Microscopy Introduction (II)

1) Your water contains roughly 28.5 mg of $NaCl$ per liter. What is the molarity of sodium chloride in your water?
2) What is the molarity of $NaCl$ if 5 g of $NaCl$ is dissolved in 1 liter of solution?
3) What is the molarity of $CaCl_2$ if 5 g of $NaCl$ is dissolved in 1 liter of solution?
4) What is the molarity of $CaCl_2$ if 5 g of $NaCl$ is in 500 ml of solution?
5) How many moles of $NaCl$ are in 1 liter of 0.1 M solution?
6) How many moles of $NaCl$ are in 500 ml of 0.1 M solution?
7) How many moles of $NaCl$ are contained in 250 ml of 0.1 M solution?
8) What weight (in grams) of $NaCl$ would be contained in 500 ml of 0.1 M solution?
9) What weight (in grams) of $NaCl$ is contained in 500 ml of 0.1 M solution?
10) What volume should a 0.1 M $NaCl$ solution be diluted to to obtain 0.05 M $NaCl$?
11) What volume should a 0.1 M $CaCl_2$ solution be diluted to to obtain 0.05 M $CaCl_2$?
12) How many grams of $CaCl_2$ are needed to make 100 ml of a 0.1 M solution?
13) What is the molarity of a solution made by dissolving 20 g of $CaCl_2$ in 1 liter of water?
14) What weight (in grams) of $NaCl$ is contained in 500 ml of 0.1 M $NaCl$ solution?
15) What is the molarity of a solution containing 2.5 mg of $NaCl$ in 100 ml of solution?
16) Determine the molarity of these solutions:
(a) 6.02 moles of $L-NaCl$ dissolved in enough H_2O to make 1 liter of solution
(b) 1.00 moles of $NaCl$ in enough water to make 1 liter of solution
(c) 0.75 moles of $NaCl$ in enough water to make 1 liter of solution
(d) 0.001 moles of $CaCl_2$ in enough water to make 1 liter of solution
(e) 0.0001 moles of $CaCl_2$ in enough water to make 1 liter of solution
17) Determine the number of moles of solute in grams from solutions:
(a) 1 L 0.1 M $NaCl$ solution
(b) 500 ml of a 0.1 M $NaCl$ solution
(c) 1.00 L of a 0.001 M $MgCl_2$ solution
(d) 5.00 L of a 0.75 molar $MgCl_2$ solution

18) Determine the grams of solute in grams from solutions:
(a) 1 L 0.1 M $NaCl$ solution
(b) 500 ml of a 0.1 M $NaCl$ solution
(c) 0.001 L of a 0.001 M $MgCl_2$ solution
(d) 5.00 L of a 0.75 molar $MgCl_2$ solution
(e) 1 L 0.1 M $CaCl_2$ solution
(f) 0.5 L of a 0.01 M $CaCl_2$ solution
19) Determine the final volume of these solutions:
(a) 6.02 moles of 1 L 0.1 M $NaCl$ solution is diluted to 1 L 0.05 M solution
(b) 0.001 moles of $NaCl$ solution is diluted to 1 L 0.01 M solution
(c) 0.75 moles of $NaCl$ in enough water to make 1 L 0.05 M solution
(d) 0.001 moles of $CaCl_2$ in enough water to make 1 L 0.01 M solution
(e) 0.01 moles of $MgCl_2$ in enough water to make 1 L 0.01 M solution

Glossary

1) A molecule with a mass of 1.00794 Mega D is available. Which density indicator is an insoluble mass minimum of a 1 Tibital
2) What volume of 0.250 M HCl is needed to make 100.0 mL of a 0.100 M solution?
3) Homogenized milk is a 0.5 M $NaCl$ solution. How much is required to make 2.00 L of 1.00 M solution?