

Practice Problems for Scientific Method and Measurement

1. An average adult has 5.5 quarts of blood. What is this volume in mL?
2. Classify each statement as law, theory, hypothesis, belief or fact:
 - a. The laws of physics are the same throughout the universe.
 - b. Sodium is a soft, silvery metal.
 - c. The volume of any gas at a set temperature and pressure depends on its mass.
 - d. The shape of a molecule is determined by electron pairs since electron pairs repel and will orient themselves to minimize repulsions.
3. How many cg are in 2.52 kg?
4. Determine the number of significant figures in the following numbers:

0.250	2500.	3,000,000
6205	0.000309	
5. How many minutes does it take for light from the Sun to reach Earth if light travels at 3.00×10^8 m/s? The distance from the Earth to the Sun is 93 million miles. (1.61 km = 1 mi)
6. Gold is a chemically unreactive, precious metal. A gold ingot with a mass of 301grams has a volume of 15.6 cm^3 . Calculate the density of the ingot.
7. Determine the volume in the graduated cylinder shown here. Be sure to consider significant figures.
8. A drug company makes a medication with a concentration of 200. mg/L. If the normal dose is 0.15 mg/kg of body mass, how many mL should a 150. lb person receive?

