

Biology Lesson Plan-2nd Edition

Grade 10 Science

Text: **Exploring Creation with Biology, 2nd Edition** (ECB); by Dr. Jay L. Wile and Marilyn F. Durnell; Apologia Educational Ministries; ©2005.

Key: **Solutions and Tests for Exploring Creation with Biology, 2nd Edition** (STB); by Dr. Jay L. Wile and Marilyn F. Durnell.

About the Text: **Exploring Creation with Biology, 2nd Edition** is an introductory Biology course designed specifically for the home-schooled high school student. The course begins with a general discussion of Biology, then delves into the Kingdoms Monera, Protista, and Fungi. Before proceeding to the remaining two Kingdoms, the chemistry of Life, and the Cell. Cellular reproduction and Genetics are covered, and a very well-balanced and in-depth look at Evolution is presented. Ecosystems and the environment are discussed, and these lead to the topics of Kingdoms Plantae and Animalia.

About the Authors: Dr. Jay L. Wile is a scientist who writes science texts specifically for home-schooled students. From a reading of his texts, it is clear that he believes that there is a design in nature, in the world and universe around us, and that the Designer is Almighty God, the Creator of everything seen and unseen. Dr. Wile holds an earned Ph.D. in nuclear chemistry from the University of Rochester. His teaching credits include the University of Rochester, Indiana University, the Indiana Academy for Science, Mathematics, and Humanities, and Ball State University. Dr. Wile has published more than 30 scientific articles on the peer-reviewed journals of his field and has lectured extensively on Christian Apologetics and Creation/Evolution Debate. He is currently the senior Programmer/Analyst at Indiana’s premiere medical laboratory, Pathologists Associated. Our Lady of Victory School has talked with Dr. Wile on numerous occasions. He is not a Roman Catholic, but he is a good-willed Christian man whose love of God and search for Truth are clearly evinced in his writing. Dr. Wile is affable and very approachable, and can be reached by the means listed on the “Need Help?” page (i) of the text, just opposite the copyright page. The book is co-authored by Marilyn F. Durnell.

Explanatory Notes: On pp. 15 and 16 of the text, the authors discuss the Bible, and make the contention that the “only thing in the universe that is 100% reliable is the Word of God.” The authors further state that because “the Bible was inspired by One who is perfect, the Bible is perfect.” Because the authors are not Catholic, it is important that we – as members of the Mystical Body of Christ – make certain qualifications to the above statements. Roman Catholics know that the Bible can be, and has been, interpreted in various ways, including, unfortunately, incorrect interpretations by Heresiarchs such as Luther and Calvin. As Catholics, we fully believe that the Bible is the divinely inspired Word of God; but we also believe that in interpreting the sometimes ambiguous (even apparently contradictory) passages of the Bible, we must have the guidance of Holy Mother Church.

Assignments and Tests: Assignments for **Exploring Creation with Biology** will consist of reading from the texts, as well as written responses to:

- the “On Your Own” problems interspersed throughout the text of each module; and
- each end-of-module Study Guide.

Labs: There are experiments placed throughout each module. The authors have addressed Laboratory Equipment on p. v of the text. In general, there are three types of lab experiments: microscope, dissection, and household labs. As a rule, only household labs will be assigned in this Lesson Plan, due to the fact that the equipment to accomplish the microscope and dissection labs is quite expensive. If you have the financial means, you are encouraged to purchase a microscope and slide set, and/or a dissecting kit. This would be especially important (though, again, not required) if you think your child has a vocation in the technical or scientific fields. **Ensure that you read the section on “Experiments” on p. iii of the Student Notes in the text, especially the comments on safety precautions while conducting experiments.** OLVS concurs with the authors’ recommendation in the “Experiments” section of the Student Notes (p. iii) that the student keep a log or notebook of the experiments. The keeping of a log assists the student in working through the scientific

concepts embodied in the experiment. On p. 3 of this Lesson Plan, you will find a sample Lab Log Book entry. Ensure that the student keeps notes on experiments which he conducts, along the lines of the sample given. Since the student will be required to periodically submit a log book entry, and since spiral bound notebooks are the most convenient log books to use, photocopies may be sent to the OLVS tutor when the log book entry is requested in the Lesson Plan. The student should develop good skills of observation and record keeping; in addition to the value for this course, he gains experience for the 11th Grade Chemistry course, when he will be required to keep detailed lab notes. The student will be required to submit notes containing observations and conclusions from labs.

On p. i of the Student Notes of the text, the authors give some guidance for the student to pace himself through the text in the section entitled “Pedagogy of the Text.” Our Lady of Victory School uses a 38-week academic year, and as a result, the schedule suggested by Dr. Wile has been modified somewhat to accommodate the OLVS schedule.

Answers for the “On Your Own” problems placed throughout each module can be found immediately following the module in which the questions appear. Answers for the Study Guide questions, which appear at the end of each module as a means of review and reinforcement of the most significant concepts covered in that module, are to be found in the Solutions and Tests for Exploring Creation With Biology.

