

August 2020						
S	M	T	W	T	F	S
2	3	4	5	6	7	1/8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

September 2020						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

October 2020						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

November 2020						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

December 2020						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

January 2021						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

SCUC - Chemistry	
Pacing Calendar 2020-2021	
◇	State/National Testing
○	PD/PLC/Student Holiday
■	Student/Staff Holiday
●	QPA/DCUA
▬	Midterms/Final Exams
△	Early Release Days
□	Late Start Days
Intro	Processes of Chemical Investigations C.1ABC; C.2ABCDEFghi; C.3ABCDEF
Unit 1	Matter C.1ABC; C.2EFHI; C.3AB; C.4ABCD
Unit 2	Atomic Structure & the Periodic Table C.1ABC; C.2ABCDEFghi; C.3ABDF; C.5ABC; C.6ABC
Unit 3	Chemical Bonding C.1ABC; C.2EFHI; C.3ABDEF; C.5C; C.6D; C.7CDE
Unit 4	Chemical Formulas C.1ABC; C.2EFGHI; C.3AB; C.7AB
Unit 5	Chemical Equations & Reactions C.1ABC; C.2EGHI; C.3ABDF; C.8EF
Unit 6	Mole Concept C.1ABC; C.2EFGHI; C.3ABCF; C.8ABCD
Unit 7	Stoichiometry C.1ABC; C.2EFGHI; C.3AB; C.8AGH
Unit 8	Gases C.1ABC; C.2BCDEFghi; C.3ABDF; C.8AG; C.9AB
Unit 9	Solutions C.1ABC; C.2EFGHI; C.3AB; C.10ABCDEF
Unit 10	Acids & Bases C.1ABC; C.2BCDEFghi; C.3ABF; C.10EGH
Unit 11	Thermochemistry C.1ABC; C.2EFGHI; C.3AB; C.11ABCD
Unit 12	Nuclear Chemistry C.1ABC; C.2BCDEFghi; C.3ABDE; C.12AB
Process standards are embedded throughout instruction of the content. Detailed specificity per unit is located on the TRS Unit IFDs.	
Nine Week Reporting Period	
1 st	Aug. 18 - Oct. 16 41 days
2 nd	Oct. 19 - Dec. 18 39 days
3 rd	Jan. 5 - Mar. 5 42 days
4 th	Mar. 15 - May 27 51 days
Quarterly Progress Assessments	
QPA #/ Units Assessed	Scan by Date
QPA 1= Unit 1, 2	Oct 9th
QPA 2= Units 1,2,3,4,5	Dec 18th
QPA 3= Units 6,7,8	Feb 26th
QPA 4 = Units 6-12	May 27th

February 2021						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

March 2021						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

April 2021						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

May 2021						
S	M	T	W	T	F	S
2	3	4	5	6	7	1/8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

June 2021						
S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22*	23*	24	25*	26	27
28	29	30				

July 2021						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	



2020-2021 Honors Chemistry Additional Instructional Notes

<u>Unit 1</u> <u>Matter</u>	<p>Students of Honors Chemistry will need to study the following additional concepts within unit 1:</p> <ul style="list-style-type: none">• Separation Methods<ul style="list-style-type: none">○ Including but not limited to:<ul style="list-style-type: none">▪ Distillation (Pearson on-Level Chemistry Textbook, pg. 42) (AP Chemistry Text- Chemistry the Central Science by Brown, pg. 13-14)▪ Chromatography (AP Chemistry Text- Chemistry the Central Science by Brown, pg. 14)▪ Filtration (Pearson on-Level Chemistry Textbook, pg. 42) (AP Chemistry Text- Chemistry the Central Science by Brown, pg. 13-14)▪ Precipitation (Pearson on-Level Chemistry Textbook, pg. 51) (AP Chemistry Text- Chemistry the Central Science by Brown, pg. 128-132)• Phase Change Diagrams<ul style="list-style-type: none">▪ (Pearson on-Level Chemistry Textbook, pg. 462) (AP Chemistry Text- Chemistry the Central Science by Brown, pg. 464)
<u>Unit 2</u> <u>Atomic Structure</u> <u>Periodic Table</u>	<p>Honors students will calculate the wavelength, frequency, and energy of light using Planck's constant and the speed of light.</p> <ul style="list-style-type: none">• Use Planck's Constant and the Speed of Light<ul style="list-style-type: none">○ $(h=6.63 \times 10^{-34})$ Planck's Constant○ $(c=3.00 \times 10^8 \text{ m/s})$ Speed of light as a Wave• Calculate the wavelength, frequency, and energy of light. <i>(Approximately 3 Days of Study)</i><ul style="list-style-type: none">○ $\lambda = c/f$ (Wavelength)○ $f = c/\lambda$ (Frequency)○ $E_{\text{photon}} = hf$ (Energy= Planck's Constant)(frequency)○ $E_{\text{photon}} = hc/\lambda$ Energy = (Planck's Constant x Speed of light)/Wavelength
<u>Unit 3</u> <u>Chemical Bonding</u>	<p>During the first part of unit 3, Honors Chemistry students will be instructed conceptually on ideas of hybridization through sp_3.</p> <ul style="list-style-type: none">• (Pearson on-Level Chemistry Textbook, pg. 254-260) – basic information• (AP Chemistry Text- Chemistry the Central Science by Brown, pg. 359) –extension <ul style="list-style-type: none">• Students of Honors will need to predict molecular structure for molecules with linear, trigonal planar or tetrahedral electron pair geometries using Valence Shell Electron Pair Repulsion Theory (VSEPR) as well as classify molecular structures as stated in streamlined standard 7E.• Intermolecular forces (Pearson On-Level Chemistry Textbook, pg. 264-270) – Basic information (AP Chemistry Text- Chemistry the Central Science by Brown, pg. 446-479)-extension
<u>Unit 4</u> <u>Chemical Formulas</u>	<p><i>No additional instructional notes for this unit.</i></p>
<u>Unit 5</u> <u>Chemical Equations & Rxns</u>	<p>Additional learning requirements for Honors Chemistry students are:</p> <ul style="list-style-type: none">• Net Ionic Equations -(Pearson on-Level Chemistry Textbook, pg. 390)• Balancing of chemical equations to include but not limited to: synthesis, decomposition, single replacement, combustion, net ionic. (Pearson on-Level Chemistry Textbook, pg. 369-373, 389-391, 393)
<u>Unit 6</u> <u>Mole Concept</u>	<p>Students of Honors Chemistry will need to study the following additional concepts within unit 6:</p> <ul style="list-style-type: none">• Empirical Formulas- the simplest ratio of the different elements in a given compound. (Pearson on-Level Chemistry Textbook, pg. 348-349)<ul style="list-style-type: none">○ To calculate empirical formulas from molecular formulas:<ul style="list-style-type: none">▪ Divide the subscripts of each element in a molecular formula by the greatest common divisor.

