Hinsdale Central High School - AP Biology Calendar

JULY 2019

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Academic Calendars	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			
		Notes:				

Hinsdale Central High School - AP Biology Calendar

AUGUST 2019

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	**2**	**3**
4	**5**	**6**	**7**	**8**	**9**	**10**
11	**12** Institue Day	**13** Institue Day	**14** First Day for Students -Welcome to Class -Distribute packets/safety contracts -Scientific Method Card Game HW: Safety Contracts, Check College Board Account	**15** -Big Ideas-Introduction to AP -TedTalk-How trees talk to each other-Big Ideas HW: Begin Reading for unit Chapters 2, 3	**16** -Discuss "Trees Talk" -Lecture/Discussion Chapter 2 -POGIL Biochemistry -Begin Termite Lab	**17**
18	**19** Late Start Day -Termite Lab-Day 1	**20** -Termite Lab-Day 2	**21** -Lecture/Discussion Chapter 2-water -Begin Properties of Water Lab	**22** -Properties of Water Lab - Day 1	**23** -Properties of Water Lab - Day 2 -Finish/Discuss Water Lab	**24**
25	**26** -Lecture/Discussion Chapter 3 Why Carbon?	**27** Lecture/Discussion Ch. 3 Functional Groups Organic Molecules	**28** Demo - Bananna Ripening Lecture/Discussion Chapter 3 -Carbohydrates	**29** Curiculum Night Chapter 3-Finish Carbs/Lipids	**30** No School - Alice Training	**31**

		Notes:				

Hinsdale Central High School - AP Biology Calendar

SEPTEMBER 2019

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	**2** Chapter 3-Intro proteins POGIL Protein Structure	**3** Chapter 3-Proteins	**4** Chapter 3-Nucleic Acids	**5** Catch up/Review	**6** Unit 1 Test	**7**
8	**9** Go over Unit 1 Test Intro Unit 2 - History of life assignment HW: Read 24.1, 25.1 by Tuesday	**10** Lecture Ch. 24.1 & 25.1 – Hypothesis on the Origin of Life Work on Timeline Project	**11** SIP/Flex Learning Day Lecture – Ch 4 – Cell Organelles -Cell Project	**12** Lecture – Ch 4 – Cell Organelles -Cell Project	**13** Lecture – Ch 4 – Cell Organelles -Cell Project	**14**
15	**16** Late Start Day -Finish up any Cell Organelles Lecture -POGILS – Membrane Structure and Function	**17** Lecture – Ch 5.1-5.5 Membranes and Transport	**18** Diffusion Lab – Day 1	**19** Diffusion Lab – Day 2	**20** Lecture – Ch 5.1-5.5 Membranes and Transport	**21**
22	**23** Late Start Day Lecture – Ch 5.1-5.5 Membranes and Transport	**24** Flex	**25** Review Day	**26** Unit 2 Test	**27** Go over Unit 2 test	**28**
29	**30** Lab - Toothickase					

		Notes:

Hinsdale Central High School - AP Biology Calendar

OCTOBER 2019

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1 Lecture/Discussion Chapter 6 POGIL Work time	**2** SIP/Flex Learning Day Lecture/Discussion Chapter 6 POGIL Work time	**3** Lab-Catalase Day 1	**4** Lab-Catalase Day 2	**5**
6	**7** Late Start Day Cellular Respiration Intro ETC demo Begin Lecture - Overview	**8** Lecture: Glycolysis	**9** Lecture: Krebs Cycle and ETC	**10** Lab: Online Respirometer Lab	**11** Discuss: Fermentation Catch up/Review	**12**
13	**14** No School- Columbus Day	**15**	**16** Unit 3a Test: Metabolism and Cellular Respiration	**17** Go over Test Intro Photosynthesis POGIL work time	**18** Chlorophyll Spectrophtometry	**19**
20	**21** Lecture - Ch. 8	**22** Photosynthesis Lab - Day 1 CO2 Data	**23** SIP/Flex Learning Day Photosynthesis Lab - Day 2 Data Sharing and Planning	**24** P/T Conferences Photosynthesis Lav - Day 3 Design your own experiment	**25** P/T Conferences- 11:30 Dismissal No school for students	**26**
27	**28** Late Start Day Lecture - Ch. 8	**29** Finish up Lecture Work on Lab Poster	**30** Catch up/Review	**31** Unit 3b Test: Metabolism and Photosynthesis		
		Notes:				

Hinsdale Central High School - AP Biology Calendar

NOVEMBER 2019

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1 Go over Photosyntheis Test AP Classroom Progress Check	**2**
3	**4** Late Start Day Unit 4 Introduction Cell Signaling POGILS	**5** POGILS Video Tutorials Work Time	**6** POGILS Video Tutorials Work Time	**7** POGILS due Begin modeling activity	**8** Cell Signaling modeling Create Stop action video	**9**
10	**11** Late Start Day Finish stop action Research your pathway for presentation	**12** GPCR Stop action and Research Presentations	**13** Summary Day - 5.6 Questions? Kahoot Review	**14** Begin Mitosis Lecture - Ch. 9 The Cell Cycle	**15** Cell Cycle POGIL?	**16**
17	**18** Late Start Day Cell Cycle Lab - Day 1	**19** Cell Cycle Lab - Day 2	**20** Lecture - Ch. 9 Cell Cycle Regulation Wrap Up/Review	**21** Unit 4 Test	**22** Go over Unit 4 test Unit 4 Test (Actual)	**23**
24	**25** Begin Unit 5 Statistics of Inheritance Chi-square	**26** Statistics of Inheritance Chi-square	**27** No School- Thanksgiving Break	**28** No School- Thanksgiving Break	**29** No School- Thanksgiving Break	**30**
		Notes:				

Hinsdale Central High School - AP Biology Calendar

DECEMBER 2019

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	**2** Late Start Day M&M Chi-square Lab Day 1	**3** M&M Chi-square Lab Day 2	**4** Lecture - Ch. 10 Meiosis Modeling the phases	**5** Lecture - Ch. 10 Meiosis and Genetic Diversity Modeling the phases	**6** Intro Punnett Squares Genetics Practice Problems	**7**
8	**9** Late Start Day Lecture Ch. 11 & 12	**10** Lecture Ch. 11 & 12	**11** Lecture Ch. 11 & 12	**12** Lecture Ch. 11 & 12 Pedigree Practice	**13** Unit 5 Test	**14**
15	**16** Go over Unit 5 Test Review for Final Exam	**17** Review for Final Exam	**18** Semester 1 Final Exams	**19** Semester 1 Final Exams	**20** Semester 1 Final Exams	**21**
22	**23** No School- Winter Break	**24** No School- Winter Break	**25** No School- Winter Break	**26** No School- Winter Break	**27** No School- Winter Break	**28**
29	**30** No School- Winter Break	**31** No School- Winter Break				
		Notes:				

Hinsdale Central High School - AP Biology Calendar

JANUARY 2020

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 No School- Winter Break	**2** No School- Winter Break	**3** No School- Winter Break	**4**
5	**6** No School- Institute Day	**7** DNA Discovery Activity - The structure of DNA	**8** -DNA Discovery Activity - The structure of DNA- HHMI DNA Discovery Video	**9** Lecture Ch. 13 - DNA Structure/Replication	**10** -Finish Ch. 13 -POGIL work time Reading Quiz Chapter 13	**11**
12	**13** Late Start Day Intro Transcritpion/Translation -DNA card activity	**14** Lecture - Ch. 14 Protein Synthesis	**15** Lecture - Ch. 14 Protein Synthesis	**16** DNA Stop-Motion modeling	**17** Lecture Mutations Continue modeling activity	**18**
19	**20** No School- Martin Luther King Jr. Day	**21** DNA Stop-Motion modeling	**22** Flex/Review	**23** Unit 6a Test	**24**	**25**
26	**27** Unit 6a Test - Actual	**28** -Go over Unit 6a Test -Finish Operon POGIL for tomorrow	**29** SIP/Flex Learning Day -Go over Operon POGIL -AP Classroom Operon Assessment	**30** Lecture Operons Ch 15.1	**31** Lecture Chromosome Structure 13.3	

		Notes: https://www.vertex42.com/calendars/academic-calendar.html

Hinsdale Central High School - AP Biology Calendar

FEBRUARY 2020

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	**3** Late Start Day DNA Fingerprinting Paper Lab	**4** Lecture - Epigenetics and Eukaryotic Gene Control 15.2, 15.3	**5** DNA Technologies 13.4 and 15.4	**6** Catch Up/Review	**7** Unit 6b Test	**8**
9	**10** -Go over Gene Regulation Test -AP Classroom Unit 6 Progress Check	**11** Hardy Weinberg POGILs	**12** SIP/Flex Learning Day -Happy Birthday, Charles Darwin! -HHMI Video: The making of a theory	**13** Peter Rabbit Lab - Day 1 Collect Data Discuss Hardy Weinberg Equillibrium	**14** Peter Rabbit - Day 2 Analyze Data Practive HW Equillibrium Problems	**15**
16	**17** No School- President's Day	**18** Lecture - Ch. 19 Natural Selection	**19** Candy Corn Natural Selection Lab	**20** Lecture Ch. 21 - Evolution in Populations	**21** Lecture Ch. 22 - Speciation	**22**
23	**24** Lecture Ch. 20 - Phylogeny and Systematics	**25** HW Simulator Evolution Videos/discussion	**26** Classification Activity	**27** P/T Conferences Classification Activity	**28** No School- DuPage County Institute Day	**29**

		Notes:				

Hinsdale Central High School - AP Biology Calendar

MARCH 2020

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	**2** Late Start Day Catch Up/Review	**3** Unit 7a Test	**4**	**5** Actual 7a Test	**6** Go over Unit 7a Test Intro Plant Evolution Unit March Mammal Madness	**7**
8	**9** Late Start Day Work Time Plant Project/Lizard Lab	**10** Work Time Plant Project/Lizard Lab	**11** Work Time Plant Project/Lizard Lab	**12** Work Time Plant Project/Lizard Lab	**13** Work Time Plant Project/Lizard Lab	**14**
15	**16** Work Time Plant Project/Lizard Lab	**17** Unit 7b Test - Plant Evolution	**18** SIP/Flex Learning Day	**19**	**20**	**21**
22	**23**	**24** Unit 8a - Animal Behavior Test?	**25**	**26**	**27** 11:30 Dismissal	**28**
29	**30** No School- Spring Break	**31** No School- Spring Break				
		Notes:				

Hinsdale Central High School - AP Biology Calendar

APRIL 2020

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 No School- Spring Break	2 No School- Spring Break	3 No School- Spring Break	4
5	6	7	8	9	10 No School- Non Attendance Day	11
12	13	14 Spring Testing Day	15 Spring Testing Day	16	17	18
19	20 Late Start Day	21	22	23	24	25
26	27 Late Start Day	28	29	30		
		Notes:				

Hinsdale Central High School - AP Biology Calendar

MAY 2020

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4 AP Exams	5 AP Exams	6 AP Exams	7 AP Exams	8 AP Exams	9
10	11 AP Exams	12 AP Exams	13 AP Exams	14 AP Exams	15 AP Exams	16
17	18	19	20	21	22	23
24	25 No School- Memorial Day	26 Second Semester Final Exams	27 Second Semester Final Exams	28 Second Semester Final Exams	29	30
31		**Notes:**				

Hinsdale Central High School - AP Biology Calendar

JUNE 2020

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	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				
		Notes:				

Hinsdale Central High School - AP Biology Calendar

JULY 2020

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			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	
		Notes:				

Hinsdale Central High School - AP Biology Calendar

AUGUST 2020

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						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	Notes:				

Academic Calendar Template

By Vertex42.com
https://www.vertex42.com/calendars/academic-calendar.html

START DATE
7/1/2019

START DAY (1:Sun, 2:Mon, etc.)
1

SYLLABUS **AP BIOLOGY** **Mr. Pintz/Mr. Jensen**

Office Room 185 **Office hours:** **7:20-7:50am M-F**
Voice Mail 630-570-8510 **3:05-3:30pm M-F**

1. Calendar

a. College Board Course Information (units and topics)**:** https://apcentral.collegeboard.org/pdf/ap-biology-course-and-exam-description-0.pdf
b. Please access the course calendar on Google through the following link: https://docs.google.com/spreadsheets/d/15r72MhzwPpgrmfvVocDtbcmpi2sEXruC7fnMq6QM-cw/edit#gid=2
c. Please note that this calendar is fluid and will be updated frequently to reflect necessary changes.

2. Learning Central Site

a. This site will be instrumental to your success in AP Biology. This site is organized by unit of study and will be used for various purposes including sharing of lab data, turning in digital assignments, and for review of important concepts. **Please bookmark this site on your home computer and cellular device.**

https://hudson.sat.iit.edu/x1/

3. Behavior

a. Show respect for others and their property. This is a **college course** in Biology. Treat it as such.
b. Enter and leave the room in an orderly fashion. **STAY SEATED UNTIL THE PERIOD IS OVER** .
c. **Biology class is Biology.** No other subjects are to be worked on during biology class time.
d. College work, to be effective, is often done **collaboratively** . ***This does not mean copying another's ideas or work.***
e. **Bullying** will not be tolerated.

