	MONDAY September 3	TUESDAY September 4	WEDNESDAY September 5	THURSDAY September 6 Day 1	FRIDAY September 7 Day 2
MOLEBIO				Introductions; Syllabus; Textbooks	Chemistry Skills QUIZ How to make various molar solutions Video Tutorials: safety measurement making solutions
HW				Bring a calculator!	Read DNA Science (pg. 321-330); Read Lab #1

	MONDAY September 10 Day 3	TUESDAY September 11 Day 4	WEDNESDAY September 12 Day 5	THURSDAY September 13 Day 6	FRIDAY September 14 Day 1
MOLEBIO	Making Solutions Practice;	Making Dilutions; Making Solutions Practice; Pipetting Techniques	<u>Lab #1</u>: Measurements, Micropipetting, and Sterile Techniques Solutions Practical	<u>Lab #1</u>: Measurements, Micropipetting, and Sterile Techniques Solutions Practical	<u>Lab #1</u>: Measurements, Micropipetting, and Sterile Techniques Solutions Practical
HW	Read DNA Science (pg. 321-330); Read Lab #1; Be ready for Practical	Read DNA Science (pg. 321-330); Read Lab #1; Be ready for Practical	Read DNA Science (pg. 321-330); Lab #1 due Thursday; Be ready for Practical	Read DNA Science (pg. 321-330); Lab #1 due Thursday; Be ready for Practical	Read DNA Science (pg. 321-330); Lab #1 due Thursday; Be ready for Practical

	MONDAY September 17 Day 2	TUESDAY September 18 Day 3	WEDNESDAY September 19	THURSDAY September 20 Day 4	FRIDAY September 21 Day 5
MOLEBIO	Lecture: Basics of Chemistry	Lecture: Water, Buffers, and pH		Henderson Hasselbach Equation	H-H questions Lecture: Basics of Gel Electrophoresis (Part I)
HW	Khan Academy/ Bozeman Biology/ other video links	Read through "The Nature of Amino Acids" handout Read "Gel Electrophoresis MANUAL"		Complete #1, 2, 4 on "The Nature of Amino Acids" handout; Read "Gel Electrophoresis MANUAL"	Read in text: 113-115; 357-359; Read Lab #2

	MONDAY September 24 Day 6	TUESDAY September 25 Day 1	WEDNESDAY September 26 Day 2	THURSDAY September 27 Day 3	FRIDAY September 28 Day 4
MOLEBIO	Lab #2: Gel Electrophoresis: Practicing Loading Gels prepping for RUN 1: using 50X TAE buffer; dilution to 1X TAE; making 0.8% agarose in 1X TAE	Lab #2: Gel Electrophoresis: Practicing Loading Gels prepping for RUN 1: finish making solutions; cast gels	Lab #2: Gel Electrophoresis RUN 1 – control	Lab #2: Gel Electrophoresis prepping for RUN 2: different [agarose] or voltage condition	Lab #2: Gel Electrophoresis RUN 2 - variation
HW	Read Lab #2	Lab #2 due Monday; EXAM #1 MONDAY	Lab #2 due Monday; EXAM #1 MONDAY	Lab #2 due Monday; EXAM #1 MONDAY	Lab #2 due Monday; EXAM #1 MONDAY

	MONDAY October 1 Day 5	TUESDAY October 2 Day 6	WEDNESDAY October 3 Day 1	THURSDAY October 4 Day 2	FRIDAY October 5 Day 3
MOLEBIO	EXAM #1 GEL ELECTROPHORESIS HENDERSON-HASSELBACH EQUATION SOLUTION STUFF	Lecture: Carbon Skeletons and Amino Acids	Lecture: Protein Structure	Learning all 20 Amino Acids!	Learning all 20 Amino Acids! Lecture: Ionization of Amino Acids; Isoelectric Point
HW	Read pages 48 – 53; Starting Lectures about proteins tomorrow	Read pages 48 – 53; Read SciAm: Proteins	Read pages 48-53; Read SciAm: Proteins; Read "Understanding the Nature of Amino Acids"	Read pages 48-53; Read SciAm: Proteins; Read "Understanding the Nature of Amino Acids"	Read pages 48-53; Read SciAm: Proteins; Read "Understanding the Nature of Amino Acids"

	MONDAY October 8	TUESDAY October 9 Day 4	WEDNESDAY October 10 Day 5	THURSDAY October 11 Day 6	FRIDAY October 12 Day 1
MOLEBIO	NO SCHOOL	Lecture: Ionization of Amino Acids; Isoelectric Point	Lecture: Ionization of Amino Acids; Isoelectric Point	<u>Lab #3</u>: Electrophoretic Separation of Proteins myoglobin hemoglobin cytochrome c serum albumin How to make our buffers from scratch!	(catch up day if needed)
HW		Read Lab #3; Complete questions #3, 5 – 7 in "Understanding the Nature of Amino Acids"	Read Lab #3; Complete questions #3, 5 – 7 in "Understanding the Nature of Amino Acids"	Read Lab #3; BE READY FOR PRACTICAL APPLICATION OF CHEMISTRY!	Read protein article from Scientific American

