

2009 AP Chemistry Summer Assignment

This assignment is important. It is mostly review and will give us a terrific head start. You will appreciate not having to rush as we start working on brand new, challenging material.

Chapter 1: Matter and Measurement

- A. Read pages 18-51 in the textbook. TAKE NOTES!
- B. Use the “chapter highlights” to check for understanding.
- C. Memorize table 1.4 (metric prefixes)
- D. Complete the following end-of-chapter questions in your notebook:

19, 25, 31, 33, 35, 43, 45, 47, 55, 71

Chapter 2: Atoms and Elements

- A. Read pages 58-94. TAKE NOTES! Try to understand the results of the experiments, do not worry about memorizing all of the details at this point.
- B. Memorize the special group names on the periodic table (halogens, etc.)
- C. Complete the following in your notebook:

1, 10, 23, 25, 33, 35, 47, 51, 55, 65

Chapter 3: Molecules and Compounds

- A. Read pages 99-138. TAKE NOTES!
- B. Memorize table of polyatomic ions (attached).
- C. Memorize common chemical names (on bottom of page 118).
- D. Complete the following in your notebook:

13, 15, 19, 21, 23, 33, 37, 39, 43, 45, 51, 61, 67, 69, 73, 79, 95, 111

Chapter 4: Chemical Equations and Stoichiometry

- A. Read pages 148-172. TAKE NOTES!
- B. Pay special attention to section 4.6.
- C. Complete the following in your notebook:

9, 11, 13, 17, 23, 25, 29, 33, 35, 37, 39, 41

NOTE: It may be helpful to check out some of the even-numbered, bold print problems, as the answers are in the back of the book (Appendix O).

You will hand these problems in on the first day of school in September. 50 problems worth one point each. We will present some of these answers in September. Due to the increased importance of problem solving techniques in the second year of chemistry, I ask that you follow the format on the back. Your notes will also count as a grade.

We will learn chapter 5 (types of reactions) and be tested on chapters 1-5 within 2 weeks.

I will answer *unavoidable* questions at smitha@kinnelon.org as best I can if you have any.

Common polyatomic ions

acetate	$\text{C}_2\text{H}_3\text{O}_2^-$
ammonium	NH_4^+
arsenate	AsO_4^{-3}
arsenite	AsO_3^{-3}
bicarbonate	HCO_3^-
bromate	BrO_3^-
bromite	BrO_2^-
carbonate	CO_3^{-2}
chlorate	ClO_3^-
chlorite	ClO_2^-
chromate	CrO_4^{-2}
cyanide	CN^-
dichromate	$\text{Cr}_2\text{O}_7^{-2}$
dihydrogen phosphate	H_2PO_4^-
dihydrogen phosphite	H_2PO_3^-
hydrogen arsenate	HAsO_4^{-2}
hydrogen carbonate	HCO_3^-
hydrogen phosphate	HPO_4^{-2}
hydrogen phosphite	HPO_3^{-2}
hydrogen sulfate	HSO_4^-

hydrogen sulfite	HSO_3^-
hydroxide	OH^-
hypobromite	BrO^-
hypochlorite	ClO^-
hypoiodite	IO^-
hypophosphite	PO_2^{-3}
iodate	IO_3^-
iodite	IO_2^-
mercury(I)	Hg_2^{+2}
nitrate	NO_3^-
nitrite	NO_2^-
perbromate	BrO_4^-
perchlorate	ClO_4^-
permanganate	MnO_4^-
peroxide	O_2^{-2}
phosphate	PO_4^{-3}
phosphite	PO_3^{-3}
sulfate	SO_4^{-2}
sulfite	SO_3^{-2}
thiocyanate	SCN^-
thiosulfate	$\text{S}_2\text{O}_3^{-2}$