4. Attendance and tardies:

a. **Attendane is required**. Administrative policy. Excessive absences can result in lowering your grade. Some "in-class" activities can not be made up, and a zero will be the result.
b. Tardiness is **NOT** accepted and will have an adverse effect on your performance in this class.
c. **Each unexcused absence** results in no make-up of evaluation in points. If a test, quiz, lab etc. was given, the student receives zero points. Zero points will be given if a lab or assignment is due that day but the work is still due to be turned in. If a lab occurred that day, the lab will have to be made up and the written report turned in, but no points will be awarded.
d. **Improper behavior will affect your overall classroom performance!!**

5. Class Procedures

a. Proper use of all lab equipment is a necessity. Much of the equipment we use is extremely expensive. You will be held responsible for any

equipment which you cause to need to be replaced or repaired

b. **CLOSED TOED SHOES (SNEAKERS) ARE A MUST ON LAB DAYS**
c. The lab must always be cleaned up when you complete an experiment. This means that glassware must be washed and rinsed, equipment belongs back where you found it, desks washed off and dried, etc.
d. Students not mature enough to accept the responsibility which a science lab requires will need to be excused from the class so as not to endanger him/herself and others, and so as not to interfere with the learning of others.
e. **I NEED YOUR HELP WITH LAB-OFTEN WE ARE DOING A LAB THAT USUALLY REQUIRES MORE TIME THAN WE ACTUALLY HAVE.**
f. No food or drinks on lab days. Small snacks on non-lab days are acceptable within reason.

6. Reading

a. Reading in textbook, **Campbell – Biology in Focus, Second Edition, AP Edition**, will be assigned regularly.
b. Read as early in each unit as possible. The textbook reading lays the foundation for what we do in class. You will gain a greater benefit from lecture if you have already read the assigned sections of each chapter.
c. Take notes as you read! Write down questions about what you don't understand. This will allow you to ask more specific questions during lecture to help you clarify any misconceptions. This will also help you come Final Exams (see 8.c) so you do not have to re-read the whole textbook
d. Each chapter will have a Reading Quiz assigned on Learning Central

7. Work Due for AP Biology

a. All work that is due either by the end of the period or the next day will be placed in the box at the side of the room **BEFORE** the bell. Completed work that is "same day" late will be graded and receive half credit. Work that is "next day" **late** or i**ncomplete** is unacceptable and worth **zero** points.
b. Students will be responsible for all reading assignments. These should be done prior to discussion. Test questions will be given on the reading material.
c. Participation—You won't learn if you don't engage with the content
d. Keep class notes and materials from handouts .
e. It is usually a "good" idea to prepare a running vocabulary list and their definition since this course is definition oriented.

8. Extras

a. Tests—Multiple Choice-use #2 pencil only (students are responsible for brining his/her own pencil.
b. No talking until everyone has completed the test (points deducted)
c. The first semester final exam will cover units only first semester material. The second semester cumulative test will cover the entire year and will be given prior to the College Board AP Biology Exam in May.

9. LAB PARTNERS CAN MAKE LIFE EASIER!!

a. PICK-UP MATERIALS FOR YOUR LAB PARTNER WHEN THEY ARE GONE!! This builds positive relationships within the classroom.

b. You will be working with the same group likely for the entire year, so establishing and maintaining a positive working relationship is important and ongoing.
c. There are situations where you may be frustrated during group work (e.g. Partner X is not pulling their weight, or Partner Y wants to control everything). These are real world situations, and you will not always have a teacher to act as an arbitrator. Please attempt to solve these situations with authentic communication (listening to the other person's perspective too!). If you reach an impasse, all involved parties should see your teacher.

10. Participation and Attendance

a. This is a highly involved analytical and cognitive class. Quite often your understanding and application of concepts require your participation. If you are not present or do not participate, your comprehension will be diminished.

11. Grading

a. This is determined on a point system. Grade percentages are not rounded.

97.0-100=A+	85.0-87.9=B+	75.0-77.9=C+	65.0-67.9=D+
91.0-96.9=A	81.0-84.9=B	71.0-74.9=C	61.0-64.9=D
88.0-90.9=A-	78.0-80.9=B-	68.0-70.9=C-	58.0-60.9=D-

b. **Source of points accumulated:**

i. Tests-Approximately 120 points. Each test will cover one to three chapters and class discussions
ii. Quizzes.-10-25 points each.
iii. Lab reports 10-30 points each.
iv. Written homework: 5-15 points. Points given if turned in on time.

12. Make up work.

a. Work handed-in as a result of an absence will be due one school day after that absence. Example: absent Tuesday-present Wednesday-due Thursday.
b. When handing in absent work, please write **ABSENT** across the top of the assignment.
c. In the case of an extended absence, see me after school when you return to arrange a make-up schedule.
d. Students absent on the **due-date of an assignment** or **test taking day**, will be expected to hand-in the assignment or take the test the day they return to school. **It is your responsibility to keep up with the material.**
e. If an extended absence is involved (three consecutive school days or more) arrangements will be made with me after school the day you return.

13. AP Classroom

a. This is new for school year 2019-2020. This site produced and maintain by the College Board has resources that should help you prepare for the AP test. We will likely be completing assignment on this website frequently. Pay attention for instructions from your teacher on how to access AP Classroom.

AP Chem: Chapter 1-3: Some basics

Date	**Class**	**Homework!**
Wed. 8/14	Welcome! Student Info Sheet Safety contract and safety walk-through Prerequisite quiz Math Review	Mental Math Assessment Safety contract signed
Thurs. 8/15	Sig Figs, Conversions	Read 1.1-1.2 Blues 18, 20, 28 Goggles, lab shoes, lab notebook
Fri. 8/16	Lab Report Format Density Lab	Read 1.3 Blues 38, 40, 48, 50
Mon. 8/19 Late Start	Finish lab	Blues 54, 58, 74 Read 2.1-2.3 Memorize polyatomic ions (Textbook Pg. 46)
Tue. 8/20	Finish lab **Lab quiz** Canvas	Read 2.4-2.5 Blues 4, 10, 12
Wed. 8/21	Periodic table/Molecular vs. Ionic Compounds, names	Read 2.6-2.7 Blues 26, 32,38 Start bringing books to class!!
Thurs. 8/22	Chp 2/3: Isotopes/Mass spec, mole conversions, empirical/ molecular example, molarity	Prelab experiment, shoes! Blues 56, 58, 62, 66, 92
Fri. 8/23	Exp. Cu and I_2	Finish lab Study for quiz
Mon. 8/26 Not Late Start	Exp. Cu and I_2 lab quiz **Naming quiz**	Read 3.1-3.2 Blues 5, 22 Books tomorrow!!!

Tue. 8/27	Chp. 3: Molarity, Balancing, Lim/Exc reactants, % yield Discuss #93	Read 3.3 Blues 32, 44, 52, 56, 93 Books!!!
Wed. 8/28	Blues 60, 64, 68, 72, 76, 88, 91	Study!
Thurs. 8/29	**Exam (written)**	Study!
Fri. 8/30	**NO SCHOOL - INSTITUTE DAY**	
Mon 9/2	**NO SCHOOL - Labor Day**	
Tue. 9/3	**Exam (MC)**	Bring books!

Chapter 4 and 5: Reactions in solution and Gases

Date	**Class**	**Homework**
Wed. 9/4	Types of Rxns: Big 5, DR/ppt Molecular, TIE, NIE	Read 4.1-4.2 Blues 2, 6, 16
Thurs. 9/5	DR/Acid-base Patterns to memorize: synthesis, decomposition	Title, purpose, prelab questions, procedure for hard water lab Start Reactions handout #1-5 Lab Shoes tomorrow!
Fri. 9/6	Hard Water Lab	Blues 28, 32 Continue Reactions handout 1-5
Mon. 9/9 Late Start?	Finish lab (no error section), no lab quiz	Read 4.3 through 106 (not "Balancing Half Reactions" on . . .) Video: Redox balancing, take notes! Finish lab if needed
Tues. 9/10	How a water softener works (video) Blues Day!	Blues 44, 54a, 54c, 56a, 56c, 64, 76, 78 Reactions handout 6-8
Wed. 9/11 Remote Learning Day	More rxns worksheet (9-19) Blues #84, 85 (Chp. 4)	Read 5.1-5.3
Thurs. 9/12	Quick reminders about gas laws Blues 6, 14, 24, 30 (Chp 5)	Discuss and Prelab Exp. 9
Fri. 9/13	Exp 9: Determination of the Molar Mass of Volatile Liquid	Read 5.4-5.5
Mon. 9/16 Late Start	Finish lab and lab quiz Practice AP problem sheet #2 and blues 36, 44	Start Gas Behavior video, notes due TUESDAY! (it's a long one!) Reference 5.6 in text

Tues. 9/17	White board problem-solving: 2 mock test questions	Video: Gas behavior (*KMT, Ideal s. Real, 4 equations to know (speed), Boltzmann's distribution, diff/eff)* Reference 5.7 in text
Wed. 9/18	1.Rail car pic and crushing can, draw particle pics 2.graphical rep of PV/nRT with real gases	Blues 40, 50, 56, 64 Bring lab notebooks tomorrow
Thurs. 9/19	Blues 60, 76, 82, 84, 85, 88 Prelab Al-Zn alloy lab	Finish prelab Watch video: alloy lab
Fri. 9/20 Homecoming Pep Rally	Al-Zn Alloy lab	Finish lab if needed
Mon. 9/23 Late Start	Lab Quiz Practice AP Problems 1,3,4	Study!
Tues. 9/24	**Exam: Chp. 4 and 5 Part 1**	Study
Wed. 9/25	**Exam; Chp. 4 and 5 Part 2**	Read 6.1

Chapter 6: Electronic Structure and the Periodic Table

Date	Class	Homework
Thurs. 9/26	Intro to electronic structure/history of atom	Read 6.2 (we are NOT reading 6.3 Quantum Numbers) Blues 4, 8 (4b error in back: microwave)
Fri. 9/27 Homecoming Pep Rally	Finish history Light and Matter video Coulombic Attraction POGIL	Blues 10, 14 Coulombic Attraction POGIL packet
Mon. 9/30	Discuss Coulombic attraction PES POGIL and discuss	Read 6.4-6.5 Finish PES POGIL through #16
Tues. 10/1	Finish PES POGIL	Read 6.6-6.7 Finish PES POGIL if not finished in class
Wed. 10/2 Flexible Learning Day?	Discuss PES POGIL QMM: e- configs, orbital diagrams, ions, exceptions, spectroscopy (atomic emission, visible, infrared, PES, mass spec)	Blues 40, 44
Thurs. 10/3	Finish QMM, spectroscopy review, try 3 spectra	Read 6.8 Blues 46, 50, 52, 62 Bring lab notebooks tomorrow
Fri. 10/4	Coulomb's Law and Periodic Trends Start Beer's Law lab	Coulomb's/P. Trends worksheet

Mon. 10/7 Late Arrival?	Finish Beer's Law Lab	Blues 64, 66, 80 Print out graph
Tues. 10/8	Lab quiz Discuss color wheel PES practice	Study for test
Wed. 10/9	**Test**	

Chapter 7: Covalent Bonding

Date	Class	Homework
Thurs. 10/10	General Bonding	Read 7.1
Fri. 10/11	POGIL: Properties of Covalent Bonds	No senior HW weekend

Tues. 10/15	Introduce Lewis structures	Blues 6, 14, 20 Read 7.2
Wed. 10/16 PSAT Testing No Juniors	Formal charges	Blues 24, 28
Thurs. 10/17	Formal charges Lewis structures to Shapes (using PhET molecular shapes)	Blues 24, 28, 34 First 3 columns of PhET shapes handout
Fri. 10/18	Molecular Polarity Fill in last column of PhET shapes handout/discuss Hybridization	Read 7.3-7.4 Blues 34, 52, 42
Mon. 10/21	Sigma and Pi bonds (C2H2 ex) Molecular Models Lab	Blues 36, 48, 54, 56
Tues. 10/22	Molecular Models Lab Finish lab, check answers on others Work on blues 58, 62, 64, 76, 78	Study!
Wed. 10/23 Flexible Learning Day	**Happy Mole Day!** **Let's celebrate with some blues!** Finish Working on blues 58, 62, 64, 76, 78 Study	Finish Blues Study!
Thursday 10/24	**Ch. 7 Exam**	

