

AP Chemistry Summer Assignment

Welcome to AP Chemistry! To keep chemistry fresh in your mind and prepare you for our class, please complete this summer assignment.

Part 1

Read the first three chapters of Chemistry: The Central Science, Brown and LeMay, et al., 11th edition, 2009.

Part 2

Answer the following problems. Show all work for full credit and be sure to include units where appropriate. Bring the completed problem set to our first class.

Chapter 1

#13, 14, 18, 19, 24, 27, 35, 40, 41, 45, 49, 59, 61, 62, 67, 70, 72, 77, 80

Chapter 2

#10a, 17, 19, 21, 22, 25, 38, 45, 49, 51, 55, 58, 65, 66, 67, 70, 82a-b, 90, 95, 98

Chapter 3

#12, 13, 19, 21, 22, 33, 35, 45, 47, 50, 51, 53, 58, 63, 73, 78, 81, 86, 91, 93

Part 3

Memorize the provided list of common polyatomic ions.

All of this material is a review from Chemistry 31. We will have a test on the first three chapters our first week back in school.

Welcome to AP Chemistry!

- Ms. Rieger, Mr. Vital

Common Polyatomic Ions

Cations (1+)

ammonium (NH_4^{1+})

hydronium (H_3O^{1+})

Anions (1-)

acetate ($\text{C}_2\text{H}_3\text{O}_2^{1-}$)

bromate (BrO_3^{1-})

cyanide (CN^{1-})

dihydrogen phosphate ($\text{H}_2\text{PO}_4^{1-}$)

hydrogen carbonate or bicarbonate (HCO_3^{1-})

hydrogen sulfite or bisulfate (HSO_3^{1-})

hydroxide (OH^{1-})

iodate (IO_3^{1-})

nitrate (NO_3^{1-})

nitrite (NO_2^{1-})

perchlorate (ClO_4^{1-})

chlorate (ClO_3^{1-})

chlorite (ClO_2^{1-})

hypochlorite (ClO^{1-})

permanganate (MnO_4^{1-})

thiocyanate (SCN^{1-})

Anions (2-)

carbonate (CO_3^{2-})

chromate (CrO_4^{2-})

dichromate ($\text{Cr}_2\text{O}_7^{2-}$)

hydrogen phosphate (HPO_4^{2-})

peroxide (O_2^{2-})

oxalate ($\text{C}_2\text{O}_4^{2-}$)

sulfate (SO_4^{2-})

sulfite (SO_3^{2-})

thiosulfate ($\text{S}_2\text{O}_3^{2-}$)

Anions (3-)

phosphate (PO_4^{3-})

phosphate (PO_3^{3-})