	MONDAY October 15 Day 2	TUESDAY October 16 Day 3	WEDNESDAY October 17 Day 4	THURSDAY October 18 Day 5	FRIDAY October 19 Day 6
MOLEBIO	Lab #3: Electrophoretic Separation of Proteins Prepping RUN 1: preparing 5X tris-glycine stock buffer (1 per group) diluting to 1X tris-glycine running buffer @ pH 8.6 (1 per group) preparing 3.5% agarose in 1X tris-glycine running buffer	Lab #3: Electrophoretic Separation of Proteins Prepping RUN 2: preparing 1X sodium acetate running buffer @ pH 5.5 (1 per group) preparing 3.5% agarose in 1X sodium acetate running buffer	Lab #3: Electrophoretic Separation of Proteins cast gel for RUN 1 diluting proteins learning staining/destaining procedure	Lab #3: Electrophoretic Separation of Proteins RUN 1: Tris-Glycine at pH 8.6 cast gel for RUN 2	Lab #3: Electrophoretic Separation of Proteins RUN 2: Acetate at pH 5.5
HW	Read Lab #3;	Read Lab #3;	Read Lab #3; EXAM #2 MONDAY	Read Lab #3; EXAM #2 MONDAY	Lab #3 due Monday; EXAM #2 MONDAY

	MONDAY October 22 Day 1	TUESDAY October 23 Day 2	WEDNESDAY October 24 Day 3	THURSDAY October 25 Day 4	FRIDAY October 26 Day 5
MOLEBIO	**EXAM #2** AMINO ACIDS PROTEINS GEL ELECTROPHORESIS	Lab #4: Introduction to Spectro-photometry	Lab #4: Introduction to Spectro-photometry	**Lecture:** Enzymes General Properties	**Lecture:** Enzymes Factors that Affect Reaction Rates Michaelis-Menten equation Lineweaver-Burk
HW	Read Lab #4	Be ready for Lab #4!	Lab #4 due tomorrow	Read over NOTES; Read over Lab #5 (yes, I know it's long!)	Read over NOTES; Read Lab #5

	MONDAY October 29 Day 6	TUESDAY October 30 Day 1	WEDNESDAY October 31 Day 2	THURSDAY November 1 Day 3	FRIDAY November 2 Day 4
MOLEBIO	**Lecture:** Enzymes Kinetics Questions	**Lecture:** Enzyme Regulation	<u>Lab #5</u>: Enzyme Kinetics (preview of lab)	<u>Lab #5</u>: Enzyme Kinetics establishment of standard Curve; cellobiase reaction with and without enzyme	<u>Lab #5</u>: Enzyme Kinetics effect of temperature on cellobiase reaction
HW	Read over NOTES; Read Lab #5	Read over NOTES; Read Lab #5	Read Lab #5; Complete Pre-Lab Questions on pages 5 and 6 Be ready to work on Monday!	Finish Activity 1 questions and graphs;	Finish Activity 2 questions and graphs; Lab #5 due next Friday

	MONDAY November 5 Day 5	TUESDAY November 6	WEDNESDAY November 7 Day 6	THURSDAY November 8 Day 1	FRIDAY November 9 Day 2
MOLEBIO	<u>Lab #5</u>: Enzyme Kinetics effect of pH on cellobiase reaction		<u>Lab #5</u>: Enzyme Kinetics effect of enzyme concentration on cellobiase reaction	<u>Lab #5</u>: Enzyme Kinetics effect of substrate concentration on cellobiase reaction	EXAM #3 ALL ABOUT ENZYMES!
HW	Finish Activity 3 questions and graphs; Lab #5 due next Friday		Finish Activity 4 questions and graphs; Lab #5 due Friday EXAM #3 FRIDAY	Finish Activity 5 questions and graphs; Lab #5 due Friday EXAM #3 TOMORROW	Read pg. 3 – 17; 24 – 34; 36 – 43

	MONDAY November 12	TUESDAY November 13 Day 3	WEDNESDAY November 14 Day 4	THURSDAY November 15 Day 5	FRIDAY November 16 Day 6
MOLEBIO		Lecture: DNA History of Discovery	Lecture: DNA DNA Structure & Replication	Lecture: DNA DNA Structure & Replication	Lecture: DNA Amplification via PCR
HW		Read pg. 3 – 17; 24 – 34; 36 – 43	Read pg. 3 – 17; 24 – 34; 36 – 43	Read pg. 3 – 17; 24 – 34; 36 – 43 Read 192 - 198	Read pg. 3 – 17; 24 – 34; 36 – 43 Read 192 - 198