Students should always remember to answer the “On Your Own” problems and the “Study Guide” questions fully, in complete sentences, and to show all work when it requires some mathematical computation. Please read page ii, Dr. Wile states, “You should answer the ‘On Your Own’ problems while you read the concepts you are trying to learn. DO NOT look at the answer to a question until AFTER YOU HAVE TRIED TO ANSWER IT!” Please follow his instructions. If a student seems to struggle understanding the work, parents should review the work with the student. This can be done orally – the parent/tutor may refer to the answers at the end of the module, but should ask questions to aid the student in understanding the concept being taught. **The tests are in the Solutions Manual as well as the answers to the tests. Please make sure the students do not have access to the answers in the Solutions Manual. Students should be supervised while taking tests.** Parents, please use the EZ Grader, when necessary, for finding percentage grades of assignments, and fill in each grade in the corresponding space to the right on the appropriate page of this lesson plan.

There will be a test after each module. These 16 Module Tests may be found in the Solutions and Tests for Exploring Creation With Biology. Students will be readily able to answer the questions on the Module Tests if they have mastered the “On Your Own” problems and “Study Guide” questions for each module. There are also Quarterly Tests, which can be found at the end of each quarter in this Lesson Plan. Four modules will be covered each quarter. Each quarter test covers only material from its respective quarter only. They are comprehensive only insofar as they cover the all the content of the four modules covered in that particular quarter. **N.B.: Due to the configuration of the Modules, the First Quarter TEST will be given in the 9th week instead of the 10th week, when the First Quarter Tests in the other subjects are administered. Simply hold onto it until the other Quarter Tests are complete, then send them all in after Week 10.** It is recommended that you make copies of all your “On Your Own” written assignments and Module Test answers, to be used for study aides in preparation for the tests, since these will not be returned to you by the OLVS tutor until after you have submitted the Quarterly Test. **Again, we strongly suggest that you keep your own notebook of lab observations, conclusions, and important facts for review for quarterly tests.**

****REMEMBER, ANSWER ALL QUESTIONS FULLY
AND IN COMPLETE SENTENCES****

SAMPLE LAB LOG BOOK ENTRY

[Student Name]
Our Lady of Victory School
Grade 10
Biology Lab Notebook

Lab: Experiment 2.1, pp. 52 - 53, *Exploring Creation With Biology*

Materials:

Four jars with lids	Small amounts of rich soil
Small amounts of chopped hay	Long-handled ladle
White rice	A pond or small body of water
Egg yolk	Something to rest lab notebook on

Preparation: I prepared the jars as outlined in the experiment directions. I labeled them accordingly. I didn't have a pond, but I did find a large rain puddle that stays filled with water for most of the rainy period. I filled each of the four jars half full with that water. I replaced the lids on the jars. As I walked around the stagnant water hole, I made numerous observations. I took the jars home and put them in a darker part of the basement. I made observations of the jars after 3 days.

Observations: As I walked around the stagnant water hole, I noticed quite a bit of life evident. I saw some tadpoles in the water, and there were numerous swimming "bugs," including many which stayed on the surface of the water. There were also small swarms of mosquitoes present. After leaving the jars in the basement for 3 days, I observed the following: in Jar 1, where I had placed hay, I found In Jar 2, where I had put rice, I found In Jar 3, where I had placed an egg yolk, I observed In Jar 4, in which I had put some rich composted soil, I found

Conclusions: The cultures proved an ideal medium for a number of different organisms. Particularly, based on the organisms which abounded

SAMPLE

Biology - 2nd Edition
Grade 10 Science

Student's name: _____
Parents' names: _____
Address: _____
City, State/Province: _____
Phone: (____) _____

ASSIGNMENTS: WEEKS 1 & 2

Text: ECB Exploring Creation With Biology
Key: STB Solutions and Tests for Exploring Creation with Biology

			<u>Grades</u>
<u>1st week</u>	ECB	Read and study Module #1, pp. 1-16, up to, but not including, "Spontaneous Generation." Answer "On Your Own," p. 6. Answer "On Your Own," p. 8. Answer "On Your Own," p. 11. (Send ungraded page to OLVS for grading.)	_____ _____ _____

Week 1 Time: _____

<u>2nd week</u>	ECB	Read and study Module #1, pp. 16-32. Answer "On Your Own," p. 18. Answer "On Your Own," p. 20. Conduct Experiment 1.1, pp. 24-26; begin keeping your log book. Answer Module #1 Study Guide questions, pp. 35-36. (Send graded work to OLVS for review.) Review all of Module #1.	_____ _____ _____
	STB	Complete Test for Module #1, pp. 89-90. (Send ungraded test to OLVS for grading.)	_____

Week 2 Time: _____

Comments: _____

For use by OLVS tutor only: Biology -- Week 1 _____ Week 2 _____