

27. The maximum speed recorded for a giant tortoise is 0.11 m/sec. How many miles could a gaint tortoise travel in 5.0 hr?
29. A giant anteater is able to eat 6.7 lb of ants in a day. If an ant has a mass of 85 mg, how many ants does the giant anteater eat in a day?
31. A personal trainer uses calipers on a client to determine his percent body fat. After taking the necessary measurements, the personal trainer determines that the client's body contains 11.2% fat by mass (11.2 lb of fat per 100 lb of body mass). If the client weighs 225 lb, how many kg of fat does he have?
33. A competitive high school swimmer takes 52 s to swim 100. yards. What is his rate in m/min?
35. In 2006, Christian Stengl climbed to the top of Mount Everest, elevation 29,035 ft, from a starting point of 21,002 ft in a record time of 16 hr, 42 min. Determine his average rate of climb in (a) miles per minute (b) meters per second
37. The 2013 Rolls Royce Ghost Alpine has a top speed of 155 miles per hour. Calculate the speed in centimeters per second.
28. How many days would it take for a crepe myrtle tree to grow 1 cm in height if it grows 3.38 feet per year? (Report your answer to three significant figures.)
30. A large egg has an average mass of 58.5 g. If a recipe calls for 0.75 lb of eggs, how many large eggs should be added to the mix?
32. The weight of a diamond is measured in carats. How many pounds does a 5.75-carat diamond weigh? (1 carat = 200. mg)
34. In 2005, Jarno Trulli was the pole winner of the U.S. Grand Prix Race with a speed of 133 mi per hr. What was his speed in cm/s?
36. The *Alvin*, a submersible research vessel, can descend into the ocean to a depth of approximately 4500 m in just over 5 hr. Determine its average rate of submersion in (a) feet per minute (b) kilometers per second
38. The 2014 Tesla Roadster, an all-electric car, has a top speed of 125 miles per hour. Calculate the speed in centimeters per second.



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Teddy Leung/Shutterstock

39. The world's record for the largest cup of coffee was broken on October 15, 2010, with a 2010-gal cup of coffee in Las Vegas, Nevada. If a cup of coffee contains 473 mL of coffee, how many cups of coffee would be required to fill this coffee cup?
40. Tilapia is rapidly becoming an important source of fish around the world. This is because it can be farmed easily and sustainably. In 2011, 475 million lb of tilapia were consumed by Americans. If the average tilapia has a mass of 535 g, how many tilapia were consumed in 2011?



courtesy GourmetGiftBaskets.com



Greg Vaughn / Getty Images, Inc.

41. Assuming that there are 20. drops in 1.0 mL, how many drops are in 1.0 gallon?
43. Calculate the number of milliliters of water in a cubic foot of water.
45. A textbook is 27 cm long, 21 cm wide, and 4.4 cm thick. What is the volume in:
(a) cubic centimeters? (c) cubic inches?
(b) liters?
47. Raspberry ketone, used to give food a raspberry or blueberry flavor, is composed of 73.14% by mass carbon. How many grams of carbon are in a 250.-g sample of this flavoring?
42. How many liters of oil are in a 42-gal barrel of oil?
44. Oil spreads in a thin layer on water called an "oil slick." How much area in m^2 will 200 cm^3 of oil cover if it forms a layer 0.5 nm thick?
46. An aquarium measures 16 in. \times 8 in. \times 10 in. How many liters of water does it hold? How many gallons?
48. Nectaryl is a compound with a peachy, apricot-like odor. It is composed of 10.98% hydrogen. How many grams of hydrogen are in a 475-g sample of nectaryl?

