

Apologia ~ Exploring Creation with Biology ~ Schedule for 2019-2020

Module 1 (Sept. 9-13)					
Date:	Mon., Sept. 9	Tues., Sept. 10	Wed., Sept. 11	Thurs., Sept. 12	Fri., Sept. 13
Reading	Pgs. 1-6; Introduction, What is Life? DNA and Life, Energy Conversion and Life ...and ►	Pgs. 6-8; Sensing and Responding to Change, All Life Forms Reproduce	Pgs. 8-11; Life's Secret Ingredient, The Scientific Method	Pgs. 12-18; Limitations of the Scientific Method, Spontaneous Generation: The Faithful Still Cling to It! Biological Classification	Pgs. 18-20; Characteristics Used to Separate Organisms into Kingdoms
Written Work	On Your Own (OYO) 1.1 and 1.2	OYO 1.3	OYO 1.4, 1.5	OYO 1.6, 1.7	OYO 1.8-1.10

Notes

**** Before you begin this science course please read the student notes in the book on pages iv-vii. ****
**** Parent – teacher needs to read the notes in the solutions / test manual ****

Vocabulary

Metabolism (2)	Anabolism (2)	Catabolism (2)	Photosynthesis (3)
Herbivores (3)	Carnivores (3)	Omnivores (3)	Producers (4)
Consumers (4)	Decomposers (5)	Autotrophs (6)	Heterotrophs (6)
Receptors (7)	Asexual reproduction (7)	Sexual reproduction (7)	Inheritance (7)
Mutation (8)	Hypothesis (9)	Theory (9)	Scientific law (10)
Microorganisms (13)	Abiogenesis (15)		

Module 1 (Sept. 16-20)

Date:	Mon., Sept. 16	Tues., Sept. 17	Wed., Sept. 18	Thurs., Sept. 19	Fri., Sept. 20
Reading	Pgs. 20-26; The Definition of Species, Biological Key	Pgs. 27-30; Naming Organisms Based on Classification, Alternate Forms of Taxonomy	Pgs. 30-32; The Microscope		
Written Work				Study for test	TEST – Module 1, Biology: The Study of Life ___ / 100
Lab Experiments	Exp. 1.1 – Using a Biological Key		Exp. 1.2 – Introduction to the Microscope		

Notes

Exp. 1.1 – all supplied in book

Exp. 1.2 – microscope, lens paper, slide, coverslips, cotton swabs, eyedropper, water, small pieces of bright thread, methylene blue stain

Vocabulary

Prokaryotic cell (18)	Eukaryotic cell (18)	Species (21)	Taxonomy (27)
Binomial nomenclature (27)			

Apologia ~ Exploring Creation with Biology ~ Schedule for 2019-2020

Module 2 (Sept. 23-27)

Date:	Mon., Sept. 23	Tues., Sept. 24	Wed., Sept. 25	Thurs., Sept. 26	Fri., Sept. 27
Reading	Pgs. 37-41; Introduction, Bacteria,	Pgs. 41-44; The Eating Habits of Bacteria	Pgs. 44-47; Asexual Reproduction in Bacteria	Pgs. 47-49; Genetic Recombination in Bacteria	Pgs. 49-51; Transformation and Transduction, Endospore Formation, Bacterial Colonies
Written Work	OYO 2.1-2.3	OYO 2.4, 2.5	OYO 2.6, 2.7	OYO 2.8	OYO 2.9

Notes

Vocabulary

Pathogen (37)	Saprophyte (41)	Parasite (42)	Aerobic organism (42)
Anaerobic organism (43)	Steady state (46)	Exponential growth (47)	Logistic growth (47)
Conjugation (48)	Plasmid (48)		

Module 2 (Sept. 31-Oct. 4)

Date:	Mon., Sept. 30	Tues., Oct. 1	Wed., Oct. 2	Thurs., Oct. 3	Fri., Oct. 4
Reading	Pgs. 53-56; Classification in Kingdom Monera, Classes in Kingdom Monera	Pgs. 56-60; A Few Words on Other Classification Systems, Specific Bacteria, Conditions for Bacterial Growth, Preventing Bacterial Infections	Pgs. 60-62; Take a Look at the Microscopic World		
Written Work	OYO 2.10-2.14			Study for Test	TEST – Module 2, Kingdom Monera ___ / 100
Lab Experiments	Exp. 2.1 – Pond Life, Part A		Exp. 2.2 – Pond Life, Part B		

Notes

Exp. 2.1 (Class Lab 9/23/19) – 4 jars with lids, dried grass, uncooked white rice egg yolk, soil, ladle, pond,

Exp. 2.2 (Class Lab 9/25/19) – microscope, slides, coverslips, 4 cultures from 2.1, 4 eyedroppers, cotton ball

Vocabulary

Transformation (49)	Transduction (50)	Endospore (50)	Strains (58)
---------------------	-------------------	----------------	--------------

Apologia ~ Exploring Creation with Biology ~ Schedule for 2019-2020

Module 3 (Oct. 7-11)