Chapter 8, Thermochemistry

Date	**Class**	**Homework**
Mon. 10/28 Late Start	Intro thermo: q and w, calorimetry, heating curves.	Read 8.1-8.2
Tues. 10/29	Thermite mini/clip to intro Heat of reaction and Hess's Law	Read 8.3-8.4 Blues 4,8 Bring lab notebook
Wed. 10/30	Finish heat of reaction Discuss Exp. 6 Prelab Exp. 6 and Blues	Read 8.5 Finish prelab Fully charged chromebook!
Thurs. 10/31 Happy Halloween!	Vonderbrink Exp. 6 (work on blues while graphs print)	Read 8.6-8.7 Finish 12, 16, 22, 28
Fri. 11/1	Continue/Write up Exp. 6	Video: ΔH vs. ΔE Continue lab for HW
Mon. 11/4	Bond Energies to find Heat of reaction Blues Blues 34, 36, 42, 44, 50,	Finish blues if needed
Tues. 11/5	Thermo Review - Conceptual Q's on LO sheet	Lab due Wed
Wed 11/6	Blues 62, 70, 74, 80, 85, 88	Finish blues and study

Thurs. 11/7	**Exam Chapter 8**	Read 9.1-9.2

Chapter 9: Liquids and Solids and 10.2: Solubility

Date	**Class**	**Homework**
Fri. 11/8	Solids/Liquids/Gases VP and CC and BP	Read 9.4 Blues 2, 8
Mon. 11/11	Solids, Molecular substances, IMF's (6 types)	Read 9.5 Blues 28, 32, 36, 40, 44
Tues. 11/12	Particle Pics (mixtures, label attractions) IMF's and their implications, including Henry's Law	Video: Alloys (take notes!) Read. 10.2
Wed. 11/13	mp/fp/surface tension wrap up Semiconductors and Solar Power Blues	Blues 22, 24, 30 (p. 324, Chp. 10) Lab shoes
Thurs. 11/14	Chromatography lab	Blues 64, 73, 74 and questions on article from lab
Fri. 11/15	Finish lab (whiteboard) Chromatography Lab Quiz Prelab Solids Lab	Blues (Chp. 10) 61ad, 70, 80ab, 87 Lab shoes tomorrow!
Mon. 11/18	Solids Lab	Finish lab
Tues. 11/19	Lab quiz Blues (9) 75, 78 Study/review/Translated LO's	Study!!!
Wed. 11/20	**Exam: Chapter 9 and 10.2**	

Chapter 11: Reaction Rates

Date	**Class**	**Homework**
Thurs. 11/21	Rate Intro (genie in bottle 3%,30%) Start Rate Laws	Read 11.1 Blues 4, 8
Fri. 11/22	Integrated Rate Laws	Read 11.2 (Reference 11.3 as needed) Prelab Crystal Violet Lab Lab notebooks!
Mon. 11/25	Crystal Violet Lab	Blues 10, 12, 14, 20
Tues. 11/26	Write up Crystal Violet Lab	Read 11.4 Blues 24, 30 Books!!!
Mon. 12/2	Lab Quiz Blues Day: 36, 40, 42, 52, 56	Video: take notes Transition State Model Collision Model
Tues. 12/3	Formative assessment Mechanisms	Read 11.5-11.7
Wed. 12/4	Catalysts Blues Day Blues 64, 68, 80, 82, 92	Finish blues

Thurs. 12/5	Blues 38, 74, 76, 78, 93, 99, 102 Study	Finish Blues and Study!
Fr. 12/6	**Exam Chapter 11**	Read 12.1-12.3

Chapter 12: Equilibrium (Second semester exam material)

Date	**Class**	**Homework**
Mon. 12/9	If molecules were people Equilibrium Part 1 Blues 2, 8, 14, 16	Notes on video: Equilibrium Examples 2 and 3
Tues. 12/10 School Assembly	Equilibrium 4 and 5 Blues 20, 24, 26	Finish as needed
Wed. 12/11	Go over test Equilibrium Practice Problems Wksht 1-4+	Read 12.4
Thurs. 12/12	5% rule Kp vs. Kc vs. Keq (heterogeneous) Whiteboard Group problems	Blues 28, 32
Fri. 12/13	First semester self-directed review (Chp. 1-6)	Bring books and material to study
Mon. 12/16	First semester self-directed review (Chp. 7-11)	Bring books and material to study
Tue. 12/17	**Final Exam: Written**	

Wed-Fri. 12/18-12/20	**Final Exams**	
12/21-1/6	**Winter Break!**	
Tues. 1/7	Formative Assessment: What do you remember from break? Le Chatelier's Blues 47, 50, 54, 58	Finish blues read 12.5
Wed. 1/8	Equilibrium Review Problem: in class graded assignment Le Chatelier Problems Wksht Blues	Blues 64, 70, 72, 74
Thursday 1/9	Equilibrium Lab (Vonderbrink Exp. 13)	Finish Lab
Fri. 1/10	Optional: Challenge problem from worksheet Blues 77, 79, 82 Equilibrium concepts (color wkshts) Study for exam	Study!
Mon. 1/13	**Exam**	Read pp. 724-727 (logarithms) and 13.1-13.2

Chp. 13: Acids and Bases and Chp. 14: Acid-base equilibria

Date	**Class**	**Homework**
Tues. 1/14	Start Chp 13: Graffiti . . . self/group on Arrh, B-L, water and pH/pOH	Read 13.3 Blues 2,10(skip a,d), 18, 26
Wed. 1/15	SA, SB, WA, WB, 4 steps	Read 13.4, 13.5, Blues 30, 34, 38, 44
Thurs. 1/16	Diprotic/Polyprotic Ex., Ka/Kb/Kw, Blues 50, 54, 48, 58	Finish blues
Fri. 1/17	pH of water at diff't temps Blues 62, 72, 74, 88 Visualizing Concepts (color copies)	Video: Acids/Salt solutions Read 13.6 (no 13.7)
Tues. 1/21	Go over test Capt. Kirk Group Problem (whiteboard) Blues 96, 80, 82 (b-e), 109	Finish blues, study
Wed. 1/22	**Quiz Chapter 13**	Read 14.2
Thurs. 1/23	Acid strength Start A-B Rxns	Read 14.3
Fri. 1/24	Indicators Acid/Base Problem #1 NaOH/HCl (they do C-E)(Graph pH vs. mL of NaOH on Google Sheets)	Equations Practice Handout #1-6
Mon. 1/27	AB Problem #2 (HAc/NaOH). . . (they do a, c, e,f graph pH curve	Equations Practice 7-12 Finish parts assigned from class problem. Bring Lab Notebook tomorrow

Tues. 1/28	“Chapter 14 overview flow chart” Finish AB Problems/pH Curve/Indicators	Pre-lab acid base titration lab Lab Shoes!
Wed. 1/29 Flex Learning Day	Discuss Lab	Blues 2, 40, 44, 48, Charged chromebooks!
Thursi. 1/30	Acid/Base Titration Lab (Part 1: Standardize NaOH)	
Fri. 1/31	Titration Lab continued (Part 2: Ka and molar mass of unknown acid)	AB problem #3 (TH Quiz) (one sided)
Mon. 2/3	Write Up Lab (Part 2 for absent groups or groups who were absent or didn’t get good data)	Finish write up
Tues. 2/4	Blues 63, 69, 70 WB/SA titration problem #3 (Write up Lab for those who finished lab Monday)	Finish write up (for those who worked on write up today) WB/SA Titration problem #3
Wed. 2/5	Lab Quiz Titration curve labels (with partners)	Take Home Quiz
Thurs. 2/6	Buffers and Henderson-Hasselbalch equation	Read 14.1 Blues 14, 18, 20, 22, 24, 30
Fri. 2/7	Water vs. buffer, blood ex. Acid-Base Titration and Buffer Worksheet (in pairs) Mini-Buffer Calculations “lab” (dry lab)	Finish worksheet as needed “Acid-Base Extra Practice” (optional, for study)

Mon. 2/10	Visualizing Concepts (Color Copies) Acid-base reactions practice	Study!
Tues. 2/11	**Exam Problems**	
Wed. 2/12	**Exam MC**	Read 15.1-15.2

Chapter 15 and 16: Solubility/Complex Ion Equilibria and Spontaneity of Reaction

Date	**Class**	**Homework**
Thurs. 2/13 Flex Leraning Day	Kf and complex ions Ksp, s, common ion	Read 15.3
Fri. 2/14	Blues 2, 4, 12, 22, 28, 32 (Auditorium Performance Showcase?)	Finish Blues
Tues 2/18	Pre-lab Exp. 18 Begin Selective Precipitation (?) Selective Precipitation/Mutual dilution	
Wed. 2/19	Vonderbrink Exp. 18	Video: Dissolving ppts
Thurs. 2/20	Finish Lab Mutual dilution class problem Particulate representations of dissolving Blues 50, 52, 60, 64, 72	Read 15.4 Blues 36, 44, 46
Fri. 2/21	CHAPTER 16: Begin Free Energy Pogil #1	Finish through Model 1 of Work, Eq and G Pogil (#2)

Mon. 2/24	Discuss Free Energy Pogil #1 Spontaneity of Rxns, math through ΔG	Read 16.1-16.3 Bring books!!! Not kidding . . .
Tues. 2/25	Finish Model 2 of Work, Eq and G Pogil Blues 2, 6, 8, 10, 12, 20, 24, 32	Finish blues as needed Finish through #24 on “Work, Eq and G” pogil Read 16.4
Wed. 2/26	Finish POGIL/discuss Finish spontaneity of rxns notes	Read 16.5-16.6 Blues 40, 48, 58
Thurs. 2/27	Free response practice/grade	Read 16.7 Blues 64, 68, 72, 74
Fri 2/28	INSTITUTE DAY - No School	
Mon.3/2 Late Start	Coupled Rxns Rubber band activity Spontaneity of Soda Straw Activity Blues 78, 90, 100 Study for test	Study!
Tues. 3/3	Spontaneity review sheet	
Wed. 3/4	**Exam**	Chem 1 Battery Review: POGIL

Chapter 17.1-17.5: Electrochemistry

Date	**Class**	**Homework**

Thurs 3/5	Battery POGIL from Chem 1 Redox Rxns handout pp. 74-76 (Do # 1,2,6 - 9 on p. 76)	Read 17.1 (battery!)
Fri.. 3/6		
Mon. 3/9	Prelab Oxidation reduction titration lab	Finish Pre-lab
Tues. 3/10	Redox Titration Lab Write-up Lab	Write up lab
Wed. 3/11	Lab Quiz Battery Voltage from POGIL and “Battery Question” handout	Read 17.2 Battery Question handout Study for quiz Blues 2, 4, 22
Thurs 3/12	***School Cancelled***	
Fri. 3/13	***Battery Quiz (3rd Q)*** Work on blues Blues 2, 4, 22, 28, 32, 40, 52 Read 17.3-17.4	Read 17.3-17.4 Blues 28, 32, 40, 52 Bring lab notebooks and read lab
Mon. 3/16	E, G, K Non-standard E/Nernst Battery Lab: revised (qual and quant)	Read 17.5 Blues 56, 60, 64 (17.6 is extension info, not on exam)
Tues. 3/17	Finish Lab Electrolysis	Rxns Packet pp. 81-84 (12-1)
Wed. 3/18	Lab Quiz Blues 68, 72, 74	
Thurs. 3/19	Goldfinger exercise Practice problems (formative assessment)	Finish practice problems
Fri. 3/20	Check practice problems Blues 84, 88, 92, 95	Study!

Mon. 3/21	**Electrochem Rxns Test**	None
Tues. 3/22	**Chapter 17 Exam**	None.

Chapter 22 selections: 22.1, 22.2, 22.5 and skim of Chapter 23

Organic Chem “lite”

Date	**Class**	**Homework**
Fri. 3/20	Organic molecules, functional groups Start organic handout 1-4 (front) Net Ionic Equations 2001-2006 (back)	Read 22.1-22.2 Books tomorrow!!
Mon. 3/23	Blues 2, 23, 26, 51, 56 (a,b), 60 Isomers	Read 22.5 Organic handout 5-7 (front), 1972, 1975 Books tomorrow!!
Tues. 3/24	Blues 30, 36, 40, 42, 44, 46, 58, 59	Finish blues
Wed. 3/25	Finish Organic Handout Protein video (World of Chem)	Study for quiz
Thurs. 3/26	**Organic Quiz**	
Fri 3/27 11:30 Dismissal	Go over Organic Quiz Organic Activity?	