49. A solution is prepared by dissolving 283.4 grams of potassium dichromate in 650.0 grams of water.
- What is the percent potassium dichromate in the solution?
 - If 275. grams of the solution are poured into a beaker, how many grams of potassium dichromate are introduced into the beaker?
 - How many grams of the solution are required to obtain 15.0 grams of potassium dichromate?
51. A toddler in Italy visits the family doctor. The nurse takes the child's temperature, which reads 38.8°C .
- Convert this temperature to $^{\circ}\text{F}$.
 - If 98.6°F is considered normal, does the child have a fever?
53. Make the following conversions and include an equation for each one:
- | | |
|---|---|
| (a) 162°F to $^{\circ}\text{C}$ | (c) -18°C to $^{\circ}\text{F}$ |
| (b) 0.0°F to K | (d) 212 K to $^{\circ}\text{C}$ |
55. A recipe calls for heating the oven to 425°F . If you are vacationing in Europe and the oven only has temperature marked in $^{\circ}\text{C}$, to what temperature do you preheat the oven? What is this temperature in K?
57. At what temperature are the Fahrenheit and Celsius temperatures exactly equal?
59. The average temperature on Venus is 460°C . What is this temperature in $^{\circ}\text{F}$?
61. What is the density of a sample of 65.0 mL of automobile oil having a mass of 59.82 g?
63. A student weighed an empty graduated cylinder and found that it had a mass of 25.23 g. When filled with 25.0 mL of an unknown liquid, the total mass was 50.92 g. What is the density of the liquid?
65. Linseed oil has a density of 0.929 g/mL. How many mL are in 15 g of the oil?
67. A Mexican restaurant has the reputation of serving the hottest salsa in town. In order to maintain this standard, the restaurant must use a minimum of 8.41% by mass of cayenne pepper. If the restaurant just received a 3.26-kg shipment of cayenne pepper, how many pounds of salsa can it make?
69. U.S. quarters are composed of 91.67% copper and 8.33% nickel. The mass of a quarter is 5.670 g.
- Write out the dimensional analysis factors that can be derived from the two percentages given above. Be sure to include units.
 - If the U.S. mint buys 3.0 tons of copper for making quarters, how many quarters can it make?
50. A solution is prepared by dissolving 95.4 grams of sodium nitrate in 753 grams of water.
- What is the percent sodium nitrate in the solution?
 - If 350. grams of the solution are poured into a beaker, how many grams of sodium nitrate are introduced into the beaker?
 - How many grams of the solution are required to obtain 50.0 grams of sodium nitrate?
52. Driving to the grocery store, you notice the temperature is 45°C . Determine what this temperature is on the Fahrenheit scale and what season of the year it might be.
54. Make the following conversions and include an equation for each one:
- | | |
|--|---------------------------------|
| (a) 32°C to $^{\circ}\text{F}$ | (c) 273°C to K |
| (b) -8.6°F to $^{\circ}\text{C}$ | (d) 100 K to $^{\circ}\text{F}$ |
56. You borrowed a thermometer from the chemistry lab to use in the kitchen. If you want to heat a mixture of sugar and cream to 247°F , what temperature do you need in $^{\circ}\text{C}$? What is this temperature in K?
58. At what temperature are Fahrenheit and Celsius temperatures the same in value but opposite in sign?
60. The average temperature at the top of Jupiter's clouds is -244°F . What is this temperature in $^{\circ}\text{C}$?
62. A 25.2-mL sample of kerosene was determined to have a mass of 20.41 g. What is the density of kerosene?
64. A total of 32.95 g of mossy zinc was placed into a graduated cylinder containing 50.0 mL of water. The water level rose to 54.6 mL. Determine the density of the zinc.
66. Glycerol has a density of 1.20 g/mL. How many mL are in 75 g of glycerol?
68. In a candy factory, the nutty chocolate bars contain 22.0% by mass of pecans. If 7.0 kg of pecans were used for candy last Thursday, how many pounds of nutty chocolate bars were made?



EM Arts/Shutterstock

ADDITIONAL EXERCISES

71. You calculate that you need 10.0123576 g of NaCl for an experiment. What amount should you measure out if the precision of the balance is
- | | |
|---------------------|----------------------|
| (a) + or - 0.01 g? | (c) + or - 0.0001 g? |
| (b) + or - 0.001 g? | |
72. Often small objects are measured by mass in order to count them.
- If the mass of 1 Skittle is 1.134 g, what mass of Skittles should be packaged in a bag containing 175 Skittles?
 - The volume of exactly 6 Skittles is 5.3 mL as measured in a 10.0-mL graduated cylinder. What volume (in liters) of Skittles should be packaged in a bag containing 175 Skittles?

