

Thinkwell's Homeschool Biology

Course Lesson Plan: 37 weeks

Welcome to Thinkwell's Homeschool Biology! We're thrilled that you've decided to make us part of your homeschool curriculum. This lesson plan is meant to be a guide for you and your homeschool student. Each day, you'll tackle a different topic and all the materials associated with that topic, such as video lectures, exercises, and interactivities. If you follow our day-by-day schedule, you'll complete the full curriculum for the course in 37 weeks. Feel free to modify and amend the plan as it best works for you. And, as always, please [let us know](#) what we can do to help get you up and running with Thinkwell's Biology!

Week 1	
Chapter 1: Evolution	
Assignments	Notes
<u>Week 1, Day 1</u>	
<input type="checkbox"/> 1.1.1 Properties of Life <input type="checkbox"/> 1.2.1 An Introduction to Biology <input type="checkbox"/> 1.2.2 The Nature of Science: The Story of Darwin	
<u>Week 1, Day 2</u>	
<input type="checkbox"/> 1.2.3 Early Scientific Thought <input type="checkbox"/> 1.2.4 The Emerging Science of Geology	
<u>Week 1, Day 3</u>	
<input type="checkbox"/> 1.3.1 Linnaeus, Buffon, and Lamarck <input type="checkbox"/> 1.3.2 Darwin: The Voyage Continues	
<u>Week 1, Day 4</u>	
<input type="checkbox"/> 1.3.3 Darwin: More Observations <input type="checkbox"/> 1.4.1 Darwin: The Theory of Natural Selection <input type="checkbox"/> 1.4.2 The Theory of Natural Selection	
<u>Week 1, Day 5</u>	
<input type="checkbox"/> 1.4.3 Contrasting Lamarck and Darwin <input type="checkbox"/> 1.4.4 Contrasting Lamarck and Darwin, Part II	

Week 2	
Chapter 1: Evolution	
Assignments	Notes
<u>Week 2, Day 1</u>	
<input type="checkbox"/> 1.5.1 Fossil Formation, Dating, and Indexing <input type="checkbox"/> 1.5.2 The Fossil Record	
<u>Week 2, Day 2</u>	
<input type="checkbox"/> 1.5.3 Some Fossil Surprises <input type="checkbox"/> 1.5.4 The Coevolution of Horses and Plants <input type="checkbox"/> 1.5.5 Mass Extinctions: An Asteroid Can Ruin Your Day	
<u>Week 2, Day 3</u>	
<input type="checkbox"/> 1.6.1 Human Evolution: What Is a Primate? <input type="checkbox"/> 1.6.2 Human Evolution: The Family Tree	

<u>Week 2, Day 4</u> <input type="checkbox"/> 1.6.3 Human Evolution: The Fossil Record <input type="checkbox"/> 1.7.1 Evidence for Evolution: Biochemical Similarities <input type="checkbox"/> 1.7.2 Evidence for Evolution: Vestigial Structures	
<u>Week 2, Day 5</u> <input type="checkbox"/> 1.7.3 Homologous Structures <input type="checkbox"/> 1.8.1 Species Concepts	

Week 3 Chapter 1: Evolution	
Assignments	Notes
<u>Week 3, Day 1</u> <input type="checkbox"/> 1.8.2 Speciation <input type="checkbox"/> 1.8.3 Prezygotic Reproductive Isolation <input type="checkbox"/> 1.8.4 Postzygotic Reproductive Isolation	
<u>Week 3, Day 2</u> <input type="checkbox"/> 1.9.1 Artificial Selection in Action <input type="checkbox"/> 1.9.2 Natural Selection in Action	
<u>Week 3, Day 3</u> <input type="checkbox"/> 1.10.1 History of Life: The Heterotroph Hypothesis: An Overview <input type="checkbox"/> 1.10.2 The Heterotroph Hypothesis: An Introduction <input type="checkbox"/> 1.10.3 The Origin of Life: Life from Nonlife	
<u>Week 3, Day 4</u> <input type="checkbox"/> 1.10.4 The Heterotroph Hypothesis: Protobionts <input type="checkbox"/> 1.10.5 The Heterotroph Hypothesis: The First Genetic Material <input type="checkbox"/> 1.10.6 The Origin of Life: The Rest of the Story	
<u>Week 3, Day 5</u> <input type="checkbox"/> 1.11.1 The Linnaean System <input type="checkbox"/> 1.11.2 The Linnaean System: Still Changing	

Week 4 Chapter 1 Test Chapter 2: Inorganic and Organic Chemistry	
Assignments	Notes
<u>Week 4, Day 1</u> <input type="checkbox"/> Chapter 1 Practice Test	
<u>Week 4, Day 2</u> <input type="checkbox"/> Chapter 1 Test	Chapter 1 Test Score: _____
<u>Week 4, Day 3</u> <input type="checkbox"/> 2.1.1 Atomic Structure: SPONCH and the Atom <input type="checkbox"/> 2.1.2 Electrons, Orbitals, and Electron Shells <input type="checkbox"/> 2.1.3 Ions, Ionization, and Isotopes	

<u>Week 4, Day 4</u> <input type="checkbox"/> 2.1.4 Isotopes: Unraveling Photosynthesis <input type="checkbox"/> 2.2.1 Bonding and Electronegativity	
<u>Week 4, Day 5</u> <input type="checkbox"/> 2.2.2 Ionic and Covalent Bonds <input type="checkbox"/> 2.2.3 Polar Covalent Bonds, Hydrogen Bonds, and Van der Waals Interactions	

