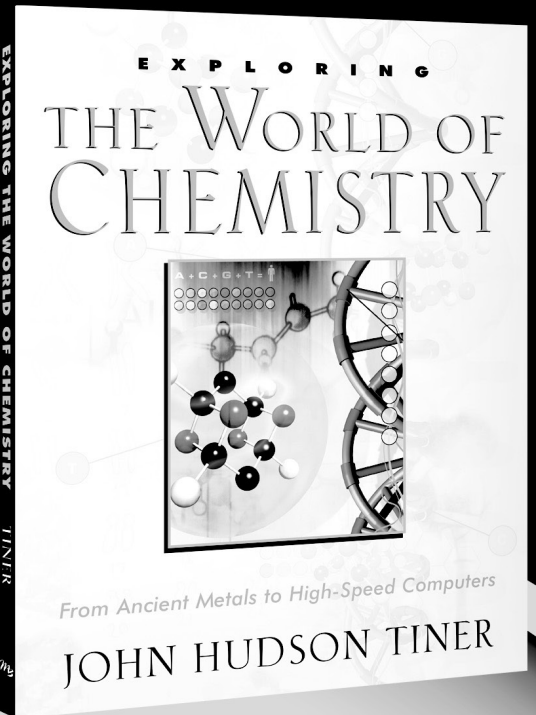
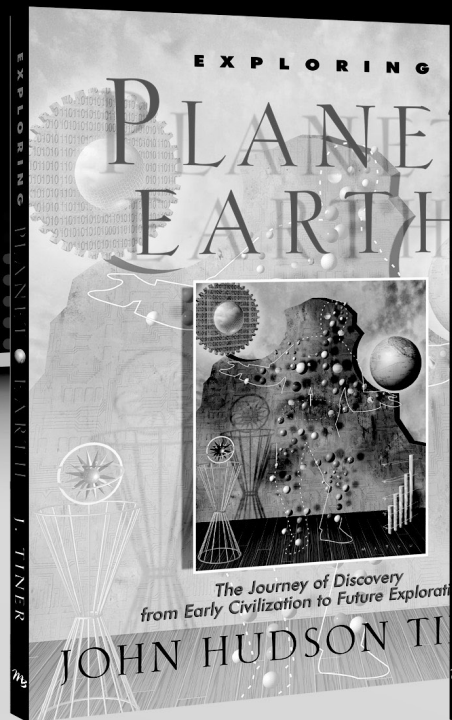






# CONCEPTS OF EARTH SCIENCE & CHEMISTRY

## Parent Lesson Planner (PLP)



-  Weekly Lesson Schedule
-  Student Worksheets
-  Quizzes & Test
-  Answer Key

7th – 9th grade

1 Year  
Science

1/2 Credit

First printing: April 2013  
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Unless otherwise noted, Scripture quotations are from the New King James Version of the Bible.

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Psalm 11:3; NKJV

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to give a defense to everyone who asks you a reason for the hope  
that is in you, with meekness and fear.*

1 Peter 3:15; NKJV

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## Lessons for a 36-week course!

**Overview:** This *Concepts of Earth and Chemistry PLP* contains materials for use with *Exploring Planet Earth* and *Exploring the World of Chemistry* in the Exploring series. Materials are organized by each book in the following sections:







	Study guide worksheets
	Quizzes, Semester Test & Final Test
	Answer Keys

Suggested Optional Science Lab  
See page 13

**Features:** Each suggested weekly schedule has two to three easy-to-manage lessons which combine reading, worksheets, and vocabulary-building opportunities including an expanded glossary for each book. Designed to allow your student to be independent, materials in this resource are divided by section so you can remove quizzes, tests, and answer keys before beginning the coursework. As always, you are encouraged to adjust the schedule and materials needed to in order to best work within your educational program.

**Workflow:** Students will read the pages in their book and then complete each section of the PLP. They should be encouraged to complete as many of the activities and projects as possible as well. Tests are given at regular intervals with space to record each grade. If used with younger students, they may be given the option of only choosing activities or projects of interest to them and taking open book tests.

**Lesson Scheduling:** Space is given for assignment dates. There is flexibility in scheduling. For example, the parent may opt for a M–W schedule rather than a M, W, F schedule. Each week listed has five days but due to vacations the school work week may not be M–F. Adapt the days to your school schedule. As the student completes each assignment, he/she should put an “X” in the box.

	Approximately 30 to 45 minutes per lesson, two to three days a week
	Includes answer keys for worksheets, quizzes, and semester exams
	Worksheets for each chapter
	Quizzes are included to help reinforce learning and provide assessment opportunities; optional semester exams included.
	Designed for grades 7 to 9 in a one-year course to earn 1/2 science credit
	Suggested labs (if applicable)

Course includes books from creationist author with solid, biblical worldviews:

**John Hudson Tiner** — *Exploring Planet Earth*, *Exploring the World of Chemistry*

John Hudson Tiner received five National Science Foundation teaching fellowships during his 12 years as a teacher of mathematics and science that allowed him to study graduate chemistry, astronomy, and mathematics. He also worked as a mathematician and cartographer for the Defense Mapping Agency, Aerospace Center in St. Louis, MO.