- (c) Determine the number of Skittles expected in a 325.0-g bag of Skittles.
- (d) Determine the number of Skittles expected in a beaker containing 0.550 L of Skittles.
- (e) Five bags were filled with 350.0 g of Skittles and 5 more bags were filled with 0.325 L of Skittles. The Skittles in each bag were then counted, and the data are tabulated below:

Mass Skittles	Number of Skittles	Volume Skittles	Number of Skittles
350.0 g	310	0.325 L	392
350.0 g	313	0.325 L	378
350.0 g	308	0.325 L	401
350.0 g	309	0.325 L	369
350.0 g	312	0.325 L	382

Which measurement method is more accurate? More precise? Explain your reasoning.

73. Suppose you want to add 100 mL of solvent to a reaction flask. Which piece of glassware shown in Figure 2.4 would be the **best** choice for accomplishing this task and why?
74. A reaction requires 21.5 g of CHCl_3 . No balance is available, so it will have to be measured by volume. How many mL of CHCl_3 need to be taken? (Density of CHCl_3 is 1.484 g/mL.)
75. A 25.27-g sample of pure sodium was prepared for an experiment. How many mL of sodium is this? (Density of sodium is 0.97 g/mL.)
76. In the United States, coffee consumption averages 4.00×10^8 cups per day. If each cup of coffee contains 160 mg caffeine, how many pounds of caffeine are being consumed each day?
77. In a role-playing video game (RPG) your character is a Human Paladin that can carry 115 lb of gear. Your character is carrying 92 lb of gear and a vial of strength potion (which allows you to carry an additional 50.0 lb of gear). If you find a cave filled with mass potions (used for resisting strong winds), after using the strength potion, how many vials can you collect if the vials each contain 50.0 mL of mass potion with a density of 193 g/mL? The vials have negligible mass.
78. A cape is designed for Lady Gaga's concert with 4560 sequins. If a sequin has a volume of 0.0241 cm^3 and the sequins have a density of 41.6 g/cm^3 , what is the mass in lb and kg of sequins on Lady Gaga's cape?
79. Will a hollow cube with sides of length 0.50 m hold 8.5 L of solution? Depending on your answer, how much additional solution would be required to fill the container or how many times would the container need to be filled to measure the 8.5 L?
80. The accepted toxic dose of mercury is 300 $\mu\text{g/day}$. Dental offices sometimes contain as much as 180 μg of mercury per cubic meter of air. If a nurse working in the office ingests 2×10^4 L of air per day, is he or she at risk for mercury poisoning?
81. The city of San Diego used an average of 1380 acre-feet of water per day during January of this year. Given that 1 acre-foot = 1.233×10^6 L,
- (a) Calculate the kL of water used every day.
- (b) Calculate the number of gallons of water used by San Diego last January.
82. Hydrogen becomes a liquid at 20.27 K. What is this temperature in (a) $^\circ\text{C}$? (b) $^\circ\text{F}$?
83. Scientists led by Rob Eagle at CalTech have examined 150-million-year-old fossilized teeth of sauropods, huge four-legged dinosaurs, to determine their average body temperature. They analyzed the type and number of carbon-oxygen bonds, leading them to conclude that the sauropods' internal temperature was between 36 and 38°C . Determine this temperature range in $^\circ\text{F}$ and compare the body temperature to other modern animals. Which of the following animals do these dinosaurs most closely resemble?

Animal	Temperature
dogs	100.5–102.5 $^\circ\text{F}$
tropical fish	78 $^\circ\text{F}$
bottlenose dolphin	97–99 $^\circ\text{F}$
tortoises	78–82 $^\circ\text{F}$
humans	99 $^\circ\text{F}$
birds	105 $^\circ\text{F}$
cows	102 $^\circ\text{F}$