Week 5 Chapter 2: Inorganic and Organic Chemistry	
Assignments	Notes
<u>Week 5, Day 1</u> <input type="checkbox"/> 2.3.1 Water: Hydrogen Bonding, Solubility, and Specific Heat <input type="checkbox"/> 2.3.2 Water: Adhesion, Cohesion, and a Solid That Floats <input type="checkbox"/> 2.3.3 Water: Hydrophilic and Hydrophobic Substances	
<u>Week 5, Day 2</u> <input type="checkbox"/> 2.3.4 Dissociation of Water and the pH Scale <input type="checkbox"/> 2.3.5 Hemoglobin as a Buffer	
<u>Week 5, Day 3</u> <input type="checkbox"/> 2.4.1 Carbon Chemistry and Isomers <input type="checkbox"/> 2.4.2 Functional Side Groups	
<u>Week 5, Day 4</u> <input type="checkbox"/> 2.5.1 Carbohydrates: Monosaccharides <input type="checkbox"/> 2.5.2 Dehydration Synthesis and Hydrolysis: Disaccharides <input type="checkbox"/> 2.5.3 Polysaccharides: Energy Storage Molecules	
<u>Week 5, Day 5</u> <input type="checkbox"/> 2.5.4 Polysaccharides: Structural Molecules <input type="checkbox"/> 2.6.1 Lipids: An Introduction <input type="checkbox"/> 2.6.2 Saturated vs. Unsaturated Fats	

Week 6 Chapter 2: Inorganic and Organic Chemistry	
Assignments	Notes
<u>Week 6, Day 1</u> <input type="checkbox"/> 2.6.3 Phospholipids, Waxes, and Steroids <input type="checkbox"/> 2.6.4 Nucleic Acids: An Introduction to Genetic Material	
<u>Week 6, Day 2</u> <input type="checkbox"/> 2.7.1 Proteins: Amino Acids and the Peptide Bond <input type="checkbox"/> 2.7.2 Amino Acids: The R Groups <input type="checkbox"/> 2.7.3 Primary and Secondary Structure	
<u>Week 6, Day 3</u> <input type="checkbox"/> 2.7.4 Tertiary Structure <input type="checkbox"/> 2.7.5 Quaternary Structure <input type="checkbox"/> 2.7.6 Protein Structure: A Summary	

<u>Week 6, Day 4</u> <input type="checkbox"/> 2.8.1 Bioenergetics: The Laws of Thermodynamics <input type="checkbox"/> 2.8.2 Activation Energy <input type="checkbox"/> 2.8.3 Enzyme Characteristics	
<u>Week 6, Day 5</u> <input type="checkbox"/> 2.9.1 Enzyme Action: The Induced-Fit Model <input type="checkbox"/> 2.9.2 Enzyme Regulation: Allosteric Regulation <input type="checkbox"/> 2.9.3 Feedback Inhibition and Cooperativity	

Week 7 Chapter 2 Test Chapter 3: Cell Biology	
Assignments	Notes
<u>Week 7, Day 1</u> <input type="checkbox"/> Chapter 2 Practice Test	
<u>Week 7, Day 2</u> <input type="checkbox"/> Chapter 2 Test	Chapter 2 Test Score: _____
<u>Week 7, Day 3</u> <input type="checkbox"/> 3.1.1 The History of Cytology <input type="checkbox"/> 3.1.2 Prokaryotes vs. Eukaryotes <input type="checkbox"/> 3.1.3 Plant and Animal Cell Overview: The Basics	
<u>Week 7, Day 4</u> <input type="checkbox"/> 3.1.4 Membranes: Basic Structure <input type="checkbox"/> 3.1.5 The Nuclear Envelope: The Initial Tour <input type="checkbox"/> 3.1.6 Nuclear Function: Who's in Charge?	
<u>Week 7, Day 5</u> <input type="checkbox"/> 3.2.1 Cellular Function: Endoplasmic Reticulum <input type="checkbox"/> 3.2.2 Cell Function: Golgi Apparatus <input type="checkbox"/> 3.2.3 Food Vacuole Formation: The Role of the Lysosome	

Week 8 Chapter 3: Cell Biology	
Assignments	Notes
<u>Week 8, Day 1</u> <input type="checkbox"/> 3.2.4 Still More Vacuoles and Peroxisomes <input type="checkbox"/> 3.2.5 Mitochondria: Welcome Guests <input type="checkbox"/> 3.2.6 The Origin of Mitochondria and Chloroplasts	
<u>Week 8, Day 2</u> <input type="checkbox"/> 3.3.1 The Cytoskeleton: Basic Components <input type="checkbox"/> 3.3.2 Centrioles, Flagella, and Cilia <input type="checkbox"/> 3.3.3 Cell Walls	
<u>Week 8, Day 3</u> <input type="checkbox"/> 3.4.1 Plasma Membrane: The Extracellular Matrix <input type="checkbox"/> 3.4.2 The Plasma Membrane: The Fluid-Mosaic Model	

<u>Week 8, Day 4</u> <input type="checkbox"/> 3.4.3 Proteins as the Mosaic of the Cell Membrane <input type="checkbox"/> 3.4.4 Animal Cell Junctions	
<u>Week 8, Day 5</u> <input type="checkbox"/> 3.5.1 Simple and Facilitated Diffusion <input type="checkbox"/> 3.5.2 Passive Transport: Osmosis <input type="checkbox"/> 3.5.3 Active Transport: Ion Pumps and Cotransport	

Week 9 Chapter 3: Cell Biology Chapter 3 Test	
Assignments	Notes
<u>Week 9, Day 1</u> <input type="checkbox"/> 3.5.4 Active Transport: The Sodium-Potassium Pump <input type="checkbox"/> 3.5.5 Energy-Requiring Transport: Endocytosis and Exocytosis	
<u>Week 9, Day 2</u> <input type="checkbox"/> 3.6.1 Tools of the Cytologist: Light and Fluorescent Microscopy <input type="checkbox"/> 3.6.2 Scanning and Transmission Electron Microscopes	
<u>Week 9, Day 3</u> <input type="checkbox"/> 3.6.3 Freeze Fracture and Differential Centrifugation <input type="checkbox"/> 3.7.1 Major Modes of Nutrition Among Organisms	
<u>Week 9, Day 4</u> <input type="checkbox"/> Chapter 3 Practice Test	
<u>Week 9, Day 5</u> <input type="checkbox"/> Chapter 3 Test	Chapter 3 Test Score: _____