AP Exam Review:

All exam preparation questions assigned will be checked in daily throughout the review period. An AP Exam review grade will be generated from these exam prep checks, coupled with participation in grading of the FR and MC exams. The grade will be worth approximately the same as an exam. There are also daily MC quizzes and 2 graded MC exams. **If you are absent from class for any reason, it is your responsibility to come to show me any assignments missed UPON YOUR RETURN and to stay current on what is due that day in class.**

Date	***Class***	***Class and Homework***
Mon. 4/6	Introduce review. Start F: 2001, 2003, 2007, 2013 (due Thursday)	Review Power Point Review second semester notes.
Tue. 4/7	Work on F: 2014, 2016 (due Thursday)	
Wed. 4/8	**Check in/grade "F"** Start G: 2000, 2002 #8, 2007, 2011, 2015	Finish assigned problems
Thursi. 4/9	**MC Quiz on F** **Check in/grade "G"** Start H: 2001, 2002 #3, 2002 #8, 2004, 2008, 2015	Finish assigned problems
Fri 4/10	**NO SCHOOL**	
Mon. 4/13	**MC Quiz on G** **Check in/grade "H"** Start I: 2000, 2004, 2011, 2014 (2 pages!), 2015	Finish assigned problems
Tue & Wed 4/14 & 4/15	**TESTING - SAT Juniors**	
Thurs. 4/16	**MC Quiz on H** **Check in/grade "I"** Practice Packet MC (purple book version): in class set	Start A: 2006 #3, 2006 #8
Fri. 4/17	**MC Quiz on I** Practice Packet MC (purple book version): in class set	Study for exam
Mon. 4/20	**Test: Chapter 12-17+**	**A: 2011, 2014 (2 pages), 2016**
Tue. 4/21	*Spectroscopy Handout* *51 (Tiny) Things to Know before the AP Test* **Check in/Grade A** Start B: 2002B, 2003, 2005 #6, 2005 #7, 2008, 2013	B is due Wednesday Review your first semester notes
Wed. 4/22	*AP Pre-registration: (Work on B) ??*	Finish assigned problems
Thurs. 4/23	*Exam Tips Handout* **MC Quiz A** **Check in/grade B** Start C: 1999, 2008 (2 pages), 2009B, 2011, 2013 (2 pages)	Finish assigned problems

Fri. 4/24	**MC Quiz B** **Check in/grade C** Start D: *1999, 2000, 2003 (2 pages), 2007 #6, 2008 (2 pages)*	Finish assigned problems
Mon. 4/27	*50 (more) tiny things to know before the AP Test* **MC Quiz C** **Check in/grade D** Start E: 2001, 2002 #6 and #7, 2004, 2011, 2012, 2014	Finish assigned problems
Tue. 4/28	**MC Quiz D** **Check in/grade E** Practice Exam #1 MC Part 1 (30 min, 20 questions)	AP Review Power Point!! What do you need to review?
Wed. 4/29	**MC Quiz E** Practice Exam #1 MC Part 2 (30 min, 20 questions)	Have you read over all of your notes from class for the year? You should.
Thurs. 4/30	**Graded MC exam (32 ?'s) Part 1 (NO CALCULATOR)**	Study for MC! Review your notes again!!
Fri. 5/1	**Graded MC exam (28 ?'s) Part 2 (NO CALCULATOR)** **Format of AP Exam**	Happy Prom,Seniors!
Mon. 5/4	Chemical Equations Worksheet Latest MC exam (½) complete and grade	
Tues. 5/5	Latest MC exam (½) complete and grade	Review your lab manual
Wed. 5/6	Finish MC exam if needed Whiteboard graphs to review for AP Exam Discuss exam/what to expect/lunch/layers/watch/etc.	Get a good night's sleep!
Thurs. 5/7	AP EXAM!! Woohoo!!	Relax. You deserve it.

On FR, show your work!. . . What is [H+] if pH=4.88? [H+] = 0.0000175M (zero points) but [H+] = $10^{-4.88}$ = 0.0000175M (one point)

AP Chemistry Exam Format

Part 1: 60 multiple choice questions: 90 minutes
No calculator
Periodic Table and Useless info sheet

Part 2: 7 Free Response Questions: 105 minutes
Calculator and Periodic Table and Useless info sheet
3 Multi-part questions (~25 min/question)
4 Single-part questions (~3-10 min/question)

Will include these types of questions:
- Lab 1: experimental design
- Lab 2: patterns/analysis/selection of authentic data/observations
- Representations 1: translation between representations
- Representations 2: atomic/molecular view to explain observation
- Quantitative: following a logical/analytical pathway

After the AP Exam. . .

Date	Class	Homework
Fri. 5/8	*(AP Exams)* Discussion of End of Year, Senior goggles back. Post AP Exam Special Activity Assigned (due 5/21) **Einstein Video (1 hr 47 min): Faraday and Lavoisier**	
Mon. 5/11	*(AP Exams)* **Einstein Video: Lavoisier (if needed), Faraday/Maxwell, du Chatelet, Einstein**	
Tue. 5/12	*(AP Exams)* **Einstein Video: Einstein (if needed), Meitner, present** Science Journal assignment	Science journal as needed
Wed. 5/13	*(AP Exams)* **Science Journal work time**	Science journal as needed
Thurs.5/14	*(AP Exams)* **Science Journal work time**	Science journal as needed
Fri. 5/15	*(AP Exams)* **Science Journal work time**	Science journal as needed
Mon. 5/18	**Science Journal due at end of period if needed** **Create/work on document to be submitted for Post AP Exam Assignment (12 Test Tube Mystery?- 4 days)**	Post AP Exam Assignment due at beginning of class tomorrow
Tue. 5/19	**Post AP Exam Special Activity Due** **Report out on assignment** **Course Evaluation** (Senior last Day)	
Wed. 5/20	*Review end of year and final exam* ***Poisoners Handbook (40 min)***	
Thurs. 5/21 (Graduation Day)	**Poisoners Handbook (45 min)**	
Fri 5/22	**PoisonersHandbook (25 min)** **Chemical Life of Sherlock Holmes**	Shoes next week!
Mon. 5/25	**NO SCHOOL: Memorial Day**	
Tue. 5/26 - Thurs 5/28	**Final Exams**	

AP Chemistry Course Guidelines

Mr. Woods

Welcome to chemistry! You've tried it once, and it is great to see you back for more! Expect to be challenged and to enjoy yourself as you study chemistry. Chemistry, like much of life, is best learned by *doing*—daily participation, hard work, and a positive attitude are essential for your success. Class will tend to be very interactive—so listen up, take notes, make sketches, ask questions, try things out, and work hard. AP Chemistry is a challenging class, but it is a challenge that you should rise to accept! Please keep these guidelines for your reference and success this year.

Why are we here? To learn chemistry and to do well on the AP Exam!

Materials

- EVERY DAY: Textbook/E-book, Graphing calculator, Chromebook and chem notebook (if not using OneNote on the chromebook for chemistry)
- ONLY WHEN NEEDED: Lab notebook and shoes that cover the foot (keep some in your locker!!!)

Grading

SCALE	**Grade Calculation**
A 80% **B 65%** **C 55%** **D 45%** **F Below 45%** **Semester Grades…** **80% Semester &** **20% Final**	# of points you accumulate on labs, quizzes, homework, tests, and in-class activities divided by the total # of possible points on all assignments • **Labs reports or quizzes:** 10-15 points each • **Homework:** up to 5 points/unit • **Quizzes:** ~10-25 points each • **Tests:** ~35-50 points each o Usually ½ MC and ½ problems o Calculators (will have to clear all RAM)

Laboratory Work

You will be given many opportunities in chemistry to perform laboratory experiments. It is essential to be safe, responsible, clean, and informed while working with sometimes expensive, sometimes potentially dangerous equipment.

- Done and written up partially in class, finished at home
- Shoes!! (available at a moment's notice, but bring when instructed)
- Laboratory notebook: carbonless copies to maintain your lab portfolio
- Assessment/Grade: Laboratory quiz turned in with lab report
- SAFETY
- Laboratory Info:
  - Reports done in notebook with copy made to be turned in.
  - Labels, units, sig figs, show work!
  - NEVER write data on lab handouts . . . only in your notebook

Homework

Because this is a college-level course, it is important you do quality work on time—"on time" meaning any homework assigned is to have been completed *before* you walk in the door. Homework is assigned every day since concepts are built progressively—you will increase your success in this class if you keep up with all assignments. I may choose to spot-check homework for completion, or I may not. This does not diminish its importance, but speaks to this being a college-level class. Some days, your homework will be to watch a video on a topic so that we can do some of the problem-solving in class. This is required, and is in lieu of a lecture in class. While we will not usually take class time to go over homework questions as a class, there is always a solutions manuals available for "blues" and non-blues in room 134. In addition, you are always welcome to ask questions before, after school, or during non-instructional class time.

Test Policy

Tests occur on a regular basis. You will have the opportunity to see your exam after it is graded, and tests will be available until the **next** exam for further review, if necessary.

I get it. Sometimes a test can be a struggle, or you have a "bad" test. The most important goal in this class is to LEARN chemistry, and in certain situations you can earn credit back on your exam. If you receive less than a 60% (mid-C) on any individual unit test in the marking period **EXCEPT THE LAST TEST OF THE SEMESTER**, you may choose to take advantage of a "credit recovery quiz" to improve your test grade. This quiz will cover many of the same topics, and will allow you to earn up to 15% back on your test grade, **not to exceed 60% (mid-C**).

To do this, you must pick fill out and follow the directions on the "Credit Recovery Form."

Absences

Chemistry deals with *experiences*; daily attendance is expected for your success. Let's face it . . . if you miss class, you are at a disadvantage. Missed labs result in gaps in your lab portfolio, which can impact your learning for the AP exam.

Missed laboratories: You are still responsible for the material in a missed lab, and you may be required to take a lab quiz (if there was one) on the lab in order to receive a make-up grade on the lab. If there was no lab quiz, you will need to complete a lab "make-up" in order to receive an "excused" grade; otherwise the grade will be recorded as a "0".

Missed lecture: If you are absent for a given class period, please call or talk to one of your classmates to find out what happened in class that day and what homework was assigned so you do not fall behind. You can also check the class calendar online to see what was planned for the day. When you return to class, take careful notes, pick up any papers returned and handouts for the day, and get yourself up to speed when you return.

Missed Tests: If you miss an exam, you should take the exam the very next school day in the testing center. I put missed exams in the testing center on the day you miss them, so they are available the very next day. Be sure to arrive by 7:05 to allow yourself 50 minutes to take the exam if taking it in the morning. If the testing center is open after school and you are taking it then, arrive by 3:05. Don't forget your ID, and remember that the testing center is NOT OPEN on Fridays after school.

Behavior

- a.k.a. . . . so what if you're an upperclassman?
- No eating in the lab. No eating candy in the classroom (without sharing).
- With the exception of your Chromebook, there are to be no electronic devices in classroom. I will not tolerate phones being out of your backpack for any reason. No, you may not listen to music with them. If I see your phone, you will receive a referral to the dean. Break the addiction, people!

Extra Help

- **E-mail** will probably be the quickest and most convenient way to get in touch with me if you are absent or have a question. My address is ,pwoods@hinsdale86.org. I answer my emails during school hours.
- I can also be found in the science department before school every day. Please see me as soon as possible if you fall behind. The chemistry you are learning is much more challenging than your past chemistry class, and sometimes just a little extra help can get you moving back in the right direction! You will probably find me in room 134, 129, 181 or in the Science Office (Room 185).

LAB REPORTS AND LAB REPORT FORMAT:

Communicating science is a critical part of doing science. Scientists engage in communication when they discuss their experiments informally at meetings or over the phone or email, present their research formally at conferences, and publish their work in peer-reviewed journals. Lab reports that students write in science courses are intended to help students learn how to communicate science in writing. In this class, students will use the following format and label all sections very clearly. The following represents the format for each laboratory performed.

Pre-Lab Work

Pre-lab work is to be completed in your lab notebook and the copy turned in on the day the lab is performed.

1. ***Title***
   The title should be descriptive. For example, "pH Titration Lab" is a descriptive title and "Experiment 5" is not a descriptive title.
2. ***Date***
   This is the date the student performed the experiment.
3. ***Purpose***
   A purpose is a statement summarizing the "point" of the lab.
4. ***Procedure Outline***
   Students need to write an outline of the procedure. They should use bulleted statements or outline format to make it easy to read. If a student is doing a guided inquiry lab, they may be required to write a full procedure that they develop.
5. ***Pre-Lab Questions***
   Students will usually be given some questions to answer before the lab is done.

   ******* (everything above this will be turned in on the day the lab is performed!) *******

6. ***Data Tables*** (on a new page in lab notebook, not turned in on day 1)
   Students will need to create any data tables or charts necessary for data collection in the lab. Sometimes these are provided and must be copied into the lab notebook, while other times they must be created.

During the Lab

7. ***Data***
   Students need to record all their data directly in their lab notebook. They are NOT to be recording data on their separate lab sheet or in their laboratory manual. They need to label all data clearly and always include proper units of measurement throughout the report. Students should underline, use capital letters, or use any device they choose to help organize this section well. They should space things out neatly and clearly.

Post-Lab Work

8. ***Analysis (includes necessary calculations and graphs)***
   Students are to answer any post-lab questions provided in the analysis section. Students should show how all calculations are carried out, including the most simple. When the report is assessed, there should be no need to have to perform calculations outside of the report in order to follow the calculations inside the report. If necessary, graphs need to be titled, axes need to be labeled, and units need to be shown on the axis.
9. ***Error***
   Depending upon the lab, there may be error analysis questions to answer based on lab procedures. If no error analysis questions are provided, a similar type analysis is to be written by the students, assessing both possible sources of error and their impact on the final results.
10. ***Conclusion***
    The conclusion in a lab should tie back to the original purpose of the laboratory.