Date:	Mon., Oct. 7	Tues., Oct. 8	Wed., Oct. 9	Thurs., Oct. 10	Fri., Oct. 11
Reading	Pgs. 67-70; Introduction, Classification in Kingdom Protista	Pgs. 71-73; Phylum Sarcodina	Pgs. 74-78; Phylum Mastigophora, Other Mastigophorites	Pgs. 78-83; Phylum Ciliophora, Other Members of Phylum Ciliophora, Phylu, Sporozoa	Pgs. 84-86; Subkingdom Algae, Phylum Chlorophyta
Written Work	OYO 3.1	OYO 3.2, 3.3	OYO 3.4-3.6	OYO 3.7-3.10	OYO 3.11, 3.12
Lab Experiments	Exp. 3.1 – Pond Life, Part C			Exp. 3.2 – Subkingdom Protozoa	

Notes

Exp. 3.1 (Class Lab 9/30/19) – microscope, slides, coverslips, 4 cultures from 2.1, 4 eyedroppers, cotton ball

Exp. 3.2 (Class Lab 10/14/19) – microscope, Prepared slides: amoeba, paramecium, euglena, volvox

Vocabulary

Pseudopod (71)	Nucleus (71)	Vacuole (72)	Ectoplasm (72)
Endoplasm (72)	Flagellate (74)	Pellicle (75)	Chloroplast (75)
Chlorophyll (75)	Eyespot (75)	Symbiosis (76)	Mutualism (76)
Commensalism (77)	Parasitism (77)	Cilia (78)	Spore (80)

Module 3 (Oct. 14-18)

Date:	Mon., Oct. 14	Tues., Oct. 15	Wed., Oct. 16	Thurs., Oct. 17	Fri., Oct. 18
Reading	Pgs. 87-89; Phylum Chrysophyta, Phylum Pyrrophyta	Pgs. 89-91; Phylum Phaeophyta	Pgs. 91-92; Phylum Rhodophyta, Summing Up Kingdom Protista		
Written Work	OYO 3.13-3.15	OYO 3.16		Study for Test	TEST – Module 3, Kingdom Protista ___ / 100
Lab Experiments			Exp. 3.3 – Subkingdom Algae		

Notes

Exp. 3.3 (Class Lab 10/21/19) – microscope, Prepared slides: Spirogyra, Diatoms

Vocabulary

Plankton (84)	Zooplankton (84)	Phytoplankton (84)	Thallus (85)
Cellulose (85)	Holdfast (88)	Sessile colony (88)	

Apologia ~ Exploring Creation with Biology ~ Schedule for 2019-2020

Module 4 (Oct. 21-25)

Date:	Mon., Oct. 21	Tues., Oct. 22	Wed., Oct. 23	Thurs., Oct. 24	Fri., Oct. 25
Reading	Pgs. 97-101; Introduction, General Characteristics of Fungi *	Pgs. 101-103; Reproduction in Kingdom Fungi, Classification in Kingdom Fungi	Pgs. 103-108; Phylum Basidiomycota, Other Members of Phylum Basidiomycota	Pgs. 109-112; Yeasts, Other Members of Phylum Ascomycota	Pgs. 112-114; Phylum Zygomycota
Written Work	OYO 4.1-4.3	OYO 4.4-4.6	OYO 4.7, 4.8	OYO 4.9, 4.10	OYO 4.11, 4.12
Lab Experiments			Exp. 4.1 – Phylum Basidiomycota	Exp. 4.2 – Yeast and the Fermentation Process	Exp. 4.3 – Molds

Notes

* Need to start growing mold on a piece of bread, jelly, and / or fruit now for later experiments.

Exp. 4.1 (Class Lab 10/28/19) – microscope, magnifying glass, slides, coverslips, water, needle, mushrooms, puffballs, shelf-fungi, gloves

Exp. 4.2 (Class Lab 10/28/19) – yeast, warm water, tablespoon, measuring cup, glass, sugar, microscope, eyedropper, slides and coverslips, methylene blue

Exp. 4.3 (Class Lab 11/4/19) – microscope, magnifying glass, slides, coverslips, water, eyedropper, bread, jelly, and or fruit mold, knife, needle

Vocabulary

Extracellular digestion (98)	Mycelium (98)	Hypha (98)	Rhyzoid hypha (99)
Aerial hypha (100)	Sporophore (100)	Stolon (100)	Haustorium (100)
Chitin (101)	Membrane (104)	Fermentation (110)	

Module 4 (Oct. 28-Nov. 1)

Date:	Mon., Oct. 28	Tues., Oct. 29	Wed., Oct. 30	Thurs., Oct. 31	Fri., Nov. 1
Reading	Pgs. 115-117; Phylum Chytridiomycota, Phylum Deuteromycota: The Imperfect Fungi	Pgs. 117-119; Phylum Myxomycota	Pgs. 119-120; Symbiosis in Kingdom Fungi, Summing Up Kingdom Fungi		
Written Work	OYO 4.13, 4.14	OYO 4.15	OYO 4.16, 4.17	Study for Test	TEST – Module 4, Kingdom Fungi ___ / 100
Lab Experiments	Exp. 4.4				

Notes

Exp. 4.4 (Class Lab 11/4/19) – Camembert cheese, Roquefort cheese, microscope, slides, coverslips, water, eyedropper, knife, needle

Vocabulary

Zygosporangium (112)	Zygote (112)	Antibiotic (116)
----------------------	--------------	------------------