Week 10 Chapter 4: Respiration	
Assignments	Notes
<u>Week 10, Day 1</u> <input type="checkbox"/> 4.1.1 ATP Structure and Function <input type="checkbox"/> 4.1.2 Phosphorylated Intermediates	
<u>Week 10, Day 2</u> <input type="checkbox"/> 4.1.3 Respiration: An Overview <input type="checkbox"/> 4.1.4 Redox: A Brief Review <input type="checkbox"/> 4.1.5 Energy Release from Sugar: A Demo	
<u>Week 10, Day 3</u> <input type="checkbox"/> 4.1.6 Coenzymes: The Role of NAD ⁺ <input type="checkbox"/> 4.2.1 Glycolysis: The Initial Steps: Energy Input	
<u>Week 10, Day 4</u> <input type="checkbox"/> 4.2.2 Glycolysis: The Energy Payoff <input type="checkbox"/> 4.2.3 Anaerobic Respiration: The Fermentation of Pyruvate	
<u>Week 10, Day 5</u> <input type="checkbox"/> 4.3.1 Aerobic Respiration: The Acetyl CoA Step <input type="checkbox"/> 4.3.2 Aerobic Respiration: The Krebs Cycle	

Week 11 Chapter 4: Respiration Chapter 4 Test	
Assignments	Notes
<u>Week 11, Day 1</u> <input type="checkbox"/> 4.3.3 Glycolysis and the Krebs Cycle <input type="checkbox"/> 4.4.1 The Electron Transport Chain	
<u>Week 11, Day 2</u> <input type="checkbox"/> 4.4.2 Oxidative Phosphorylation <input type="checkbox"/> 4.4.3 ATP Yield from Aerobic Respiration	
<u>Week 11, Day 3</u> <input type="checkbox"/> 4.4.4 Other Fuels in Respiration <input type="checkbox"/> 4.4.5 The Evolution of Glycolysis	
<u>Week 11, Day 4</u> <input type="checkbox"/> Chapter 4 Practice Test	
<u>Week 11, Day 5</u> <input type="checkbox"/> Chapter 4 Test	Chapter 4 Test Score: _____

Week 12 Chapter 5: Photosynthesis	
Assignments	Notes
<u>Week 12, Day 1</u> <input type="checkbox"/> 5.1.1 The Unraveling of Photosynthesis: A Historical Perspective <input type="checkbox"/> 5.1.2 Photosynthesis: Twentieth-Century Breakthroughs <input type="checkbox"/> 5.1.3 Photosynthesis: The Final Picture	
<u>Week 12, Day 2</u> <input type="checkbox"/> 5.2.1 The Leaf: Adaptations for Photosynthesis <input type="checkbox"/> 5.2.2 The Structure of a Chloroplast <input type="checkbox"/> 5.2.3 Photosynthetic Pigments	
<u>Week 12, Day 3</u> <input type="checkbox"/> 5.2.4 The Nature of Light <input type="checkbox"/> 5.2.5 Photoexcitation and Electron Transfer	
<u>Week 12, Day 4</u> <input type="checkbox"/> 5.3.1 The Light Reactions: An Introduction <input type="checkbox"/> 5.3.2 Photosystem 1	
<u>Week 12, Day 5</u> <input type="checkbox"/> 5.3.3 Photosystem 2 <input type="checkbox"/> 5.3.4 The Light Reactions: A Summary	

Week 13 Chapter 5: Photosynthesis Chapter 5 Test	
Assignments	Notes
<u>Week 13, Day 1</u> <input type="checkbox"/> 5.4.1 The Calvin Cycle <input type="checkbox"/> 5.4.2 The Calvin Cycle: RuBP Regeneration	
<u>Week 13, Day 2</u> <input type="checkbox"/> 5.4.3 A Review of Photosynthesis <input type="checkbox"/> 5.5.1 Photorespiration	
<u>Week 13, Day 3</u> <input type="checkbox"/> 5.5.2 C ₄ Plants and CAM Plants <input type="checkbox"/> 5.5.3 The Evolution of Photosynthesis	
<u>Week 13, Day 4</u> <input type="checkbox"/> Chapter 5 Practice Test	
<u>Week 13, Day 5</u> <input type="checkbox"/> Chapter 5 Test	Chapter 5 Test Score: _____

Week 14 Chapter 6: Molecular Genetics	
Assignments	Notes
<u>Week 14, Day 1</u> <input type="checkbox"/> 6.1.1 Molecular Genetics: The Protein vs. DNA Debate <input type="checkbox"/> 6.1.2 Continuing to Link Genes to Chemicals: Muller, Beadle, and Tatum <input type="checkbox"/> 6.1.3 Griffith and Transformation	
<u>Week 14, Day 2</u> <input type="checkbox"/> 6.1.4 Avery, MacLeod and McCarty/Hershey and Chase: DNA Wins! <input type="checkbox"/> 6.1.5 Chargaff and Franklin and Wilkins: The DNA Story Begins	
<u>Week 14, Day 3</u> <input type="checkbox"/> 6.2.1 Watson and Crick: The Clues <input type="checkbox"/> 6.2.2 Watson and Crick: The Double Helix	
<u>Week 14, Day 4</u> <input type="checkbox"/> 6.3.1 Replication: Meselson and Stahl <input type="checkbox"/> 6.3.2 DNA: Polymerization with Triphosphate Nucleotides	
<u>Week 14, Day 5</u> <input type="checkbox"/> 6.4.1 Events at the Replication Fork: The Leading Strand <input type="checkbox"/> 6.4.2 Events at the Leading Strand, Part II <input type="checkbox"/> 6.4.3 Events at the Replication Fork: The Lagging Strand	