Credit Recovery Form

Name_____ Period _____

If you receive less than a 60% (mid-C) on any individual unit test in the marking period **EXCEPT THE LAST TEST OF THE SEMESTER**, you may choose to take advantage of a "credit recovery quiz" to improve your test grade. This quiz will cover many of the same topics, and will allow you to earn up to 15% back on your test grade, **not to exceed 60% (mid-C**).

For example. . .

Example student	Unit Test grade	Complete Steps 1-4	Example Score on Credit Recovery Quiz	Percent earned back on unit test	New Unit Test grade (may not exceed 60%)
1	51% (D)	Completed	67%	0.67 x 15% = 10%	60% (C)
2	45% (D-)	Completed	67%	0.67 x 15% = 10%	55% (C-)
3	37% (F)	Completed	67%	0.67 x 15% = 10%	47% (D)
4	61% (C)	Not eligible			

To do this, you must:

1. Write down the answer to the following question prior to talking to Mr. Woods:

Why did you receive less than a 60% on this exam?

2. Show Mr. Woods all the assigned homework from the unit.

Mrs. May's notes:

3. Complete assigned preparatory problems **on a separate sheet of paper that will be turned in and graded.** All preparatory problems must be correct before the credit recovery quiz can be attempted.

Problems assigned by Mr. Woods:

4. **All problems AND the credit recovery quiz must be completed within the time frame assigned by Mr. Woods.** It is your responsibility to work quickly so that you can finish in time. *You need to account for the fact that Mr. Woods needs time to grade your assigned problems and you may need to make corrections.* The date reflects the FINAL date for completion.

Everything must be completed by _____

5. Arrange to take the "credit recovery quiz" and take it right away. It will be in the testing center, which is NOT OPEN after school on Fridays. Your percentage on this quiz will determine how much of the 15% can be added back to your test grade.

AP Chemistry Learning Objectives

Chapter 1: Matter and Measurements

Chapter 2: Atoms, Molecules and Ions

Chapter 3: Mass relationships in chemistry: Stoichiometry

Learning Objectives

"Basic chemistry"

1. I know how to name and write formulas.
2. I can write balanced equations.
3. I know the parts of the periodic table and what the information on the table means.
4. I can solve mathematical problems without the use of a calculator, as appropriate.
5. I can solve any of the assigned problems from class, whether they fit any of these learning objectives or not!!!

Stoichiometry

6. I can do conversions with moles, grams, molecules, atoms and ions, and I know what it MEANS.
7. I can do quantitative calculations correctly, including significant figures.
8. I can do problems involving data to determine molarity of a solution.
9. I can balance equations and can perform different types of stoichiometry problems including limiting and excess reactants and percent yield.

Atomic theory and laws

10. I can describe atomic theory.
11. I can describe the law of conservation of mass, constant composition, and multiple proportions, and explain what they mean.
12. I can describe the various definitions found in the chapters, including classification of elements and compounds, properties of substances, parts of the atom and properties of the atom?

Compound and mixture calculations

13. I can perform empirical and molecular formula problems from data.
14. I can find the percent composition (percent by mass) of a mixture from data. If given data, I can determine if it is a mixture or a pure substance.

Chemical and physical changes

15. I can draw pictures to represent that atoms only rearrange in a chemical reaction but that no atoms/mass is lost in the reaction. I can also show this with numbers as well.
16. I can draw pictures to show the differences between molecular and ionic compounds.
17. I know the difference between physical and chemical changes and how that applies to the law of conservation.

Laboratory situations

18. I can understand and describe how errors in the laboratory can affect the results and how.
19. I can design a plan in order to collect data on the synthesis or decomposition of a compound to confirm the conservation of matter and the law of definite proportions. (Think: Cu and I lab.)
20. I can use data from synthesis or decomposition of a compound to confirm the conservation of matter and the law of definite proportions.
21. I can use data from mass spectroscopy to identify the elements and the masses of individual atoms of a specific element.

Chapter 4: Reactions in aqueous solutions

Chapter 5: Gases

Learning Objectives

Chemical and physical changes

22. I can classify changes as physical or chemical, as physical do not involve the rearrangement of chemical bonds while chemical changes do. Ambiguous changes (such as a salt dissolving are often classified as physical but involve the breaking of ionic bonds, therefore “ambiguous”) are also listed here but rarely addressed.
23. I can identify a chemical change and write a chemical equation to describe it.
24. I can use a chemical equation to draw particle pictures or use particle pictures to write a chemical equation.

Chemical equations and solution stoich

25. I can use stoichiometry and mass data to find the concentration (molarity) of a solution using a precipitation reaction. (think: Hard Water lab) I can also use stoichiometry to find the concentration of a solution using an acid-base reaction (titration).

26. I can write balanced chemical equations given only the reactants based on knowing a chemical change occurred and translate them into molecular, total ionic or net ionic equations as needed.
27. I know select solubility rules as well as strong acids and bases.
28. I can balance redox reactions given both reactants and products.

Gas laws

29. I can describe the tenets of the Kinetic Molecular Theory to explain how a real gas and an ideal gas differ (especially considering IMF's).
30. I can predict when a gas will behave ideally or when it is considered a "real" gas. I know why there are deviations from being ideal.
31. I understand the concepts of gas behavior using the math equations related to pressure, KE (Et), average molecular speed, and effusion.
32. I can interpret the gas laws conceptually and using pictures of particles (such as the blues problems assigned), as well as graphs that depict deviations from ideal conditions.
33. I can use problem-solving and the various gas laws to calculate various problem types (ideal gas law, Dalton, etc.), such as single state, initial/final state, gas stoichiometry and the concept of a "wet" gas. (think: blues problems, Al-Zn alloy lab, MM of a volatile liquid lab)
34. I can relate how temperature affects gases in a variety of ways (mathematically, particle pics, graphs such as Maxwell-Boltzmann).
35. I understand how temperature influences KE, which is related to both mass and velocity. (KE=1/2mv2)
36. I can use "real" data to see how closely the data matches the ideal gas law, and propose why the data may behave as a real gas, typically at low temps and/or high pressures.

Chapter 6: Electronic Structure and the Periodic Table

Learning Objectives

Atomic Models and Data:

37. I can explain why different pieces of data might confirm or disprove different models of the atom. Think about how each model of the atom changed and why.
38. I understand the differences between the historical models of the atom so I can explain why data or observations do or do not fit the model.

Atomic electron distribution

39. I know how to write electron configurations and orbital diagrams, and am able to interpret those electron configurations or orbital diagrams.
40. I can describe how the electrons are arranged in the atom (energy levels, sublevels, orbitals, spin).
41. I know the relationship between wavelength, frequency, energy and the speed of light. I can calculate energy from frequency. I can calculate drops in energy from electrons moving from the excited to ground states in the Bohr model, and can relate that to the modern model.

Spectroscopy "stuff"

42. I can explain data about how electrons are distributed in atoms or ions based on data, which could include PES or visible spectroscopy.
43. I can analyze data relating to electron energies in order to determine patterns and relationships. For example, I can interpret PES or visible spectroscopy data
44. I can use PES and ionization energy data to describe orbital diagrams or electron configurations. Review the PES POGIL!
45. I can justify the selection of a particular type of spectroscopy to measure properties associated with vibrational or electronic motions of molecules.
    - Heat changes the vibration of the molecules (think: infrared), whereas atomic emission, visible and PES influence movement of electrons in an atom (or molecule).
46. I can design or interpret experiments regarding light absorption and concentration. Hello, Beer's Law. I can explain why I would choose a specific wavelength in visible spectroscopy. I can answer the following: What is a calibration curve? Can you find the concentration of an unknown substance? (You did this in the Beer's Law lab.)

Coulomb's Law!

47. I can understand how energies of electrons differ based on Coulomb's Law. I can describe the calculations for electron attractive force and understand what it actually MEANS. I can compare different attractive forces (measured energies) to explain differences.
48. Review the Coulombic attraction POGIL! I can calculate the force of attraction or repulsion of an electron and/or understand what the various parts of Coulomb's law means.

Periodic Table and Periodic Trends

49. I can predict and/or justify trends in atomic properties based on location on the periodic table or their electron configurations.
50. I can justify with evidence how the periodic table is arranged and apply periodic properties to determine chemical reactivity.
51. I can look at data and identify patterns in that data using periodicity (periodic trends).

Learning Objectives: Chapter 7 (Bonding)

Molecular and Ionic Compounds

52. I can use a chemical formula to determine if a compound is molecular, ionic or metallic by using the periodic table and considering the types of elements.
53. I can describe how molecular and ionic compounds act differently from each other, especially looking at them at the particle level.

Ionic/Covalent/Metallic bonds

54. I can predict if the bonding in a compound is metallic, ionic or covalently bonded based on looking at metals vs. nonmetals and looking at electronegativity differences. I know the differences between each of those types of bonds.
55. I can use Coulomb's law to explain how both covalent and ionic bonds keep atoms together in a bond.
56. I can use electronegativity differences (relative to position on the periodic table) to determine if a covalent bond is nonpolar or polar, and I realize that bond polarity from non-polar to ionic is a continuum, with most bonds exhibiting some ionic character.
57. I can use (or create) a graph of potential energy and atomic distance to determine:
    - average bond length
    - the impact of bond order on bond length and strength
    - the impact of temperature on bond length
    - the amount of energy required to break/form a bond.
    - (Think "Properties of Covalent Bonds" packet!)

Lewis structures/shapes/molecular polarity

58. I can draw Lewis structures (using formal charge when needed to determine the best structure).
59. I can use Lewis structures to:
    - Predict the shape of the molecule

- Determine the type of hybridization
- Determine molecular polarity and the existence of a dipole moment. Vectors from the bond dipoles are helpful in determining the direction of the dipole moment.
- Determine if a covalent bond is a single/double/triple bond
- Determine if a molecule exhibits resonance
- To determine if a bond contains sigma and pi bonds (and how many of each)

Chapter 8: Thermochemistry (Part 1)

Conservation of energy

60. I can explain the conservation of energy in terms of how two substances interact. This means that I can explain that the reason behind energy moving from high temperatures to low temperatures is because the higher temperature system has faster moving molecules that can transfer some of their energy to the slower moving molecules, thus lowering the speed and temperature of the faster moving molecules and raising the speed and temperature of the slower moving molecules.
61. I can do problems relating to -q lost=q gain, as related to chemical reactions. I can identify which systems are undergoing endothermic or exothermic processes.
62. I can identify the difference between heat and work and how to compute the two, and I can describe the direction of energy flow using the sign conventions.
63. I can describe that breaking a bond requires energy and forming a bond releases energy. I understand that the reason a reaction is endo- or exothermic is directly related to bond energies.

Calorimetry

64. I can do problems relating to -q lost=q gain regarding calorimetry problems that do not involve a reaction and I can use $q=sm\Delta T$ to calculate heat flow in situations where something hot comes into contact with something cooler.
65. I can combine most of the thermo equations (-q lost = q gain, $q=cm\Delta T$, heat of reaction, heat of fusion/vaporization) in order to design a lab or interpret its results using calorimetry (and transfer of heat from one system to another) in constant pressure situations, including heating/cooling, phase changes or chemical reactions.
66. I can distinguish between constant pressure situations and constant volume (bomb calorimeter) situations.

Heating Curves and potential energy graphs

67. I can draw a potential energy graph to indicate changes associated with endothermic and exothermic processes or reactions, as well as the ability to interpret them for heat of reaction and activation energy. (Energy diagrams)
68. I can do problems related to a heating curve, including $q=cm\Delta T$ and using the heats of fusion and vaporization. I can explain what is happening on a heating curve graph.
69. I can use (or create) a graph of potential energy and atomic distance to determine the amount of energy required to break/form a bond, and understand the information this graph provides. (Think “Properties of Covalent Bonds” packet from last chapter, and notes from class)

Heats of reaction

70. I can calculate heats of reaction using heats of formation and/or rearranging equations that represent steps in a reaction in order to find a heat of reaction for an overall reaction. (see Hess’s Law Lab)
71. I can use bond energies to calculate heats of reaction, and use that to determine if a reaction is endothermic or exothermic.
72. I can use heat of reaction to determine how much heat a reaction might give off or take in based on knowing how much of the reactants are present or how much of the products are created.
73. I can describe how solutions dissolve in water and have attractions that may involve energy changes, creating a “heat of dissolution” instead of a heat of reaction.

