. standard for time?
- 9) The S.I. prefix that relates to the power of ten,  $10^{-6}$  is:
- 10) The S.I. prefix that relates to the power of ten,  $10^6$  is:
- 11) Giga represents what power of 10 in the metric system?
- 12) Nano represents what power of 10 in the metric system?
- 13) What abbreviation is used for the metric prefix micro?
- 14) What abbreviation is used for the metric prefix hecto?
- 15) Which of the following S.I. units would be best used to express the mass of a large textbook?  

A. milligramB. literC. kilogram
- 16) One milliliter is exactly equal to one cubic \_\_\_\_\_.
- 17) What is a common unit used to express density?

18) Define CHEMISTRY in your own words.

19) Define MATTER in your own words.

20) What is a MEASUREMENT?

21) Explain how the DEPENDENT VARIABLE and the INDEPENDENT VARIABLE are related in an experiment.

22) Which type of data, QUALITATIVE or QUANTITATIVE, tends to be more convincing and WHY?

23) What is SPECIFIC GRAVITY?

24) Does specific gravity have units? Explain why or why not?

25) What is DIMENSIONAL ANALYSIS ?

26) Why is scientific notation used?

27) Why are significant figures (significant digits) used in science class, but not usually in math class?

28) Why is a control necessary in an experiment?

**Count the number of Significant Figures:**

29) How many significant figures are in the number 1.0089?

30) How many significant figures are in the number 0.0034?

31) How many significant figures are in the number 1.800

32) How many significant figures are in the number 0.0300900?

33) How many significant figures are in the number 10000?

34) How many significant figures are in the number 1.00040000

**Round the following answers to the correct number of Significant Figures.**

35)  $45.7 + 33.234 + 89.003 = 167.937$

36)  $79.09 \times 65.10 = 5148.759$

37)  $5.73 + 33.234 + 89.003 = 127.967$

38)  $79.09 \div 81.31 = 0.9726970852$

**Solve the following conversion problems. BE SURE TO INCLUDE UNITS!!!**

$$^{\circ}\text{F} = (1.8 \times ^{\circ}\text{C}) + 32$$

$$^{\circ}\text{C} = (^{\circ}\text{F} - 32)/1.8$$

$$\text{K} = ^{\circ}\text{C} + 273$$

$$^{\circ}\text{C} = \text{K} - 273$$

39) Convert -78 degrees Fahrenheit to Kelvin

40) Convert 1853 degrees Kelvin to Fahrenheit

41) Convert 78 degrees Fahrenheit to Celsius

42) Convert -45 degrees Celsius to Fahrenheit

43) Convert 35 degrees Celsius to Kelvin.

44) Convert 348 degrees Kelvin to Celsius

45) Change  $1.56 \times 10^{-16}$  into ordinary decimal form

46) Change  $3.89 \times 10^{13}$  into ordinary decimal form

47) Change 0.0000489786 into scientific notation

48) Change 345,580,000 into scientific notation

49) Convert 387 centimeters to kilometers

50) Convert 34.8 liters to milliliters

51) Convert 29.7 oz to grams (16 oz = 454 grams)

Chemistry CP  
Chapter 2 Test

52) Convert 17.6 cm to inches. (2.54 cm = 1 inch)

53) Convert 3587 nanometers to hectometers

54) Convert 34.8 micrograms to grams

55) Convert 429.7 grams to oz (16 oz = 454 grams)

56) Convert 467 picometers to decimeters.

57) Convert 197.6 inches to cm. (2.54 cm = 1 inch)

58) Convert 0.890 liters to teraliter

59) Convert 0.360 yards to feet. (3 feet = 1 yard)

**Density problems: BE SURE TO INCLUDE UNITS!!!**

60) If a 150. gram sample has a volume of 15.3 mL, What is the density of the substance?

61) The density of copper is 8.92 g/mL, if my copper sample has a volume of 14.3 mL what is the mass of this sample?

62) What volume would 21.0 grams of mercury occupy (density of mercury 13.6 g/mL)?

63) If a student works with a sample in lab and records the following data: 5.18 mL, 45.8 grams. What is the density of the substance?

64) The density of silver is 10.5 g/mL, if my silver sample has a mass of 155 grams, how much space does the sample occupy?

65) If a mercury thermometer holds 2.78 mL of mercury, what is the weight of the mercury contained in a thermometer? (density of mercury 13.6 g/mL)

**Use DENSITY to determine the identity of the sample. Circle your answer!**

66) Identify the following substance based on its density. A sample of the substance has a mass of 23.5 grams and a volume of 2.24 mL. The possible substances are:

Aluminum-	density 2.70 g/mL
Iron-	density 7.87 g/mL
Silver-	density 10.5 g/mL
Lead-	density 11.34 g/mL

67) Identify the following substance based on its density. A student recorded the following information about an unknown sample in lab: 155 ml, 1220 grams. The possible substances are:

Aluminum-	density 2.70 g/mL
Iron-	density 7.87 g/mL
Silver-	density 10.5 g/mL
Lead-	density 11.34 g/mL

68)	I go to the library and look up information on germs and how to eliminate them from surfaces.
69)	Name brand disinfectants such as Lysol will remove germs from surfaces better than non name brand products.
70)	I look at my data and see if there are any unexpected results, or if there is any information that may have been missed.
71)	Using Lysol, and two generic brands A and B, I clean surfaces such as door knobs and desks and then check for germ growth by using swabs and growth media in petri dishes. I compare this to surfaces of the same types that were not cleaned.
72)	I tell Mr. DeAntonio that the school can save money by using the generic brand B cleaner rather than Lysol cleaner.
73)	How can I remove germs from the surfaces in school that I touch?
74)	According to my data, the generic brand B cleaner removed more germs than the other two cleaners and created surfaces that had 75% fewer germs than those surfaces that were not cleaned.

**This is worth 8 points, ONE POINT EACH!**

- A. Analyze Data
- B. Conclusion
- C. Hypothesis
- D. Question
- E. Report
- F. Research
- G. Test w/ an Experiment

75) What is the dependent variable in the above experiment?

76) What is the independent variable in the above experiment?

77) What is the control in the above experiment?

78) Did this person use quantitative or qualitative data in their conclusion?