

# DIVE CHEMISTRY TEACHER'S GUIDE

## CD & Download Formats



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# PARENTS: Course Setup Instructions

1. If you haven't already, see the [CD & Download Instructions](#). Then come back to this page and complete setup.
2. **Parents: Watch the [Getting Started](#) video.**
3. **Critical: Bookmark the [ASSIGNMENT CHART](#).** It includes the Internet Textbook & Digital Flashcards. **Students should open this document each day** to complete assignments. To bookmark, select the Assignment Chart link above. In the browser menu, select **Bookmarks**, then **Add Bookmark**.
4. **Print the Lab Workbook with Review Questions**  
 If you purchased a hard copy of the Workbook, skip this step. To purchase a spiral-bound workbook in full color with free Priority Mail 2-3 day shipping, click here: [Workbook & Lab Manual](#). Follow these steps to print on 3-hole punched paper and place the copies in a 3 ring binder.
  - On your CD or Download, open the Printable Materials (CD) or Documents (Download) folder.
  - Find the Lab Workbook PDF.
    - **Windows:** double click the file name to open with Adobe Acrobat.
    - **Macs:** right click and select **Open With**, then **Preview**.
  - Select **Print** and follow the onscreen instructions.
5. **Optional: Save the Grade Calculator**
  - Open Microsoft Excel (Windows) or Numbers (Mac). If you don't have these, you can use
    - OpenOffice Calc (free download at [www.openoffice.org](http://www.openoffice.org))
    - Google Sheets (also free at [www.sheets.google.com](http://www.sheets.google.com)).
  - In your application, Go to File, Open File, and select the grade calculator file.
  - Select **Save AS**, then save it to your Desktop with your student's name.
  - Instructions for using the file are posted on the first page.
6. **Optional: Print the DIVE Glossary**  
 Skip this step if you plan to use the digital flashcards linked in the Assignment Chart. If you want your child to write the definitions, you will need to print the DIVE glossary. The DIVE Glossary is in the Printable Materials folder (CD) or the Documents folder (Downloads).
7. **Select a Reading Supplement**  
 The reading assignments for the DIVE Internet Textbook are linked in the Assignment Chart above. If you prefer a physical textbook, please see page 7 to select a textbook and print the reading syllabus.
8. **CLEP & AP Exams: Earn up to 8 College Credits** For details, see page 3.

## Welcome!

DIVE Chemistry is a complete, digital curriculum that can be used as an honors or standard high school course. Below you will find a brief overview of the course components. At the end is a step-by-step guide to setting up your course. You can either save these instructions to your desktop so you can access the live links or print the instructions.

### Honors or Standard High School Course

While all DIVE science courses are honors courses, they can easily be modified for use as a standard high school course by allowing students to use a review sheet or notes during exams. A review sheet is a piece of paper the student fills with information they pull out of notes, review questions, etc.

## Course Description

### Credits: 1 Credit of Chemistry with Lab

DIVE Chemistry is a complete, college preparatory chemistry course. Including topics like atomic and molecular bonding, chemical reactions and equations, stoichiometry, gas laws, solutions, thermodynamics, chemical equilibrium, oxidation/reduction reactions and electrochemistry, organic chemistry, biochemistry, and nuclear chemistry. Weekly labs emphasize important lab techniques used by chemists, including chromatography, colorimetry, spectroscopy, electroplating, and titrations. Upon completion, students will be adept at working with the scientific method, developing lab skills that are above and beyond most of their peers. Most importantly, students will have a better understanding of the laws God has woven into Creation and the rich Christian heritage that exists in science. [Scope & Sequence](#) (Course Table of Contents)

### Earn up to 8 College Credits

After completing DIVE Chemistry, we recommend Dr. Shormann's [CLEP Professor for CLEP and AP Chemistry](#). This three to six week course provides excellent preparation for these exams which can earn up to 8 college credits. Learn more about [AP exams here](#) and [CLEP exams here](#).

## Course Components

### Weekly Assignment Chart

The [Assignment Chart](#) schedules lessons, labs, and quarterly exams over 32 weeks with links to digital flashcards for Terms and Internet Textbook reading assignments. There are typically two to three lessons per week and a video lab. Every 8 weeks a quarterly exam is completed. Be flexible! A standard school year is 36 weeks. If your student needs an extra week or two, don't be afraid to give it to them.

### Lessons

There are typically two to three lessons per week. Each lesson is made up of 4 parts:

#### 1. Terms

Students can learn the terms assigned in each lesson by using our new digital flashcards, handwriting the terms using the DIVE Glossary, or a combination of the two. Terms should be reviewed 3-4 days per week.