Apologia ~ Exploring Creation with Biology ~ Schedule for 2019-2020

Module 5 (Nov. 4-8)																					
Date:	Mon., Nov. 4	Tues., Nov. 5	Wed., Nov. 6	Thurs., Nov. 7	Fri., Nov. 8																
Reading	Pgs. 125-128; Introduction, Atoms: The Basic Building Blocks of Matter	Pgs. 128-133; Elements, Molecules, Changes in Matter	Pgs. 133-138; Physical Change	Pgs. 139-142; Chemical Change, Photosynthesis	Pgs. 142-146; Organic Chemistry, Carbohydrates																
Written Work	OYO 5.1-5.3	OYO 5.4-5.9	OYO 5.10	OYO 5.11-5.13	OYO 5.14, 5.15																
Lab Experiments			Exp. 5.1 – Diffusion, Exp. 5.2 – Osmosis																		
Notes																					
<p style="color: blue;">Exp. 5.1 (Class Lab 11/11/19) – sugar, tablespoon, water, small glass, paper napkin, cellophane tape, plastic wrap</p> <p style="color: blue;">Exp. 5.2 (Class Lab 11/11/19) – 3 coffee mugs, 1 egg, liquid measuring cup, tape measure, white vinegar, clear Karo syrup, distilled water</p> <p><u>Vocabulary</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">Atoms (125)</td> <td style="width: 25%;">Matter (125)</td> <td style="width: 25%;">Model (126)</td> <td style="width: 25%;">Element (128)</td> </tr> <tr> <td>Molecules (130)</td> <td>Physical Change (132)</td> <td>Chemical Change (132)</td> <td>Phase (133)</td> </tr> <tr> <td>Diffusion (135)</td> <td>Concentration (135)</td> <td>Semipermeable membrane (136)</td> <td>Osmosis (136)</td> </tr> <tr> <td>Catalyst (141)</td> <td></td> <td></td> <td></td> </tr> </table>						Atoms (125)	Matter (125)	Model (126)	Element (128)	Molecules (130)	Physical Change (132)	Chemical Change (132)	Phase (133)	Diffusion (135)	Concentration (135)	Semipermeable membrane (136)	Osmosis (136)	Catalyst (141)			
Atoms (125)	Matter (125)	Model (126)	Element (128)																		
Molecules (130)	Physical Change (132)	Chemical Change (132)	Phase (133)																		
Diffusion (135)	Concentration (135)	Semipermeable membrane (136)	Osmosis (136)																		
Catalyst (141)																					

Module 5 (Nov. 11-15)																					
Date:	Mon., Nov. 11	Tues., Nov. 12	Wed., Nov. 13	Thurs., Nov. 14	Fri., Nov. 15																
Reading	Pgs. 146-149; Organic Acids and Bases, Lipids	Pgs. 149-154; Proteins and Enzymes	Pgs. 154-156; DNA																		
Written Work	OYO 5.16-5.18	OYO 5.19	OYO 5.20	Study for Test	TEST – Module 5, The Chemistry of Life ___ / 100																
Lab Experiments		Exp. 5.3 – The Fragility of an Enzyme																			
Notes																					
<p style="color: blue;">Exp. 5.3 (Class Lab 11/18/19) – part of a fresh pineapple, blender, three small bowls, small box of Jell-O, pot, stove, refrigerator, 2 tablespoons</p> <p><u>Vocabulary</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">Organic molecule (142)</td> <td style="width: 25%;">Biosynthesis (142)</td> <td style="width: 25%;">Isomers (144)</td> <td style="width: 25%;">Monosaccharides (145)</td> </tr> <tr> <td>Disaccharides (145)</td> <td>Polysaccharides (145)</td> <td>Dehydration reaction (145)</td> <td>Hydrolysis (146)</td> </tr> <tr> <td>Hydrophobic (148)</td> <td>Saturated fat (149)</td> <td>Unsaturated fat (149)</td> <td>Peptide bond (150)</td> </tr> <tr> <td>Hydrogen bond (155)</td> <td></td> <td></td> <td></td> </tr> </table>						Organic molecule (142)	Biosynthesis (142)	Isomers (144)	Monosaccharides (145)	Disaccharides (145)	Polysaccharides (145)	Dehydration reaction (145)	Hydrolysis (146)	Hydrophobic (148)	Saturated fat (149)	Unsaturated fat (149)	Peptide bond (150)	Hydrogen bond (155)			
Organic molecule (142)	Biosynthesis (142)	Isomers (144)	Monosaccharides (145)																		
Disaccharides (145)	Polysaccharides (145)	Dehydration reaction (145)	Hydrolysis (146)																		
Hydrophobic (148)	Saturated fat (149)	Unsaturated fat (149)	Peptide bond (150)																		
Hydrogen bond (155)																					

Apologia ~ Exploring Creation with Biology ~ Schedule for 2019-2020

Module 6 (Nov. 18-22)