	MONDAY November 19 Day 1	TUESDAY November 20 Day 2	WEDNESDAY November 21	THURSDAY November 22	FRIDAY November 23
MOLEBIO	Lecture: DNA DNA Sequencing	Lecture: DNA Human Genome Project			
HW	Read pg. 3 – 17; 24 – 34; 36 – 43 Read Lab #6	Read pg. 3 – 17; 24 – 34; 36 – 43 Read Lab #6			

	MONDAY November 26 Day 3	TUESDAY November 27 Day 4	WEDNESDAY November 28 Day 5	THURSDAY November 29 Day 6	FRIDAY November 30 Day 1
MOLEBIO	**Lecture:** Basics of Gel Electrophoresis (Part II)	<u>Lab #6</u>: PV92 PCR Bioinformatics (protocol review)	<u>Lab #6</u>: PV92 PCR Bioinformatics Part I: cheek cell DNA template preparation	<u>Lab #6</u>: PV92 PCR Bioinformatics Part II: amplification of DNA via polymerase chain reaction (PCR)	<u>Lab #6</u>: PV92 PCR Bioinformatics Part III: gel electrophoresis of amplified PCR samples
HW	Read pg: 192 – 198 Read Lab #6	Be ready for Part I of Lab #6 tomorrow!	Read Lab #6 Lab #6 due Tuesday Answer Questions #1 – 3 on page 27	Read Lab #6 Lab #6 due Tuesday Answer Questions #1 – 5 on page 28	Read Lab #6 Lab #6 due Tuesday Answer Questions #1 – 4 on page 29

	MONDAY December 3 Day 2	TUESDAY December 4 Day 3	WEDNESDAY December 5 Day 4	THURSDAY December 6 Day 5	FRIDAY December 7 Day 6
MOLEBIO	Lab #6: PV92 PCR Bioinformatics Part IV: analysis and interpretation of results	Lecture: Protein Synthesis Defining a Gene; RNA	Lecture: Protein Synthesis Transcription	Lecture: Protein Synthesis Translation	Lecture: Protein Synthesis Mutations
HW	Read pg. 53 – 58; 65 – 67 Lab #6 due tomorrow Answer Questions #1 – 2 and finish table on page 30	Read pg. 53 – 58; 65 – 67	Read pg. 53 – 58; 65 – 67	Read pg. 53 – 58; 65 – 67 EXAM #4 MONDAY	Read pg. 53 – 58; 65 – 67 EXAM #4 MONDAY

	MONDAY December 10 Day 1	TUESDAY December 11 Day 2	WEDNESDAY December 12 Day 3	THURSDAY December 13 Day 4	FRIDAY December 14 Day 5
MOLEBIO	**EXAM #4** DNA AND PROTEIN SYNTHESIS	Lecture: Restriction Enzymes	Lab #7: Restriction Enzyme Simulation	Lab #8: Restriction Enzyme Simulation using NEB Cutter	Lab #9: DNA Restriction Analysis run restriction digest prepare: 10X TBE stock buffer dilute 1X running buffer 25 mL of 0.8% agarose
HW	Read pg. 107 – 115 in DNA Science Read through Labs #7, 8, and 9	Read pg. 107 – 115 in DNA Science Read through Labs #7, 8, and 9	Lab #7 due tomorrow; Read Lab #8	Lab #8 due tomorrow; Read Lab #9 (textbook pages 351 – 374) Lab #9: Do Questions 1 – 6	Read Lab #9 (textbook pages 351 – 374) Get Logger Pro!

	MONDAY December 17 Day 6	TUESDAY December 18 Day 1	WEDNESDAY December 19 Day 2	THURSDAY December 20 Day 3	FRIDAY December 21 Day 4
MOLEBIO	Lab #9: DNA Restriction Analysis prepare gel before class load and run gel after class* visualization with SYBR stain	Lab #9: DNA Restriction Analysis analyze results	Lab #9: DNA Restriction Analysis re-analyze results using Logger Pro	(catch up day if needed)	(catch up day if needed)
HW	Read Lab #9 (textbook pages 351 – 374) Lab #9 due Thursday Do Questions 7 – 10	Read Lab #9 (textbook pages 351 – 374) Lab #9 due Thursday Do Questions 11 – 14	Lab #9 with Logger Pro extension due tomorrow	Read Lab #10 (textbook pages 375 – 384)	Read Lab #10 (textbook pages 375 – 384)

	MONDAY December 24	TUESDAY December 25	WEDNESDAY December 26	THURSDAY December 27	FRIDAY December 28
MOLEBIO					
HW					