**Digital Flashcards** are a quick and easy way to learn and memorize terms. Hosted online, these flashcards provide a quick and easy way to learn and memorize terms. They also have games, quizzes, voice recordings of the terms and definitions and much more!

The **DIVE Glossary** is used by those who prefer to handwrite their terms and definitions. The glossary can be found under Printable Materials or in the Documents folder. The glossary can be printed or viewed on the computer. After hand writing the terms, students can use the digital flashcards to review and memorize the terms.

## 2. Reading Assignment

Reading assignments lay a foundation for the video lectures. Then, when the student watches the lecture and takes notes, they are familiar with the subject matter, which will help them take a good set of lecture notes that, in turn, will help them to do well on the review questions assigned that week. However, it is not necessary to take notes on the reading.

## 3. Video Lecture

In the video lectures, Dr. Shormann teaches the more complex concepts. Students should take notes during the lecture, pausing and rewinding as necessary. Taking notes is a critical skill for college preparation, but most students have not had much experience. Be patient as this skill develops slowly at first.

## 4. Review Questions

The review questions are based on the lecture and vocabulary. This is not a quiz. It is practice to help the student learn how to apply what was taught in the lecture. Students should use their lecture notes and vocabulary to complete the Review Questions. Pause the CD at the end of the lecture and complete the Review Questions on the Lesson page in the Chemistry Workbook. Turn the CD back on to grade the Review Questions using the video solutions at the end of the lecture. A PDF of the solutions to review questions is also available in the Documents folder on the CD/download. It is important to let the student grade the daily work as this is part of the learning process.

## Video Labs

Each week there is 1 video lab. A printable PDF of the lab manual is included with your course, and you can also purchase it already printed. While we recommend completing the labs hands-on using our lab kit, it is not required. In fact, our video labs were designed so that even if the labs are not completed hands-on, the student would still get an excellent college preparatory lab experience. Both options earn one science lab credit.

### Using Lab Supplies

You can either purchase the DIVE lab kit from Nature's Workshop Plus or create your own lab kit. Students first watch the video lab, then complete the lab with the lab supplies while filling out the lab activity sheet in the lab manual. **Important:** If completing labs hands-on, with the lab kit or with your own supplies, you must read these [Lab Instructions](#) and lab procedures.

### Without Lab Supplies

With this option, the student views the video lab, working interactively by filling out the lab manual. Dr. Shormann does not give the answers during the lab. Students must make a hypothesis, record observations, and write up results.

### Grading Labs

The student grades the lab activity sheet by watching the video solutions provided at the end of the video lab. We recommend giving a completion grade for the labs. This means if the student completes the video labs, grades their sheet, and corrects it, they earn a 100.

## Quarterly Exams

Every 8 weeks there is an exam. There are no other assignments due on the week of the exam. This gives the student a full week to study. Quarterly exams should be taken under parental supervision. The questions on the exams come from the Review Questions and the Vocabulary. Students get 2 attempts on each exam, and the scores are averaged. So, for example, if you only make a 70 the first attempt, you can try again. If you make a 90 the second attempt, your average would be 80, so you get a bonus for putting in an extra effort and taking the exam a second time. The quarterly exams, and the solutions for the exams, are PDFs included on the CD and digital download.

To teach students how to prepare for a college final exam, the last exam in DIVE Chemistry is cumulative, covering all 58 lessons. DIVE Earth Science, Integrated Chemistry and Physics (ICP), and Biology do not have cumulative exams because these courses are generally taken by younger students.

## Honors or Standard Course Options

The DIVE course can be used as a standard or Honors course, depending on how the exams are administered and by using the corresponding grading scale in the Grade section below.

### Exam Prep for Standard Course

To use as a standard high school course, allow the student to use a review sheet when taking the exam. A review sheet is one piece of paper, front and back, that the student writes notes, vocabulary, etc to help them with the exam. To prepare the review sheet, the student should practice the Terms digital flashcards for the exam on Quizlet. They should also re-take the review questions multiple times. The score for the review questions is only recorded the first time review questions are completed. So taking them again will not affect their grade.

### Exam Prep for Honors Course

To prepare for the exams, we recommend students memorize all the terms for the quarter using the corresponding exam set on quizlet and study the review questions multiple times each. Depending on the student, allow around 2-3 hours per day for 4 to 5 days to prepare for the honors level exam.