84. According to the National Heart, Lung, and Blood Institute, LDL-cholesterol levels of less than 130 mg of LDL-cholesterol per deciliter of blood are desirable for heart health in humans. On the average, a human has 4.7 L of whole blood. What is the maximum number of grams of LDL-cholesterol that a human should have?
85. You have been sent to buy gold from prospectors in the West. You have no balance but you do have a flask full of mercury. You have been told that many prospectors will bring you fool's gold or iron pyrite in the hopes that you cannot tell the difference. Given the following densities for gold, mercury, and iron pyrite, how could you determine whether the samples brought to you are really gold?
- | | |
|-------------|-----------|
| gold | 18.3 g/mL |
| mercury | 13.6 g/mL |
| iron pyrite | 5.00 g/mL |
86. Paleontologists will sometimes use the unit elephant (the mass of an African bull elephant) when describing the mass of large dinosaurs. One elephant (El) is defined as 6.00 tons (1 El = 6.00 tons). If a dinosaur is estimated to have a mass of 5.3 elephants, what is its mass in pounds? (1 ton = 2000 lb)
87. The height of a horse is measured in hands (1 hand = exactly 4 in.). How many meters is a horse that measures 14.2 hands?
88. Camels have been reported to drink as much as 22.5 gal of water in 12 hr. How many liters can they drink in 30. days?
89. You are given three cubes, A, B, and C; one is magnesium, one is aluminum, and the third is silver. All three cubes have the same mass, but cube A has a volume of 25.9 mL, cube B has a volume of 16.7 mL, and cube C has a volume of 4.29 mL. Identify cubes A, B, and C.
90. When a chunk of wood burns, much more than just smoke is produced. In addition, nanotubes made of pure carbon are formed that have a structure resembling a roll of chicken wire. These nanotubes are stronger than steel, resistant to fire, and make good heat conductors. If a typical carbon nanotube has a diameter of 1.3 nm, how many nanotubes would need to be laid side by side to construct a bridge 40.0 feet wide?
91. The recommended daily allowance of magnesium for a college student is 380 mg. If $\frac{1}{4}$ cup of peanuts contains 67 mg of magnesium, how many cups of peanuts should a college student eat to get his or her daily intake of magnesium?
92. In the United States, land is measured in acres. There are 43,560 ft^2 in each acre. How many km^2 are in 125 acres?