Week 15 Chapter 6: Molecular Genetics	
Assignments	Notes
<u>Week 15, Day 1</u> <input type="checkbox"/> 6.4.4 Proofreading, End Replication, and Telomeres <input type="checkbox"/> 6.4.5 DNA Replication: A Summary	
<u>Week 15, Day 2</u> <input type="checkbox"/> 6.5.1 Transcription and Translation: An Overview <input type="checkbox"/> 6.5.2 Transcription: RNA Formation from the DNA Template <input type="checkbox"/> 6.5.3 Transcription: Termination and RNA Protection	
<u>Week 15, Day 3</u> <input type="checkbox"/> 6.5.4 Posttranscriptional Modification/RNA Splicing <input type="checkbox"/> 6.6.1 Translation: Ribosomal and Transfer RNA <input type="checkbox"/> 6.6.2 The Role of Transfer RNA: Charging a tRNA Molecule	
<u>Week 15, Day 4</u> <input type="checkbox"/> 6.6.3 Translation: Initiation Events <input type="checkbox"/> 6.6.4 Translation/Elongation: The Initiation of Elongation <input type="checkbox"/> 6.6.5 Elongation Continued and Termination	
<u>Week 15, Day 5</u> <input type="checkbox"/> 6.7.1 Polypeptide Destinations: Signal Peptides and ER Ribosomes <input type="checkbox"/> 6.7.2 Protein Synthesis: An Overview	

Week 16 Chapter 6: Molecular Genetics	
Assignments	Notes
<u>Week 16, Day 1</u> <input type="checkbox"/> 6.8.1 Control Mechanisms: Lactose Metabolism in <i>E. coli</i> <input type="checkbox"/> 6.8.2 Jacob and Monod's Model: The <i>lac</i> Operon <input type="checkbox"/> 6.8.3 <i>lac</i> Operon: The Summary	
<u>Week 16, Day 2</u> <input type="checkbox"/> 6.9.1 The Eukaryotic Genome: DNA Packing <input type="checkbox"/> 6.9.2 Eukaryotic Genomic Organization: Repetitive DNA <input type="checkbox"/> 6.9.3 Eukaryotic Genomic Organization: Gene Families <input type="checkbox"/> 6.9.4 Eukaryotic Genomic Organization: Transposons and Amplified Genes	
<u>Week 16, Day 3</u> <input type="checkbox"/> 6.10.1 Eukaryotic Gene Control: Transcriptional Controls <input type="checkbox"/> 6.10.2 Eukaryotic Control Mechanisms: Posttranscriptional and Posttranslational Controls <input type="checkbox"/> 6.10.3 Prokaryotes vs. Eukaryotes: Protein-Making Machinery	
<u>Week 16, Day 4</u> <input type="checkbox"/> Chapter 6 Practice Test	
<u>Week 16, Day 5</u> <input type="checkbox"/> Chapter 6 Test	Chapter 6 Test Score: _____

Week 17 Chapter 7: Biotechnology	
Assignments	Notes
<u>Week 17, Day 1</u> <input type="checkbox"/> 7.1.1 Biotechnology: Plasmids in Prokaryotes <input type="checkbox"/> 7.1.2 Using a Restriction Enzyme to Create a Vector <input type="checkbox"/> 7.1.3 Biotechnology: Gene Cloning	
<u>Week 17, Day 2</u> <input type="checkbox"/> 7.1.4 Biotechnology: Detection of Cell Clone <input type="checkbox"/> 7.2.1 Biotechnology: Reverse Transcriptase: A Tool Taken from Viruses	
<u>Week 17, Day 3</u> <input type="checkbox"/> 7.2.2 Using Reverse Transcriptase to Make cDNA <input type="checkbox"/> 7.2.3 Electrophoresis: Separating DNA <input type="checkbox"/> 7.2.4 Sequencing DNA: The Sanger Method	
<u>Week 17, Day 4</u> <input type="checkbox"/> 7.3.1 Restriction Fragment Length Polymorphisms: Genetic Markers <input type="checkbox"/> 7.3.2 Polymerase Chain Reaction: DNA Amplification <input type="checkbox"/> 7.3.3 DNA Fingerprinting	
<u>Week 17, Day 5</u> <input type="checkbox"/> 7.3.4 Southern Blotting <input type="checkbox"/> 7.3.5 Detecting DNA Homology: A Biotechnology Summary	

Week 18 Chapter 7: Biotechnology Chapter 7 Test Midterm Exam	
Assignments	Notes
<u>Week 18, Day 1</u> <input type="checkbox"/> 7.4.1 The Human Gene Pool <input type="checkbox"/> 7.4.2 The Human Genome Project: Recent Findings <input type="checkbox"/> 7.4.3 The Human Genome Project: Applications	
<u>Week 18, Day 2</u> <input type="checkbox"/> Chapter 7 Practice Test	
<u>Week 18, Day 3</u> <input type="checkbox"/> Chapter 7 Test	Chapter 7 Test Score: _____
<u>Week 18, Day 4</u> <input type="checkbox"/> Study for Midterm Exam	
<u>Week 18, Day 5</u> <input type="checkbox"/> Midterm Exam	Midterm Exam Score: _____

Week 19 Chapter 8: Cell Reproduction	
Assignments	Notes
<u>Week 19, Day 1</u> <input type="checkbox"/> 8.1.1 The Eukaryotic Cell Cycle <input type="checkbox"/> 8.1.2 Mitosis: An Overview <input type="checkbox"/> 8.1.3 Mitosis: The Phases	
<u>Week 19, Day 2</u> <input type="checkbox"/> 8.1.4 Cytokinesis <input type="checkbox"/> 8.2.1 Cell-Cycle Regulation: Protein Kinases <input type="checkbox"/> 8.2.2 Cell-Cycle Regulation: Other Mechanisms	
<u>Week 19, Day 3</u> <input type="checkbox"/> 8.2.3 Cancer: When Mitosis Goes Unchecked <input type="checkbox"/> 8.2.4 The <i>ras</i> Gene and the <i>p53</i> Gene	
<u>Week 19, Day 4</u> <input type="checkbox"/> 8.3.1 Sexual Reproduction and the Role of Meiosis <input type="checkbox"/> 8.3.2 Homologous Chromosomes: Thanks, Mom and Dad!	
<u>Week 19, Day 5</u> <input type="checkbox"/> 8.3.3 Meiosis: Prophase I <input type="checkbox"/> 8.3.4 Disjunction and Meiosis II <input type="checkbox"/> 8.3.5 Mitosis vs. Meiosis	