Learning Objectives: Liquids, Solids, IMF's and Solubility

Chp. 9.1, 9.2, 9.4, 9.5 and 10.2

Types of solids and bonding

74. I can draw pictures (or interpret pictures) to be able to explain different properties between liquids and solids, including ionic, molecular, network covalent, metallic and semiconducting solids.
75. I can draw pictures of ionic substances that help describe and explain properties of ionic substances. Those properties include things such as bp, solubility, hardness, brittleness, low volatility, lack of malleability, ductility or conductivity.
76. I can perform laboratory tests to determine if a compound has ionic bonding or covalent bonding. (Think: Bonding in solids lab)

77. I can describe the differences in different types of alloys (substitutional or interstitial) and their resulting properties. I can draw pictures to demonstrate the differences between them.
78. I can explain and draw pictures of metallic substances (using the electron sea model) that help describe and explain properties of metallic substances. Properties include things such as conductivity, malleability, ductility and low volatility.
79. I can explain and draw pictures of covalently-bonded substances that help describe and explain properties of those substances.
80. I can use Coulomb's law to explain the strength of an ionic bond.
81. I can explain the different properties of ionic, molecular (polar and non-polar), metallic, network covalent and semiconductors (including p- and n-type semiconductors)

Intermolecular Forces (IMF's)

82. I can explain trends in properties in molecules with London dispersion forces, or predict properties based on the IMF.
83. I can explain the behavior of molecules with dipole-dipole forces or hydrogen bonding, and what it is about a molecule that causes it to have those kinds of IMF's.
84. I can explain the connection between IMF's and properties of compounds such as phase of matter, vapor pressure, viscosity, cohesive/adhesive forces, etc.
85. I can use Lewis structures to predict shapes and polarities of molecules, and use the predicted IMF's to explain their properties. I can draw or interpret pictures to show how the IMF's result from the shape of molecules.
86. I can predict the type of IMF a compound will have and then make predictions regarding the strength of that IMF based on that.
87. I understand how the IMF is related to the distribution of electrons and how that affects the interactions of molecules.
88. I understand the difference between intermolecular forces (IMF's) and intramolecular forces (bonds).
89. I understand that physical processes involve breaking/forming IMF's, while chemical processes involve the breaking/forming of bonds.
90. I understand there is an energy component in both breaking IMF's and bonds and forming IMF's and bonds, similar to the breaking and forming of bonds.

Liquids and Solubility

91. I can describe vapor pressure and the factors that influence it, including its effect on boiling point.
92. I can do calculations involving vapor pressure, including Clausius-Clapeyron (not found on back of periodic table!!!).

93. I can use Coulomb's law to explain why ionic substances can dissolve in polar substances.
94. I can explain or draw pictures to illustrate how molecular and ionic compounds dissolve in each other and how that solubility depends upon polarity or strength of ionic bonds.
95. I can show how compounds (ionic or molecular) dissolve in a solvent (for example, how an ionic compound dissolves in water), including considering ion-dipole and ion-induced dipole IMF's.
96. I can show in a representation (particle pic) increased or decreased molarity (more or fewer molecules).
97. I can perform calculations using the relationship between the pressure of a gas above a liquid and the concentration of the gas dissolved in the liquid (Henry's Law).
98. I can design a way to separate a mixture (chromatography or distillation or filtration) and explain how the mixture can separate based on IMF's between the parts of the mixture. (think chromatography lab in terms of IMFs)
99. I can explain that the reason chromatography works in terms of the attractions to the mobile phase (solvent) or the stationary phase (the paper). I can calculate Rf values. Greater attractions to the mobile phase will lead to higher Rf values.

Learning Objectives Chapter 11: Kinetics

Reaction rates and rate laws

100. I can design and experiment to see how rates change with differing temperatures, concentrations, surface area, etc. With that data, I can interpret the results and use them to find rates and rate law constants.
101. I can use data from different trials in order to determine what order the reaction is with respect to various reactants.
102. I can graph changing concentrations versus time to see what type of graph will give a straight line so that order can be determined.
103. I can use the integrated rate laws for zero, first and second order reactions in order to how concentrations change with time.
104. I understand the concept of half-life and I can use the equation to find the half-life of a first order reaction using the rate law constant.
105. In addition to concentration, I can describe the factors that influence reaction rate (and therefore influence k) such as collision frequency, fraction of molecules with enough activation energy, and steric factor. I can explain why a reaction might or might not occur based on these factors.

Reaction Mechanisms

106. I can use a reaction mechanism to predict a rate law based on the rate-determining step.

107. I understand that to increase the rate of a reaction, the rate-determining step is the most important step to influence, and can connect that to the factors that affect reaction rate.
108. I can evaluate a reaction mechanism to see if it is valid based on finding the rate law experimentally.
109. I can manipulate rate laws determined from a rate-determining step that contain intermediates so that the rate law will no longer contain the intermediate.

Energy Diagrams and Catalysts

110. I can draw or interpret an energy diagram to show reactants/activated complex/products as well as draw or interpret the Maxwell-Boltzmann distribution to show how temperature affects reaction rate through the number of molecules achieving the activation energy.
111. I can use the Arrhenius equation to show how temperature affects k (the rate law constant), and therefore affects the rate.
112. I can make connections between energy diagrams, chemical equations, Maxwell-Boltzmann distributions and particle pictures for reactions occurring both with and without a catalyst.
113. I can explain how various catalysts work to change reaction rates and make connections to reaction mechanisms that can explain how they work.

Learning Objectives for Chapter 12: Equilbrium

"Essential Knowledge" from College Board

Essential Knowledge 6.a.1: In many classes of reactions, it is important to consider both the forward and reverse reaction.

114. I can explain, conceptually, what a reversible reaction is.
115. I can explain, conceptually, what equilibrium means and how to identify it based on experimental data or graphs of that data.

Essential Knowledge 6.a.2: The current state of a system undergoing a reversible reaction can be characterized by the extent to which reactants have been converted to products. The relative quantities of reaction components are quantitatively described by the reaction quotient, Q.

116. I can calculate a Q for a reversible reaction to determine relative quantities of reaction components and describe what the value reflects.
117. I determine what happens to Q or Keq if a reaction is reversed.

118. I can predict which direction a reaction will shift based on initial conditions and/or how an equilibrium is stressed by computing a Q value to make the prediction.
119. I can describe what is happening to reaction rates when a reaction shifts “to the right” or “to the left” (forward or reverse shift) in a reversible system.

Essential Knowledge 6.a.3: When a system is at equilibrium, all macroscopic variables, such as concentration, partial pressures, and temperature, do not change over time. Equilibrium results from an equality between the rates of the forward and reverse reactions, at which point Q=K.

120. I can use a Keq to determine what the relative amounts of products or reactants are at equilibrium.
121. I can solve problems using data to find the Keq based on data about the reaction at equilibrium.
122. I can determine a new Keq that results from adding two reactions together or reversing the reaction.
123. I understand that at equilibrium, Q has become equal to K (law of mass action).

Essential Knowledge 6.a.4: The magnitude of the equilibrium constant, K, can be used to determine whether the equilibrium lies toward the reactant side or product side.

124. I can solve problems quantitatively or qualitatively using Kc, Kp or Keq to determine equilibrium concentrations or partial pressures for systems that are not yet at equilibrium or have had the equilibrium stressed.

Essential Knowledge 6.b.1: Systems at equilibrium respond to disturbance by partially countering the effect of the disturbance (LeChatelier’s principle).

125. I can predict, conceptually, what will happen when a system at equilibrium is stressed.
126. I can determine the effects of messing up a system at equilibrium and determine (qualitatively or quantitatively) what will happen to Q and then to K, using numbers, concepts or graphs.
127. If I want to produce more (or less) of a certain component in an equilibrium system, I can predict the conditions needed to shift the equilibrium to produce the desired component.
128. I can determine how the Keq will change when temperature changes.

Essential Knowledge 6.b.2: A disturbance to a system at equilibrium causes Q to differ from K, thereby taking the system out of the original equilibrium state. The system responds by bringing Q back into agreement with K, thereby establishing a new equilibrium state.

129. I can describe the relationship between Q and Keq and how it relates to LeChatelier.

Ch. 13 & 14

College Board Essential Knowledge:

130. *In a neutralization reaction, protons are transferred from acid to base.*
131. *Chemical equilibrium reasoning can be used to describe the proton-transfer reactions of acid-base chemistry.*
132. *The pH is an important characteristic of aqueous solutions that can be controlled with buffers. Comparing pH to pKa allows one to determine the protonation state of a molecule with a labile proton.*

LEARNING OBJECTIVES:

General Acid concepts

133. I can identify conjugate acid-base pairs and Bronsted-Lowry acids and bases.
134. I can write net ionic equations describing reactions that involve acids and bases (think: reaction practice sheets!)
135. I know which acids and bases are strong.
136. I can explain why strong acids lose their protons very easily compared to weak acids, with stronger acids having a more polar bond and a larger anion size which does not allow it to be as tightly held to the hydrogen ion.
137. I can describe the difference between strong and weak acids and bases based on what happens to them in solution.
138. I can draw particle pictures to compare how weak and strong acids (and bases) behave in solution.

Equilibrium of acids and equilibrium of bases (Ka, Kb)

139. I can perform calculations involving weak acids relating to pH, Ka and pKa as related to the proton leaving the acid in solution.
140. I can perform math to find pH or pOH or to find equilibrium concentrations of acids OR bases in solution, using Ka, Kb (if weak) and/or Kw.
141. I can identify which acids or bases will ionize most based on their Ka or Kb (percent ionization).
142. I can determine how to make two acids have the same pH (by considering their Ka and concentrations).

143. I can determine the strength of acids and bases based on calculating the Ka or Kb from given equilibrium concentrations.
144. I can calculate the pH and concentrations found in polyprotic acid solutions utilizing multiple Ka's.
145. I can calculate the pH of a mixture of acids or a mixture of bases.

Acid-base reactions and titrations

146. I can determine, when acids and bases are mixed, which species will react with each other based on the fact that acid-base reactions go to completion and therefore what species will be most present after the reaction.
147. I can calculate what will be left at equilibrium when acids and bases react, including writing appropriate acid-base equations.
148. I can explain why it would take more base to neutralize a weak acid than a strong acid when they have the same pH, but why it would take the same amount of base to neutralize strong and weak monoproticI can determine the volume of titrant needed to reach the equivalence point in a titration.
149. I can perform a titration to determine the concentration of an unknown, or interpret data from a titration experiment in order to determine the concentration of an unknown.
150. I can explain how indicators work in a titration and how to choose an appropriate indicator.
151. I can interpret titration curves for acids and bases in order to find determine concentrations, Ka or Kb (pKa or pKb). (Think: titration lab)
152. I can explain what species are left at any point in a titration curve that will have an impact on pH.
153. I can identify what species in a solution will have an effect on pH and how to write an applicable Ka or Kb expression from the resulting equilibrium.

Equilibrium of Salts

154. I can compute the pH of a neutral solution at any temperature, and can explain why it is not always 7.
155. I can calculate pH and concentrations of all species in a salt solutions, weak acids and/or weak bases.

Buffers

156. I can design a buffer solution with a target pH (think: Buffer Mini Lab).
157. I can pick appropriate conjugate acid-base pairs in order to produce a buffer of a desired pH.

158. I can recognize buffer solutions.
159. I can write reactions to describe what happens when an acid is added to a buffer solution or when a base is added.
160. I can explain the importance of buffer solutions in the human body.
161. I can use the Henderson-Hasselbach equation for buffer solutions calculations (or know how to calculate buffers without it!)

Chp. 15-16 Learning Objectives

Complex ion equilibria

162. I can use Kf values and understand their application to complex ions.
163. I can describe a coordination compound, complex ions, and ligands.

Solubility Equilibria

164. I understand when to use a Ksp.
165. I can predict the solubility of a salt based on its Ksp, for example, by computing molar solubility.
166. I can rank salt solubility based on Ksp values.
167. Given information about how soluble a salt is, I can determine (given "s") or rank Ksp values.
168. I can describe various factors that may influence a salt's solubility (for example, common ion effect, pH, etc.) and the impact of those factors on solubility.
169. I can describe enthalpy changes that occur when a salt dissolves, including the breaking of ionic bonds (energy in) and formation of ion-dipole attractions with the water molecules (energy out).
170. I can draw particle pictures to describe a salt dissolving, including the water molecules.

Entropy

171. I can describe the impact on entropy when a salt dissolves.
172. I can relate physical and chemical changes to entropy in order to predict both the sign of ΔS and the magnitude of it.

Spontaneity/Thermodynamic Favorability

173. I can predict if a physical or chemical process is "thermodynamically favored" (spontaneous) by determining the signs of both ΔH° or ΔS°, and calculating or estimating ΔG° when needed.
174. I can calculate ΔG in both standard and non-standard conditions and use that to determine if the chemical or physical process is "thermodynamically favorable."
175. I can describe and explain how either applying outside energy sources can cause unfavorable reactions to proceed.

176. I can describe and explain how a favorable reaction can be coupled to an unfavorable reaction to cause the process to become favorable.
177. I can use LeChatelier's principle to qualitatively predict changes in systems that involve coupled reactions with a common intermediate.
178. I can use Keq to quantitatively predict changes in systems that involve coupled reactions with a common intermediate.
179. I can explain why a reaction might not produce large amounts of product even though the reaction is thermodynamically favorable.
180. I understand that being "thermodynamically favorable" does not relay any information about the speed of the reaction.
181. I can explain why a thermodynamically unfavorable reaction could still produce a large amount of product based on the initial conditions.
182. I can explain the difference between ΔG° and ΔG, and calculate how thermodynamic favorability could change based on the conditions.
183. I can express Keq in terms of ΔG° and RT.
184. I can use the relationship between ΔG° and RT to estimate the magnitude of K.
185. I can relate K to ΔG° and use K to determine if a reaction is thermodynamically favorable.