	<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> ▪ The resulting numbers from dividing by the greatest common divisor are the subscripts for the empirical formula. ○ To calculate empirical formulas from the mass of each element: <ul style="list-style-type: none"> ▪ Divide the mass of each element by its molar mass to determine the number of moles of each element. ▪ Calculate the lowest whole number ratio between the number of moles of each element in the compound. ▪ The resulting numbers in the ratio are used as the subscripts for the empirical formula. • Molecular Formulas- chemical formula of a molecule that includes how many atoms of each element are present. (Pearson on-Level Chemistry Textbook, pg. 237-238) <ul style="list-style-type: none"> ○ To calculate the molecular formulas given an empirical formula and the molar mass of a substance: <ul style="list-style-type: none"> ▪ Calculate the molar mass of the empirical formula ▪ Divide the molar mass of the given substance by the molar mass of the empirical formula. ▪ Use the resulting number to multiply the subscripts in the empirical formula to determine the molecular formula.
<p><u>Unit 7</u> <u>Stoich</u></p>	<p>In unit 7, Honors students will additionally learn the calculation of <i>limiting reagents</i> while learning concepts of stoichiometry. (Pearson on-Level Chemistry Textbook, pg. 422-426)</p>
<p><u>Unit 8</u> <u>Gases</u></p>	<ul style="list-style-type: none"> • Students of Honors Chemistry will additionally perform stoichiometric calculations, including determination of mass and volume relationships between reactants and products for reactions involving gases within the <i>Ideal Gas Laws</i>. <ul style="list-style-type: none"> ○ Determination of mole, mass, and volume relationships between reactants and products for reactions involving gases: <ul style="list-style-type: none"> ▪ Mole-volume ▪ Mole-mass ▪ Volume –mass • Ensure students are exposed to solving equations that include <i>non-STP</i>.
<p><u>Unit 9</u> <u>Solutions</u></p>	<p style="text-align: center;"><i>No additional instructional notes for this unit.</i></p>
<p><u>Unit 10</u> <u>Acids & Base</u></p>	<p>Students of Honors Chemistry will need to study the following additional concepts within unit 1:</p> <ul style="list-style-type: none"> • Dissociation of Acids and Bases K_A & K_B • Degrees of Dissociation of Acids & Bases <ul style="list-style-type: none"> ○ Including but not limited to: <ul style="list-style-type: none"> ▪ Strong & Weak Acids ▪ Strong & Weak Bases ▪ Measured by $[H^+]$, $[OH^-]$, pH <p>(Pearson on-Level Chemistry Textbook, pg. 642-648)</p>
<p><u>Unit 11</u> <u>Thermo</u></p>	<p style="text-align: center;"><i>No additional instructional notes for this unit.</i></p>
<p><u>Unit 12</u> <u>Nuclear</u></p>	<p>Honors Chemistry students will additionally calculate rate of decay in half-life. (Pearson on-Level Chemistry Textbook, pg. 754-756, 759) (AP Chemistry Text- Chemistry the Central Science by Brown, pg. 923-925)</p>