

BIOLOGY UNIT 1 OVERVIEW CHECKLIST

This is your checklist to be sure you have received all of the correct lessons with their accompanying readings, student pages, and teacher pages. No core texts will be provided (for this unit, the core text is *The Double Helix* and Starr's *Biology Concepts and Applications* or your school's Biology text). You will need to provide the core text. In addition, you will receive a **Biology Year Long Outline** and a **Biology Unit 1 Calendar**.

LESSON #	LESSON TITLE	READING/S	STUDENT PAGES	TEACHER PAGES
Lesson 1	Biological Components	Starr's <i>Biology Concepts and Applications</i> , Chapter 1 pp. 3-16, Chapters 2 and 3 pp. 20-49	-----	Biology Unit 1 Introduction Fig 1.5 Starr
Lesson 2 Computer Lab	Parts of a Cell	<i>Biology Concepts and Applications</i> , Chapter 4, pp. 51-73	-----	Conducting Internet Research
Lesson 3	Parts of a Cell: Presentations	<ul style="list-style-type: none"> <i>Biology Concepts and Applications</i>, Chapter 4, pp. 51-73 <i>The Double Helix</i>, Foreword, Preface and the Untitled Chapter, pp. vii to x and 13-14 	-----	-----
Lesson 4	Energy Flow	<ul style="list-style-type: none"> <i>Biology Concepts and Applications</i>, Chapter 5 pp. 74-83 <i>The Double Helix</i>, Chapters 1 to 3 pp. 15-25 	Venn Diagram*	Teacher's Notes Lesson 4
Lesson 5	Fluid Mosaic Model	<ul style="list-style-type: none"> <i>Biology Concepts and Applications</i>, Chapter 4 pp. 52-53 and chapter 5 p. 83 <i>The Double Helix</i>, Chapters 4 to 6 pp. 26-36 	Lab 1 Egg Experiment* Egg Experiment Predictions	Teacher's Notes Lesson 5
Lesson 6	Fluid Mosaic Model Continued	<i>Biology Concepts and Applications</i> , Chapter 5, pp. 84-88	Lab 2 Diffusion Experiment* (student-created page) Lab 1 Egg Experiment	Teacher's Notes Lesson 6
Lesson 7	Membrane Permeability Laboratory	<i>The Double Helix</i> chapters 7 to 9 pp. 37-50	Lab 3 Membrane Permeability	-----
Lesson 8 Computer Lab	Graphing Lab Results	-----	-----	Teacher Graph Samples



Lesson 9 Computer Lab	Writing Lab Reports	-----	Lab Report #1 Requirements* Strand Diagram Instructions* Blank Lab Report Strand* Chime Licensing Agreement	Protein Explorer Set Up
Lesson 10 Computer Lab	Protein Explorer and Observation of Molecules	<i>The Double Helix</i> , Chapters 10 to 12 pp. 51-64	Protein Explorer Instructions*	-----
Lesson 11 Computer Lab	Protein Explorer and Observation of Molecules Continued	<i>The Double Helix</i> , Chapters 13 to 15, pp 65-74	Protein Explorer Instructions*	-----
Lesson 12 Computer Lab	Typing a Formal Lab Report	<i>The Double Helix</i> , Chapters 16 to 18, pp. 75-86	Lab Report Rubric* Lab Report #1 Requirements*	Word Processing Review
Lesson 13 Science Lab	Microscopy Lecture and Lab 4 Part 1	<ul style="list-style-type: none"> • Microscopy Out Loud • Cells and Microscopy Reading • <i>The Double Helix</i>, Chapters 19-21 pp. 87-100 	Questions About Microscopy Lab 4 Part 1 Microscopy	-----
Lesson 14 Science Lab	Microscopy, Lab 4 Part 2	-----	Lab 4 Part 2 Microscopy	----
Lesson 15	Making and Releasing Energy: Mitochondria and Aerobic Respiration	Starr textbook <i>Biology Concepts and Applications</i> , Chapter 7 pp. 109-124	-----	Teacher's Notes Lesson 15
Lesson 16	Making and Releasing Energy: Chloroplasts and Photosynthesis	Starr textbook <i>Biology Concepts and Applications</i> , Chapter 6, pp. 92-101	-----	Teacher's Notes Lesson 16
Lesson 17	Making and Releasing Energy: Questions	Starr textbook <i>Biology Concepts and Applications</i> , Chapter 6, pp. 102-106	Making and Releasing Energy Questions	Making and Releasing Energy Questions Key Teacher's Notes Lesson 17

Lesson 18 Computer Lab	Making and Releasing Energy: Lab 5	<i>The Double Helix</i> , Chapters 22-24 pp. 101-113	-----	-----
Lesson 19 Science Lab	Making and Releasing Energy: Lab 6	-----	Lab 6: Making and Releasing Energy, Photosynthesis Blank Lab Report Strand* Lab Report #2 Requirements Strand Diagram Instructions*	-----
Lesson 20	Making and Releasing Energy: Lab Report #2	<i>The Double Helix</i> , Chapters 25-27 pp. 114-122	Lab Report Rubric*	-----
Lesson 21	Cell Division, Cell Cycle, Mitosis and Cytoplasmic Division	Starr's textbook <i>Biology Concepts and Applications</i> , Chapter 8, pp. 126-137	-----	Teacher's Notes Lesson 21
Lesson 22	Meiosis, Comparison of mitosis and meiosis, and Oogenesis and Spermatogenesis	Starr's textbook <i>Biology Concepts and Applications</i> , chapter 9, pp. 138-150	-----	Teacher's Notes Lesson 22
Lesson 23 Computer Lab	Photoshop Lesson 1: Introduction to Adobe Photoshop	-----	Explanation of Tools*	Photoshop Basics*
Lesson 24	Languages of a Cell and the History of the Discovery of DNA as the Genetic Material	Starr's textbook <i>Biology Concepts and Applications</i> , Chapter 12, pp. 190-193	Lab Report # 2 Requirements*	Teacher's Notes Lesson 24
Lesson 25	DNA Structure and Replication	Starr's textbook, <i>Biology Concepts and Applications</i> , Chapter 12, pp. 194-198	Messelsohn Stahl Densities	Messelsohn Stahl Experiment Three Theories of Replication
Lesson 26 Computer Lab	Typing Lab Report #2	<i>The Double Helix</i> , Chapters 28, 29 and the Epilogue pp. 133-144.	Lab Report Rubric*	-----