Tiner has received numerous honors for his writing, including the Missouri Writer’s Guild award for best juvenile book for *Exploring the World of Chemistry*. He and his wife, Jeanene, live in Missouri.

# Concepts of Earth and Chemistry

## Course Description

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This is the suggested course sequence that allows one core area of science to be studied per semester. You can change the sequence of the semesters per the needs or interests of your student; materials for each semester are independent of one another to allow flexibility.

## Semester 1: Earth

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Blending a creationism perspective of history with definitions of terms and identification of famous explorers, scientists, etc. *Exploring Planet Earth* gives students an excellent initial knowledge of people and places, encouraging them to continue their studies in-depth. The book brings to life people like Marco Polo and Christopher Columbus, and gives students the opportunity to read history that hasn't been altered or erased altogether. Students will explore the size of the earth, adventurers and explorers, tides, use of the compass, rivers in the ocean, glaciers, rivers, the atmosphere, the age of flight, and so much more.

## Semester 2: Chemistry

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Chemistry is an amazing branch of science that affects us every day, yet few people realize it, or even give it much thought. Without chemistry, there would be nothing made of plastic, there would be no rubber tires, no tin cans, no televisions, no microwave ovens, or something as simple as wax paper. This book presents an exciting and intriguing tour through the realm of chemistry as each chapter unfolds with facts and stories about the discoveries of discoverers. Find out why pure gold is not used for jewelry or coins. Join Humphry Davy as he made many chemical discoveries, and learn how they shortened his life. See how people in the 1870s could jump over the top of the Washington Monument. *Exploring the World of Chemistry* brings science to life and is a wonderful learning tool with many illustrations and biographical information.

## First Semester Suggested Daily Schedule

Date	Day	Assignment	Due Date	✓	Grade
First Semester-First Quarter — <i>Exploring Planet Earth</i>					
Week 1	Day 1	Read pages 4–8 • <i>Exploring Planet Earth</i> • (EPE)			
	Day 2				
	Day 3	How Big Is the Earth-Questions <b>Planet Earth Ch 1: Worksheet 1</b> • Page 17 • Lesson Plan (LP)			
	Day 4				
	Day 5	Read pages 10–14 • (EPE)			
Week 2	Day 6	Masters of the Mediterranean-Questions <b>Planet Earth Ch 2: Worksheet 1</b> • Page 19 • (LP)			
	Day 7				
	Day 8	Read pages 16–22 • (EPE)			
	Day 9				
	Day 10	Marco Polo's Big Adventure-Questions <b>Planet Earth Ch 3: Worksheet 1</b> • Page 21 • (LP)			
Week 3	Day 11				
	Day 12	Read pages 24–30 • (EPE)			
	Day 13				
	Day 14	The Portuguese Sail East-Questions <b>Planet Earth Ch 4: Worksheet 1</b> • Page 23 • (LP)			
	Day 15				
Week 4	Day 16	Read pages 32–36 • (EPE)			
	Day 17				
	Day 18	The Spanish Sail West-Questions <b>Planet Earth Ch 5: Worksheet 1</b> • Page 25 • (LP)			
	Day 19				
	Day 20	<b>Planet Earth Chs 1–5 Quiz 1</b> • Page 93 • (LP)			
Week 5	Day 21				
	Day 22	Read pages 38–42 • (EPE)			
	Day 23				
	Day 24	Sailing Around World-Questions <b>Planet Earth Ch 6: Worksheet 1</b> • Page 27 • (LP)			
	Day 25				
Week 6	Day 26				
	Day 27	Read pages 44–50 • (EPE)			
	Day 28				
	Day 29	The Ten Thousand Names of Wind-Questions <b>Planet Earth Ch 7: Worksheet 1</b> • Page 29 • (LP)			
	Day 30				



Date	Day	Assignment	Due Date	✓	Grade
Week 7	Day 31				
	Day 32	Read pages 52–58 • (EPE)			
	Day 33				
	Day 34	The Mystery of Tides-Questions <b>Planet Earth Ch 8: Worksheet 1 • Page 31 • (LP)</b>			
	Day 35				
Week 8	Day 36				
	Day 37	Read pages 60–64 • (EPE)			
	Day 38				
	Day 39	The Compass Points the Way-Questions <b>Planet Earth Ch 9: Worksheet 1 • Page 33 • (LP)</b>			
	Day 40				
Week 9	Day 41	Read pages 66–74 • (EPE)			
	Day 42				
	Day 43	Time and Longitude-Questions <b>Planet Earth Ch 10: Worksheet 1 • Page 35 • (LP)</b>			
	Day 44				
	Day 45	<b>Planet Earth Chs 6–10 Quiz 2 • Page 95 • (LP)</b>			
<b>First Semester-Second Quarter — Exploring Planet Earth</b>					
Week 1	Day 46	Read pages 76–80 • (EPE)			
	Day 47				
	Day 48	A River in the Ocean-Questions <b>Planet Earth Ch 11: Worksheet 1 • Page 37 • (LP)</b>			
	Day 49				
	Day 50	Read pages 82–88 • (EPE)			
Week 2	Day 51	Three Spheres-Questions <b>Planet Earth Ch 12: Worksheet 1 • Page 39 • (LP)</b>			
	Day 52				
	Day 53	Read pages 90–98 • (EPE)			
	Day 54				
	Day 55	Into the Heart of the Glacier-Questions <b>Planet Earth Ch 13: Worksheet 1 • Page 41 • (LP)</b>			
Week 3	Day 56				
	Day 57	Read pages 100–108 • (EPE)			
	Day 58				
	Day 59	Rivers — Earth's Lifeline-Questions <b>Planet Earth Ch 14: Worksheet 1 • Page 43 • (LP)</b>			
	Day 60				