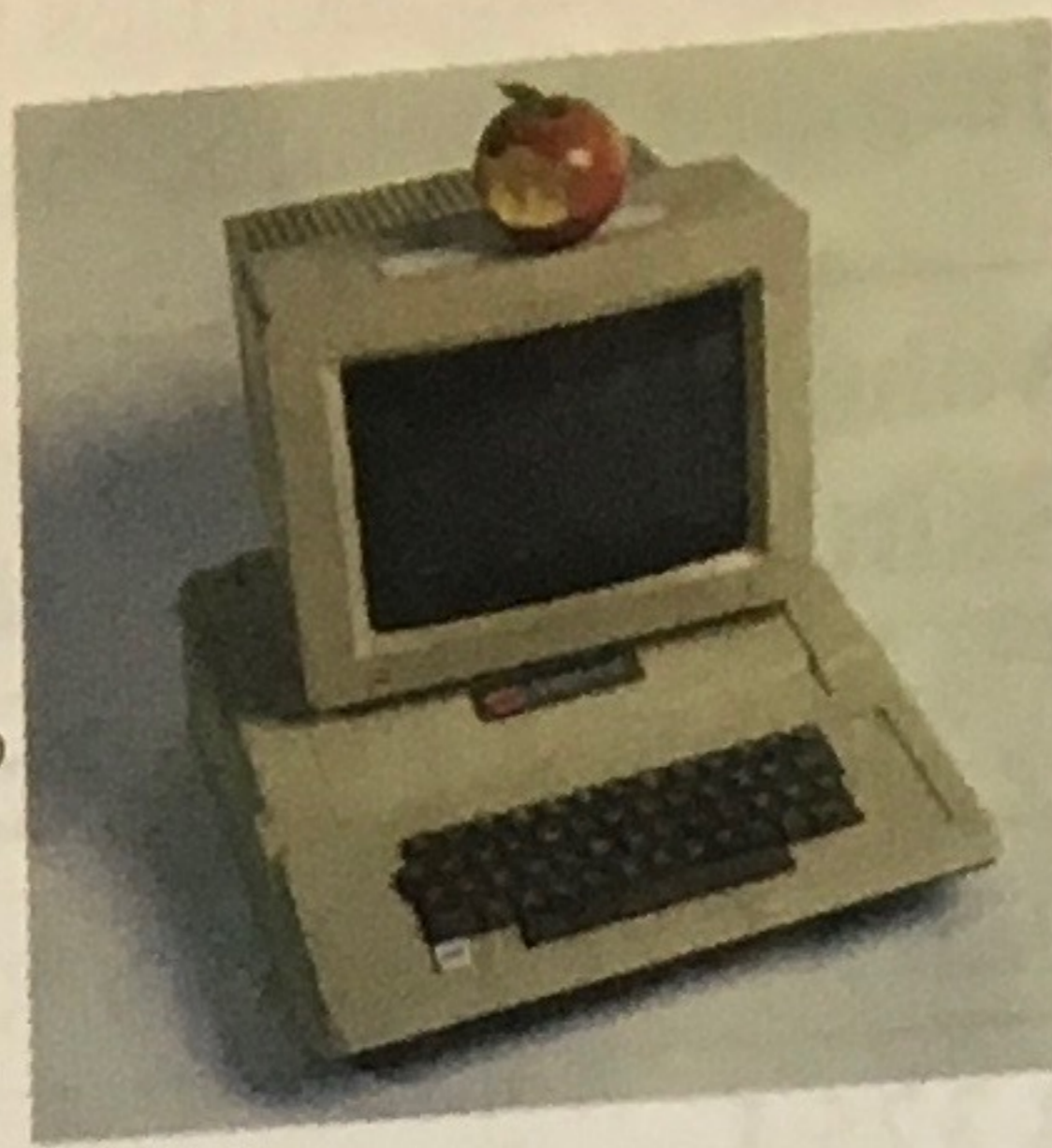
93. A cube of aluminum has a mass of 500. g. What will be the mass of a cube of gold of the same dimensions?
94. A 25.0-mL sample of water at 90°C has a mass of 24.12 g. Calculate the density of water at this temperature.
95. The mass of an empty container is 88.25 g. The mass of the container when filled with a liquid ($d = 1.25 \text{ g/mL}$) is 150.50 g. What is the volume of the container?
96. Which liquid will occupy the greater volume, 50 g of water or 50 g of ethyl alcohol? Explain.
97. The Sacagawea gold-colored dollar coin has a mass of 8.1 g and contains 3.5% manganese. What is its mass in ounces (1 lb = 16 oz), and how many ounces of Mn are in this coin?
98. The density of sulfuric acid is 1.84 g/mL. What volume of this acid will weigh 100. g?
99. Dark-roasted coffee contains increased amounts of N-methylpyridinium, or NMP, a ringed compound that is not present in green unroasted coffee beans. This compound seems to decrease the stomach acid production normally associated with drinking coffee. In coffee made from dark-roasted coffee, the concentration of NMP is 31.4 mg/L. How many milligrams of NMP would you consume if you drank 2.00 large cups of dark-roasted coffee? (One coffee cup contains 10.0 fluid ounces of liquid.)
100. The density of palladium at 20°C is 12.0 g/mL, and at 1550°C the density is 11.0 g/mL. What is the change in volume (in mL) of 1.00 kg Pd in going from 20°C to 1550°C?
101. As a solid substance is heated, its volume increases, but its mass remains the same. Sketch a graph of density versus temperature showing the trend you expect. Briefly explain.