## Grade Calculator

The Grade Calculator is a preformatted spreadsheet that automatically weights the grades as outlined below. Watch the **Getting Started** or **Introductory Lesson** video to familiarize yourself with the grade

calculator. Following is a breakdown of how the grades are distributed:

**Notes and definitions (Worth 15%):** Grade these based on completion. If your child completed all definitions and took a thorough set of notes, give them a 100%. Deciding what “thorough” means is sometimes difficult. At the very least, briefly review the DIVE Video Lectures assigned for that week, which will give you a good indication of whether your child has a thorough set of notes. Some things your child should take notes on include titles and subtitles, definitions and important concepts, diagrams and tables with notes explaining them, and ALL practice problems. If you have more than one child working on the same DIVE Science course, give the better grade to the one with the more thoroughly completed set of notes.

**Review questions (15%):** A recommended point scale is given on the review questions. Give a percentage grade. For example, if an assignment had 25 total points, and your child missed 4 points, they made a 21 out of 25. Divide 21 by 25, and then multiply this by 100 to convert to a percent (84.0 % in this example).

**Laboratory Assignments (20%):** Grade these based on completion. If your child completes all topics covered on the DIVE Video Lab, then give them a 100%. Give lower scores for incomplete, sloppy or lazy work. For most students, lab is their favorite part of science, and lab should be an “easy A” for them. You may find it necessary to set a time limit of 2 hours for lab activities, and if your child has worked hard during that time, give them a 100 even if they don’t complete everything.

**Quarterly exams (50%):** Students who took good notes and studied their definitions and review questions will do the best on exams. Most exam questions will be similar to the DIVE review questions. If your child can correctly answer all the review questions, then they should do fine on the exam. Exam solutions are provided on the DIVE CD.

### Did I pass?

Since 1997, I have taught DIVE to home-educated students in Houston, TX, and based on student grades in those classes, I developed the following grade system for DIVE Science:

## Grading Scale for Honors and Standard Course Options

### Honors Course Grading Scale

A – 93-100

B – 84 – 92

C – 74 – 83



D – 65 – 73

F – 64 or below

I – Incomplete

#### Standard Course Grading Scale

A – 90 -100

B –80 – 89

C – 70 – 79

D – 60 – 69

F – 59 or below

I – Incomplete

#### Q&A Email Support

Anytime your child has a question about their Chemistry course, have them contact Dr. Shormann [here](#). There is no need for you to dig through the book or try to figure out the correct answer. Your job should mainly be a moderator, making sure students complete their work correctly and grading the quarterly exams. Dr. Shormann is the teacher and he is happy to answer any questions.

#### Struggling Student? We can help!

Most issues are easily solved by following the tips linked below. If you would like to speak with a consultant, please [schedule a phone appointment](#).

#### [Time-Saving Tips for Success](#)

### Course Setup Instructions

If you have trouble completing these steps, please refer to the troubleshooting steps on the next page.

#### 1. Open CD/Digital Download and watch the Introductory Lesson

This is the first lesson of the course and can be found under Lectures. Please watch this lesson with your child. Dr. Shormann will explain how to use DIVE as well as how to contact him by email.

If you need instructions for installing or downloading your course, please visit [Installation and](#)

[sales@DIVEintoMath.com](mailto:sales@DIVEintoMath.com) | 936-372-9216 | [www.DIVEintoMath.com](http://www.DIVEintoMath.com)

[Download Instructions](#) for quick and easy instructions. Then come back to this page.

## 2. Print the Workbook

If you purchased the workbook pre-printed, you can skip this step. A printable pdf of the workbook is found under Printable Materials or Documents. This workbook has the review question worksheet and the lab activity pages. The easiest way is to print on 3-hole punched paper and place the copies in a 3 ring binder. You can purchase the workbook on our website [here](#) and it includes free Priority Mail shipping. **NOTE:** There is a table of equivalent measures in the lab manual, on the page preceding Laboratory Activity 4. You can also download and print the table [here](#).

## 3. Save the Grade Calculator

1. If you don't have Microsoft Excel (Windows) or Numbers (Mac), then you can use the Openoffice spreadsheet application (free download at [www.openoffice.org](http://www.openoffice.org)) or Google Sheets (also free at [www.sheets.google.com](http://www.sheets.google.com)).
2. In your application, Go to File, Open File and find the grade calculator file to open it.
3. Select Save AS and save it to your desktop under your student's name or somewhere else easy to access.
4. Simply type in the student's grades and it will automatically weigh the grades and give you their final grade.

