	MONDAY September 4	TUESDAY September 5	WEDNESDAY September 6 Day 1	THURSDAY September 7 Day 2	FRIDAY September 8 Day 3
MOLEBIO			Introductions; Syllabus; Textbooks	Chemistry Skills QUIZ How to make various molar solutions Video Tutorials: safety measurement making solutions	Making Solutions Practice;
HW			Bring a calculator!	Read DNA Science (pg. 321-330); Read Lab #1	Read DNA Science (pg. 321-330); Read Lab #1; Be ready for Practical

	MONDAY September 11 Day 4	TUESDAY September 12 Day 5	WEDNESDAY September 13 Day 6	THURSDAY September 14 Day 1	FRIDAY September 15 Day 2
MOLEBIO	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	**Lecture:** Basics of Chemistry	**Lecture:** Water, Buffers, and pH
HW	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	Khan Academy/ Bozeman Biology/ other video links	Read through "The Nature of Amino Acids" handout Read "Gel Electrophoresis MANUAL"

	MONDAY September 18 Day 3	TUESDAY September 19 Day 4	WEDNESDAY September 20 Day 5	THURSDAY September 21 Day 6	FRIDAY September 22 Day 1
MOLEBIO	Henderson Hasselbach Equation	H-H questions Lecture: Basics of Gel Electrophoresis (Part I)	<u>Lab #2</u>: Gel Electrophoresis: Practicing Loading Gels prepping for RUN 1: using 50X TAE buffer; dilution to 1X TAE; making 0.8% agarose in 1X TAE	<u>Lab #2</u>: Gel Electrophoresis: Practicing Loading Gels prepping for RUN 1: finish making solutions; cast gels	<u>Lab #2</u>: Gel Electrophoresis RUN 1 – control
HW	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	Read Lab #2	Read Lab #2	Lab #2 due Wednesday;

	MONDAY September 25 Day 2	TUESDAY September 26 Day 3	WEDNESDAY September 27 Day 4	THURSDAY September 28 Day 5	FRIDAY September 29
MOLEBIO	Lab #2: Gel Electrophoresis prepping for RUN 2: different [agarose] or voltage condition	Lab #2: Gel Electrophoresis RUN 2 - variation	**EXAM #1** GEL ELECTROPHORESIS HENDERSON-HASSELBACH EQUATION SOLUTION STUFF	Lecture: Carbon Skeletons and Amino Acids	Lecture: Protein Structure
HW	Lab #2 due Thursday; **EXAM #1 WEDNESDAY**	Lab #2 due tomorrow; **EXAM #1 TOMORROW**	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"

	MONDAY October 2 Day 6	TUESDAY October 3 Day 1	WEDNESDAY October 4 Day 2	THURSDAY October 5 Day 3	FRIDAY October 6
MOLEBIO	Learning all 20 Amino Acids!	Learning all 20 Amino Acids! 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!	STAFF DAY
HW	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 Lab #3; Complete questions #3, 5 – 7 in "Understanding the Nature of Amino Acids"	Read Lab #3; BE READY FOR PRACTICAL APPLICATION OF CHEMISTRY!	

	MONDAY October 9	TUESDAY October 10 Day 4	WEDNESDAY October 11 Day 5	THURSDAY October 12 Day 6	FRIDAY October 13 Day 1
MOLEBIO	NO SCHOOL	<u>Lab #3</u>: 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	<u>Lab #3</u>: 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	<u>Lab #3</u>: Electrophoretic Separation of Proteins cast gel for RUN 1 diluting proteins learning staining/destaining procedure	<u>Lab #3</u>: Electrophoretic Separation of Proteins RUN 1: Tris-Glycine at pH 8.6 cast gel for RUN 2
HW		Read Lab #3; Read protein article from Scientific American Read “Protein Gel Electrophoresis MANUAL”	Read Lab #3; Read protein article from Scientific American Read “Protein Gel Electrophoresis MANUAL”	Read Lab #3;	Read Lab #3; EXAM #2 WEDNESDAY

	MONDAY October 16 Day 2	TUESDAY October 17 Day 3	WEDNESDAY October 18 Day 4	THURSDAY October 19 Day 5	FRIDAY October 20 Day 6
MOLEBIO	Lab #3: Electrophoretic Separation of Proteins RUN 2: Acetate at pH 5.5	Lab #3: Electrophoretic Separation of Proteins RUN 3: Tris-Glycine-SDS SDS-PAGE	**EXAM #2** AMINO ACIDS PROTEINS GEL ELECTROPHORESIS	Lab #4: Introduction to Spectro-photometry	Lab #4: Introduction to Spectro-photometry
HW	Lab #3 due Friday; EXAM #2 WEDNESDAY	Lab #3 due tomorrow; EXAM #2 TOMORROW	Read Lab #4	Be ready for Lab #4!	Lab #4 due tomorrow

