High School Biology

CHASE Academy

2010-2011

Instructor: Cathy Mangini

We will use *Exploring Creation with Biology, 2nd edition*, published by Apologia Educational Ministries, Inc.

SCHEDULE

This schedule is designed for the student to read assigned portions of the text each week between CHASE classes. Students must keep up with the schedule of homework (see below) so they understand the lab topics. As time permits, additional information and activities will be presented to further understand the topic.
Please note that the first module is to be read prior to the first class.

HOMEWORK ASSIGNMENTS

Since the majority of class time will be used to conduct experiments, review text material, and prepare for tests, there is much to be done at home. The attached schedule includes a breakdown of assignments for each day of the week. It is only a guideline! The student or parent may choose an alternate breakdown to accomplish the specified work during the week.
Please refer to the weekly newsletter for updates to assignments for the week.

OYO (On Your Own)

- These thought-provoking questions are located throughout each module.
- To complete, record OYO number, followed by your answer recorded in your own words, using complete sentences.
- All OYO answers for each module are to be written on the same paper(s), and are submitted at the completion of the module, along with the completed test.*
- Always answer the questions "on your own" before referring to the answers at the end of each module.
- Follow up by checking answers at the end of the module. If you don't know the answer or got it wrong, write the correct answer in your own words. There should not be any blank answers!
- A point will be earned for each completed answer. Missing answers will not be counted and incomplete answers will be given partial credit.

Study Guides

- Located at the end of each module.
- To be used to study module material prior to taking the module test.
- When assigned for home, note your answers, then review with your parent.
- Submitted at the completion of the module, along with the completed test.*
- A point will be earned for each completed answer. Missing answers will not be counted and incomplete answers will be given partial credit.

Lab Reports/Drawings

- Will need to be completed for each experiment as assigned.
- A specific format will be provided for written experiments.
- Microscopic observations will be drawn on supplied forms.
- Completed and submitted to the instructor as scheduled for grading.*

Science Roots

- Two to five science roots and definitions will be given in class each week.
- Students are responsible for compiling a list of the roots and learning their definitions.
- The list of roots will be reviewed each week in class.
- Quizzes will be given on the roots in class throughout the course.

Tests and Quizzes

- Short quizzes will be given in class throughout the course, and incorporated in the grade.
- Tests other than those included in the Apologia Solutions and Tests manual will be provided.
    - These tests will be placed in your family mail file and are to be completed at home according to the attached schedule, monitored by the parent.
    - The parent is responsible for making sure the student does not refer to notes or the text. If the parent wishes to provide open book tests, please inform the instructor.
    - Bring the test along to class the following week to be graded by the instructor and returned. *

**** If a test, lab report, or OYO assignment is not received on the assigned class day, you will receive a "0" for that assignment, unless your parent has made prior arrangements with the instructor.***

GRADING

Tests and quizzes: 60%
Lab Reports and Drawings: 20%
Homework (OYO, etc.): 10%
Class Participation: 10%

Grades will be based on accuracy and content, as well as neatness, completion, and level of effort.

Bring to class each week:

- A positive attitude towards learning
- Apologia textbook
- Three-ring binder with notebook paper for taking notes, writing lab reports, etc., pencil for writing, and colored pencils for drawing
- Any homework assignments (See the schedule)

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Apologia Biology, 2nd Edition, CHASE Schedule

Prior to Class 1, Sept. 13:

Day 1: Read pp. iii-v, Start **Module 1 ►Biology: The Study of Life** pp. 1–6 and do OYO questions 1.1 & 1.2.
Day 2: Read pp. 6-11 and do OYO questions 1.3-1.5.
Day 3: Read pp. 12-18 and do OYO questions 1.6 & 1.7.
Day 4: Read pp. 18-24 and do OYO questions 1.8-1.10. Do Exp. 1.1, *Using a Biological Key*, on provided chart.
Day 5: Read pp. 27-32. Do Study Guide for Module 1.

Sept. 13 **Class 1**	Introduction to class. Exp. 1.2, *Introduction to the Microscope* Review Module 1

Week 1: Collect a variety of leaves for study in spring.

Day 1: Take Module 1 Test. Start bacteria culture.
Day 2: Start **Module 2 ►Kingdom Monera** Read pp. 37-41 and do OYO questions 2.1-2.3.
Day 3: Read pp. 41-47 and do OYO questions 2.4-2.7.
Day 4: View Gram stain website and read handout which will be e-mailed.