## 4. Optional: Print the DIVE Glossary

If you want your child to hand write the definitions, you will need to print the DIVE glossary. The glossary can be found under Printable Materials or Documents within the DIVE course.

## 5. Bookmark the [Assignment Chart](#).

## 6. Select a Reading Supplement on page 9.

# Reading Supplements

***Following is a complete list of reading supplements. If there is an updated edition of one of the books listed below, and it remains a good supplement for our courses, we are happy to create a reading syllabus for you. Please contact us at [support@diveintomath.com](mailto:support@diveintomath.com) and allow 2-3 weeks for the syllabus to be created and posted here.***

## Honors Textbooks (CLEP/AP Exam prep)

The DIVE Internet Textbook, designed by Dr. Shormann specifically for this course, is the

[sales@DIVEintoMath.com](mailto:sales@DIVEintoMath.com) | 936-372-9216 | [www.DIVEintoMath.com](http://www.DIVEintoMath.com)



*recommended text for those who want an honors course and/or plan to take a CLEP or AP exam. If you prefer a traditional hard copy textbook, select a textbook below that has an asterisk next to it.*

Upon completion of DIVE Chemistry, we recommend our [CLEP Professor for CLEP and AP Chemistry](#), a three week course that provides specific preparation for these exams. Featuring video lectures, practice problems with video solutions, and several practice exams, this short course teaches every topic on the corresponding exam.

### Standard High School Textbooks

*The DIVE Internet Textbook is our favorite reading supplement for standard courses, too! If you prefer a hard copy, any of the texts below may be used.*

### DIVE Chemistry Internet Textbook- Our #1 Favorite

This is our favorite reading text. Designed by Dr. Shormann specifically for this course, it provides an excellent foundation for the DIVE lectures. It can be used for an honors or standard course. All of the reading material is posted online which makes it possible to include graphics and animations that would not be possible in a traditional textbook. The Internet Textbook links are integrated in the Assignment Chart. Click the link below to view the links in the Assignment Chart.

[\\*DIVE Chemistry Internet Textbook and Assignment Chart](#)

### Bob Jones University Press-Our #2 Favorite

This publisher teaches from a Biblical, six day Creation worldview. With good graphics and short, succinct reading assignments, these texts provide all the reading required for an excellent, honors level course.

[\\*BJUP Chemistry, 2nd ed.](#)

[\\*BJUP Chemistry, 3rd ed.](#)

[\\*BJUP Chemistry, 4th ed.](#)

### Apologia Ministries

This publisher teaches from a Biblical, six day Creation worldview. Written in a conversational style, these texts have longer, more descriptive reading assignments than any other textbook on this list. About five weeks of the concepts typically taught in an honors biology course is not in the Apologia Chemistry text. That reading material is found in the Apologia Advanced Chemistry text. Therefore if you would like an honors course you should either complete the optional internet reading assignments on the Apologia Chemistry Reading Syllabi or use the Apologia Chemistry with the Apologia Advanced Chemistry text (see Reading Syllabi below).

[Apologia Chemistry, 3rd edition](#)

[\\*Apologia Chemistry, 2nd ed. with Advanced Chemistry 1st ed.](#)

[Apologia Chemistry, 2nd ed.](#)

[\\*Apologia Chemistry, 2nd Edition with Advanced Chemistry, 2nd Edition Reading Syllabus.](#)

[Apologia Chemistry, 1st ed.](#)

### A Beka Publishers

This publisher teaches Chemistry from a Biblical, six day Creation worldview. With nice graphics and succinct reading assignments, these are great texts for a standard high school course.

[Abeka Chemistry, 3rd ed.](#)

[Abeka Chemistry, 2nd ed.](#)

### Other Christian Publishers

[Discovering Design with Chemistry](#) by Jay Wile

[Modern Chemistry 2015](#), Holt McDougal

[MODERN CHEMISTRY](#), Holt, Rinehart and Winston, 2002

### Secular Publishers

These texts are written from a secular, evolutionary worldview.

[High School Chemistry In Your Home](#) by Bridget Ardoin

[Intro to Chemistry, 4th ed.](#) by Cracolice and Peters

[FOLLOWS Pearson Chemistry, 2012 ed.](#)

## Troubleshooting

DIVE CDs and Digital Downloads are simply video and document files compressed on a CD-ROM. Therefore, any technical issues are simple and easily solved. Select the link below for instructions.

## [CD and Download Tech Support](#)

## Need Help?

If you have any questions about this information, please contact us. However, if you have questions concerning the content of your course (ie: what is DNA?), please contact Dr. Shormann [here](#).