	MONDAY October 23 Day 1	TUESDAY October 24 Day 2	WEDNESDAY October 25 Day 3	THURSDAY October 26 Day 4	FRIDAY October 27 Day 5
MOLEBIO	Lecture: Enzymes General Properties	Lecture: Enzymes Factors that Affect Reaction Rates Michaelis-Menton equation Lineweaver-Burk	Lecture: Enzymes Kinetics Questions	Lecture: Enzyme Regulation	<u>Lab #5</u>: Enzyme Kinetics (preview of lab)
HW	Read over NOTES; Read over Lab #5 (yes, I know it's long!)	Read over NOTES; Read Lab #5	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!

	MONDAY October 30 Day 6	TUESDAY October 31 Day 1	WEDNESDAY November 1 Day 2	THURSDAY November 2 Day 3	FRIDAY November 3 Day 4
MOLEBIO	<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	<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
HW	Finish Activity 1 questions and graphs; Lab #5 due next Monday	Finish Activity 2 questions and graphs; Lab #5 due next Monday	Finish Activity 3 questions and graphs; Lab #5 due next Monday	Finish Activity 4 questions and graphs; Lab #5 due next Monday EXAM #3 MONDAY	Finish Activity 5 questions and graphs; Lab #5 due Monday EXAM #3 MONDAY

	MONDAY November 6 Day 5	TUESDAY November 7 Day 6	WEDNESDAY November 8 Day 1	THURSDAY November 9 Day 2	FRIDAY November 10
MOLEBIO	EXAM #3 ALL ABOUT ENZYMES!	Lecture: DNA History of Discovery	Lecture: DNA DNA Structure & Replication	Lecture: DNA DNA Structure & Replication	
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 pg. 3 – 17; 24 – 34; 36 – 43 Read 192 - 198	

	MONDAY November 13 Day 3	TUESDAY November 14 Day 4	WEDNESDAY November 15 Day 5	THURSDAY November 16 Day 6	FRIDAY November 17 Day 1
MOLEBIO	**Lecture:** DNA Amplification via PCR	**Lecture:** DNA DNA Sequencing	**Lecture:** DNA Human Genome Project	**Lecture:** Basics of Gel Electrophoresis (Part II)	**Lab #6:** PV92 PCR Bioinformatics (protocol review)
HW	Read pg. 3 – 17; 24 – 34; 36 – 43 Read 192 - 198	Read pg. 3 – 17; 24 – 34; 36 – 43 Read Lab #6	Read pg. 3 – 17; 24 – 34; 36 – 43 Read Lab #6	Read pg: 192 – 198 Read Lab #6	Be ready for Part I of Lab #6 tomorrow!

	MONDAY November 20 Day 2	TUESDAY November 21 Day 3	WEDNESDAY November 22	THURSDAY November 23	FRIDAY November 24
MOLEBIO	<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)			
HW	Read Lab #6 Answer Questions #1 – 3 on page 27	Read Lab #6 Lab #6 due next Wednesday Answer Questions #1 – 5 on page 28			

	MONDAY November 27 Day 4	TUESDAY November 28 Day 5	WEDNESDAY November 29 Day 6	THURSDAY November 30 Day 1	FRIDAY December 1 Day 2
MOLEBIO	<u>Lab #6</u>: PV92 PCR Bioinformatics Part III: gel electrophoresis of amplified PCR samples	<u>Lab #6</u>: 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
HW	Read Lab #6 Lab #6 due Wednesday Answer Questions #1 – 4 on page 29	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 TUESDAY

	MONDAY December 4 Day 3	TUESDAY December 5 Day 4	WEDNESDAY December 6 Day 5	THURSDAY December 7 Day 6	FRIDAY December 8 Day 1
MOLEBIO	Lecture: Protein Synthesis Mutations	EXAM #4 DNA AND PROTEIN SYNTHESIS	Lecture: Restriction Enzymes	Lab #7: Restriction Enzyme Simulation	Lab #8: Restriction Enzyme Simulation using NEB Cutter
HW	Read pg. 53 – 58; 65 – 67 EXAM #4 TOMORROW	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

