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| **Apologia ~ Exploring Creation with Biology ~ Module 1 (Week 1)** | | | | | |
| **Date:** | **Tues., Sept. 3** | | **Wed., Sept. 4** | **Thurs., Sept. 5** | **Fri., Sept. 6** |
| **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) | | | | | |

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| **Module 1 (Week 2)** | | | | | |
| **Date:** | **Mon., Sept. 9** | **Tues., Sept. 10** | **Wed., Sept. 11** | **Thurs., Sept. 12** | **Fri., Sept. 13** |
| **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) | | | | | |

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| **Module 2 (Week 3)** | | | | | | | | | |
| **Date:** | | **Mon., Sept. 16** | | **Tues., Sept. 17** | | **Wed., Sept. 18** | | **Thurs., Sept. 19** | **Fri., Sept. 20** |
| **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) | | | | | | | | | |

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| **Module 2 (Week 4)** | | | | | | | | | |
| Date: | | Mon., Sept. 23 | | Tues., Sept. 24 | | Wed., Sept. 25 | | Thurs., Sept. 26 | Fri., Sept. 27 |
| **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 –** 4 jars with lids, dried grass, uncooked white rice egg yolk, soil, ladle, pond,  **Exp. 2.2 –** microscope, slides, coverslips, 4 cultures from 2.1, 4 eyedroppers, cotton ball  **Vocabulary**  Transformation (49) Transduction (50) Endospore (50) Strains (58) | | | | | | | | | |

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| **Module 3 (Week 5)** | | | | | | | | | |
| Date: | | Mon., Sept. 31 | | Tues., Oct. 1 | | Wed., Oct. 2 | | Thurs., Oct. 3 | Fri., Oct. 4 |
| **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 –** microscope, slides, coverslips, 4 cultures from 2.1, 4 eyedroppers, cotton ball  **Exp. 3.2 –** 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) | | | | | | | | | |

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| **Module 3 (Week 6)** | | | | | | | | | |
| Date: | | Mon., Oct. 7 | | Tues., Oct. 8 | | Wed., Oct. 9 | | Thurs., Oct. 10 | Fri., Oct. 11 |
| **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 –** microscope, Prepared slides: Spirogyra, Diatoms  **Vocabulary**  Plankton (84) Zooplankton (84) Phytoplankton (84) Thallus (85)  Cellulose (85) Holdfast (88) Sessile colony (88) | | | | | | | | | |

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| **Module 4 (Week 7)** | | | | | | | | | |
| Date: | | Mon., Oct. 14 | | Tues., Oct. 15 | | Wed., Oct. 16 | | Thurs., Oct. 17 | Fri., Oct. 18 |
| **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; Yeats, 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 –** microscope, magnifying glass, slides, coverslips, water, needle, mushrooms, puffballs, shelf-fungi, gloves  **Exp. 4.2 –** yeast, warm water, tablespoon, measuring cup, glass, sugar, microscope, eyedropper, slides and coverslips, methylene blue  **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) | | | | | | | | | |

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| **Module 4 (Week 9)** | | | | | | | | | |
| 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. 4.3 –** microscope, magnifying glass, slides, coverslips, water, eyedropper, bread, jelly, and or fruit mold, knife, needle  **Vocabulary**  Zygospore (112) Zygote (112) Antibiotic (116) | | | | | | | | | |

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| **Module 5 (Week 10)** | | | | | | | | | |
| 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** | | | | | | | | | |
| **Exp. 5.1 –** sugar, tablespoon, water, small glass, paper napkin, cellophane tape, plastic wrap  **Exp. 5.2 –** 3 coffee mugs, 1 egg, liquid measuring cup, tape measure, white vinegar, clear Karo syrup, distilled water  **Vocabulary**  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) | | | | | | | | | |

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| **Module 5 (Week 11)** | | | | | | | | | |
| 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** | | | | | | | | | |
| **Exp. 5.3 –** part of a fresh pineapple, blender, three small bowls, small box of Jell-O, pot, stove, refrigerator, 2 tablespoons  **Vocabulary**  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) | | | | | | | | | |

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| **Module 6 (Week 12)** | | | | | | | | | |
| 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 Lyosome, 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)  Lyosome (167) Ribosomes (168) Rough ER (168) Smooth ER (168)  Endoplasmic reticulum (168) Leucoplats (168) Chromoplasts (169) Cental vacuole (169)  Waste vacuoles (169) Phagocytosis (169) Phagocytic vacuole (169) Pinocytic vesicle (170)  Secretion vesicle (170) Golgi Bodies (171) Microtubules (172) Nuclear membrane (172)  Chromatin (173) Cytoskeleton (173) Microfilaments (173) Intermediate filaments(173) | | | | | | | | | |

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| **Module 6 (Week 13)** | | | | | | | | | |
| 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–** 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) | | | | | | | | | |

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| **Module 6 (Week 14)** | | | | | | | | | |
| 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) | | | | | | | | | |

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| **Module 7 (Week 15)** | | | | | | | | | |
| 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 | | Pg. 210 |
| **Written Work** | OYO 7.1 | | OYO 7.2, 7.3 | | OYO 7.4, 7.5 | | OYO 7.6-7.8 | |  |
| **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) | | | | | | | | | |