Date:	Mon., Nov. 18	Tues., Nov. 19	Wed., Nov. 20	Thurs., Nov. 21	Fri., Nov. 22
Reading	Pgs. 161-163; Introduction, Cellular Functions, Cytology	Pgs. 164-167; Cell Structure, The Cell Wall, The Plasma Membrane, The Cytoplasm	Pgs. 167-171; The Mitochondria, The Lysosome, Ribosomes, The Endoplasmic Reticulum, The Plastids, Vacuoles and Vesicles	Pgs. 171-174; Golgi Bodies, Centrioles, The Nucleus, The Cytoskeleton	Pgs. 174-176; As If This Isn't Already Complicated Enough!
Written Work	OYO 6.1, 6.2				OYO 6.4-6.6
Lab Experiments					Exp. 6.1 – Cell Structure 1

Notes

Vocabulary

Absorption (161)	Digestion (161)	Respiration (161)	Excretion (162)
Egestion (162)	Secretion (162)	Homeostasis (162)	Reproduction (162)
Cytology (163)	Cell Wall (165)	Middle lamella (165)	Plasma membrane (166)
Cytoplasm (166)	Ions (166)	Cytoplasmic streaming (166)	Mitochondria (167)
Lysosome (167)	Ribosomes (168)	Rough ER (168)	Smooth ER (168)
Endoplasmic reticulum (168)	Leucoplasts (168)	Chromoplasts (169)	Central vacuole (169)
Waste vacuoles (169)	Phagocytosis (169)	Phagocytic vacuole (169)	Pinocytotic vesicle (170)
Secretion vesicle (170)	Golgi Bodies (171)	Microtubules (172)	Nuclear membrane (172)
Chromatin (173)	Cytoskeleton (173)	Microfilaments (173)	Intermediate filaments(173)

Module 6 (Nov. 25-27)

Date:	Mon., Nov. 25	Tues., Nov. 26	Wed., Nov. 27	Thanksgiving	Black Friday
Reading		Pgs. 176-181; How Substances Travel In and Out of Cells	Pgs. 181-182		
Written Work	Show What You Know: draw and label a cell.	OYO 6.7-6.9			
Lab Experiments			Exp. 6.2 – Cell Structure 2		

Notes

Exp. 6.1 (Class Lab 11/25/19) – microscope, lens paper, slides, coverslips, eyedroppers, water, onion, cork, iodine, Prepared slide: Hydra, Ranunculus root, Zea mays root

Exp. 6.2 (Class Lab 11/25/19) – microscope, lens paper, slides, coverslips, eyedroppers, water, banana, iodine, cotton swab, salt water, anacharis leaves

Vocabulary

Phospholipid (176)	Passive transport (179)	Active transport (179)	Isotonic solution (179)
Hypertonic solution (179)	Plasmolysis (179)	Cytolysis (180)	Hypotonic solution (180)

Apologia ~ Exploring Creation with Biology ~ Schedule for 2019-2020

Module 6 (Dec. 2-6)

Date:	Mon., Dec. 2	Tues., Dec. 3	Wed., Dec. 4	Thurs., Dec. 5	Fri., Dec. 6
Reading	Pgs. 182-186; How Cells Get Their Energy	Pgs. 186-189; ATP and ADP			
Written Work	OYO 6.10, 6.11	OYO 6.12-6.14	Study for Test	Study for Test	TEST – Module 6, The Cell ___ / 100

Notes

Vocabulary

Activation energy (182)

Module 7 (Dec. 9-13)

Date:	Mon., Dec. 9	Tues., Dec. 10	Wed., Dec. 11	Thurs., Dec. 12	Fri., Dec. 13
Reading	Pgs. 195-198; Introduction, Genes, Chromosomes, and DNA	Pgs. 198-201; Protein Synthesis – Part 1: Transcription	Pgs. 201-204; Protein Synthesis – Part 2: Translation	Pgs. 205-211; Mitosis: Eukaryotic Asexual Reproduction	Pgs. 211-213; Diploid and Haploid Cells
Written Work	OYO 7.1	OYO 7.2, 7.3	OYO 7.4, 7.5	OYO 7.6-7.8	OYO 7.9, 7.10
Lab Experiments	Exp. 7.1 – DNA Extraction			Exp. 7.2 – Mitosis	

Notes

Exp. 7.1– blender, plastic bowl, toothpick, liquid hand soap, salt, water, strainer, small glass, meat tenderizer, rubbing alcohol, ½ cup of split peas, measuring cups and spoons, flashlight

Vocabulary

Genetics (195)	Genetic factors (196)	Environmental factors (197)	Spiritual factors (197)
Gene (197)	Messenger RNA (210)	Anticodon (201)	Codon (201)
Chromosome (205)	Mitosis (206)	Interphase (206)	Mother cell (206)
Centromere (207)			