Week 20 Chapter 8: Cell Reproduction Chapter 8 Test Chapter 9: Mendelian Genetics and Mutation	
Assignments	Notes
<u>Week 20, Day 1</u> <input type="checkbox"/> 8.4.1 Independent Assortment <input type="checkbox"/> 8.4.2 Spermatogenesis: Meiosis in Males <input type="checkbox"/> 8.4.3 Oogenesis: Meiosis in Females	
<u>Week 20, Day 2</u> <input type="checkbox"/> Chapter 8 Practice Test	
<u>Week 20, Day 3</u> <input type="checkbox"/> Chapter 8 Test	Chapter 8 Test Score: _____
<u>Week 20, Day 4</u> <input type="checkbox"/> 9.1.1 Heredity: The Story of Gregor Mendel <input type="checkbox"/> 9.1.2 Mendel's Findings: A First Look at Phenotypic Ratios <input type="checkbox"/> 9.1.3 Mendel's Conclusions: Alternate Alleles and Dominance	
<u>Week 20, Day 5</u> <input type="checkbox"/> 9.1.4 Mendel's Conclusions: Segregation and Recombination <input type="checkbox"/> 9.2.1 Determining Heterozygosity: Test Crosses and Back Crosses <input type="checkbox"/> 9.2.2 Mendelian Inheritance	

Week 21 Chapter 9: Mendelian Genetics and Mutation	
Assignments	Notes
<u>Week 21, Day 1</u> <input type="checkbox"/> 9.3.1 Segregation and Independent Assortment <input type="checkbox"/> 9.3.2 Independent Assortment: An Explanation <input type="checkbox"/> 9.4.1 Laws of Probability: Rule of Multiplication	
<u>Week 21, Day 2</u> <input type="checkbox"/> 9.4.2 The Multiplicative Law: Some Extensions <input type="checkbox"/> 9.4.3 Laws of Probability: The Additive Rule <input type="checkbox"/> 9.4.4 Using the Laws of Probability in Dihybrid Crosses	
<u>Week 21, Day 3</u> <input type="checkbox"/> 9.5.1 What Is a Dominant Gene? Intermediate Inheritance <input type="checkbox"/> 9.5.2 Codominance and Multiple Alleles: ABO Blood Genes <input type="checkbox"/> 9.5.3 ABO Blood Groups: Inheritance Patterns and Pedigree Charts	
<u>Week 21, Day 4</u> <input type="checkbox"/> 9.6.1 Epistasis: One Gene Affecting Another <input type="checkbox"/> 9.6.2 The Bombay Phenotype: Infidelity or Epistasis?	
<u>Week 21, Day 5</u> <input type="checkbox"/> 9.7.1 Polygenic Inheritance <input type="checkbox"/> 9.7.2 Pleiotropy: Multiple Phenotypic Effects <input type="checkbox"/> 9.7.3 Sickle Cell Anemia: The Case against Dominant and Recessive	

Week 22 Chapter 9: Mendelian Genetics and Mutation	
Assignments	Notes
<u>Week 22, Day 1</u> <input type="checkbox"/> 9.8.1 Linked Genes <input type="checkbox"/> 9.8.2 Crossing Over and Recombination: A Tool for Mapping Genes <input type="checkbox"/> 9.8.3 Gene Mapping Using Recombination Frequencies	
<u>Week 22, Day 2</u> <input type="checkbox"/> 9.8.4 Linking Genes to Chromosomes: The Work of Morgan <input type="checkbox"/> 9.8.5 Morgan's Conclusions	
<u>Week 22, Day 3</u> <input type="checkbox"/> 9.9.1 Sex-Linked Traits in Humans <input type="checkbox"/> 9.9.2 X Inactivation in Humans	
<u>Week 22, Day 4</u> <input type="checkbox"/> 9.9.3 The Use of Pedigree Charts to Determine Possible Genotypes <input type="checkbox"/> 9.9.4 Pedigree Chart: Problem Review	

<u>Week 22, Day 5</u>	
<input type="checkbox"/> 9.10.1 Problems in Heredity <input type="checkbox"/> 9.10.2 Problems in Heredity: Chromosomal Aberrations <input type="checkbox"/> 9.10.3 Translocations: 14/21 Downs	

Week 23	
Chapter 9: Mendelian Genetics and Mutation	
Chapter 9 Test	
Chapter 10: Population Genetics and Evolution	
Assignments	Notes
<u>Week 23, Day 1</u>	
<input type="checkbox"/> 9.11.1 Genetic Mutation <input type="checkbox"/> 9.11.2 Genetic Mutation: Different Forms of Point Mutations	
<u>Week 23, Day 2</u>	
<input type="checkbox"/> 9.11.3 Genetic Mutation: Insertion and Deletion <input type="checkbox"/> 9.11.4 Genetic Screening	
<u>Week 23, Day 3</u>	
<input type="checkbox"/> Chapter 9 Practice Test	
<u>Week 23, Day 4</u>	Chapter 9 Test Score: _____
<u>Week 23, Day 5</u>	
<input type="checkbox"/> 10.1.1 Population Genetics: Darwin Meets Mendel <input type="checkbox"/> 10.1.2 An Introduction to Hardy-Weinberg Theory	

