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

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13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

October 2020

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				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

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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

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		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

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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 Structue & the Periodic Table** C.1ABC; C.2ABCDEGHI; C.3ABDF; C.5ABC; C.6ABC
Unit 3	**Chemical Bonding** C.1ABC; C.2CEFHI; 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 standard are embedded throughout instruction of the content. Detailed specificity per unit is located on the TRS Unit IFDs.

Nine Week Reporting Period

1st	Aug. 18 - Oct. 16	41 days
2nd	Oct. 19 - Dec. 18	39 days
3rd	Jan. 5 - Mar. 5	42 days
4tn	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	Feb26th
QPA 4 = Units 6-12	May 27th

February 2021

S	M	T	W	T	F	S
	1	2	3	4	5	6
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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
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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
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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

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			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	

TCMPC Instrructional Focus Documents can be located at www.teksresourcesystem.net

2020-2021 Honors Chemistry Additional Instructional Notes

Unit 1 Matter

Students of Honors Chemistry will need to study the following additional concepts within unit 1:

- **Separation Methods**
  - **Including but not limited to:**
    - **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**
  - **(Pearson on-Level Chemistry Textbook, pg. 462) (AP Chemistry Text- Chemistry the Central Science by Brown, pg. 464)**

Unit 2 Atomic Structure Periodic Table

Honors students will calculate the wavelength, frequency, and energy of light using Planck's constant and the speed of light.

- **Use Planck's Constant and the Speed of Light**
  - ($h=6.63 \times 10^{-34}$) Planck's Constant
  - ($c=3.00 \times 10^{8}$ m/s) Speed of light as a Wave

- **Calculate the wavelength, frequency, and energy of light.** ***(Approximately 3 Days of Study)***
  - $\lambda = c/f$ (Wavelength)
  - $f = c/\lambda$ (Frequency)
  - $E_{photon} = hf$ (Energy= Planck's Constant)(frequency)
  - $E_{photon} = hc/\lambda$ Energy = (Planck's Constant x Speed of light)/Wavelength

Unit 3 Chemical Bonding

During the first part of unit 3, Honors Chemistry students will be instructed conceptually on ideas of hybridization through SP_3.

- **(Pearson on-Level Chemistry Textbook, pg. 254-260) – basic information**
- **(AP Chemistry Text- Chemistry the Central Science by Brown, pg. 359) –extension**

- **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

Unit 4 Chemical Formulas

No additional instructional notes for this unit.

Unit 5 Chemical Equations& Rxns

Additional learning requirements for Honors Chemistry students are:

- **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)**

Unit 6 Mole Concept

Students of Honors Chemistry will need to study the following additional concepts within unit 6:

- **Empirical Formulas- the simplest ratio of the different elements in a given compound.**
  (Pearson on-Level Chemistry Textbook, pg. 348-349)

  - **To calculate empirical formulas from molecular formulas:**
    - **Divide the subscripts of each element in a molecular formula by the greatest common divisor.**

	▪ 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: ▪ 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) ○ To calculate the molecular formulas given an empirical formula and the molar mass of a substance: ▪ 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.
Unit 7 Stoich	In unit 7, Honors students will additionally learn the calculation of ***limiting reagents*** while learning concepts of stoichiometry. (Pearson on-Level Chemistry Textbook, pg. 422-426)
Unit 8 Gases	• 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 ***Ideal Gas Laws.*** ○ Determination of mole, mass, and volume relationships between reactants and products for reactions involving gases: ▪ Mole-volume ▪ Mole-mass ▪ Volume –mass • Ensure students are exposed to solving equations that include ***non-STP.***
Unit 9 Solutions	*No additional instructional notes for this unit.*
Unit 10 Acids & Base	Students of Honors Chemistry will need to study the following additional concepts within unit 1: • Dissociation of Acids and Bases K_A & K_B • Degrees of Dissociation of Acids & Bases ○ Including but not limited to: ▪ Strong & Weak Acids ▪ Strong & Weak Bases ▪ Measured by $[H^+]$, $[OH^-]$, pH (Pearson on-Level Chemistry Textbook, pg. 642-648)
Unit 11 Thermo	*No additional instructional notes for this unit.*
Unit 12 Nuclear	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)