Sept. 20 **Class 2**	Gram stain and observation of bacteria cultures

Week 2:

Day 1: Read pp. 47-54 and do OYO questions 2.8-2.13.
Day 2: Read pp. 54-62 and do OYO question 2.14.
Day 3: Do Study Guide for Module 2.
Day 4: Review Module 2 – OYOs, Study Guide, Module 2 Summary.

Sept. 27 **Class 3**	Exp. 2.1 *Pond Life, Part A* (Note: Pond sample will be supplied) Review Module 2

Week 3:

Day 1: Take Module 2 Test.
Day 2: Start Pond Life lab report (Combine Exp. 2.1, 2.2, 3.1 in one report and title 'Pond Life'; Complete Objective, Materials, and start Procedure).
Day 3: Start **Module 3 ►Kingdom Protista** Read pp. 67-70 and do OYO question 3.1.
Day 4: Read pp. 71-78 and do OYO questions 3.2–3.6.

Oct. 4 **Class 4**	Exp. 2.2, *Pond Life, Part B* Exp. 3.1, *Pond Life, Part C*

Week 4:

Day 1: Complete pond life lab report. Read pp. 78-83 and do OYO questions 3.7-3.10.
Day 2: Read pp. 84-88 and do OYO questions 3.11-3.14.
Day 3: Read pp. 88-91 and do OYO questions 3.15 & 3.16.
Day 4: Read pp. 91 & 92. Do Study Guide for Module 3.

Oct. 11 **Class 5**	Exp. 3.2, *Subkingdom Protozoa* Exp. 3.3, *Subkingdom Algae* (time permitting) Review Module 3

Week 5: Collect a mushroom or puffball from nature and bring to next class.

Day 1: Complete Exp. 3.2 & 3.3 lab drawings. Take Module 3 Test.
Day 2: Start **Module 4 ►Kingdom Fungi** Read pp. 97-102 and do OYO questions 4.1 – 4.5.
Day 3: Read pp. 102-108 and do OYO questions 4.6-4.8.
Day 4: Read pp. 109-112 and do OYO questions 4.9-4.10.

Oct. 18 **Class 6**	Exp. 4.1, *Phylum Basidiomycota* (Bring specimen to class) Demo: Exp. 4.2, *Yeast and the Fermentation Process*

Week 6: Start mold sample.

Day 1: Read pp. 112-117 and do OYO questions 4.11 - 4.14.
Day 2: Read pp. 117-120 and do OYO questions 4.15 – 4.17.
Day 3: Do Summary of Module 4, pp. 551 & 552.
Day 4: Do Study Guide for Module 4.

Oct. 25 **Class 7**	Exp. 4.3, *Molds* (bring mold specimen to class) Exp. 4.4, *Imperfect Fungi* (time permitting) Review Module 4

Week 7:

Day 1: Complete lab report(s). Take Module 4 Test.
Day 2: Start **Module 5 ►The Chemistry of Life** Read pp. 125-130 and do OYO questions 5.1 – 5.5.
Day 3: Read pp. 130–136 and do OYO questions 5.6 – 5.9.
Day 4: Read pp. 136-140 and do OYO questions 5.10 & 5.11 a-d.

Nov. 1 **Class 8**	Discuss Exp. 5.1, *Diffusion* Start Exp. 5.2, *Osmosis*

Week 8:

Day 1: Read pp. 140-146 and do OYO questions 5.12–5.15. Exp. 5.2.
Day 2: Read pp. 146-151 and do OYO questions 5.16–5.18. Exp. 5.2.
Day 3: Read pp. 152-156 and do OYO questions 5.19 & 5.20. Complete Exp. 5.2
Day 4: Complete Exp. 5.2 lab report. Do Study Guide for Module 5.

Nov.8 **Class 9**	Exp, 5.3, *The Fragility of an Enzyme* Review Module 5

Week 9:

Day 1: Complete Exp. 5.3 lab report. Take Module 5 Test.
Day 2: Start **Module 6 ►The Cell** Read pp. 161-166 and do OYO questions 6.1 & 6.2.
Day 3: Read pp. 166–171.
Day 4: Read pp. 172-176 and do OYO questions 6.3-6.6.

Nov. 15 **Class 10**	Exp. 6.1, *Cell Structure I*

Week 10:

Day 1: Complete handouts (Cell City Analogy and Concept Map). Read pp. 176-181 and do OYO questions 6.7-6.9.
Day 2: Read pp. 182-186 and do OYO questions 6.10 & 6.11.
Day 3: Read pp. 186-189 and do OYO questions 6.12-6.14.
Day 4: Do Study Guide for Module 6.