CHALLENGE EXERCISES

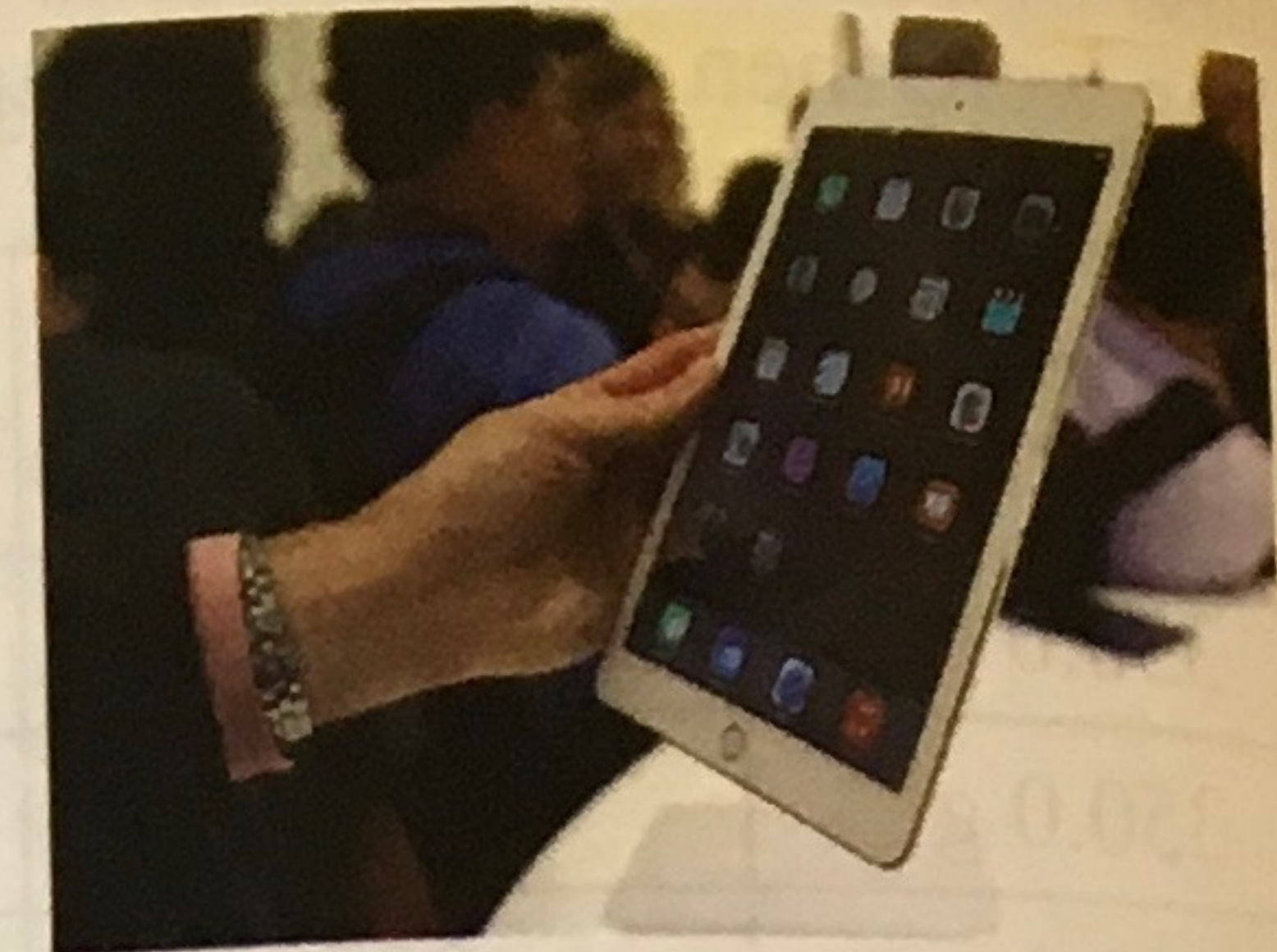
106. You have just purchased a 500-mL bottle of a decongestant medication. The doctor prescribed 2 teaspoons 4 times a day for 10 days. Have you purchased enough medication? (1 teaspoon (tsp) = 5 mL)
107. A sample of brine collected from the ocean has a density of 1.28 g/mL and contains 7.55% sodium chloride.
- What is the volume in L of an 8.14-kg sample of this brine?
 - How many grams of brine are required to obtain 150.0 grams of sodium chloride?
108. Your boss found a piece of metal in the lab and wants you to determine what the metal is. She is pretty sure that the metal is either lead, aluminum, or silver. The lab bench has a balance and a 100-mL graduated cylinder with 50 mL of water in it. You decide to weigh the metal and find that it has a mass of 20.25 g. After dropping the piece of metal into the graduated cylinder containing water, you observe that the volume increased to 57.5 mL. Identify the metal.
109. Forgetful Freddie placed 25.0 mL of a liquid in a graduated cylinder with a mass of 89.450 g when empty. When Freddie placed a metal slug with a mass of 15.454 g into the cylinder, the volume rose to 30.7 mL. Freddie was asked to calculate the density of the liquid and of the metal slug from his data, but he forgot to obtain the mass of the liquid. He was told that if he found the mass of the cylinder containing the liquid and the slug,

102. The first Apple computer had 5.0 Mbytes of storage space on its hard drive, and the cost of this computer was \$9995. An Apple iPad Air 2 has 128 Gbytes of storage for a cost of \$699. Calculate the cost per byte for each of these two Apple products. Which is a better buy?