	MONDAY December 31	TUESDAY January 1	WEDNESDAY January 2	THURSDAY January 3 Day 5	FRIDAY January 4 Day 6
MOLEBIO				<u>Lab #10</u>: Effects of DNA Methylation on Restriction discuss concept of lab review protocol	<u>Lab #10</u>: Effects of DNA Methylation on Restriction run methylase reaction; prepare 0.8% agarose
HW				Read Lab #10 (textbook pages 375 – 384)	

	MONDAY January 7 Day 1	TUESDAY January 8 Day 2	WEDNESDAY January 9 Day 3	THURSDAY January 10 Day 4	FRIDAY January 11 Day 5
MOLEBIO	<u>Lab #10</u>: Effects of DNA Methylation on Restriction run restriction reaction	<u>Lab #10</u>: Effects of DNA Methylation on Restriction cast gels in boxes; load and run gel; visualize with SYBR-stain	<u>Lab #10</u>: Effects of DNA Methylation on Restriction analyze fragments; clean up stations **Lecture:** Bacterial Genetics	**Lecture:** Bacterial Genetics	**Lecture:** Bacterial Genetics
HW	Lab #10 due Thursday: Questions #1 – 6 on page 383 – 384	Lab #10 due Thursday: Questions #1 – 6 on page 383 – 384	Lab #10 due tomorrow: Questions #1 – 6 on page 383 – 384 Read pages: 130 – 131 116 – 129 in DNA Science	Read pages: 130 – 131 116 – 129 in DNA Science	Read pages: 130 – 131 116 – 129 in DNA Science

	MONDAY January 14 Day 6	TUESDAY January 15 Day 1	WEDNESDAY January 16 Day 2	THURSDAY January 17 Day 3	FRIDAY January 18 Day 4
MOLEBIO	<u>Lab #11</u>: Engineering a Plasmid	Plasmid Mapping Activity 1	Prepping for Bacterial Culture Techniques Labs using an autoclave preparing LB plates preparing LB/amp plates	Prepping for Bacterial Culture Techniques Labs using an autoclave preparing group bottles of LB broth setting up the group stations reviewing the tools of microbiology	Plasmid Mapping Activity 2
HW	Lab #11 due tomorrow	Plasmid Mapping Activity 1 due Friday; Read Labs #12 – 14; Read pages 116-119, 331-350	Plasmid Mapping Activity 1 due Friday; Read Labs #12 – 14; Read pages 116-119, 331-350	Plasmid Mapping Activity 1 due tomorrow; Read Labs #12 – 14; Read pages 116-119, 331-350	Plasmid Mapping Activity 2 due Monday 2/28; Read Labs #12 – 14; Read pages 116-119, 331-350

	MONDAY January 21	TUESDAY January 23	WEDNESDAY January 24	THURSDAY January 25	FRIDAY January 26
MOLEBIO	REGENTS WEEK – NO CLASSES				
HW					

	MONDAY January 28 Day 1	TUESDAY January 29 Day 2	WEDNESDAY January 30 Day 3	THURSDAY January 31 Day 4	FRIDAY February 1 Day 5
MOLEBIO	Prepping for Bacterial Culture Techniques Labs relearning serial dilutions reviewing the lab protocols	<u>Lab #12</u>: Bacterial Culture Techniques isolation of individual *E. coli* MM294 colonies understanding antibiotic resistance	<u>Lab #12 – 13</u>: Bacterial Culture Techniques observing effects of antibiotic resistance preparation of an overnight suspension culture	<u>Lab #13 – 14</u>: Bacterial Culture Techniques determining the number of individual cells in an overnight culture serial dilutions in practice	<u>Lab #14</u>: Bacterial Culture Techniques calculation of cells in suspension
HW	Read Labs #12 – 14; Read pages: 116-119, 331-350	Read Labs #12 – 14; Read pages: 116-119, 331-350	Lab #12 due tomorrow; Read Lab #13 – 14	Lab #13 due tomorrow; Read Lab # 14	Lab #14 due Modnay; Read Lab #15

	MONDAY February 4 Day 6	TUESDAY February 5 Day 1	WEDNESDAY February 6 Day 2	THURSDAY February 7 Day 3	FRIDAY February 8 Day 4
MOLEBIO	<u>Lab #15</u>: Bacterial Culture Techniques (media making day) reviewing the Part A and Part B protocols; setting up the schedules for sample readings	<u>Lab #15</u>: Bacterial Culture Techniques <u>Part A</u> – determination of *E. coli* growth pattern via spectrophotometry	<u>Lab #15</u>: Bacterial Culture Techniques analysis of Part A setting up the schedules for sample readings preparation of tubes and plates for Tuesday	<u>Lab #15</u>: Bacterial Culture Techniques <u>Part B</u> – determination of *E. coli* cell count via spectrophotometry and serial dilutions	<u>Lab #15</u>: Bacterial Culture Techniques analysis of part B
HW	Be ready for Lab #15 Part A tomorrow;	Be ready for Lab #15 analysis	Be ready for Lab #15 Part B tomorrow	Be ready for Lab #15 Part B tomorrow	Lab #15 due Monday; Read pages: 122 – 125 385 – 398 (DNA Science Lab #5*)