Week	Monday	Tuesday	Wednesday	Thursday	Friday
	8/6	**8/7**	**8/8**	**8/9**	**8/10** **Freshmen Orientation**
1	**8/13** **Institute Day**	**8/14 work collaboration day**	**8/15** **First Day of School**	**8/16**	**8/17**
	Institute	**Institute**	First Day of School/Short Algebra Review	Algebra Review WS Pre-Test	Section 1.1 Understanding lines, pts, planes
2	**8/20 (LS)**	**8/21**	**8/22**	**8/23 (curriculum night ?)**	**8/24**
	Section 1.2 Measuring and Constructing Segments	Section 1.3 Measuring and Constructing Angles	**Review**	**1.1-1.3 Quiz**	Section 1.4 Vertical and Linear Pair
3	**8/27 (LS)**	**8/28**	**8/29**	**8/30**	**8/31**
	Section 1.4 Complementary and Supplementary	**Section 1.4 Combo**	**Section 1.6 Distance and Midpoint**	**Review**	**Chapter 1 Test**
4	**9/3**	**9/4**	**9/5**	**9/6**	**9/7**
	Labor Day	**Section 2.1 Inductive Reasoning to make conjectures**	**Section 2.2/2.4 Conditional/Biconditional Statements**	*Section 2.3 Verify Conjectures*	**Review 2.1-2.4**
5	**9/10 (LS)**	**9/11**	**9/12**	**9/13**	**9/14**
	Quiz 2.1-2.4	**Section 2.5 Algebraic Proofs**	**Section 2.6 Geometric Proof**	**Section 2.6 Geometric Proof**	**Section 2.6 Geometric Proof**
6 Home-coming week	**9/17 (LS)**	**9/18**	**9/19**	**9/20**	**9/21 assembly**
	Section 2.5/2.6 Practice	**Review**	**Chapter 2 Test**	Section 4.2/4.3/4.9 **Classify Triangles/Angle Relationships/Isos. and Equi. Triangles**	Section 4.3 (Exterior Angle Thm.)
7	**9/24 (LS)**	**9/25**	**9/26**	**9/27**	**9/28**
	Section 4.1/4.4 Congruent Triangles	Section 4.5 SSS/SAS	Section 4.6 AAS/ASA/HL	Review 4.1-4.6	**4.1-4.6 Quiz**
8	**10/1 (LS)**	**10/2**	**10/3**	**10/4**	**10/5**
	Section 4.7 **CPCTC**	Section 4.7 **Medians/Altitudes**	Section 4.9 **Isosceles Equilateral**	**Review**	**Chapter 4 Quest**

9	**10/8**	**10/9**	**10/10 (Early release for students 11:30)**	**10/11**	**10/12 End of QTR**
	Columbus Day	**Midterm Review**	**Midterm Review**	**Midterm Review**	**Quarter 1 Exam**

Week	Monday	Tuesday	Wednesday	Thursday	Friday
1	**10/15 (LS)**	**10/16**	**10/17**	**10/18**	**10/19**
	3.1/3.2 Line and Angles	3.2 Angles Formed by Parallel Lines and Transversals	3.3 Proving Lines Parallel	3.3 Day 2 Proving Lines Parallel	Quiz Review
2	**10/22**	**10/23**	**10/24**	**10/25 conferences**	**10/26 conferences**
	Quiz 3.1-3.3	3.4 Apply Thms. Of Perpendicular Lines	3.5 Slopes of Lines	3.6 Day 1 Writing Equations of Lines (Point Slope/Slope Intercept Form)	**No School Conferences**
3	**10/29 (LS)**	**10/30**	**10/31**	**11/1**	**11/2**
	3.6 Day 2 Writing Equations of Lines (Point Slope/Slope Intercept Form)	Chapter 3 Review	Chapter 3 Test	6.2 Properties of Parallelograms	6.2 Parallelogram Proofs (Given shape is parallelogram)
4	**11/5 (LS)**	**11/6**	**11/7**	**11/8**	**11/9**
	6.3 Prove a Quad. is Parallelogram	6.3 Day 2 Prove a Quad. is Parallelogram	Review 6.2-6.3	**Quiz 6.2 -6.3**	6.4 Properties of Rectangles
5	**11/12 (LS)**	**11/13 parent part. day**	**11/14**	**11/15**	**11/16**
	6.4 Properties of Rhombuses and Squares	6.6 Properties of Kites	6.6 Properties of Trapezoids	All Shape Review **RAFT Project?**	All Shape Review Property Check
6	**11/19**	**11/20**	**11/21**	**11/22**	**11/23**
	Review	Chapter 6 Test	**Thanksgiving Break**	**Thanksgiving Break**	**Thanksgiving Break**
7	**11/26 (LS)**	**11/27**	**11/28**	**11/29**	**11/30**
	Review for free response final	Review for free response final	Free Response Portion of Final Exam	**RAFT Work Day?**	**RAFT Work Day?**
8	**12/3 (LS)**	**12/4**	**12/5**	**12/6**	**12/7**
	5.1 Perpendicular and Angle Bisectors	**5.3 Medians and Altitudes of Triangles**	**5.4 Midsegment Thm.**	**5.5 Angle - Side Relationships in Triangles (Inequalities)**	**5.5/5.6 Inequalities in Two Triangles**
9	**12/10 (LS)**	**12/11 Holiday concert**	**12/12**	**12/13**	**12/14**

	Review	**Review**	**Chapter 5 Quest**	**Review**	**Review**
10	**12/17**	**12/18**	**12/19**	**12/20**	**12/21**
	Review	**Finals**	**Finals**	**Finals**	

Week	Monday	Tuesday	Wednesday	Thursday	Friday
1	**1/7**	**1/8**	**1/9**	**1/10**	**1/11**
	Institute Day	6.1 Properties of Polygons	6.1 Properties of Polygons	9.1 Reflections	9.2 Translations
2	**1/14 8:50 Late Start**	**1/15**	**1/16**	**1/17**	**1/18**
	9.3 Rotations	9.3 Rotations /Review	QUIZ 6.1, 9.1-9.3	9.4 Composition of Transformations	9.4 Composition of Transformations
3	**1/21**	**1/22**	**1/23**	**1/24**	**1/25**
	MLK Day	9.5 Symmetry	Review	TEST 6.1, 9.1-9.5	9.7/7.2 Dilations Similarity and transformations
4	**1/28 8:50 Late Start**	**1/29**	**1/30**	**1/31**	**2/1 Pep Assembly**
	7.1 Ratios in Similar Polygons	7.3 Triangle Similarity	7.3 Triangle Similarity	Review	**Quiz 9.7, 7.1-7.3**
5	**2/4 8:50 Late Start**	**2/5**	**2/6**	**2/7**	**2/8**
	7.4 Properties of Similar Triangles	7.4 Properties of Similar Triangles	7.5 Proportionality	7.6 Dilations and Similarity in the Coordinate Plane	7.6/Partitions
6	**2/11 8:50 Late Start**	**2/12**	**2/13**	**2/14**	**2/15**
	Review	Review	**Chapter 7 Test**	5.7 Pythagorean Theorem	5.7 Pythagorean Theorem
7	**2/18**	**2/19**	**2/20**	**2/21**	**2/22**
	President's Day ***(Emergency Day)***	Discovery of 5.8 Special Right Triangles	5.8 Special Right Triangles	5.8 Special Right Triangles/Review	**5.7/5.8 Quiz**
8	**2/25**	**2/26**	**2/27**	**2/28**	**3/1**
	8.2 Trig Ratios	8.2 Trig Ratios	8.3 Solving Rt. Triangles	8.3 Solving Rt. Triangles	**Institute Day**
9	**3/4 8:50 Late Start**	**3/5**	**3/6**	**3/7**	**3/8**
	8.4 Angles of Elevation and Depression	8.4 Angles of Elevation and Depression	**8.5** **Law of Sines and Cosines**	**8.5** **Law of Sines and Cosines**	**Review for Q3 Exam**

10	**3/11 8:50 Late Start**	**3/12**	**3/13**	**3/14**	**3/15 end of qtr**
	Chapter 8 Exam	**Quarter 3 Cumulative Exam**	12.1 **Review for Q3 Exam**	**Cumulative Exam**	**TBA**

Week	Monday	Tuesday	Wednesday	Thursday	Friday
1	**3/18 8:50 Late Start**	**3/19**	**3/20**	**3/21 Conf. 6-9**	**3/22 11:30 Dismissal**
	12.1 Lines that intersect Circles	12.2 Arcs and Chords	12.1/12.2	12.3 Sector Area and Arc Length	QUIZ 12.1-12.3
2	**4/1 8:50 Late Start**	**4/2**	**4/3**	**4/4**	**4/5**
	12.4 Inscribed Angle	12.4 Inscribed Angle	12.5 Angle Relationships in Circles	12.5 Angle Relationships in Circles	12.4/12.5
3	**4/8**	**4/9 SAT student dismissal 2pm**	**4/10**	**4/11**	**4/12**
	12.7 Circles in the Coordinate Planes	**Review**	**Review**	**Ch. 12 Test**	10.1 P-grams and Triangles
4	**4/15**	**4/16**	**4/17**	**4/18**	**4/19**
	10.1 Trapezoids	10.1 Rhombus/Kites	10.1 All Shapes	QUIZ All Shapes	**No School** ***(Emergency Day)***
5	**4/22 8:50 Late Start**	**4/23**	**4/24**	**4/25**	**4/26**
	10.2 Circles & Polygons	10.2 Polygons	10.3 Composite Figures	10.3 Composite Figures	QUIZ 10.2-10.3
6	**4/29 8:50 Late Start**	**4/30**	**5/1**	**5/2**	**5/3 (prom weekend)**
	10.4 Area in Coor. Plane	10.5 Changing Dim.	**Review**	**Chapter 10 Test**	Volume of Prisms/Cylinders
7	**5/6 Week 1 AP testing**	**5/7**	**5/8**	**5/9**	**5/10**
	Volume of Prisms/Cylinders	Volume of Pyramids/Cones	Review	Volume of Spheres	Volume of Composite Figures
8	**5/13 Week 2 AP testing**	**5/14**	**5/15**	**5/16**	**5/17**
	Volume QUIZ	SA of Prisms (no formulas)	SA of Prisms (Formulas) *Only one day??*	SA of Pyramids	SA of Circular Solids
9	**5/20**	**5/21**	**5/22 Graduation**	**5/23**	**5/24**
	SA of Composite Figures & Review	**Surface Area QUIZ**	**Review**	**Chapter 11 TEST**	
10	**5/27**	**5/28**	**5/29**	**5/30**	**5/31**

	Memorial Day		**Finals**	**Finals**	**Finals**

Chapter 1 Intro to Geometry					
Week Day	**Date**	**Unit Day**	**In Class**	**Assignment**	**Notes**
		1	1.1 - Getting Started	p. 7: 5, 6, 8, 10-14	
		2	1.2 - Measurements of Segments	p. 14: 1, 2, 4, 5, 8, 10, 11, 14-21,	
		3	1.3 - Collinearity, Betweeness and	p. 20: 3-15	
		4	1.7 - Deductive Structure	p. 42: 1-5, 8-12, 14	
		5	1.8 - Statements of Logic	p. 47: 3-5, 7, 8a, 9, 10	
		6	**Quiz 1.1-1.3, 1.7**		
		7	1.4 - Beginning Proofs	p. 26: 2, 3, 5-7, 9- 11, 14, 15	
		8	1.5 - Division of segments and	p. 32: 3-9, 12-14, 17-23	
		9	Review	p. 54: 1a-d,h-l, 4,13-15, 19-26, 29,	
		10	**Test Chapter 1**		

Chapter 2 Basic Concepts and Proofs					
Week Day	**Date**	**Unit Day**	**In Class**	**Assignment**	**Notes**
		1	1.9 - Probability	p. 51: 1-12, 14	
		2	2.1 - Perpendicularity	p. 63: 2, 3, 7-12, 14	
		3	2.2 - Complemetary and Supplementary	p. 69: 3, 5, 7, 9, 11,	
					No School - Labor Day
		4	2.3 - Drawing Conclusions	p. 74: 8-12	
		5	2.4 - Congruent Supps and Comps	p. 79: 1, 3, 4, 6, 8,	
		6	**Quiz 2.1-2.4**		
		7	2.5 - Addition and Subtraction Prop	p. 86: 3, 6-7, 10-14,	
		8	2.6 - Multiplication and Division Prop	p. 91: 6, 9, 10-12,14	
		9	2.8 - Vertical Angles	p. 91: 13, 16	
		10	2.7 - Transitive and Substitution Properties	p. 97: 3-5, 7, 9, 12-	
		11	**Quiz 2.5-2.8**		
		12	Review	p. 105: 3, 6, 10, 15,	
		13	Review	p. 105: 4, 9, 13, 19,	
		14	**Chapter 2 Test**		