Apologia ~ Exploring Creation with Biology ~ Schedule for 2019-2020

Module 7 (Dec. 16-20)																	
Date:	Mon., Dec. 16	Tues., Dec. 17	Wed., Dec. 18	Thurs., Dec. 19	Fri., Dec. 20												
Reading	Pgs. 213-218; Meiosis: The Cellular Basis of Sexual Reproduction	Pgs. 218-222; Virus															
Written Work	OYO 7.11-7.14	OYO 7.15, 7.16	Study for Test	Study for Test	TEST – Module 7, Cellular Reproduction and DNA ___ / 100												
Lab Experiments																	
Notes																	
<p>Exp. 7.2– microscope, prepared slide: <i>allium</i>, <i>ascaris</i> mitosis</p> <p><u>Vocabulary</u></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">Karyotype (212)</td> <td style="width: 25%;">Diploid cell (212)</td> <td style="width: 25%;">Haploid cell (212)</td> <td style="width: 25%;">Diploid number(2n) (212)</td> </tr> <tr> <td>Haploid number (n) (213)</td> <td>Meiosis (213)</td> <td>Gametes (213)</td> <td>Virus (218)</td> </tr> <tr> <td>Antibodies (220)</td> <td>Vaccine (220)</td> <td></td> <td></td> </tr> </table>						Karyotype (212)	Diploid cell (212)	Haploid cell (212)	Diploid number(2n) (212)	Haploid number (n) (213)	Meiosis (213)	Gametes (213)	Virus (218)	Antibodies (220)	Vaccine (220)		
Karyotype (212)	Diploid cell (212)	Haploid cell (212)	Diploid number(2n) (212)														
Haploid number (n) (213)	Meiosis (213)	Gametes (213)	Virus (218)														
Antibodies (220)	Vaccine (220)																

Apologia ~ Exploring Creation with Biology ~ Schedule for 2019-2020

Module 8 (Jan. 6-10)

Date:	Mon., Jan. 6	Tues., Jan. 7	Wed., Jan. 8	Thurs., Jan. 9	Fri., Jan. 10
Reading	Pgs. 227-233; Introduction, Gregor Mendel, Mendel's Experiments	Pgs. 233-236; Updating the Terminology	Pgs. 236-242; Punnett Squares, Pedigrees	Pgs. 242-247; More Complex Crosses	Pgs. 247-249; Sex and Sex-Linked Genetic Traits
Written Work	OYO 8.1-8.3	OYO 8.4	OYO 8.5, 8.6	OYO 8.7	
Lab Experiments			Exp. 8.1 – Making Your Own Earlobe Pedigree	Exp. 8.2 – A Dihybrid Cross	Exp. 8.3 – Sex-linked Genetic Traits

Notes

Exp. 8.1– family, mirror

Exp. 8.2– lab notebook

Vocabulary

True Breeding (228)	Allele (233)	Genotype (234)	Phenotype (234)
Homozygous genotype (234)	Heterozygous genotype (234)	Dominant allele (234)	Recessive allele (234)
Pedigree (238)	Monohybrid cross (242)	Dihybrid cross (242)	

Module 8 (Jan. 13-17)

Date:	Mon., Jan. 13	Tues., Jan. 14	Wed., Jan. 15	Thurs., Jan. 16	Fri., Jan. 17
Reading	Pgs. 250-252; A More Complete Understanding of Genetics	Pgs. 253-255; Genetic Disorders and Diseases	Pgs. 255-256; Summing Up		
Written Work	OYO 8.8-8.10			Study for Test	TEST – Module 8, Mendelian Genetics <hr style="border: none; border-top: 1px solid red; width: 50px; margin: 5px auto;"/> / 100
Lab Experiments			Exp. 8.4 – Environmental Factors and Their Effect on Radish Leaf Color		

Notes

Exp. 8.3– Lab notebook

Exp. 8.4 – 60 radish seeds, 2 shallow pans, soil, clear plastic wrap, box, water, lab notebook, magnifying glass, eyedropper

Vocabulary

Autosomes (247)	Sex chromosomes (247)	Antigen (251)	Autosomal inheritance (253)
Genetic disease carrier (253)	Sex-linked inheritance (254)	Mutation (254)	
Change in chromosome structure (254)		Change in chromosome number (255)	

Apologia ~ Exploring Creation with Biology ~ Schedule for 2019-2020

Module 9 (Jan. 20-24)					
Date:	Mon., Jan. 20	Tues., Jan. 21	Wed., Jan. 22	Thurs., Jan. 23	Fri., Jan. 24
Reading	Pgs. 261-266; Introduction, Charles Darwin, Darwin's Theory	Pgs. 267-270; Microevolution and Macroevolution	Pgs. 270-273; Inconclusive Evidence: The Geological Column	Pgs. 273-280; The Details of the Fossil Record: Evidence Against Macroevolution	Pgs. 280-285; The Cambrian Explosion, Structural Homology
Written Work	OYO 9.1-9.3	OYO 9.4, 9.5	OYO 9.6, 9.7	OYO 9.8-9.10	OYO 9.11
Notes					
<u>Vocabulary</u>					
The immutability of species (267) Strata (270)		Fossils (270)		Microevolution (268) Macroevolution (168) Paleontology (273)	

Module 9 (Jan. 27-31)					
Date:	Mon., Jan. 27	Tues., Jan. 28	Wed., Jan. 29	Thurs., Jan. 30	Fri., Jan. 31
Reading	Pgs. 285-289; Molecular Biology	Pgs. 289-292; Macroevoluion Today	Pgs. 293-294; Why Do So Many Scientists Believe in Macroevolution?		
Written Work	OYO 9.12, 9.13	OYO 9.14-9.16		Study for Test	TEST – Module 9, Evolution: Part Scientific Theory, Part Unconfirmed Hypothesis ___ / 100
Notes					
<u>Vocabulary</u>					
Structural homology (282)					