Nov. 22 **Class 11**	Review Module 6

Week 11:

Day 1: Study pp. 161-176 Take Test 6A.
Day 2: Study pp. 176-189 Take Test 6B.
Day 3: THANKSGIVING
Day 4: No Assignment.

Nov. 29 **Class 12**	Review Modules 1-6

Week 12:

Day 1: Start **Module 7 ►Cellular Respiration and DNA** Read pp. 195-200 and do OYO questions 7.1–7.3.
Day 2: Read pp. 201-207 and do OYO questions 7.4 & 7.5.
Day 3: Read pp. 208-213 and do OYO questions 7.6 - 7.10.
Day 4: Read pp. 213-218 and do OYO questions 7.11 – 7.14.

Dec. 6 **Class 13**	Review Module 7

Week 13:

Day 1: Read pp. 218-222 and do OYO questions 7.15 & 7.16.
Day 2: Do Study Guide for Module 7.
Day 3: Study for test using OYOs, Study Guide, and CD Rom.
Day 4: Take Module 7 Test.

Dec. 13 **Class 14**	Review Exp. 8.1, *Making your Own Earlobe Pedigree* (to be completed over break)

Conduct Exp. 8.1 (choose a trait) throughout the Christmas break.

Day 1: Start **Module 8 ►Mendelian Genetics** Read pp. 227-236 and do OYO questions 8.1 - 8.4.
Day 2: Read pp. 236-244 and do OYO questions 8.5 - 8.7. Prepare Exp. 8.1. Draft a pedigree using examples in text.
Day 3: Read pp. 244-252. Do Exp. 8.2 and OYO questions 8.8 – 8.10.

Jan. 10 **Class 15**	Discuss Experiments 8.1-8.3 Review Exp. 8.4, *Radish Leaf Color* – to be completed at home Review Module 8

Week 15:

Day 1: Set up Exp. 8.4 (supplies provided). Read pp. 252-256. Do Exp. 8.3.
Day 2: Do Study Guide for Module 8. Check Exp. 8.4.
Day 3: Complete word problems on Additional Genetics Problems. Check Exp. 8.4.
Day 4: Start **Module 9 ►Evolution: Part Scientific Theory, Part Unconfirmed Hypothesis** Read pp. 261-266. Do OYO questions 9.1 – 9.3. Check Exp. 8.4.

Jan. 17 **Class 16**	Discuss results of Experiment 8.4 Review Module 8

Week 16:

Day 1: Take Module 8 Test. Complete Exp. 8.4 lab report. Complete pedigree.
Day 2: Read pp. 267-273 and do OYO questions 9.4 - 9.7.
Day 3: Read pp. 273-280 and do OYO questions 9.8 - 9.10.
Day 4: Read pp. 280-289 and do OYO questions 9.11 - 9.13.

Jan. 24 **Class 17**	Review Module 9

Week 17:

Day 1: Read pp. 289-294 and do OYO questions 9.14 - 9.16.
Day 2: Do Study Guide for Module 9.
Day 3: Take Module 9 Test. Start **Module 10 ►Ecology** Read pp. 299-305 and do OYO questions 10.1-10.3.
Day 4: Read pp. 305-313 and do OYO questions 10.4-10.8.

Jan. 31 **Class 18**	Review Module 10

Week 18:

Day 1: Read pp. 314-324 and do OYO questions 10.9-10.13.
Day 2: Do Study Guide for Module 10.
Day 3: Take Module 10 Test.
Day 4: Start **Module 11 ►The Invertebrates of Kingdom Animalia** Read pp. 329-335 and do OYO questions 11.1-11.4.

Feb. 7 **Class 19**	Exp. 11.1, *Observation of the Spicules of a Sponge* Exp. 11.2, *Observation of a Hydra*

Week 19:

Day 1: Complete lab drawings for Exps. 11.1 & 11.2. Read pp. 335-342 and do OYO questions 11.5-11.8.
Day 2: Read pp. 342-347 and do OYO questions 11.9 - 11.12.
Day 3: Read pp. 347-356 and do OYO questions 11.13 - 11.16.
Day 4: Do Study Guide for Module 11. Read Exp. 11.3 handout.

Feb. 14 **Class 20**	Exp. 11.3, *Earthworm Dissection*

Week 20:

Day 1: Complete Exp. 11.3 dissection worksheet. Study for test.
Day 2: Take Module 11 Test.
Day 3: Start **Module 12 ►Phylum Arthropoda** Read pp. 361-366 and do OYO questions 12.1-12.5.
Day 4: Read pp. 366-372 and do OYO questions 12.6-12.9. Read Exp. 12.1 handout.