Week 24	
Chapter 10: Population Genetics and Evolution	
Assignments	Notes
<u>Week 24, Day 1</u>	
<input type="checkbox"/> 10.1.3 The Hardy-Weinberg Equation <input type="checkbox"/> 10.1.4 Using the Hardy-Weinberg Theory <input type="checkbox"/> 10.1.5 Using the Hardy-Weinberg Theory II	
<u>Week 24, Day 2</u>	
<input type="checkbox"/> 10.1.6 Hardy-Weinberg: What Does This Have to Do with Evolution? <input type="checkbox"/> 10.2.1 Microevolution by Genetic Drift <input type="checkbox"/> 10.2.2 Microevolution: Continued	
<u>Week 24, Day 3</u>	
<input type="checkbox"/> 10.3.1 Variations within and between Populations <input type="checkbox"/> 10.3.2 Modes of Selection <input type="checkbox"/> 10.3.3 The Perfect Organism	
<u>Week 24, Day 4</u>	
<input type="checkbox"/> 10.4.1 Speciation: What Is a Species? <input type="checkbox"/> 10.4.2 Allopatric Speciation	

Week 24, Day 5	
<input type="checkbox"/> 10.4.3 Sympatric Speciation <input type="checkbox"/> 10.5.1 Time Frame for Evolution: Gradualism versus Punctuated Equilibrium	

Week 25	
Chapter 10 Test	
Chapter 11: The Evolution of Life on Earth	
Assignments	Notes
Week 25, Day 1	
<input type="checkbox"/> Chapter 10 Practice Test	
Week 25, Day 2	Chapter 10 Test Score:
<input type="checkbox"/> Chapter 10 Test	_____
Week 25, Day 3	
<input type="checkbox"/> 11.1.1 Classifying the Products of Evolution: Taxonomy <input type="checkbox"/> 11.1.2 Building a Cladogram	
Week 25, Day 4	
<input type="checkbox"/> 11.1.3 Molecular Methods for Classifying Organisms <input type="checkbox"/> 11.1.4 A Phylogenetic Tree of Organisms: A Three-Domain System <input type="checkbox"/> 11.2.1 The Archaea	
Week 25, Day 5	
<input type="checkbox"/> 11.3.1 The Bacteria <input type="checkbox"/> 11.4.1 Protists: Archaezoa and Euglenozoa <input type="checkbox"/> 11.4.2 Protists: Alveolata and Stramenopila	

Week 26	
Chapter 11: The Evolution of Life on Earth	
Assignments	Notes
Week 26, Day 1	
<input type="checkbox"/> 11.5.1 Plant Phylogeny: The Colonization of Land <input type="checkbox"/> 11.5.2 Plant Phylogeny and Alternation of Generations	
Week 26, Day 2	
<input type="checkbox"/> 11.6.1 Alternation of Generations: Mosses <input type="checkbox"/> 11.6.2 Alternation of Generations: Ferns <input type="checkbox"/> 11.6.3 Alternation of Generations: Gymnosperms	
Week 26, Day 3	
<input type="checkbox"/> 11.7.1 Alternation of Generations: The Structure of a Flower <input type="checkbox"/> 11.7.2 Alternation of Generations: Angiosperms <input type="checkbox"/> 11.7.3 Embryogenesis in Angiosperms: Dicots and Monocots	
Week 26, Day 4	
<input type="checkbox"/> 11.8.1 Introduction to the Fungi <input type="checkbox"/> 11.8.2 Diversity of Fungi	

<u>Week 26, Day 5</u>	
<input type="checkbox"/> 11.9.1 Constructing a Phylogenetic Tree of Animals: Animal Development <input type="checkbox"/> 11.9.2 Developmental Data for the Phylogenetic Tree of Animals <input type="checkbox"/> 11.9.3 The Formation of Body Cavities	

Week 27	
Chapter 11: The Evolution of Life on Earth	
Assignments	Notes
<u>Week 27, Day 1</u>	
<input type="checkbox"/> 11.9.4 Protostomes and Deuterostomes <input type="checkbox"/> 11.9.5 Animal Diversity: The Cambrian Explosion and the Move to Land	
<u>Week 27, Day 2</u>	
<input type="checkbox"/> 11.10.1 Introduction to Animals: Parazoa and Radiata <input type="checkbox"/> 11.10.2 Animals: Acoelomates, Pseudocoelomates, and Coelomates <input type="checkbox"/> 11.10.3 Diversity of Protostome Species	
<u>Week 27, Day 3</u>	
<input type="checkbox"/> 11.11.1 Diversity of Deuterostome Species <input type="checkbox"/> 11.11.2 Diversity of Vertebrate Species	
<u>Week 27, Day 4</u>	
<input type="checkbox"/> 11.12.1 Animal Development: A Close-up Look at Fertilization Events <input type="checkbox"/> 11.12.2 Cleavage, Gastrulation, and Organogenesis: A Closer Look <input type="checkbox"/> 11.12.3 Events of Gastrulation and Organogenesis	
<u>Week 27, Day 5</u>	
<input type="checkbox"/> 11.13.1 Pattern Formation in <i>Drosophila</i> <input type="checkbox"/> 11.13.2 Pattern Formation in <i>Drosophila</i> , continued <input type="checkbox"/> 11.14.1 Viruses and Prions: Living or Nonliving?	

Week 28	
Chapter 11 Test	
Chapter 12: Animal Systems and Homeostasis	
Assignments	Notes
<u>Week 28, Day 1</u>	
<input type="checkbox"/> Chapter 11 Practice Test	
<u>Week 28, Day 2</u>	Chapter 11 Test Score:
<input type="checkbox"/> Chapter 11 Test	_____
<u>Week 28, Day 3</u>	
<input type="checkbox"/> 12.1.1 Animal Homeostasis <input type="checkbox"/> 12.1.2 Mechanisms of Homeostasis <input type="checkbox"/> 12.1.3 Animal Tissues: Epithelial Tissue	

<u>Week 28, Day 4</u>	
<input type="checkbox"/> 12.1.4 Animal Tissues: Loose Connective Tissue <input type="checkbox"/> 12.1.5 Animal Tissues: Dense, Fluid, and Supportive Connective Tissue <input type="checkbox"/> 12.1.6 Animal Tissue: Muscle and Nerve Tissue	
<u>Week 28, Day 5</u>	
<input type="checkbox"/> 12.2.1 The Structure of Bone <input type="checkbox"/> 12.2.2 The Axial Skeleton	