	MONDAY February 11 Day 5	TUESDAY February 12 Day 6	WEDNESDAY February 13 Day 1	THURSDAY February 14 Day 2	FRIDAY February 15 Day 3
MOLEBIO	Prepping for Bacterial Culture Techniques Labs wrap up Media Week Eyes of Nye: Antibiotics	Making Media LB plates LB/amp plates discuss theory of bacterial transformation	Making Media LB plates LB/amp plates review transformation procedure	RESISTANCE	RESISTANCE
HW	Read "Origins and Evolution of Antibiotic Resistance" Journal Article	Read pages: 385 – 398 (DNA Science Lab #5*) Read "Transformations" handout	Read pages: 385 – 398 (DNA Science Lab #5*) Read "Transformations" handout		

	MONDAY February 18	TUESDAY February 19	WEDNESDAY February 20	THURSDAY February 21	FRIDAY February 22
MOLEBIO					
HW					

	MONDAY February 25 Day 4	TUESDAY February 26 Day 5	WEDNESDAY February 27 Day 6	THURSDAY February 28 Day 1	FRIDAY March 1 Day 2
MOLEBIO	<u>Lab #16</u>: Rapid Colony Transformation of *E. coli* with Plasmid DNA streaking starter plates mechanisms of transformation	<u>Lab #16</u>: Rapid Colony Transformation of *E. coli* with Plasmid DNA transformation using pAMP	<u>Lab #16</u>: Rapid Colony Transformation of *E. coli* with Plasmid DNA analysis of results using pAMP streaking starter plates [pGREEN] protocol	<u>Lab #16</u>: Rapid Colony Transformation of *E. coli* with Plasmid DNA transformation with pGREEN using different heat shock times	<u>Lab #16</u>: Rapid Colony Transformation of *E. coli* with Plasmid DNA analysis of results using pGREEN and different heat shock times streaking starter plates Bonnie Bassler Video 1
HW	Read pages: 385 – 398 (DNA Science Lab #5*)	Read pages: 385 – 398 (DNA Science Lab #5*)	Answer questions #1 – 4 on pages 395 – 396	Answer questions #5 – 6 on pages 395 – 396	Read pVIB handout;

	MONDAY March 4 Day 3	TUESDAY March 5 Day 4	WEDNESDAY March 6 Day 5	THURSDAY March 7 Day 6	FRIDAY March 8 Day 1
MOLEBIO	<u>Lab #16</u>: Rapid Colony Transformation of *E. coli* with Plasmid DNA transformation using pVIB	<u>Lab #16</u>: Rapid Colony Transformation of *E. coli* with Plasmid DNA analysis of results using pVIB Bonnie Bassler TED Talk	Making Media make media for Labs #17 – 19 Exam 'Review'	Making Media make media for Labs #17 – 19 Exam 'Review'	EXAM #5 DNA RESTRICTION ANALYSIS & BACTIERAL TRANSFORMATION make media for Labs #17 – 19
HW	pVIB handout due; EXAM #5 FRIDAY	EXAM #5 FRIDAY	EXAM #5 FRIDAY	EXAM #5 TOMORROW	Read pages: 399 – top of 407 (DNA Science Lab #6*)

	MONDAY March 11 Day 2	TUESDAY March 12 Day 3	WEDNESDAY March 13 Day 4	THURSDAY March 14 Day 5	FRIDAY March 15 Day 6
MOLEBIO	Lab #17: Assay for an Antibiotic Resistance Enzyme streak starters protocol review	Lab #17: Assay for an Antibiotic Resistance Enzyme transformation of MM294 with pAMP review lab protocol during incubation	Lab #17: Assay for an Antibiotic Resistance Enzyme preparation of an overnight suspension culture of transformed *E.coli* +pAMP review tomorrow's protocol	Lab #17: Assay for an Antibiotic Resistance Enzyme preparation of control and pAMP 'sup' via centrifugation review tomorrow's protocol	Lab #17: Assay for an Antibiotic Resistance Enzyme assay of β-lactamase via spectrophotometry
HW	Read pages: 399 – top of 407 (DNA Science Lab #6*)	Read pages: 399 – top of 407 (DNA Science Lab #6*)	Read pages: 399 – top of 407 (DNA Science Lab #6*)	Read pages: 399 – top of 407 (DNA Science Lab #6*)	Answer questions #1 – 6 on pages 406 – 407 Read pages: 411 – 422 (DNA Science Lab #7*)