	MONDAY December 11 Day 2	TUESDAY December 12 Day 3	WEDNESDAY December 13 Day 4	THURSDAY December 14 Day 5	FRIDAY December 15 Day 6
MOLEBIO	<u>Lab #9</u>: DNA Restriction Analysis run restriction digest <u>prepare</u>: 10X TBE stock buffer dilute 1X running buffer 25 mL of 0.8% agarose	<u>Lab #9</u>: DNA Restriction Analysis prepare gel before class load and run gel after class* visualization with SYBR stain	<u>Lab #9</u>: DNA Restriction Analysis analyze results	<u>Lab #9</u>: DNA Restriction Analysis re-analyze results using Logger Pro	<u>Lab #10</u>: Effects of DNA Methylation on Restriction discuss concept of lab review protocol
HW	Read Lab #9 (textbook pages 351 – 374) Come in to prepare gel before class! Get Logger Pro!	Read Lab #9 (textbook pages 351 – 374) Lab #9 due Friday Do Questions 7 – 10	Read Lab #9 (textbook pages 351 – 374) Lab #9 due Friday Do Questions 11 – 14	Read Lab #10 (textbook pages 375 – 384) Lab #9 with Logger Pro extension due tomorrow	Read Lab #10 (textbook pages 375 – 384)

	MONDAY December 18 Day 1	TUESDAY December 19 Day 2	WEDNESDAY December 20 Day 3	THURSDAY December 21 Day 4	FRIDAY December 22 Day 5
MOLEBIO	Lab #10: Effects of DNA Methylation on Restriction run methylase reaction; prepare 0.8% agarose	Lab #10: Effects of DNA Methylation on Restriction run restriction reaction	Lab #10: Effects of DNA Methylation on Restriction cast gels in boxes; load and run gel; visualize with SYBR-stain	Lab #10: Effects of DNA Methylation on Restriction analyze fragments; clean up stations	(catch up day)
HW	Lab #10 due Friday: Questions #1 – 6 on page 383 – 384	Lab #10 due Friday: Questions #1 – 6 on page 383 – 384	Lab #10 due Friday: 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

	MONDAY December 26	TUESDAY December 27	WEDNESDAY December 28	THURSDAY December 29	FRIDAY December 30
MOLEBIO					
HW					

	MONDAY January 1	TUESDAY January 2 Day 6	WEDNESDAY January 3 Day 1	THURSDAY January 4 Day 2	FRIDAY January 5 Day 3
MOLEBIO		Lecture: Bacterial Genetics	Lecture: Bacterial Genetics	Lecture: Bacterial Genetics	<u>Lab #11</u>: Engineering a Plasmid
HW		Read pages: 130 – 131; 116 – 129 in DNA Science	Read pages: 130 – 131; 116 – 129 in DNA Science	Read Lab #11	Lab #11 due Monday

	MONDAY January 8 Day 4	TUESDAY January 9 Day 5	WEDNESDAY January 10 Day 6	THURSDAY January 11 Day 1	FRIDAY January 12 Day 2
MOLEBIO	Plasmid Mapping Activity 1	Plasmid Mapping Activity 2	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	Prepping for Bacterial Culture Techniques Labs relearning learning serial dilutions reviewing the lab protocols
HW	Plasmid Mapping Activity 1 due tomorrow;	Plasmid Mapping Activity 2 due next Tuesday; Read pages 331 – 350 (Lab #2*) in DNA Science	Plasmid Mapping Activity 2 due Tuesday; Read Labs #12 – 14; Read pages 116-119, 331-350	Plasmid Mapping Activity 2 due Tuesday; Read Labs #12 – 14; Read pages 116-119, 331-350	Plasmid Mapping Activity 2 due Tuesday; Read Labs #12 – 14; Read pages 116-119, 331-350

	MONDAY January 15	TUESDAY January 16 Day 3	WEDNESDAY January 17 Day 4	THURSDAY January 18 Day 5	FRIDAY January 19 Day 6
MOLEBIO		<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	Lab #12 Questions; Read Lab #13 – 14	Lab #13 Questions; Read Lab # 14	Lab #14 Questions; Read Lab #15

	MONDAY January 22	TUESDAY January 23	WEDNESDAY January 24	THURSDAY January 25	FRIDAY January 26
MOLEBIO	REGENTS WEEK – NO CLASSES				
HW					