Week 29	
Chapter 12: Animal Systems and Homeostasis	
Assignments	Notes
<u>Week 29, Day 1</u>	
<input type="checkbox"/> 12.2.3 The Appendicular Skeleton <input type="checkbox"/> 12.2.4 Joints	
<u>Week 29, Day 2</u>	
<input type="checkbox"/> 12.3.1 Introduction to the Digestive System <input type="checkbox"/> 12.3.2 The Beginning of Chemical Digestion <input type="checkbox"/> 12.3.3 Chemical Digestion in the Small Intestine	
<u>Week 29, Day 3</u>	
<input type="checkbox"/> 12.3.4 Human Nutrition: Absorption <input type="checkbox"/> 12.3.5 The Fate of Absorbed Nutrients <input type="checkbox"/> 12.3.6 Egestion	
<u>Week 29, Day 4</u>	
<input type="checkbox"/> 12.4.1 Introduction to the Gas Exchange of Animals <input type="checkbox"/> 12.4.2 Human Gas Exchange System <input type="checkbox"/> 12.4.3 Human Gas Exchange: The Roles of Respiratory Pigments	
<u>Week 29, Day 5</u>	
<input type="checkbox"/> 12.4.4 Carbon Dioxide Transport <input type="checkbox"/> 12.4.5 Structure of the Human Heart	

Week 30	
Chapter 12: Animal Systems and Homeostasis	
Assignments	Notes
<u>Week 30, Day 1</u>	
<input type="checkbox"/> 12.5.1 Maintaining the Human Heartbeat <input type="checkbox"/> 12.5.2 Human Circulation: Blood Vessels <input type="checkbox"/> 12.6.1 Human Circulation: Blood Pressure <input type="checkbox"/> 12.6.2 Blood Clotting	
<u>Week 30, Day 2</u>	
<input type="checkbox"/> 12.7.1 Human Excretion: Waste Processing <input type="checkbox"/> 12.7.2 Human Excretion: Urinary System Structure <input type="checkbox"/> 12.7.3 The Nephron: Blood Filtration and Urine Production	

<u>Week 30, Day 3</u>	
<input type="checkbox"/> 12.8.1 The Immune Response: Nonspecific Defenses <input type="checkbox"/> 12.8.2 The Immune System: Structure and Function <input type="checkbox"/> 12.8.3 Immunity: Clonal Selection Theory	
<u>Week 30, Day 4</u>	
<input type="checkbox"/> 12.8.4 Immune Response: An Overview <input type="checkbox"/> 12.8.5 T Cells: Helper T Activation <input type="checkbox"/> 12.8.6 T Cells: Helper and Cytotoxic T Cell Effects	
<u>Week 30, Day 5</u>	
<input type="checkbox"/> 12.9.1 B Cells: The Humoral Response <input type="checkbox"/> 12.9.2 Antibodies and DNA Rearrangement <input type="checkbox"/> 12.9.3 Antibody Mechanisms	

Week 31	
Chapter 12: Animal Systems and Homeostasis	
Assignments	Notes
<u>Week 31, Day 1</u>	
<input type="checkbox"/> 12.10.1 HIV: An Attack on the Immune System <input type="checkbox"/> 12.11.1 Human Regulation: Endocrine Control and Signal-Transduction Pathways	
<u>Week 31, Day 2</u>	
<input type="checkbox"/> 12.11.2 The Endocrine System <input type="checkbox"/> 12.11.3 Endocrine Function: Oscillations in Hormone Levels	
<u>Week 31, Day 3</u>	
<input type="checkbox"/> 12.12.1 The Anatomy of the Female Reproductive System <input type="checkbox"/> 12.12.2 The Ovarian and Uterine Cycles: Preparation for Pregnancy <input type="checkbox"/> 12.12.3 Hormonal Events during the Female Reproductive Cycle	
<u>Week 31, Day 4</u>	
<input type="checkbox"/> 12.12.4 The Testis and Hormonal Control of Male Reproduction <input type="checkbox"/> 12.12.5 The Anatomy and Function of the Male Reproductive System <input type="checkbox"/> 12.12.6 Development of the Male and Female Reproductive Systems	
<u>Week 31, Day 5</u>	
<input type="checkbox"/> 12.13.1 The Central and Peripheral Nervous Systems and the Neuron <input type="checkbox"/> 12.13.2 Human Regulation: Nervous System: Nerve Function and Reflexes	

Week 32 Chapter 12: Animal Systems and Homeostasis	
Assignments	Notes
<u>Week 32, Day 1</u> <input type="checkbox"/> 12.14.1 Human Regulation: The Nerve Impulse: General Events <input type="checkbox"/> 12.14.2 Human Regulation: The Nervous System and the Action Potential <input type="checkbox"/> 12.14.3 Human Regulation: Synaptic Events: Cell-Cell Communication	
<u>Week 32, Day 2</u> <input type="checkbox"/> 12.14.4 The Nervous System: A Phylogenetic Perspective <input type="checkbox"/> 12.14.5 The Human Brain <input type="checkbox"/> 12.14.6 Processing Centers of the Human Brain	
<u>Week 32, Day 3</u> <input type="checkbox"/> 12.15.1 Motor Control: Muscle Microstructure <input type="checkbox"/> 12.15.2 The Neuromuscular Junction: The Contraction Is Triggered <input type="checkbox"/> 12.15.3 The Sliding Filament: Interaction of ATP, Actin, Myosin, and Calcium	
<u>Week 32, Day 4</u> <input type="checkbox"/> 12.15.4 Muscle Structure and Action <input type="checkbox"/> 12.16.1 Sensory Systems: An Introduction <input type="checkbox"/> 12.16.2 Photoreceptors and the Vertebrate Eye	
<u>Week 32, Day 5</u> <input type="checkbox"/> 12.16.3 The Ear and Equilibrium <input type="checkbox"/> 12.16.4 The Ear and Hearing	

