



*Thank you so much for purchasing this
copy of*
General Biology and Evolution

Hello and welcome to the first in a two-book *General Science* series designed for the student entering their high school years. This series is intended to bridge the gap between the current *Elementary* and *Advanced* books within the *Classic Science* series. More specifically, this book has been written for the student beginning their high school years. After speaking with dozens of families and researching the needs of students in organizations around the nation, I believe I have put together the best curriculum for you and your family.

If you are new to the *Classic Science* series, the following information will give you an overview of the coming year. For seasoned veterans out there, I want you to know that the format of this new *General* series is comparable to the elementary and advanced curriculum you have been using.

I cannot begin to thank all of you out there that have taken the time out of your busy lives to drop me a line and provide your advice, comments, and critiques over the years. I could not have done this without your guidance. Your time and effort have not been forgotten, nor will it be in the years to come.

So, I guess it's time we get started, eh?

A wee-bit of advice for this book...

It is important to keep in mind that any general biology class out there contains a few universal concepts for the introductory learner which typically includes cell biology, genetics, evolution, kingdoms of life (e.g. animals, plants, bacteria, etc.), and ecology. An entire year-long curriculum could be built around each of these concepts! This book will cover the main facts associated with each of these topics, but it is by no means an exhaustive study. It is my hope that the current (and future) books in the *Advanced* series will provide that much detail.

The first half of this book will begin with a study of the chemistry of life before moving into cell biology and genetics. This "small-to-large" approach to the field of biology will continue in the second half of the book as we explore the importance of evolution throughout the various kingdoms of life. This will take us through a study of viruses, bacteria, protists, fungi, plants, and animals before broadening our vision into the interactions of these organisms on a planetary scale. There's a lot to study, so let me give you a couple of suggestions to make your journey a little easier...

First, I would highly recommend getting a dedicated notebook solely for use within this class. The field of biology is FULL of vocabulary. If you learn better generating flash cards for these terms, go for it! You will find that many of these definitions are used over and over again throughout each chapter. It is easy to get bogged down in the volume of the terminology without some solid organization on your side. Trust me, it will help ☺

Second, the use of a notebook will help with the organization of your thoughts as you move through each chapter, it can also be helpful as you work through the weekly questions and lab activities. Keeping an organized set of notes is vital to any scientist! This may be a challenge for some learners but that is a good thing. In fact, I would recommend allowing your child to utilize their notes to answer their practice questions. The answers to each of these problems have been provided for you within the parent edition of the textbook. As they become more knowledgeable with the content in each chapter, they will be more confident when they approach the unit quizzes and tests.

Weekly Timeline

This is a 36-week curriculum which has been arranged into four-week units. Each week may be broken down into three separate days to make it easier for you to set up a schedule:

- 1) *The first day of each week contains a reading assignment and a series of practice problems for your child.*
- 2) *The second day can be spent reviewing the answers from the practice problems on the first day, to review the flash cards for the week, AND to preview the weekly lab activity which may require some preparation.*
- 3) *The third day is set aside for a lab activity that will reinforce the concepts being taught that week.*

Unit Quizzes and Quarterly Tests

Each four-week unit contains a quiz in similar format to the weekly practice problems. These quizzes will be found in Chapters 4, 8, 12, 16, 20, 24, 28, and 32 within the Parent Edition. The answer keys have been included at the end of each of these quizzes.

Four quarterly tests have been created to further assess your child's understanding of the chapter concepts in addition to the unit quizzes. Your child will need time to prepare for these tests as a full week has been provided for their administration. A pre-test has been built for each of these quarterly exams as well. The following chart will provide a possible timeline you may use for the first eight weeks of study.

Week	Unit	Chapter	Topics	Assessment
1	1	1	<i>Intro to Biology</i>	<i>Chapter 1 practice questions</i>
2	1	2	<i>Chemistry 101</i>	<i>Chapter 2 practice questions</i>
3	1	3	<i>Chemistry of Life</i>	<i>Chapter 3 practice questions</i>
4	1	4	<i>Cell Biology</i>	<i>Chapter 4 practice questions</i> Unit 1 Quiz
5	2	5	<i>Cell Membranes and Transport</i>	<i>Chapter 5 practice questions</i>
6	2	6	<i>Energy, ATP, and Enzymes</i>	<i>Chapter 6 practice questions</i>
7	2	7	<i>Cellular Respiration and Fermentation</i>	<i>Chapter 7 practice questions</i>
8	2	8	<i>Photosynthesis</i>	<i>Chapter 8 practice questions</i> Unit 2 Quiz
9	1-2	1-8	--	Pre-test and Test

Test week suggestions...

I would highly recommend setting up a regular schedule to prepare for the quarterly tests. Breaking down each testing week into three or more separate days will make it easier to reflect on the pre-test before completing the quarterly exam. Here are my suggestions:

- 1) *The first or second days of each testing week should be spent reviewing the weekly practice problems and unit quizzes. Do not forget to study the labeled diagrams too!*
- 2) *One day should obviously be allowed for your child to complete the test.*
- 3) *An additional day should be set aside to evaluate the answers, correct any possible mistakes within their notes, and for a review of what has been learned. This material overlaps many times throughout the year so a little reflection will be a good thing.*

Weekly activities and ESP labs

You will find several weekly activities identified as an "ESP Lab". These are inquiry-based activities that require a child to set up an experiment and collect data. For you Classic Science veterans out there, I have modified the format a bit. Be certain to check it out! If this is your first experience within these books, the ESP labs are mini-science fair projects. Before you start to cringe at the thought of doing several "science fair projects" in a single year, I have provided a method for you to use in the first few pages of this book and a list of materials you will need at the end. I believe in using easy-to-find materials for these activities to help keep costs down. A couple of them require a little prep work. I would recommend reading ahead each week so you are not rushing at the last minute.

Many people have found this method to be an easy, step-by-step guide for you and your child to approach these inquiry-based projects. DON'T PANIC! They are not as hard as you may imagine. Think of it this way, at the end of this year, your child will have completed more inquiry-based projects than the average public school student. All you have to do is read these pages a couple of times before working with your child. You will not be disappointed!

Future projects

I may be getting older, but as I tell my wife - I am going to drive this thing until the tires fall off! And, I'm having a good time doing so!

There will be another addition to the *General Science* series that I will begin shortly. It will be a *General Physical Science* text that will cover the basics of chemistry and physics. As with this book, it will target the learner that is entering their high school years. The best way to keep up-to-date on this development is to sign up for my monthly LabNotes at www.eequalsmcq.com. I'm certain you'll love the free LabNotes activities for you and your family!

Once again, thank you all so much for your ongoing support. I never would have believed my "little hobby" would have resulted in the production of nine books over the course of 20 years. This would not have happened without your help, encouragement, and advice.

The time I have spent on this curriculum pales in comparison to the countless hours you have dedicated to your family in the pursuit of their education. Thank you for your tireless efforts to not only provide for your families, but to encourage their interests into what this world has to offer.

I know that some people view science as a monumental task to cover with their children and I hope the resources I have provided has made the journey a little easier. As I've said to so many families over the years, it's okay to say, "I don't know" when asked a scientific question - so long as you follow that up with, "But let's find out!"

Keep asking questions and keep searching for the answers! And if you get stuck, I'm only a click away mrq@eequalsmcq.com

Take care,

Scott McQuerry