	MONDAY January 29 Day 1	TUESDAY January 30 Day 2	WEDNESDAY January 31 Day 3	THURSDAY February 1 Day 4	FRIDAY February 2 Day 5
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 preparation of tubes and plates for tomorrow	<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 tomorrow	<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 5 Day 6	TUESDAY February 6 Day 1	WEDNESDAY February 7 Day 2	THURSDAY February 8 Day 3	FRIDAY February 9 Day 4
MOLEBIO	Making Media LB plates LB/amp plates discuss theory of bacterial transformation	Making Media LB plates LB/amp plates review transformation procedure	<u>Lab #16</u>: Rapid Colony Transformation of *E. coli* with Plasmid DNA streaking starter plates	<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
HW	Read pages: 385 – 398 (DNA Science Lab #5*) Read "Transformations" handout	Read pages: 385 – 398 (DNA Science Lab #5*) Read "Transformations" handout	Read pages: 385 – 398 (DNA Science Lab #5*)	Read pages: 385 – 398 (DNA Science Lab #5*)	Answer questions #1 – 4 on pages 395 – 396

	MONDAY February 12 Day 5	TUESDAY February 13 Day 6	WEDNESDAY February 14 Day 1	THURSDAY February 15 Day 2	FRIDAY February 16 Day 3
MOLEBIO	<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	<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	EXAM #5 DNA RESTRICTION ANALYSIS & BACTIERAL TRANSFORMATION make media for Labs #17 – 18 streak starters
HW	Answer questions #5 – 6 on pages 395 – 396	Read pVIB handout; EXAM #5 FRIDAY	Read pVIB handout; EXAM #5 FRIDAY	Read pVIB handout; EXAM #5 TOMORROW	Read pages: 399 – top of 407 (DNA Science Lab #6*)

	MONDAY February 19	TUESDAY February 20	WEDNESDAY February 21	THURSDAY February 22	FRIDAY February 23
MOLEBIO					
HW					

	MONDAY February 26 Day 4	TUESDAY February 27 Day 5	WEDNESDAY February 28 Day 6	THURSDAY March 1 Day 1	FRIDAY March 2 Day 2
MOLEBIO	Making Media make media for Labs #17 – 18 streak starters	<u>Lab #17</u>: Assay for an Antibiotic Resistance Enzyme transformation of MM294 with pAMP review lab protocol during incubation	<u>Lab #17</u>: Assay for an Antibiotic Resistance Enzyme preparation of an overnight suspension culture of transformed *E.coli* +pAMP review tomorrow's protocol	<u>Lab #17</u>: Assay for an Antibiotic Resistance Enzyme preparation of control and pAMP 'sup' via centrifugation review tomorrow's protocol	<u>Lab #17</u>: Assay for an Antibiotic Resistance Enzyme assay of β-lactamase via spectrophotometry streak starter plates review Monday's protocol
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 5 Day 3	TUESDAY March 6 Day 4	WEDNESDAY March 7 Day 5	THURSDAY March 8 Day 6	FRIDAY March 9 Day 1
MOLEBIO	<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	<u>Lab #18</u>: Purification and Identification of Recombinant GFP purification of GFP by HIC (Hydrophobic Interaction Chromatography)	<u>Lab #18</u>: Purification and Identification of Recombinant GFP PAGE analysis of purified GFP stain/destain with Coomassie Blue
HW	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	Review Procedure on pages 419 – 420	Answer questions 1 – 4 on page 416 Read pages: 125 – 127 423 – 441 (DNA Science Lab #8*)

	MONDAY March 12 Day 2	TUESDAY March 13 Day 3	WEDNESDAY March 14 Day 4	THURSDAY March 15 Day 5	FRIDAY March 16 Day 6
MOLEBIO	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 Streak Starter Plates		<u>Lab #19</u>: Purification and Identification of Plasmid DNA rapid colony transformation of *E.coli* with pAMP	<u>Lab #19</u>: Purification and Identification of Plasmid DNA calculating transformation efficiency preparation of an overnight suspension culture of our *E.coli* MM294/pAMP transformants	<u>Lab #19</u>: Purification and Identification of Plasmid DNA preparation of duplicate minipreps (PART I)
HW	Read pages: 423 – 441	Read pages: 423 – 441 Review pages: (391 – 395)	Review page: 423 – 441 (342)	Review pages: 423 – 441 (427 – 428)	Review pages: 423 – 441 (428 – 429)

