

Separating Mixtures

The components of a mixture may be separated based on the physical properties of: _____

_____ (An instrument that uses this property to separate mixtures when tiny solid particles are dissolved in a liquid is called a _____.)

Some techniques used to separate the components of a mixture are:

_____ --used to separate liquids and solids
 _____ } used to separate solutions

	Observation	Explanation
1.	_____ _____ _____	_____ _____ _____
2.	_____ _____ _____ _____	_____ _____ _____ _____
3.	_____ _____ _____ _____	_____ _____ _____ _____

Density - _____ per unit of _____

Density = _____

(D= _____)

common units for density: _____, _____

Example problem: Suppose we have an object with a mass of _____ grams and a volume of _____ mL. What would be the density of this object?

Problem Set One

1.

2.

3.

Problem Set Two

1.

2.

3.

The Chemistry Quiz

CR1. _____

CR2. _____

1. _____

2. _____

3. _____

4. _____

5. _____

Problem Set One: Episode 203

Given a mass of 12 g and a volume of 3 mL, calculate the density.

What is the mass of 50 mL of water?

Given that the density of iron is 7.9 g/cm^3 , what would be the volume of a 15.8 g piece of iron?

Problem Set Two: Episode 203

Find the density of a block with a length of 4.0 centimeters, a width of 3.0 centimeters, a height of 2.0 centimeters, and a mass of 36 grams.

Find the density of an 8.0 g rock if the water in a graduated cylinder rises from 20.0 mL to 23.5 mL when the rock is placed into the graduated cylinder.

You have a piece of silver with a mass of 31.5 g. Silver has a density of 10.5 g/cm^3 . What would be the new level of water if this piece of silver is placed into 15 mL of water?

Given a mass of 14 g and a volume of 28 mL, calculate the density.

What is the mass of an object with a density of 4.0 g/cm^3 that displaces 3.0 cm^3 of water?

Given that the density of iron is 11.35 grams per centimeter cubed, what would be the volume of a 1.1 gram piece of iron?

Find the density of a block with a length of 8.0 cm, a width of 4.0 cm, a height 2.0 cm, and a mass of 32 g. Would this block float or sink in water?

You have two pieces of jewelry. One of them is supposed to be pure silver. The first piece has a mass of 20.0 g and the other piece has a mass of 44.0 g. Both pieces displace 4.0 mL of water. Silver has a density of 10.5 g/cm^3 . Which piece is actually silver?

1. Density describes the relationship between the _____ and _____ of a sample of a substance.
2. The most common units for density are _____ and _____.
3. The density of water is _____.
4. A small beaker contains 55.0 mL of water. What would be the mass of the water?
5. Object A has a mass of 500 g and a density of 5.0 g/cm^3 . Object B has a mass of 650 g and a density of 6.5 g/cm^3 .
 - a. Which object would displace the most liquid? EXPLAIN.
 - b. Could the two objects be made of the same substance? EXPLAIN.
6. The density of silver is 10.5 g/cm^3 . What will be the volume of a piece of silver having a mass of 31.5 g?
7. A sample of iron occupies a volume of 10.0 cm^3 . If the density of iron is 7.9 g/cm^3 , what is the mass of the sample?
8. Iron is sold in sheets that are 2.0 cm thick and 120.0 cm wide. You want to buy a sheet of iron with a mass of 50,000.0 g. What must be the length of the sheet of iron?