	MONDAY March 18 Day 1	TUESDAY March 19 Day 2	WEDNESDAY March 20 Day 3	THURSDAY March 21 Day 4	FRIDAY March 22
MOLEBIO	<u>Lab #18</u>: Purification and Identification of Recombinant GFP streak starter plates review entire protocol	<u>Lab #18</u>: Purification and Identification of Recombinant GFP transformation of MM294 with pGREEN review lab concept during incubation	<u>Lab #18</u>: Purification and Identification of Recombinant GFP preparation of an overnight suspension culture of transformed *E.coli* +pGREEN review tomorrow's protocol	<u>Lab #18</u>: Purification and Identification of Recombinant GFP lyzozyme used to lysate cells to release proteins	Dr. Tsien Lecture on GFP
HW	Read pages: 411 – 422 (DNA Science Lab #7) Review pages: 385 – 398 (DNA Science Lab #5*)	Read pages: 411 – 422 (DNA Science Lab #7) Review pages: 340 – 343 (DNA Science Lab #2B*)	Review Procedure on pages 414 – 416	Review Procedure on pages 414 – 416	Read pages: 125 – 127 423 – 441 (DNA Science Lab #8*)

	MONDAY March 25 Day 5	TUESDAY March 26 Day 6	WEDNESDAY March 27 Day 1	THURSDAY March 28 Day 2	FRIDAY March 29 Day 3
MOLEBIO	Lab #18: Purification and Identification of Recombinant GFP purification of GFP by HIC (Hydrophobic Interaction Chromatography)	Lab #18: Purification and Identification of Recombinant GFP PAGE analysis of purified GFP stain/destain with Coomassie Blue streak starter plates for tomorrow	Lab #19: Purification and Identification of Plasmid DNA rapid colony transformation of *E.coli* with pAMP discuss concept of a miniprep during incubation	Lab #19: Purification and Identification of Plasmid DNA calculating transformation efficiency preparation of an overnight suspension culture of our *E.coli* MM294/pAMP transformants	Lab #19: Purification and Identification of Plasmid DNA preparation of duplicate minipreps (PART I)
HW	Review Procedure on pages 419 – 420	Answer questions 1 – 4 on page 416 Read pages: 125 – 127 423 – 441 (DNA Science Lab #8*)	Review page: 423 – 441 (342)	Review pages: 423 – 441 (427 – 428)	Review pages: 423 – 441 (428 – 429)

	MONDAY April 1 Day 4	TUESDAY April 2 Day 5	WEDNESDAY April 3 Day 6	THURSDAY April 4 Day 1	FRIDAY April 5 Day 2
MOLEBIO	<u>Lab #19</u>: Purification and Identification of Plasmid DNA preparation of duplicate minipreps (PART II)	<u>Lab #19</u>: Purification and Identification of Plasmid DNA set up and run restriction digest of purified pAMP with *Bam*HI/ *Hin*dIII prepare 1X TBE buffer prepare 0.8% agarose	<u>Lab #19</u>: Purification and Identification of Plasmid DNA separate DNA fragments by electrophoresis analyze results!	<u>Labs #20 – 23</u>: Discussion of the next Lab Stream • Ligation • Transformation • Replica Plating • Miniprep	Making Media LB plates; LB/amp plates; LB/kan plates; LB/amp/kan plates LB broth ; LB/amp broth toothpicks; Q-tips GTE (glucose/tris/EDTA); TE (tris/EDTA); SDS/NaOH; KOAc; isopropanol; ethanol
HW	Review pages: 423 – 441 (431 – 435) Answer questions 1 – 3 on page 430	Review pages: 423 – 441 (435 – 436)	Review pages: 437 – 439 Answer questions 1 – 3a, b, c on page 439 (use Logger Pro for #1)	Read pages: 443 – 455	Review pages: 443 – 455 (447 – 448) (DNA Science Lab #9*)

	MONDAY April 8 Day 3	TUESDAY April 9 Day 4	WEDNESDAY April 10 Day 5	THURSDAY April 11 Day 6	FRIDAY April 12 Day 1
MOLEBIO	<u>Lab #20</u>: Recombination of Antibiotic Resistance Genes restriction digest of the plasmids pAMP and pKAN prepare 0.8% agarose	<u>Lab #20</u>: Recombination of Antibiotic Resistance Genes separate digested plasmid fragments by electrophoresis ("The Prudent Control")	<u>Lab #20</u>: Recombination of Antibiotic Resistance Genes ligation of digested plasmid DNA prepare 0.8% agarose	<u>Lab #20</u>: Recombination of Antibiotic Resistance Genes separate ligated DNA fragments by electrophoresis	<u>Lab #21</u>: Transformation of *E. coli* MM294 with Recombinant DNA analyze ligation results streak starter plates of *E.coli* MM294 (at 25^0)
HW	Review pages: 443 – 455 (448 – 451) (DNA Science Lab #9*)	Review pages: 443 – 455 (453 – 454)	Review pages: 443 – 455 (454*) Read pages: 457 – 470 (DNA Science Lab #10*)	Answer questions 1 – 3, 5 - 7 on page 455 Read pages: 457 – 470 (DNA Science Lab #10*)	Review pages: 457 – 470 (340 – 342)

