

7.2 Fluids and Density

Name _____

Date _____

Block _____

- A fluid is any form of matter that can _____.
 - ◆ Liquids and gases are fluids since they do not have a _____.
 - ◆ Solids are not fluids.

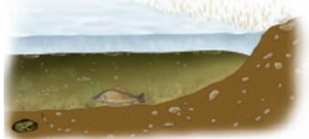


Lava, water, and syrup are examples of fluids.

Solid, Liquid, and Gas Density

- Density is the amount of _____ for each unit of _____.
 - ◆ Density describes how closely _____ the particles are in a material.

Most substances are denser in their solid form than in their liquid form, but water is an exception.

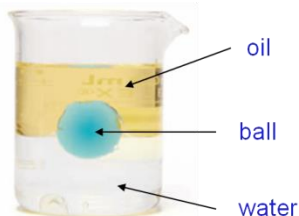


Describe the spacing of the particles in the solid block, liquid water, and gaseous air.

Layers of Fluids

- Fluids that do not mix, layer themselves according to their _____.
- Less dense fluids “_____” on top of _____ fluids.

Can you list the objects, in this beaker, from most dense to least dense?



The most dense substance is _____

The least dense substance is _____

Measuring Density

- Both _____ and _____ are required when calculating density.
- Mass:
 - ◆ Mass can be measured using a _____ or _____.



balance

- **Volume:**
 - ◆ For objects that are _____, volume can be calculated by measuring the block and then using the equation:
 volume = _____.



- For objects with irregular shape, _____ is the method used to find the volume.
- Volume is most often measured with a ' _____ '.



- When reading a graduated cylinder, remember to read the _____ of the _____ – called the ' _____ '.
- The displacement method is when you place an irregular object in a graduated cylinder with water, and measure the _____.

Calculating Density

Density can be calculated using the following formula:

$$\text{Density (D)} = \frac{\text{Mass}}{\text{Volume}}$$

Answer the following:

- What is the density of a 4 cm³ rock that has a mass of 24 g?
- A 5 ml sample of motor oil has a mass of 4.5 g. What is the density of the motor oil?

NOTE: Volumes of _____ are stated as _____ whereas volumes of _____ are stated as _____.