

Here is a list of topics/concepts covered on October 13's quiz – understand them, be able to explain them, and be able to give examples (and non-examples) of each. Your notes and your textbook are good things to use while reviewing!

lab #2 (magnesium + HCl)
volume units
density (definition)

density lab exercise
volume measuring tools
density units

volume (definition)
volume conversions
density problems

Practice questions (SHOW YOUR WORK!!!):

1. The density of mercury is 13.6 g/mL. What is the mass of 401 cc of mercury? [5450 g]

D = _____

m = _____

v = _____

2. A solution has a volume of 8.33 cm³ and a mass of 9.7 g. What is its density? [1.2 g/cm³]

D = _____

m = _____

v = _____

3. Convert 15.0 mL to kiloliters using the factor-label method: [0.0000150 kL
or 1.50 x 10⁻⁵ kL]

_____ (_____)

4. Convert 0.060 g/cm³ to milligrams per liter using the factor-label method: [60 000 mg/L or
6.0 x 10⁴ mg/L]

_____ (_____)

5. What makes something more dense than something else? _____

6. What is volume? _____
7. According to the chart below, which is
- (a) the most dense material? _____
- (b) the least dense? _____

Material	Density (g/mL)
aluminum	2.7
cork	0.22
ice	0.917
water	1.00
iron	7.9

8. How is density related to floating? _____
- _____
- _____

9. What volume of each of these acids should be measured out if 30.0 g of each are needed?

Acid Name	Density (g/cm ³)	Mass (g)	Volume (cm ³)
hydrochloric acid	1.1639	30.0	
sulfuric acid	1.834	30.0	
nitric acid	1.251	30.0	

10. Summarize how the density of a liquid can be measured and calculated: _____
- _____
- _____
- _____
11. How did we measure the hydrogen gas in lab #2 without capturing it? Be specific! _____
- _____
- _____
- _____
12. List three volume measuring tools: _____