Density

Density is measured as the mass of an object divided by its volume. For example, if an object with a volume of 50 cm^3 weighs 30 g, its density is 30/50 g/cm^3, which is 0.6 g/cm^3.

Density determines whether a substance will sink or float when placed in a second substance. The substance with less density will always float.

Use the information provided to answer the questions below.

Find the density of the following: *D=m/v*

Substance	Volume in cm^3	Mass in g	Density in g/cm^3
Gasoline	5	3.5	
Milk	10	10.3	
Gold	8	154.4	
Aluminum	12	32.4	
Water (at 4˚C)	14	14	
Water (at 20 ˚C)	16	15.968	
Ice (at 0 ˚C)	20	18.4	

Answer the following questions based on the numbers from the chart above:

1. When milk is mixed with gasoline, which substance will float?

2. Why do ice cubes always float at the top of a glass of water?

3. If the density of iron is 7.8 g/cm^3 and you find an iron nail weighing 15 g, what would the volume of the nail be?