CHEMISTRY **DENSITY PRACTICE**
Problems

Table of Densities

Substance	Density g/mL at 20° C
Wood (Douglas Fir)	0.512
Ethyl Alcohol	0.789
Cottonseed Oil	0.926
Water (4°C)	1.000
Sugar	1.590
Carbon Tetrachloride	1.595
Magnesium	1.740
Sulfuric Acid	1.840
Sulfur	2.070
Salt	2.160
Aluminum	2.700
Silver	10.500
Lead	11.300
Mercury	13.550
Gold	19.300

1. A sample of metal has a volume of 45 cm^3 and a mass of 121.5 g. Find the density of this sample and use the table of densities to identify this substance.

2. What is the density of a mineral if 427 g of the mineral occupy a volume of 35.0 mL.

3. What is the mass of 25.0 cm^3 of gold? (Hint: 1 cm^3 = 1 mL)

4. The water level in a graduated cylinder stands at 20.0 mL before and at 26.2 mL after a 16.74 g metal sample is lowered into the cylinder. What is the density of the sample. What metal is the sample most likely to be?

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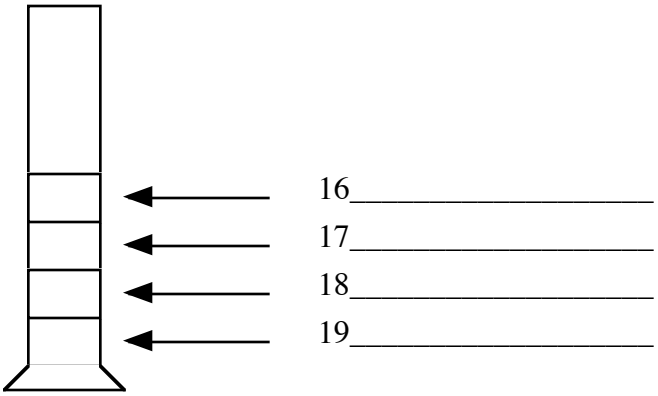
Mercury, water, carbon tetrachloride, and cottonseed oil are placed in a graduated cylinder and layers formed. Identify layers 16, 17, 18, and 19 by writing the name of the substance that would be found in that layer.



5. The largest nugget of gold on record was found in 1872 in New South Wales, Australia, and weighed 93.3 kg. What was the volume of this nugget in cm^3 and liters? [Hint 1 kg = 1000 g and 1 L = 1000 cm^3]

6. A cube of aluminum has a mass of 500 g. What will be the mass of a cube of magnesium of the same dimensions?

7. What mass of Hg will occupy a volume of 50.0 mL?

8. The average social studies student's head has a mass of 24,948 kg and has a volume of 2.20 liters. What is the density of the average social studies student's head in g/mL? From the table of densities determine which substance might make up the average social studies students head. [Hint 1 kg = 1000 g and 1 L = 1000 mL]