Volker Steger/Science Source



(a) Apple II computer



Justin Sullivan/Getty Images

(b) iPad Air 2

103. A gold bullion dealer advertised a bar of pure gold for sale. The gold bar had a mass of 3300 g and measured 2.00 cm \times 15.0 cm \times 6.00 cm. Was the bar pure gold? Show evidence for your answer.
104. A 35.0-mL sample of ethyl alcohol (density 0.789 g/mL) is added to a graduated cylinder that has a mass of 49.28 g. What will be the mass of the cylinder plus the alcohol?
105. Several years ago, pharmacists used the Apothecary System of Measurement. In this system, 1 scruple is equal to 20 grains (gr). There are 480 gr in 1 oz, and in this system, there are 373 g in 12 oz. How many scruples would be in 695 g?
- he would have enough data for the calculations. He did so and found its mass to be 125.934 g. Calculate the density of the liquid and of the metal slug.
110. Jodi, a sculptor, has prepared a mold for casting a bronze figure. The figure has a volume of 225 mL. If bronze has a density of 7.8 g/mL and Jodi likes to use 90.0% of the bronze melted (she sometimes spills), how many ounces of bronze does Jodi need to melt in the preparation of the bronze figure?
111. Neutrinos are subatomic particles with a very low mass. Recent work at CERN, Europe's particle-physics lab near Geneva, Switzerland, suggests that neutrinos may have the ability to travel faster than the speed of light. If the speed of light is $1.86 \times 10^8 \text{ mi/hr}$, how many nanoseconds should it take for light to travel from CERN to the Gran Sasso National Lab in Italy, a 730.0 km journey? If a neutrino can travel the same distance 60 nsec faster, how many significant figures would you need to detect the difference in speed?
112. You decide to go sailing in the tropics with some friends. Once there, you listen to the marine forecast, which predicts in-shore wave heights of 1.5 m, offshore wave heights of 4 m, and temperature of 27°C. Your friend the captain is unfamiliar with the metric system, and he needs to know whether it is safe for your small boat and if it will be warm. He asks you to convert the measurements to feet and degrees Fahrenheit, respectively.

ANSWERS TO PRACTICE EXERCISES

- 2.1 (a) $1200 = 1.200 \times 10^3$
(left means positive exponent)
- (b) $6,600,000 = 6.6 \times 10^6$
(left means positive exponent)
- (c) $0.0468 = 4.68 \times 10^{-2}$
(right means negative exponent)
- (d) $0.00003 = 3 \times 10^{-5}$
(right means negative exponent)
- 2.2 (a) the estimated digits are 4, 1, 0; (b) 3
- 2.3 (a) 2; (b) 4; (c) 4; (d) 1; (e) 3; (f) 4; (g) 1; (h) 3
- 2.4 (a) 42.25 (Rule 2); (b) 88.0 (Rule 1); (c) 0.0897 (Rule 2);
(d) 0.090 (Rule 2); (e) 225 (Rule 1); (f) 14.2 (Rule 2)
- 2.5 (a) $3350 \text{ in.}^2 = 3.4 \times 10^3 \text{ in.}^2$; (b) 50.7 mi/hr; (c) 0.79;
(d) 1.3; (e) 20.5; (f) 3.71
- 2.6 (a) 2; (b) 2; (c) 1; (d) 2; (e) 4; (f) 2; (g) 2; (h) 2
- 2.7 (a) 0.567 m; (b) 680; (c) 0.125
- 2.8 (a) 0.560 g; (b) 0.525 kg; (c) $1.75 \times 10^5 \text{ mg}$
- 2.9 (a) 0.025 L; (b) 1550 mL; (c) 45 dL
- 2.10 0.14 lb
- 2.11 (a) $1.69 \times 10^4 \text{ m}$; (b) $3.5 \times 10^{-2} \text{ m}^2$
- 2.12 30 m^3 or $3 \times 10^1 \text{ m}^3$
- 2.13 165 lb
- 2.14 0.793 qt
- 2.15 1.89 L (the number of significant figures is arbitrary)
- 2.16 19.6% S, 80.37% Au
- 2.17 88.0% Cu
- 2.18 7.14 g solder
- 2.19 20. mg caffeine
- 2.20 -269°C , -452°F
- 2.21 37.0°C , 310. K
- 2.22 The density is 9.35 g/mL; therefore the ring is not pure silver. The density of silver is 10.5 g/mL.
- 2.23 0.88 g/mL