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| **Module 7 (Week 16)** | | | | | | | | | |
| **Date:** | | **Mon., Dec. 16** | | **Tues., Dec. 17** | | **Wed., Dec. 18** | | **Thurs., Dec. 19** | **Fri., Dec. 20** |
| **Reading** | Pgs. 211-213; Diploid and Haploid Cells | | Pgs. 213-218; Meiosis: The Cellular Basis of Sexual Reproduction | | Pgs. 218-222; Virus | |  | |  |
| **Written Work** | OYO 7.9, 7.10 | | OYO 7.11-7.14 | | OYO 7.15, 7.16 | | **Study for Test** | | **TEST –** Module 7, Cellular Reproduction and DNA  **\_\_\_ / 100** |
| **Lab Experiments** |  | |  | |  | |  | |  |
| **Notes** | | | | | | | | | |
| **Exp. 7.2–** microscope, prepared slide: *allium*, *ascaris* mitosis  **Vocabulary**  Karotype (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) | | | | | | | | | |

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| **Module 8 (Week 17)** | | | | | | | | | |
| 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) | | | | | | | | | |

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| **Module 8 (Week 18)** | | | | | | | | | |
| 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  **\_\_\_ / 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) Chance in chromosome number (255) | | | | | | | | | |

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| **Module 9 (Week 19)** | | | | | | | | | |
| 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** | | | | | | | | | |
| **Vocabulary**  The immutability of species (267) Microevolution (268) Macroevolution (168)  Strata (270) Fossils (270) Paleontology (273) | | | | | | | | | |

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| **Module 9 (Week 20)** | | | | | | | | | |
| 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; Macroevoltuion 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** | | | | | | | | | |
| **Vocabulary**  Structural homology (282) | | | | | | | | | |

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| **Module 10 (Week 21)** | | | | | | | | | |
| **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** | | | | | | | | | |
| **Vocabulary**  Ecology (299) Population (299) Community (299) Ecosystem (299)  Biome (299) Primary consumer (301) Secondary consumer (301) Tertiary consumer (301)  Ecological pyramid (304) Biomass (304) Watershed (312) | | | | | | | | | |

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| **Module 10 (Week 22)** | | | | | | | | | |
| **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, teasopoon  **Vocabulary**  Greenhouse effect (317) | | | | | | | | | |

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| **Module 11 (Week 23)** | | | | | | | | | |
| **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) Sperical symmetry (330) Radial symmetry (330)Bilateral symmetry (330) Epidermis (333) Mesenchyme (333) Collar cells (333)Amoebocytes (333) Gemmule (334) Polyp (335) Medusa (335)Epithelium (336) Mesoglea (336) Nematocysts (337) Testes (339)Ovaries (339) | | | | | | | | | |

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| **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 Nemtoda, 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  **\_\_\_ / 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  **Vocabulary**  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) | | | | | | | | | |

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| **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  **Vocabulary**  Exoskeleton (361) Molt (362) Thorax (362) Abdomen (362)  Cephalothorax (362) Compound eye (363) Simple eye (363) Open circulatory system (364)  Statocyst (370) Gonad (371) | | | | | | | | | |

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| **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, Reproduction and Development | | Pgs. 385-388; A Few Orders in Class Insecta | | Pg. 389; Insect Classification | |  | |  |
| **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) | | | | | | | | | |

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| **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) | | | | | | | | | |

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| **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 Work** |  | | OYO 13.22-13.24 | |  | | **Study for Test** | | **TEST –** Module 13, Phylum Chordata  **\_\_\_ / 100** |
| **Lab Experiments** | **Exp. 13.1–** Perch Dissection | |  | | **Exp. 13.2 –** Frog Dissection | |  | |  |
| **Notes** | | | | | | | | | |
| **Exp. 13.1 –** dissecting tools and tray, perch specimen, magnifying glass, lab notebook  **Exp. 13.2 –** dissecting tools and tray, frog specimen, magnifying glass, lab notebook  **Vocabulary**  Biles (411) Atrium (413) Ventricle (413) Ectothermic (413) | | | | | | | | | |

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| **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** | | | | | | | | | |
| **Exp. 14.1 –** leaf press (or substitute), laboratory notebook, tree identification book  **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  **Vocabulary**  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) | | | | | | | | | |

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| **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 Work** | OYO 14.17, 14.18 | | OYO 14.19, 14.20 | | OYO 14.21, 14.22 | | **Study for Test** | | **TEST –** Module 14, Kingdom Plantae: Anatomy and Classification  **\_\_\_ / 100** |
| **Lab Experiments** |  | |  | |  | |  | |  |
| **Notes** | | | | | | | | | |
| **Exp. 14.3 –** Prepared slides: *zea mays*, *ranunculus*, leaf cross section with vein, microscope, labe notebook, colored pencils  **Vocabulary**  Girdling (448) Alternation of generations (452) Dominant generation (454) Pollen (457)  Cotyledon (458) | | | | | | | | | |

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| **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** | | | | | | | | | |
| **Exp. 15.1 –** Sharp scissors, sharp blade, slides and coverslips, water, eyedropper, magnifying glass, microscope, lab notebook, colored pencils, variety of flowers  **Vocabulary**  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) | | | | | | | | | |

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| **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 and Reproduction  **\_\_\_ / 100** |
| **Lab Experiments** |  | | **Exp. 15.2–** Fruit Classification | |  | |  | |  |
| **Notes** | | | | | | | | | |
| **Exp. 15.2 –** sharp blade, lab notebook, variety of different fruits  **Vocabulary**  Pollination (482) Double fertilization (484) Seed (486) Fruit (486) | | | | | | | | | |

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| **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** | | | | | | | | | |
| \* This is going to require some discussion.  **Exp. 16.1 –** micro slide: chick embryo, magnifying glass, microscope, desk lamp, lab notebook, colored pencils  **Vocabulary**  Amniotic egg (496) Neurotoxin (502) Hemotoxin (502) Endotherm (507) | | | | | | | | | |

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| **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 | |  | |  | |  | |  |
| **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!** | | | | | | | | | |