

Classic Science: Advanced Chemistry

I never would have imagined the "little project" I began a few years ago would have resulted in four elementary textbooks and this new advanced-level curriculum. Thank you. Thank you. Thank you for your emails, suggestions, criticisms, and stories these past few years. They have kept me going and I know I would not have been able to complete these resources without your help! Thank you so much.

Before we get started, I wanted to let you know that the format of this new advanced series is very similar to the elementary curriculum you may have been using. I have only changed a couple of things due to the nature of the material your child will be studying:

Weekly Timeline

This is a 36-week curriculum for children of ages 12-18. The weekly curriculum has been arranged into two-week units (which is different from the elementary curriculum!) Each week has been broken down into three separate days to make it easier for you to set up a schedule:

The first day of each week contains a reading assignment and a series of practice problems for your child.

The second day is designed for your child to review his/her answers on the practice problems from the first day AND to preview the weekly lab activity which may require some preparation.

The third day is set aside for a kitchen-based lab activity that will reinforce the concepts being taught that week.

Quarterly Tests

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 both the pre- and post-test sections in each of these tests:

Quarterly Test 1: Week 9 (Chapters 1-8)

Quarterly Test 2: Week 18 (Chapters 9-16)

Quarterly Test 3: Week 27 (Chapters 17-24)

Quarterly Test 4: Week 36 (Chapters 25-32)

Each testing week has been broken down into three separate days to make it easier for you to set up a schedule as well:

The first day of each testing week should be spent reviewing the weekly practice problems and unit quizzes.

The second day is designed for your child to complete a pre-test which will build upon the mechanics of the various chemistry problems that have been studied.

The third day is set aside for a post-test which contains questions that are intended to guide your child towards a deeper understanding of the mechanics within the pre-test.

A sample timeline can be seen below which contains the Unit Quiz and Quarterly Test schedule:

Calendar Week	Weekly Assignment	Assessment
Week 1	Unit 1: Chapter 1	
Week 2	Unit 1: Chapter 2	Unit Quiz
Week 3	Unit 2: Chapter 3	
Week 4	Unit 2: Chapter 4	Unit Quiz
Week 5	Unit 3: Chapter 5	
Week 6	Unit 3: Chapter 6	Unit Quiz
Week 7	Unit 4: Chapter 7	
Week 8	Unit 4: Chapter 8	Unit Quiz
Week 9		Quarterly Test

Weekly Kitchen Labs

I have included one kitchen-based lab activity each week to reinforce the concepts within the weekly readings. The menu has been chosen with the hope that you will spend some quality time preparing meals with your child. The majority of these labs will require your child to do some preliminary calculations from the recipe before the purchase and preparation of the activity. The cost of running a traditional chemistry lab is astronomically high as compared to the cost of feeding your family. And, the truth of the matter is this:

The preparation of nearly any meal is rooted in the laws of chemistry!

We need to end our traditional belief that a chemistry lab must contain firey explosions and bubbling fluids in weird-shaped glassware! As noted in several articles by the American Chemical Society, the majority of college professors expect their first-year chemistry students to demonstrate basic problem-solving techniques involving measurements, conversions, construction of chemical formulas, and the general understanding of the most fundamental definitions in the field of chemistry. And you have nothing to fear about this, because...

...these are the concepts your child will master by the end of this year!

I built this curriculum to prepare your child for a basic understanding of what a college-level class will expect of them. The labs will help them see the weekly concepts in action, every day, and under their personal control. I know this will help them in their future studies!

Gasp! "There's a lot of math in this book!"

Don't let the name "Advanced" fool you into believing you need a Master's degree in mathematics in order to solve these problems! The majority of the problems in this book use basic math skills that can be easily mastered by any child with experience with pre-algebra.

I recommend that you purchase a simple calculator to help with the calculations. You don't need anything fancy! A basic scientific calculator with an exponent key (EXP) and a log key (LOG) is all you need. At the time of this writing, I found a good-quality calculator with these functions at a local store for \$5.

Future books and projects

I am in the process of constructing the second book in the advanced series. Advanced Botany and Anatomy/Physiology is set to be released in the Fall of 2012. This resource will include two (2) 16-week courses on both of these topics. Think of them as "semester courses."

In addition to the ongoing Advanced series, I hope to launch an online learning environment to supplement both the Elementary and Advanced books within the next year. It is my hope to provide this resource to families such as yours to collaborate with each other around the world on the weekly labs and activities within the Classic Science series. Not only will this serve as a collaboration tool, I also hope to provide monthly research-based problems for your family to solve as well.

The best way to keep up-to-date on these developments is to sign up for my monthly LabNotes on my website (www.eequalsmcq.com). I'm certain you'll love the free activities I provide each month you can do with your family!

As I've said before, I am honored that you have chosen this curriculum but I am eternally grateful for your time, patience and willingness to educate your child in the sciences. I can only hope that your children will attain the passion I have for this field. Thank you for all you are doing to help shape tomorrow!

Above all else....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