Lesson 27	DNA Replication and Repair, and <i>The Double Helix</i>	-----	DNA Sequences Handout Evaluation Essay Rubric* Evaluation Essay #1 Requirements Blank Circle Diagram* Circle Diagram for Essays Instructions*	DNA Sequences Key
Lesson 28	DNA transcription to RNA	Starr's textbook <i>Biology Concepts and Applications</i> , Chapter 13, pp.200-203	DNA to RNA Handout DNA to RNA Homework handout	DNA to RNA Key DNA to RNA Homework Key Teacher's Notes Lesson 28
Lesson 29	Genetic code, mRNA, tRNA and rRNA, and Protein Translation	Starr's textbook <i>Biology Concepts and Applications</i> , Chapter 13, pp. 204-207	Codon Table Handout	Teacher's Notes Lesson 29
Lesson 30	Mutations	Starr's textbook <i>Biology Concepts and Applications</i> , Chapter 13, pp. 208-209	Mutations Worksheet	Mutations Worksheet Key
Lesson 31 Computer Lab	Typing up Evaluation Essay #1	-----	-----	-----
Lesson 32 Computer Lab	Photoshop II: Adobe Photoshop Fundamentals	-----	Explanation of Tools*	Photoshop Basics II*
Lesson 33	Gene Regulation in Bacteria and Eukaryotes	Starr's textbook <i>Biology Concepts and Applications</i> , Chapter 14, pp. 212-221	Venn Diagram*	Teacher's Notes Lesson 33
Lesson 34	Recombinant DNA Technology: <i>Restriction Enzymes, Gel Electrophoresis and Hybridization</i>	Starr's textbook <i>Biology Concepts and Applications</i> , Chapter 15, pp. 222-224, and 229	Restriction Enzymes Worksheet	Teacher's Notes Lesson 34



Lesson 35	Recombinant DNA Technology Continued: <i>Vectors, cDNA library, Hybridization and Isolation</i>	-----	DNA Handout	-----
Lesson 36	DNA Technology Continued: <i>DNA Sequencing, PCR and DNA Fingerprinting</i>	Starr's textbook <i>Biology Concepts and Applications</i> , chapter 15, pp. 226-228.	DNA Sequencing Gel Handout Lab 7: DNA Isolation Protocol*	DNA Sequencing Gel Key Teacher's Notes Lesson 36
Lesson 37 Science Lab	DNA Isolation Lab	-----	Lab 7: DNA Isolation Protocol* Lab 8: Restriction Enzyme Digestion Lab 9: Gel Electrophoresis*	-----
Lesson 38 Science Lab	DNA Murder Mystery: Restriction Enzyme Lab and Making a Gel	-----	Lab 8: Restriction Enzyme Digestion Lab 9: Gel Electrophoresis*	Teacher's Guide Part 1
Lesson 39 Science Lab	DNA Murder Mystery: Gel Electrophoresis Lab and Crime Scene	-----	Lab 9: Gel Electrophoresis* Lab 10: Staining Photographing Gels* DNA Murder Mystery Requirements*	http://www.accessexcellence.org/AE/AEPC/geneconn/fingerprint/scene.html Teacher's Guide Part 2
Lesson 40 Science Lab	Final Project #1: DNA Murder Mystery: Staining and Photographing Gels, Completion of Crime Scene	-----	Lab 10: Staining Photographing Gels*	Teacher's Guide Part 3
Lesson 41 Computer lab	Final Project #1: DNA Murder Mystery, Analysis of Results and Create DNA Fingerprint in Photoshop	-----	DNA Fingerprint Analysis Image Blank DNA Fingerprint Explanation of Tools* DNA Murder Mystery Requirements*	Photoshop Basics Photoshop Basics II

Lesson 42	Final Project #1: DNA Murder Mystery, Creating a Mock Photoshop Page	-----	Group Photoshop Page Rubric* Explanation of Tools* DNA Murder Mystery Requirements*	-----
Lesson 43 Computer Lab	Final Project #1: DNA Murder Mystery, Creating a Group Photoshop Page	-----	-----	-----
Lesson 44	Final Project #1: DNA Murder Mystery, Create Graphic Organizer to Solve the Mystery and binder preparation	-----	Group Photoshop Page Rubric* Graphic Organizer Rubric* DNA Murder Mystery Requirements*	-----
Lesson 45 Computer Lab	Final Project #1: DNA Murder Mystery, Solving the Mystery	-----	Group Photoshop Page Rubric* Graphic Organizer Rubric* DNA Murder Mystery Requirements*	-----

*These are pages you will use more than once. You will receive only one copy of each to be used with multiple lessons.