Module 10 (Feb. 3-7)					
Date:	Mon., Feb. 3	Tues., Feb. 4	Wed., Feb. 5	Thurs., Feb. 6	Fri., Feb. 7
Reading	Pgs. 299-305; Introduction, Energy and Ecosystems	Pgs. 305-309; Mutualism	Pgs. 309-310; The Physical Environment	Pgs. 311-313; The Water Cycle	Pgs. 314-315; The Oxygen Cycle
Written Work	OYO 10.1-10.3	OYO 10.4	OYO 10.5, 10.6	OYO 10.7, 10.8	OYO 10.9, 10.10
Notes					
<u>Vocabulary</u>					
Ecology (299) Biome (299) Ecological pyramid (304)		Population (299) Primary consumer (301) Biomass (304)		Community (299) Secondary consumer (301) Watershed (312)	
Ecosystem (299) Tertiary consumer (301)					

Module 10 (Feb. 10-14)					
-------------------------------	--	--	--	--	--

Apologia ~ Exploring Creation with Biology ~ Schedule for 2019-2020

Date:	Mon., Feb. 10	Tues., Feb. 11	Wed., Feb. 12	Thurs., Feb. 13	Fri., Feb. 14
Reading	Pgs. 316-318; The Carbon Cycle	Pgs. 319-322; The Carbon Cycle, continued	Pgs. 322-324; The Nitrogen Cycle, Summing Up		
Written Work		OYO 10.11, 10.12	OYO 10.13	Study for Test	TEST – Module 10, Ecology ___ / 100
Lab Experiments	Exp. 10.1 – Carbon Dioxide & the Greenhouse Effect				

Notes

Exp. 10.1 – thermometer, large Ziploc, sunny windowsill, 2-liter bottle, vinegar, baking soda, teaspoon

Vocabulary

Greenhouse effect (317)

Module 11 (Feb. 17-21)

Date:	Mon., Feb. 17	Tues., Feb. 18	Wed., Feb. 19	Thurs., Feb. 20	Fri., Feb. 21
Reading	Pgs. 328-331; Introduction, Symmetry	Pgs. 332-335; Phylum Porifera: The Sponges	Pgs. 335-340; Phylum Cnidaria, Specific Member of Phylum Cnidaria	Pgs. 340-342; Specific Member of Phylum Cnidaria, continued	Pgs. 342-347; Phylum Annelida, Earthworm
Written Work	OYO 11.1	OYO 11.2-11.4		OYO 11.5-11.8	OYO 11.9-11.12
Lab Experiments		Exp. 11.1 – Observation of the Spicules of a Sponge	Exp. 11.2 – Observation of a Hydra		

Notes

Exp. 11.1 – microscope, prepared slide: sponge, lab notebook colored pencils, natural sponges (optional)

Exp. 11.2 – microscope, prepared slide: hydra, lab notebook colored pencils

Vocabulary

	Invertebrates (329)	Vertebrates (329)	Spherical symmetry (330)
Radial symmetry (330)	Bilateral symmetry (330)	Epidermis (333)	Mesenchyme (333)
Collar cells (333)	Amoebocytes (333)	Gemmules (334)	Polyp (335)
Medusa (335)	Epithelium (336)	Mesoglea (336)	Nematocysts (337)
Testes (339)	Ovaries (339)		

Module 11 (Week 24)

Date:	Mon., Feb. 24	Tues., Feb. 25	Wed., Feb. 26	Thurs., Feb. 27	Fri., Feb. 28
Reading	Pgs. 347-350; Earthworm Dissection	Pgs. 350-352; Phylum Platyhelminthes	Pgs. 352-356; Phylum Nematoda, Phylum Mollusca, Summing Up the Invertebrates		
Written Work		OYO 11.13, 11.14	OYO 11.15, 11.16	Study for Test	TEST – Module 11, The Invertebrates of Kingdom Animalia

Apologia ~ Exploring Creation with Biology ~ Schedule for 2019-2020

					___ / 100
Lab Experiments	Exp. 11.3 – Earthworm Dissection	Exp. 11.4 – Observation of a Planarian			
Notes					
Exp. 11.3 – dissecting tools and tray, earthworm specimen, magnifying glass, lab notebook					
Exp. 11.4 – microscope, prepared slide: planarian, lab notebook colored pencils					
<u>Vocabulary</u>					
Anterior end (343)	Posterior end (343)	Circulatory system (344)	Nervous system (345)		
Ganglia (345)	Hermaphroditic (345)	Regeneration (351)	Mantle (354)		
Shell (354)	Visceral hump (354)	Foot (355)	Radula (355)		
Univalve (355)	Bivalve (355)				

Module 12 (Week 25)					
Date:	Mon., Mar. 3	Tues., March 4	Wed., March 5	Thurs., March 6	Fri., March 6
Reading	Pgs. 361-364; Introduction, General Characteristics of Arthropods	Pgs. 365-370; Class Crustacea: The Crayfish, Respiratory System, Circulatory System	Pgs. 370-372; The Crayfish: Digestive System, Nervous System, Reproductive System, Other Crustaceans	Pgs. 373-375; Crayfish Dissection	Pgs. 376-379; Class Arachnida, The Spider, The Major Points of Interest in Spider Anatomy
Written Work	OYO 12.1-12.5		OYO 12.6-12.9		OYO 12.10, 12.11
Lab Experiments				Exp. 12.1 – Crayfish Dissection	
Notes					
Exp. 12.1 – dissecting tools and tray, crayfish specimen, magnifying glass, lab notebook					
<u>Vocabulary</u>					
Exoskeleton (361)	Molt (362)	Thorax (362)	Abdomen (362)		
Cephalothorax (362)	Compound eye (363)	Simple eye (363)	Open circulatory system (364)		
Statocyst (370)	Gonad (371)				