Feb. 21 **Class 21**	Exp. 12.1, *Crayfish Dissection*

Week 21:

Day 1: Complete Exp. 12.1 dissection worksheet. Read pp. 373-381 and do OYO questions 12.10 & 12.11.
Day 2: Read pp. 382-388 and do OYO questions 12.12-12.15.
Day 3: Do Exp. 12.2, Insect Classification (lab report not required – list answers to 12.2 a-f).
Day 4: Do Study Guide for Module 12.

Feb. 28 **Class 22**	Review Module 12

Week 22:

Day 1: Take Module 12 Test. Start **Module 13 ►Phylum Chordata** Read pp. 393-399 and do OYO questions 13.1-13.3.
Day 2: Read pp. 399-404 and do OYO questions 13.4 - 13.14.
Day 3: Read pp. 404-408 and do OYO questions 13.15-13.18.
Day 4: Read pp. 409-419 and do OYO questions 13.19-13.21. Read Exp. 13.1 handout.

Mar. 7 **Class 23**	Exp.13.1, *Perch Dissection*

Week 23:

Day 1: Complete Exp. 13.1 dissection worksheet. Read pp. 419-422 and do OYO questions 13.22-13.24.
Day 2: Read pp. 422-423. Visit www.froguts.com and do virtual frog dissection (demo).
Day 3: Read Exp. 13.2 handout and complete labeling of structures. Research frog dissection – see Exp. 13.2, pg. 422.
Day 4: Do Study Guide for Module 13. Read Exp. 13.2 handout.

Mar. 14 **Class 24**	Exp. 13.2, *Frog Dissection*

Week 24:

Day 1: Complete Exp. 13.2 dissection worksheet. Take Module 13 Test.
Day 2: Start **Module 14 ►Kingdom Plantae: Anatomy and Classification** Read pp. 429-435 and do OYO question 14.1-14.4.
Day 3: Read pp. 435-442 and do OYO questions 14.5-14.10.
Day 4: Read pp. 442-446 and do OYO questions 14.11-14.13.

Mar. 21 **Class 25**	Exp. 14.2, *How Anthocyanins and pH Help Determine Leaf Color*

Week 25:

Day 1: Complete Exp. 14.2 lab report. Read pp. 446-449 and do OYO questions 14.14-14.16.
Day 2: Read pp. 449-454 and do OYO questions 14.17 & 14.18.
Day 3: Read pp. 455-458 and do OYO questions 14.19-14.22.
Day 4: Do Study Guide for Module 14.

Mar. 28 **Class 26**	Exp. 14.3, *Cross Sections of Roots, Stems, and a Leaf* Review Module 14

Week 26:

Day 1: Complete Exp. 14.3 lab report. Take Module 14 Test.
Day 2: Start **Module 15 ►Kingdom Plantae: Physiology and Reproduction** Read pp. 463-469 and do OYO questions 15.1-15.4.
Day 3: Read pp. 469-475 and do OYO questions 15.5-15.9.
Day 4: Read pp. 475-479 and do OYO questions 15.10 & 15.11.

Apr. 4 **Class 27**	Exp. 15.1, *Flower Anatomy*

Week 27:

Day 1: Complete Exp. 15.1 drawings. Read pp. 480-485 and do OYO questions 15.12-15.17.
Day 2: Read pp. 485-490 and do OYO questions 15.18 & 15.19.
Day 3: Do Study Guide for Module 15.
Day 4: No Assignment.

Apr. 11 **Class 28**	Review Module 15

Week 28:

Day 1: Take Module 15 Test. Start **Module 16 ►Reptiles, Birds, and Mammals** Read pp. 495-499 and do OYO questions 16.1-16.5.
Day 2: Read pp. 499-504 and do OYO questions 16.6-16.11.
Day 3: Read pp. 505-509 and do OYO questions 16.12-16.14.
Day 4: Read pp. 509-518 and do OYO questions 16.15-16.19.

Apr. 18 **Class 29**	Exp. 16.1, *Bird Embryology*

Week 29:

Day 1: Read pp. 518-526 and do OYO questions 16.20-16.25.
Day 2: Do Study Guide for Module 16.
Day 3: Take Module 16 Test.
Day 4: Good Friday

Apr. 25 **Class 30**	Last class!

HAVE A GREAT SUMMER!