	MONDAY March 19 Day 1	TUESDAY March 20 Day 2	WEDNESDAY March 21 Day 3	THURSDAY March 22 Day 4	FRIDAY March 23
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	<u>Labs #20 – 23</u>: Discussion of the next Lab Stream • Ligation • Transformation • Replica Plating • Miniprep	
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)	Review pages: 443 – 455 (447 – 448) (DNA Science Lab #9*)	

	MONDAY March 26 Day 5	TUESDAY March 27 Day 6	WEDNESDAY March 28 Day 1	THURSDAY March 29 Day 2	FRIDAY March 30
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 streak starters	
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*)	

	MONDAY April 2	TUESDAY April 3	WEDNESDAY April 4	THURSDAY April 5	FRIDAY April 6
MOLEBIO					
HW					

	MONDAY April 9 Day 3	TUESDAY April 10 Day 4	WEDNESDAY April 11 Day 5	THURSDAY April 12 Day 6	FRIDAY April 13 Day 1
MOLEBIO	Lab #21: Transformation of *E. coli* MM294 with Recombinant DNA streak starter plates of *E.coli* MM294	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 (340 – 342)	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 16 Day 2	TUESDAY April 17 Day 3	WEDNESDAY April 18 Day 4	THURSDAY April 19 Day 5	FRIDAY April 20 Day 6
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 April 23 Day 1	TUESDAY April 24 Day 2	WEDNESDAY April 25 Day 3	THURSDAY April 26 Day 4	FRIDAY April 27 Day 5
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'	EXAM #6 LIGATION OF, TRANSFORMATION WITH, AND PURIFICATION/ IDENTIFICATION OF RECOMBINANT DNA	Lab #24: Creating a Library of Bacteriophage λ and pBLU Making Media: LB plates LB/amp/X-gal plates $CaCl_2$
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	Read the bottom of page 455!	Review pages: (447 – 448)

	MONDAY April 30 Day 6	TUESDAY May 1 Day 1	WEDNESDAY May 2 Day 2	THURSDAY May 3 Day 3	FRIDAY May 4 Day 4
MOLEBIO	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	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
HW	Review pages: (448 – 450)	Review pages: (454)	Review pages: (454)	Review pages: (336 – 338)	Review pages: (336 – 338)

	MONDAY May 7 Day 5	TUESDAY May 8 Day 6	WEDNESDAY May 9 Day 1	THURSDAY May 10 Day 2	FRIDAY May 11 Day 3
MOLEBIO	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)	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
HW	Review pages: (342)	Review pages: (347 – 348) (460 – 462)	Review pages: (463 – 468)	Review pages: (468 – 470) (336 – 338)	Review pages: (464 – 485)
	Period 1: ----- Period 6: -----	Period 1: ----- Period 6: -----	Period 1: ----- Period 6: -----	Period 1: ----- Period 6: -----	Period 1: ----- Period 6: -----

	MONDAY May 14 Day 4	TUESDAY May 15 Day 5	WEDNESDAY May 16 Day 6	THURSDAY May 17 Day 1	FRIDAY May 18 Day 2
MOLEBIO	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	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!
HW	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	<u>Lab #24</u>: Creating a Library of Bacteriophage λ and pBLU (CATCH UP DAY!)	<u>Lab #24</u>: 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	Dr. Tsien Lecture on GFP streak starter plates	
HW			Read Lab #25	Read Lab #25	

	MONDAY May 28	TUESDAY May 29 Day 1	WEDNESDAY May 30 Day 2	THURSDAY May 31 Day 3	FRIDAY June 1 Day 4
MOLEBIO		Lab #25: Fluorescent *E. coli* Art Show! transformation of *E. coli* MM294 with 'fluorescent' plasmids	Lab #25: Fluorescent *E. coli* Art Show! preparation of fluorescent lawns	Lab #25: Fluorescent *E. coli* Art Show! painting with bacteria	Lab #25: Fluorescent *E. coli* Art Show!
HW		Read Lab #25	Answer Lab #25 Questions		

	MONDAY June 4 Day 5	TUESDAY June 5 Day 6	WEDNESDAY June 6 Day 1	THURSDAY June 7 Day 2	FRIDAY June 8 Day 3
MOLEBIO	SENIOR DAY OF OPTIONAL ATTENDANCE DUE TO A CRITICAL MASS OF APATHY	Lab #26: Swabbing the School… ☺	Lab #26: Swabbing the School… ☺	Lab #26: Swabbing the School… ☺	SENIOR PICNIC
HW					