Module 12 (Week 26)					
Date:	Mon., March 10	Tues., March 11	Wed., March 12	Thurs., March 13	Fri., March 14
Reading	Pgs. 380-385; Classes Chilopoda and Diplopoda, Class Insecta: Basic Anatomy, Respiration and Circulation, Feeding Habits,	Pgs. 385-388; A Few Orders in Class Insecta	Pg. 389; Insect Classification		

Apologia ~ Exploring Creation with Biology ~ Schedule for 2019-2020

	Reproduction and Development				
Written Work	OYO 12.12-12.15			Study for Test	TEST – Module 12, Phylum Arthropoda ___ / 100
Lab Experiments			Exp. 12.2 – Insect Classification		

Notes

Exp. 12.2 – laboratory notebook

Vocabulary

Complete metamorphosis (384)

Incomplete metamorphosis (384)

Module 13 (Week 27)

Date:	Mon., March 17	Tues., March 18	Wed., March 19	Thurs., March 20	Fri., March 21
Reading	Pgs. 393-396; Introduction, Subphylum Urochordata, Subphylum Cephalochordata	Pgs. 396-403; Subphylum Vertebrata, The Endoskeleton, The Circulatory System, The Nervous System, Reproduction	Pgs. 403-404; Class Agnatha	Pgs. 404-408; Class Chondrichthyes	Pgs. 409-416; Class Osteichthyes, The Diversity of Class Osteichthyes
Written Work	OYO 13.1-13.3	OYO 13.4-13.11	OYO 13.12-13.14	OYO 13.15-13.18	OYO 13.19-13.21

Notes

Vocabulary

Vertebrae (393) Notochord (393) Endoskeleton (396) Bone marrow (397)
 Axial skeleton (398) Appendicular skeleton (398) Closed circulatory system (399) Arteries (399)
 Capillaries (399) Veins (399) Olfactory lobes (400) Cerebrum (400)
 Optic lobes (400) Cerebellum (400) Medulla oblongata (400) Internal fertilization (401)
 External fertilization (401) Oviparous development (402) Ovoviviparous development (402) Anadromous (403)
 Viviparous development (402)

Module 13 (Week 28)

Date:	Mon., March 31	Tues., April 1	Wed., April 2	Thurs., April 3	Fri., April 4
Reading	Pgs. 416-419; Perch Dissection	Pgs. 419-423; Class Amphibia, Specific Creatures in Class Amphibia, Summing Up	Pg. 422; Frog Dissection		
Written		OYO 13.22-		Study for Test	TEST – Module

Apologia ~ Exploring Creation with Biology ~ Schedule for 2019-2020

Work		13.24			13, Phylum Chordata ___ / 100
Lab Experiments	Exp. 13.1– Perch Dissection		Exp. 13.2 – Frog Dissection		
Notes					
<p style="color: blue;">Exp. 13.1 – dissecting tools and tray, perch specimen, magnifying glass, lab notebook</p> <p style="color: blue;">Exp. 13.2 – dissecting tools and tray, frog specimen, magnifying glass, lab notebook</p> <p><u>Vocabulary</u></p> <p>Biles (411) Atrium (413) Ventricle (413) Ectothermic (413)</p>					

Module 14 (Week 29)

Date:	Mon., April 7	Tues., April 8	Wed., April 9	Thurs., April 10	Fri., April 11
Reading	Pgs. 429-431; Introduction, Basic Plant Anatomy	Pgs. 431-436; The Macroscopic Structure of a Leaf	Pgs. 436-442; The Microscopic Structure of a Leaf, Leaf Color	Pgs. 442-446; Roots	Pgs. 446-451; Stems
Written Work	OYO 14.1-14.3	OYO 14.4	OYO 14.5-14.10	OYO 14.11-14.13	OYO 14.14-14.16
Lab Experiments		Exp. 14.1– Leaf Collection and Identification	Exp. 14.2– How Anthocyanins and pH Help Determine Leaf Color		Exp. 14.3– Cross Sections of Roots, Stems, and a Leaf
Notes					
<p style="color: blue;">Exp. 14.1 – leaf press (or substitute), laboratory notebook, tree identification book</p> <p style="color: blue;">Exp. 14.2 – red cabbage, stove, spoon, pot, white vinegar, clear ammonia, water, 2 eyedroppers, 3 small glasses, sheet of white paper, measuring cups, tablespoon</p> <p><u>Vocabulary</u></p> <p>Botony (429) Perennial plants (429) Annual plants (429) Biennial plants (429) Vegetative organs (429) Reproductive plant organs (430) Undifferentiated cells (430) Xylem (430) Phloem (430) Leaf mosaic (432) Leaf margin (434) Deciduous plant (441)</p>					

Module 14 (Week 30)