Week 33 Chapter 12 Test Chapter 13: Plant Systems and Homeostasis	
Assignments	Notes
<u>Week 33, Day 1</u> <input type="checkbox"/> Chapter 12 Practice Test	
<u>Week 33, Day 2</u> <input type="checkbox"/> Chapter 12 Test	Chapter 12 Test Score: _____
<u>Week 33, Day 3</u> <input type="checkbox"/> 13.1.1 Plant Development: Germination <input type="checkbox"/> 13.1.2 Plant Development: Cell Structure and Function <input type="checkbox"/> 13.1.3 Primary Growth: Root Growth and Development	
<u>Week 33, Day 4</u> <input type="checkbox"/> 13.1.4 Primary Growth: Stem Growth and Development <input type="checkbox"/> 13.1.5 Secondary Growth: Lateral Meristems and Secondary Vascular Tissue	

<u>Week 33, Day 5</u>	
<input type="checkbox"/> 13.2.1 Regulation in Plants <input type="checkbox"/> 13.2.2 Plant Hormones <input type="checkbox"/> 13.2.3 Signal Transduction Pathways in Plants	
Week 34	
Chapter 13: Plant Systems and Homeostasis	
Chapter 13 Test	
Assignments	Notes
<u>Week 34, Day 1</u>	
<input type="checkbox"/> 13.3.1 Photoperiodism in Plants: Control of Flowering <input type="checkbox"/> 13.3.2 Phytochromes and the Photoperiodic Response	
<u>Week 34, Day 2</u>	
<input type="checkbox"/> 13.4.1 Transport in Angiosperms: Transpiration <input type="checkbox"/> 13.4.2 The Role of Xylem Tissue and Stomata	
<u>Week 34, Day 3</u>	
<input type="checkbox"/> 13.4.3 Plant Transport: Absorption and Lateral Transport in Roots <input type="checkbox"/> 13.4.4 Phloem: The Movement of Sap	
<u>Week 34, Day 4</u>	
<input type="checkbox"/> Chapter 13 Practice Test	
<u>Week 34, Day 5</u>	Chapter 13 Test Score: _____
<input type="checkbox"/> Chapter 13 Test	

Week 35	
Chapter 14: Ecology	
Assignments	Notes
<u>Week 35, Day 1</u>	
<input type="checkbox"/> 14.1.1 Ecological Organization: The Functional Divisions of the Ecologist <input type="checkbox"/> 14.2.1 Land Biomes: An Overview	
<u>Week 35, Day 2</u>	
<input type="checkbox"/> 14.2.2 Terrestrial Biomes: Water-Limited Environments <input type="checkbox"/> 14.2.3 Aquatic Biomes	
<u>Week 35, Day 3</u>	
<input type="checkbox"/> 14.3.1 Ecology at the Level of the Species: Behavior <input type="checkbox"/> 14.3.2 Imprinting and Innate Behavior <input type="checkbox"/> 14.3.3 Nature versus Nurture: Is There a Genetic Basis for Behaviors?	
<u>Week 35, Day 4</u>	
<input type="checkbox"/> 14.4.1 Competitive Behaviors and Survivability <input type="checkbox"/> 14.4.2 Courtship and Mating Behaviors: Survivability <input type="checkbox"/> 14.5.1 Population Ecology: Populations with Unlimited Resources	

<p>Week 35, Day 5</p> <ul style="list-style-type: none"> <input type="checkbox"/> 14.5.2 Population Ecology: The Reality of Limited Resources <input type="checkbox"/> 14.5.3 Population Ecology: Population Strategy: r vs K <input type="checkbox"/> 14.5.4 Population Ecology: Intraspecific Competition 	
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<p>Week 36 Chapter 14: Ecology</p>	
Assignments	Notes
<p>Week 36, Day 1</p> <ul style="list-style-type: none"> <input type="checkbox"/> 14.6.1 Community Ecology: Interspecific Interaction: Predation <input type="checkbox"/> 14.6.2 Interspecific Competition: Ecological Niches <input type="checkbox"/> 14.6.3 Interspecific Associations: Symbiosis 	
<p>Week 36, Day 2</p> <ul style="list-style-type: none"> <input type="checkbox"/> 14.7.1 Community Disturbance: Succession <input type="checkbox"/> 14.7.2 Secondary Succession <input type="checkbox"/> 14.8.1 The Decline in Species Diversity and the Current Mass Extinction 	
<p>Week 36, Day 3</p> <ul style="list-style-type: none"> <input type="checkbox"/> 14.9.1 Ecosystems: A Flow of Energy <input type="checkbox"/> 14.9.2 Ecosystems: Productivity and Energy Flow <input type="checkbox"/> 14.9.3 Productivity Pyramids: Visualizing Energy Flows 	
<p>Week 36, Day 4</p> <ul style="list-style-type: none"> <input type="checkbox"/> 14.9.4 Productivity Pyramids: Pyramid of Numbers <input type="checkbox"/> 14.10.1 Ecosystems and Material Cycles: Water, Carbon, and Sulfur <input type="checkbox"/> 14.10.2 Ecosystems and Material Cycles: Nitrogen and Phosphorus Cycles 	
<p>Week 36, Day 5</p> <ul style="list-style-type: none"> <input type="checkbox"/> 14.11.1 The Effects of Human Population Growth: Lake Eutrophication <input type="checkbox"/> 14.11.2 Toxic Accumulation and Ozone Depletion 	

<p>Week 37 Chapter 14 Test Final Exam</p>	
Assignments	Notes
<p>Week 36, Day 1</p> <ul style="list-style-type: none"> <input type="checkbox"/> Chapter 14 Practice Test 	
<p>Week 36, Day 2</p> <ul style="list-style-type: none"> <input type="checkbox"/> Chapter 14 Test 	Chapter 14 Test Score: _____
<p>Week 36, Day 3</p> <ul style="list-style-type: none"> <input type="checkbox"/> Study for Final Exam 	

<u>Week 36, Day 4</u> <input type="checkbox"/> Study for Final Exam	
<u>Week 36, Day 5</u> <input type="checkbox"/> Final Exam	Final Exam Score: _____