Chapter 3 Congruent Triangles					
Week Day	**Date**	**Unit Day**	**In Class**	**Assignment**	**Notes**
		1	Performance Task	Worksheet	
		2	3.2-3.2 &Constructions	TBA	
		3	3.2-3.2 &Constructions	TBA	
		4	3.2 - Three ways to prove triangles congruent SSS, SAS, ASA 7.2 - No Choice Theorem and AAS	p. 121: 4, 6, 8, 10-12 18, 23, 25–27 p. 304: 4	
		5	3.3 - CPCTC and Circles	p. 127: 8-9, 12-13, 16, 18, 20-21	
		6	3.4 - Beyond CPCTC	p. 135: 1, 4, 6, 9-10, 12 p. 304: 5	
		7	3.5 - Overlapping Triangles	p. 136: 11, 14 p. 139: 1-5	
		8	**Quiz 3.1-3.4**	p. 140: 6, 8-10, 12	
		9	3.6 - Types of Triangles	p. 144: 1–3, 6-11, 13-14, 16	
		10	Performance Task		
		11	3.7 - Angle-Side Theorems	p. 152: 2, 5, 8, 12, 15, 19, 22, 25	
		12	3.8 - HL Postulate	p. 158: 4, 6, 9, 12, 14, 16, 18	
		13	**Quiz 3.5-3.7**		
					No School - Columbus Day
		14	Review	p. 162: 1, 3, 6, 12, 13, 15-	
		15	**Chapter 3 Test**		
			Review for Q1 Cumulative		
			Review for Q1 Cumulative		
			Q1 Cumulative Exam		

Chapter 4 Lines in the Planes					
Week Day	**Date**	**Unit Day**	**In Class**	**Assignment**	**Notes**
		1	4.2 - Missing Diagram	p. 178: 2-4, 8-14	
		2	4.1 - Detour and Midpoints	p. 172: 1, 4-10, 12, 15, 17	
		3	Performance Task	Perpendicular and Angle	
		4	4.3 - Right Angle Theorems	p.182: 5-6, 9-11, 14-15	
		5	**Quiz 4.1-4.3**		
		6	4.4 - The Equidistance Theorems	p. 187: 1-9	
		7	4.4 - Day 2	p. 188: 11-16, 19-22	
		8	5.1 - Indirect Proof	p. 213: 2, 7, 10-12, 14	
					P/T Conf
		9	Review	p. 206: 4, 6, 8, 10, 12, 15,	
		10	**Quest 4.1-4.4, 5.1**	Worksheet	

Chapter 5 Parallel Lines and Related Figures					
Week Day	**Date**	**Unit Day**	**In Class**	**Assignment**	**Notes**
		1	Performance Task	p. 196: 1-5	
		2	5.2 - Proving Lines are Parallel	p. 220: 3-5, 8-9, 11-12, 14,	
		3	5.3 - Congruent Angles associated	p. 230: 6-9, 14	
		4	5.3 - Day 2	p. 230: 10-11, 15-16, 20, 28	
		5	Review	p. 264: 3, 7, 9, 17-18, 25	
		6	**Quest 4.5, 5.2, 5.3**		
		7	5.4 - Four Sided Polygons	p. 238: 6, 11-14, 16, 19, 21	
		8	5.5 - Properties of Quads	p. 245: 8, 14-15, 19	
		9	Parallelogram and Rectangles	Worksheet	
		10	5.7 - Proving Special Quads	p. 253: 9, 11	
		11	5.5 - Again	p. 245: 9, 16, 27	
		12	Kites	Worksheet	
		13	**Quiz 5.4, Parallelograms,**		
		14	5.5 and 5.7 - Again	p. 245: 7, 11, 20-21, 25, 28	
		15	Performance Task		
					Thanksgiving
					Thanksgiving
					Thanksgiving
		16	Review	p. 264: 1, 11, 15-16, 19-20,	
		17	**Test 5.4-5.7**		

Chapter 7 Polygons and Coordinate Geometry and Rotations and Reflections					
Week Day	**Date**	**Unit Day**	**In Class**	**Assignment**	**Notes**
		1	7.1 - Sum of Angles, Exterior angles and	p.298: 4, 7, 9, 12, 15-19	
		2	7.3 - Sum of Interior, Exterior angles and	p.309: 1, 2, 6, 8, 10, 13-19, 21, 23	
		3	7.4 - Regular Polygons	p. 316: 1-4(a&e only), 5-7, 10-11, 13-	
		4	Review	p.320: 3, 6, 12-15, 18, 20-21, 24, 26	
		5	**Quest Chapter 7**		
		6	4.6 - Slope	p. 202: 1(d-f), 2, 5, 8, 9, 11-13, 17	
		7	4.6 - Day 2 and Most Specific Quadratic	p. 258: 1, 4, 14, 23, 28	
		8	4.6 - Day 3 Equations of Median, Altitude,	Worksheet	
		9	Reflections and Translations	Worksheet	
		10	Rotations	Worksheet	
		11	Review of Transformations	Worksheet	
		12	**Quest 4.6 and Transformations**		
			Review for Finals		
			Review for Finals		
			Finals		
			Finals		
			Finals		

Chapter 8 Similarity					
Week Day	**Date**	**Unit Day**	**In Class**	**Assignment**	**Notes**
		1	Dilations and 8.1 - Ratio and Proportion	p.320: 1, 2, 6-11, 14-16, 20, 23	
		2	8.2 - Similarity	p. 336: 9-18	
		3	8.3 - Proving Triangles Similar	p. 341: 3, 7, 11, 16-20, 22	
		4	8.1-8.3 Review		
		5	**Quiz 8.1-8.3**		
		6	8.4 - Congruence and Proportion in Similar Triangles	p. 348: 6-12, 16, 17, 20	
		7	8.5 - Three proportion Theorems: Side Splitter (and Corollary) Angle Bisector	p. 355: 3, 5, 7-9, 12, 13, 16, 20	
		8	8.5 Day 2	355: 4, 6, 10, 15, 18, 22, 26, 29	
		9	Performance Task and Review	61: 1-2, 4, 9-14, 16, 1720-22, 25-30	
		10	**Chapter 8 Test**		

Chapter 9 The Pythagorean Theorem and Trig					
Week Day	**Date**	**Unit Day**	**In Class**	**Assignment**	**Notes**
		1	9.1 - Review Radicals and Quadratics	2bdef, 3bc, 4cd, 5def, 6bdf, 7ef, 8b, 10, 11, 13	
		2	9.1 - Day 2	Worksheet	
		3	**QUIZ 9.1**		
		4	9.3 - Altitude to the Hypotenuse Theorems	. 379: 1, 3, 5, 16p. 380: 4, 14, 17, 21	
		5	9.4 - Pythagorean Thm(and Converse)	387: 3, 6, 11, 13-17, 19-20, 25-27, 29	
		6	9.5 - The Distance Formula	387: 22p. 394: 4, 6, 8, 9 16, 19, 20, 22	
		7	9.6 - Families of Right Triangles	p. 401: 5, 8-10, 12, 15, 16, 22	
		8	**Quiz 9.3-9.5**		
		9	9.7 - Special Right Triangles	p. 408: 1-4, 7-10	
		10	9.7 Day 2	p. 409: 12-14, 17-18, 20-21, 25, 27	
		11	**Quiz 9.6-9.7**		
		12	9.8 - 3D Solids and the Pythagorean Thm.	p. 414: 3-5, 14, 16, 18, 20	
		13	Review	p. 429: 1-3, 14-15, 23-24,26-28, 33	
		14	**Chapter 9 Test**		
		15	9.9 - Introduction to Trigonometry	p. 420: 2, 3, 5, 7, 9-11, 14,16-18, 22	
		16	9.10 - Trig Ratios	p. 425: 2-4, 6-11, 15	
		17	Trig Word Problems	Worksheet	
		18	Law of Sines	Worksheet	
		19	Law of Cosines	Worksheet	
		20	Trig Review	Study Guide	
		21	**Trig Quest**		

Chapter 10 Circles					
Week Day	**Date**	**Unit Day**	**In Class**	**Assignment**	**Notes**
		1	10.1 - The Circle	p. 443: 5-6, 11-12, 14, 17, 22, 23	
		2	10.2 - Congruent Chords	p. 447: 2, 6, 11-13, 15	
		3	10.3 - Arcs of A Circle	p. 454: 1-4, 9-13, 18-19, 24	
		4	**Quiz 10.1-10.3**		
		5	10.4 - Secants and Tangents	p. 464: 5, 6, 10-14, 16-17, 22-23	
		6	10.4 - Day 2	p. 466: 19-20, 24-25, 27, 29	
		7	10.9 - Circumference and Arc Length	p. 501: 5, 9-11, 13, 16	
		8	10.9 - Day 2	p. 501: 6, 8, 14-15, 17	
		9	Review	p. 505: 4, 7,8, 14, 16, 19, 25, 31	
		10	**Test 10.1-10.4, 10.9**		
		11	5 - Angles Inside, Outside, and on a Circ	p. 474: 5-12, 13, 15, 24, 27	
		12	10.5 - Day 2	p. 476: 18, 20-23, 25-26, 32-34	
		13	10.6 More Angle-Arc Thms	p. 482: 4, 7, 16-17, 22-24	
		14	7 - Inscribed and Circumscribed Polygon	p. 489: 9, 11, 6, 19, 20-21, 23-24	
		15	10.8 - Power Theorems	p. 495: 13-18	
		16	Review	p. 506: 3, 5-6,12-13, 17-18, 20, 23, 29	
		17	**Quiz 10.5-10.8**		
		18	Midterm Review	, 7, 16p 598 4, 5bd, 7, 11ac, 12, 23, 27-29, 32	
		19	Midterm Review		
		20	**Q3 Exam**		

Chapter 11 Area					
Week Day	**Date**	**Unit Day**	**In Class**	**Assignment**	**Notes**
		1	11.1 - Understanding Area	p. 514: 5d, 6a, 12, 14, 16	
		2	11.3 - Area of a Trapezoid	5: 4-5, 7-8, 10, 12-16, 17bp. 529: 2, 4-10	
		3	11.5 - Areas of Regular Polygons	Worksheet	
		4	11.5 Day 2	p. 533: 5, 10-11, 15-17, 19, 20, 22	
		5	Review 11.1-11.5	Worksheet	
		6	**Quiz 11.1-11.5**		
		7	11.6 - Areas of Circles, Sectors, and Segments	: 5ace, 8-11, 15, 18p. 540: 12, 14, 19-22	
		8	Performance Task and 1/2absin(C)	Worksheet	
		9	11.7 - Ratios of Areas	p. 546: 2, 3, 5-10, 13	
		10	Review	. 555: 9, 13-14, 24-28, 3235-36, 40	
		11	**Chapter 11 Test**		

Chapter 12 Surface Area and Volume					
Week Day	**Date**	**Unit Day**	**In Class**	**Assignment**	**Notes**
		1	12.1 - Surface Area of Prisms	p. 563: 4, 6-11	
		2	12.2 - Surface Area of Pyramids	p.567: 5-12	
		3	12.3 - Surface Area of Circular Solids	p. 572: 3-4, 6, 9-14	
		4	Review		
		5	**Quiz 12.1-12.3**		
		6	12.4 - Volumes of Prisms and Cylinders	p. 580: 8-18 even, 19-21	
		7	12.5 - Volumes of Pyramids and Cones	p. 586: 8-11, 14, 16-20	
		8	12.6 - Volumes of Spheres	p. 589: 3, 6-14	
		9	Review	p. 595: 10-22	
		10	**Test Chapter 12**		

Chapter 13 More Coordinate Geometry

Week Day	Date	Unit Day	In Class	Assignment	Notes
		1	13.1 - Graphing Equations	p. 607: 4, 5-11 odd, 15, 19, 21	
		2	13.2 - Day 2	p. 616: 9-19, 23, 26, 27	
		3	13.3 - Systems of equations	p. 620: 5-12, 14-15	
		4	13.6 - Circles	p. 635: 3-7 odd, 8-9, 13-14	
		5	13.7 - Coordinate Geometry Practice	p. 638: 2, 3, 5, 7, 10-11, 14-15	
		6	13.7 - Day 2	p. 640: 13, 16, 20, 23, 25-26	
		7	Review	p. 645: 9, 14, 17, 18, 21-22, 26a, 30	
		8	**Test Chapter 13**		
			Final Exam Review	Chapter 8	
			Final Exam Review	Chapter 9	
			Final Exam Review	Chapter 9 Day 2	
			Final Exam Review	Chapter 10	
			Final Exam Review	Chapter 10 Day 2	
			Final Exam Review	Chapter 11	
			Final Exam Review	Chapter 12	
			Final Exam Review	Chapter 13	
			Final Exams		
			Final Exams		
			Final Exams		