	MONDAY April 15 Day 2	TUESDAY April 16 Day 3	WEDNESDAY April 17 Day 4	THURSDAY April 18 Day 5	FRIDAY April 19
MOLEBIO	Lab #21: Transformation of *E. coli* MM294 with Recombinant DNA prepare overnight culture of *E.coli* MM294	Lab #21: Transformation of *E. coli* MM294 with Recombinant DNA preparation of a 250 mL mid-log suspension culture (pg. 347-348) preparation of competent cells (pg. 460-462)	Lab #21: Transformation of *E. coli* MM294 with Recombinant DNA perform *E. coli* transformation with recombinant DNA	Lab #21: Transformation of *E. coli* MM294 with Recombinant DNA analysis of transformation Answer Questions #1-4 on page 469-470	
HW	Review pages: 457 – 470 (347 – 348) (460 – 462)	Review pages: 457 – 470 (463 – 468)	Review pages: 457 – 470 (468 – 470)	Complete Questions #1, 3, & 4 on pg. 469 – 470 Read pages: 473 – 477 (DNA Science Lab #11*)	

	MONDAY April 22	TUESDAY April 23	WEDNESDAY April 24	THURSDAY April 25	FRIDAY April 26
MOLEBIO					
HW					

	MONDAY April 29 Day 6	TUESDAY April 30 Day 1	WEDNESDAY May 1 Day 2	THURSDAY May 2 Day 3	FRIDAY May 3 Day 4
MOLEBIO	Lab #22: Replica Plating to Identify Mixed *E.coli* Populations	Lab #22: Replica Plating to Identify Mixed *E.coli* Populations analysis of replica plates start prepping the Miniprep Answer Questions #1-3 on page 477	Lab #23: Purification and Identification of Recombinant Plasmid DNA preparation of an overnight suspension culture of our transformed *E.coli*	Lab #23: Purification and Identification of Recombinant Plasmid DNA preparation of duplicate minipreps (PART I)	Lab #23: Purification and Identification of Recombinant Plasmid DNA preparation of duplicate minipreps (PART II)
HW	Review pages: 473 – 477	Complete Questions #1 – 3 on pg. 477 Read pages: 481 – 499 (DNA Science Lab #12*) Review pages: (340 – 342)	Review pages: 481 – 499 (484 – 485)	Review pages: 481 – 499 (486)	Review pages: 481 – 496 (487 – 490)

	MONDAY May 6 Day 5	TUESDAY May 7 Day 6	WEDNESDAY May 8 Day 1	THURSDAY May 9 Day 2	FRIDAY May 10 Day 3
MOLEBIO	Lab #23: Purification and Identification of Recombinant Plasmid DNA set up and run restriction digest of purified ligation products with *Bam*HI / *Hin*dIII	Lab #23: Purification and Identification of Recombinant Plasmid DNA separate DNA fragments by electrophoresis	Lab #23: Purification and Identification of Recombinant Plasmid DNA recap of our 'simple recombinant'	(REVIEW FOR TEST; catch up day if needed)	EXAM #6 LIGATION OF, TRANSFORMATION WITH, AND PURIFICATION/ IDENTIFICATION OF RECOMBINANT DNA
HW	Review pages: 481 – 496 (490 – 491)	Review pages: 481 – 496	Based on your analysis, make scale restriction maps of your M1 and M2 plasmids. #9 on page 496		
	Period 6: ----- Period 8: -----	Period 6: ----- Period 8: -----	Period 6: ----- Period 8: -----	Period 6: ----- Period 8: -----	Period 6: ----- Period 8: -----

	MONDAY May 13 Day 4	TUESDAY May 14 Day 5	WEDNESDAY May 15 Day 6	THURSDAY May 16 Day 1	FRIDAY May 17 Day 2
MOLEBIO	Making Media make media for Labs #25 – end	Making Media make media for Labs #25 – end	Lab #26: Swabbing the School… ☺	Lab #26: Swabbing the School… ☺	Lab #25: Fluorescent *E. coli* Art Show! streak starter plates of *E.coli* MM294 & HB101 (at 25^0)
HW			Read Lab #25	Read Lab #25	Read Lab #25
	Period 6: ----- Period 8: -----	Period 6: ----- Period 8: -----	Period 6: ----- Period 8: -----	Period 6: ----- Period 8: -----	Period 6: ----- Period 8: -----