Appendix 5

ANSWERS TO SELECTED EXERCISES

CHAPTER 1

Exercises

- Two states are present; solid and liquid.
- The maple leaf represents a heterogeneous mixture.
- (a) homogeneous
(b) homogeneous
(c) heterogeneous
(d) heterogeneous
- (a) water, a pure substance
(c) salt, a pure substance
- (a) Picture 2.
(b) Pictures (1) and (3) are heterogeneous mixtures. Picture (4) is a pure substance.
(c) Picture (1) because it is composed of multiple types of particles. Picture (2) may contain a diatomic element.
- (a) two phases, solid and gas
(c) two phases, solid and liquid

CHAPTER 2

Exercises

- (a) 1000 meters = 1 kilometer
(c) 0.000001 liter = 1 microliter
(e) 0.001 liter = 1 milliliter
- (a) mg (e) Å
(c) m
- (a) not significant (e) significant
(c) significant
- (a) 40.0 (3 sig fig)
(b) 0.081 (2 sig fig)
(c) 129,042 (6 sig fig)
(d) 4.090×10^{-3} (4 sig fig)
- (a) 8.87 (c) 130. (1.30×10^2)
(b) 21.3 (d) 2.00×10^6
- (a) 4.56×10^{-2} (c) 4.030×10^1
(b) 4.0822×10^3 (d) 1.2×10^7
- (a) 28.1 (e) 2.49×10^{-4}
(c) 4.0×10^1
- (a) $\frac{1}{4}$ (c) $1\frac{2}{3}$ or $\frac{5}{3}$
(b) $\frac{5}{8}$ (d) $\frac{8}{9}$
- (a) 1.0×10^2 (c) 22
(b) 4.6 mL
- (a) 4.5×10^8 Å (e) 6.5×10^5 mg
(c) 8.0×10^6 mm (g) 468 mL
(c) 7.4×10^4 mm³
- (a) 117 ft
(e) 75.7 L
- 12 mi/hr
- 8.33 gr
- 3.54 days
- 5.8 eggs so 6 eggs should be added
- 2.54×10^{-3} lb
- 5.94×10^3 cm/s
- (a) 50 ft/min
(b) 3×10^{-4} km/s

- 5.59×10^3 cm/s
- 4.03×10^6 tilapia
- 160 L
- 4×10^5 m²
- 6 gal
- 5.52 g hydrogen
- (a) 11.3%, (b) 39.6 g NaNO₃, (c) 442 g solution
- 113°F Summer!
- (a) 90.°F (c) 546 K
(b) -22.6°C (d) -300°F
- 119°C, 392 K
- 11.4°C = 11.4°F
- 153°C
- 0.810 g/mL
- 7.2 g/mL
- 63 mL
70. lb nutty candy
- (a) 95 g Ag/100 g sterling and 7.50 g Cu/100 g sterling,
(b) 701 sterling hearts
- A graduated cylinder would be the best choice for adding 100 mL of solvent to a reaction. While the volumetric flask is also labeled 100 mL, volumetric flasks are typically used for doing dilutions. The other three pieces of glassware could also be used, but they hold smaller volumes, so it would take a longer time to measure out 100 mL. Also, because you would have to repeat the measurement many times using the other glassware, there is a greater chance for error.
- 14.5 mL
- 26 mL
- 3.43 vials potion
- 10.1 lb sequins
- Yes, 120 L additional solution
- (a) -252.88°C (b) -423.18°F
- 97°F - 100°F, similar to mammals
- 5.1×10^3 L
- 0.506 km²
- 0.965 g/mL
- ethyl alcohol, because it has the lower density
- 54.3 mL
- 18.6 mg NHP
- 76.9 g

CHAPTER 3

Exercises

- (d) HI (f) Cl₂ (g) CO
- (a) magnesium, bromine
(c) hydrogen, nitrogen, oxygen
(e) aluminum, phosphorus, oxygen
- (a) AlBr₃ (c) PbCrO₄
- (a) C₅₅H₆₆O₂₄ (b) Cl₁₅H₁₄O₆ (c) Cl₃₀H₄₈O₃