Date:	Mon., April 14	Tues., April 15	Wed., April 16	Thurs., April 17	Fri., April 18
Reading	Pgs. 452-454; Classification of Plants, The Bryophytes	Pgs. 455-456; Seedless Vascular Plants	Pgs. 457-458; Seed-Making Plants		
Written	OYO 14.17,	OYO 14.19,	OYO 14.21,	Study for Test	TEST – Module

Apologia ~ Exploring Creation with Biology ~ Schedule for 2019-2020

Work	14.18	14.20	14.22		14, Kingdom Plantae: Anatomy and Classification ___ / 100
Lab Experiments					
Notes					
<p>Exp. 14.3 – Prepared slides: <i>zea mays</i>, <i>ranunculus</i>, leaf cross section with vein, microscope, labe notebook, colored pencils</p> <p>Vocabulary</p> <p>Girdling (448) Alternation of generations (452) Dominant generation (454) Pollen (457) Cotyledon (458)</p>					

Module 15 (Week 31)					
Date:	Mon., April 21	Tues., April 22	Wed., April 23	Thurs., April 24	Fri., April 25
Reading	Pgs. 463-466; Introduction, How a Plant Depends on Water, Water Absorption in Plants	Pgs. 466-472; Water Transport in Plants, Plant Growth	Pgs. 472-475; Insectivorous Plants, Reproduction in Plants, Vegetative Reproduction	Pgs. 475-479; Sexual Reproduction in Phylum Anthophyta	Pgs. 480-483; The Reproductive Process in Anthophytes, parts 1 & 2
Written Work	OYO 15.1, 15.2	OYO 15.3-15.6	OYO 15.7-15.9	OYO 15.10, 15.11	OYO 15.12-15.15
Lab Experiments				Exp. 15.1 – Flower Anatomy	
Notes					
<p>Exp. 15.1 – Sharp scissors, sharp blade, slides and coverslips, water, eyedropper, magnifying glass, microscope, lab notebook, colored pencils, variety of flowers</p> <p>Vocabulary</p> <p>Physiology (463) Nastic movement (464) Pore spaces (466) Loam (466) Cohesion (467) Translocation (468) Hormones (469) Phototropism (470) Gravitropism (470) Thigmotropism (470) Perfect flowers (477) Imperfect flowers (477)</p>					

Module 15 (Week 32)					
Date:	Mon., April 28	Tues., April 29	Wed., April 30	Thurs., May 1	Fri., May 2
Reading	Pgs. 484-485; The Reproductive Process in Anthophytes, part 3	Pgs. 485-488; Seeds and Fruits	Pgs. 489-490; Germination and Early Growth		
Written Work	OYO 15.16, 15.17	OYO 15.18	OYO 15.19	Study for Test	TEST – Module 15, Kingdom Plantae: Physiology

Apologia ~ Exploring Creation with Biology ~ Schedule for 2019-2020

					and Reproduction ___ / 100
Lab Experiments		Exp. 15.2 – Fruit Classification			
Notes					
<p>Exp. 15.2 – sharp blade, lab notebook, variety of different fruits</p> <p><u>Vocabulary</u></p> <p>Pollination (482) Double fertilization (484) Seed (486) Fruit (486)</p>					

Module 16 (Week 33)					
Date:	Mon., May 5	Tues., May 6	Wed., May 7	Thurs., May 8	Fri., May 9
Reading	Pgs. 495-498; Introduction, Class Reptilia	Pgs. 498-499; Classification of Reptiles, Order Rhynchocephalia	Pgs. 499-504; Order Squamata, Lizards, Snakes, Order Testudines, Order Crocodilia	Pgs. 505-509; * Dinosaurs, Class Aves	Pgs. 509-513; A Bird’s Ability to Fly
Written Work	OYO 16.1-16.4	OYO 16.5	OYO 16.6-16.11	OYO 16.12-16.14	OYO 16.15-16.17
Lab Experiments				Exp. 16.1 – Bird Embryology	
Notes					
<p>* This is going to require some discussion.</p> <p>Exp. 16.1 – micro slide: chick embryo, magnifying glass, microscope, desk lamp, lab notebook, colored pencils</p> <p><u>Vocabulary</u></p> <p>Amniotic egg (496) Neurotoxin (502) Hemotoxin (502) Endotherm (507)</p>					

Module 16 (Week 34)					
Date:	Mon., May 12	Tues., May 13	Wed., May 14	Thurs., May 15	Fri., May 16
Reading	Pgs. 514-518; Classification in Class Aves	Pgs. 518-520; Class Mammals	Pgs. 520-526; Classification in Class Mammalia, Summing It All Up		
Written Work	OYO 16.18, 16.19	OYO 16.20-16.22	OYO 16.23-16.25	Study for Test	TEST – Module 16, Reptiles, Birds, and Mammals ___ / 100
Lab Experiments	Exp. 16.2 – Bird Identification				

Apologia ~ Exploring Creation with Biology ~ Schedule for 2019-2020

Notes

Exp. 16.2 – bird field guide, binoculars, bird seed, lab notebook

Vocabulary

Down feathers (511)

Contour feathers (511)

Placenta (519)

Gestation (519)

Mammary glands (519)

Congratulations! You're finished!