	MONDAY May 20 Day 3	TUESDAY May 21 Day 4	WEDNESDAY May 22 Day 5	THURSDAY May 23 Day 6	FRIDAY May 24 Day 1
MOLEBIO	<u>Lab #25</u>: **Fluorescent *E. coli* Art Show!** transformation of *E. coli* MM294 with 'fluorescent' plasmids	<u>Lab #25</u>: **Fluorescent *E. coli* Art Show!** preparation of fluorescent lawns	<u>Lab #25</u>: **Fluorescent *E. coli* Art Show!** painting with bacteria	<u>Lab #25</u>: **Fluorescent *E. coli* Art Show!**	
HW	Read Lab #25	Answer Lab #25 Questions			

	MONDAY May 27	TUESDAY May 28 Day 2	WEDNESDAY May 29 Day 3	THURSDAY May 30 Day 4	FRIDAY May 31 Day 4
MOLEBIO					
HW					

	MONDAY June 3	TUESDAY June 4 Day 5	WEDNESDAY June 5 Day 6	THURSDAY June 6 Day 1	FRIDAY June 7 Day 2
MOLEBIO	REGENTS EXAM				
HW					

	MONDAY June 10 Day 3	TUESDAY June 11 Day 6	WEDNESDAY June 12 Day 1	THURSDAY June 13 Day 2	FRIDAY June 14 Day 3
MOLEBIO	SENIOR DAY OF OPTIONAL ATTENDANCE DUE TO A CRITICAL MASS OF APATHY				SENIOR PICNIC
HW					

MOLEBIO		Lab #24: Creating a Library of Bacteriophage λ and pBLU Making Media: LB plates LB/amp/X-gal plates $CaCl_2$	Lab #24: Creating a Library of Bacteriophage λ and pBLU restriction digest of the plasmid pBLU and λ DNA with *Bam*HI and *Hin*dIII; predict fragments of pBLU and λ DNA prepare 0.8% agarose	Lab #24: Creating a Library of Bacteriophage λ and pBLU separate digested plasmid fragments by electrophoresis ("The Prudent Control")	Lab #24: Creating a Library of Bacteriophage λ and pBLU ligation of digested plasmid DNA prepare 0.8% agarose
HW		Review pages: (447 – 448)	Review pages: (448 – 450)	Review pages: (454)	Review pages: (454)

MOLEBIO	Lab #24: Creating a Library of Bacteriophage λ and pBLU separate ligated DNA fragments by electrophoresis	Lab #24: Creating a Library of Bacteriophage λ and pBLU reviewing classic protocol for preparing competent cells	Lab #24: Creating a Library of Bacteriophage λ and pBLU streak starter plates of *E.coli* MM294	Lab #24: Creating a Library of Bacteriophage λ and pBLU prepare overnight culture of *E.coli* MM294	Lab #24: Creating a Library of Bacteriophage λ and pBLU preparation of a 250 mL mid-log suspension culture (pg. 347-348) preparation of competent cells (pg. 460-462)
HW	Review pages: (336 – 338)	Review pages: (336 – 338)	Review pages: (342)	Review pages: (347 – 348) (460 – 462)	Review pages: (463 – 468)

MOLEBIO	**Lab #24:** Creating a Library of Bacteriophage λ and pBLU perform *E. coli* transformation with recombinant DNA	**Lab #24:** Creating a Library of Bacteriophage λ and pBLU analysis of transformation selection of colonies for miniprep and re-streak on new LB/amp/X-gal plates	**Lab #24:** Creating a Library of Bacteriophage λ and pBLU preparation of duplicate minipreps (PART I)	**Lab #24:** Creating a Library of Bacteriophage λ and pBLU preparation of duplicate minipreps (PART II)	**Lab #24:** Creating a Library of Bacteriophage λ and pBLU set up and run restriction digest of purified plasmid DNA with *Bam*HI / *Hin*dIII prepare 0.8% agarose
HW	Review pages: (468 – 470) (336 – 338)	Review pages: (464 – 485)	Review pages: (486)	Review pages: (487 – 490)	Review pages: (490 – 491)
	Period 1: ----- Period 6: -----	Period 1: ----- Period 6: -----	Period 1: ----- Period 6: -----	Period 1: ----- Period 6: -----	Period 1: ----- Period 6: Devin

	MONDAY May 21 Day 3	TUESDAY May 22 Day 4	WEDNESDAY May 23 Day 5	THURSDAY May 24 Day 6	FRIDAY May 25 Day X
MOLEBIO	Lab #24: Creating a Library of Bacteriophage λ and pBLU separate purified plasmid DNA fragments by electrophoresis	Lab #24: Creating a Library of Bacteriophage λ and pBLU analyze fragments catalog library!	Lab #24: Creating a Library of Bacteriophage λ and pBLU (CATCH UP DAY!)	Lab #24: Creating a Library of Bacteriophage λ and pBLU (CATCH UP DAY!)	Making Media lots of LB/amp plates & nutrient agar plates streak starters for transformation of *E. coli* MM294 with PM1/PM2
HW					Read Lab #25