Date	Day	Assignment	Due Date	✓	Grade
Week 4	Day 61	Read pages 110–114 • (EPE)			
	Day 62				
	Day 63	The Mysterious Valley-Questions <b>Planet Earth Ch 15: Worksheet 1 • Page 45 • (LP)</b>			
	Day 64				
	Day 65	<b>Planet Earth Chs 11–15 Quiz 3 • Page 97 • (LP)</b>			
Week 5	Day 66				
	Day 67	Read pages 116–124 • (EPE)			
	Day 68				
	Day 69	The Atmosphere-Questions <b>Planet Earth Ch 16: Worksheet 1 • Page 47 • (LP)</b>			
	Day 70				
Week 6	Day 71				
	Day 72	Read pages 126–132 • (EPE)			
	Day 73				
	Day 74	Exploring by Balloon-Questions <b>Planet Earth Ch 17: Worksheet 1 • Page 49 • (LP)</b>			
	Day 75				
Week 7	Day 76				
	Day 77	Read pages 134–140 • (EPE)			
	Day 78				
	Day 79	The Age of Flight-Questions <b>Planet Earth Ch 18: Worksheet 1 • Page 51 • (LP)</b>			
	Day 80				
Week 8	Day 81				
	Day 82	Read pages 142–150 • (EPE)			
	Day 83				
	Day 84	To the Edge of the Atmosphere — and Beyond-Questions <b>Planet Earth Ch 19: Worksheet 1 • Page 53 • (LP)</b>			
	Day 85				
Week 9	Day 86	Read pages 152–153 • (EPE)			
	Day 87				
	Day 88	<b>Planet Earth Chs 16–20 Quiz 4 • Page 99 • (LP)</b>			
	Day 89				
	Day 90	<b>Planet Earth Chs 1–20 Test • Page 101 • (LP)</b>			
		<b>Mid-Term Grade</b>			

## Second Semester Suggested Daily Schedule

Date	Day	Assignment	Due Date	✓	Grade
Second Semester-Third Quarter — <i>Exploring Chemistry</i>					
Week 1	Day 91				
	Day 92	Read pages 4–10 • <i>Exploring the World of Chemistry</i> • (EWC)			
	Day 93				
	Day 94	Ancient Metals-Questions <b>Chemistry Ch 1: Worksheet 1</b> • Page 57 • Lesson Plan (LP)			
	Day 95				
Week 2	Day 96				
	Day 97	Read pages 12–16 • (EWC)			
	Day 98				
	Day 99	The Money Metals-Questions <b>Chemistry Ch 2: Worksheet 1</b> • Page 59 • (LP)			
	Day 100				
Week 3	Day 101				
	Day 102	Read pages 18–23 • (EWC)			
	Day 103				
	Day 104	Read pages 24–26 • (EWC)			
	Day 105				
Week 4	Day 106	The Search for Gold-Questions <b>Chemistry Ch 3: Worksheet 1</b> • Page 61 • (LP)			
	Day 107				
	Day 108	Read pages 28–34 • (EWC)			
	Day 109				
	Day 110	Gases in the Air-Questions <b>Chemistry Ch 4: Worksheet 1</b> • Page 63 • (LP)			
Week 5	Day 111				
	Day 112	<b>Chemistry Chs 1–4 Quiz 1</b> • Page 105 • (LP)			
	Day 113				
	Day 114	Read pages 36–42 • (EWC)			
	Day 115				
Week 6	Day 116				
	Day 117	Electricity to the Rescue-Questions <b>Chemistry Ch 5: Worksheet 1</b> • Page 65 • (LP)			
	Day 118				
	Day 119	Read pages 44–50 • (EWC)			
	Day 120				
Week 7	Day 121				
	Day 122	Search for Order-Questions <b>Chemistry Ch 6: Worksheet 1</b> • Page 67 • (LP)			
	Day 123				
	Day 124	Read pages 52–55 • (EWC)			
	Day 125				

Date	Day	Assignment	Due Date	✓	Grade
Week 8	Day 126	Read pages 56–60 • (EWC)			
	Day 127				
	Day 128	Sunlight Shows the Way-Questions <b>Chemistry Ch 7: Worksheet 1 • Page 69 • (LP)</b>			
	Day 129				
	Day 130	Read pages 62–68 • (EWC)			
Week 9	Day 131				
	Day 132	The Electron Shows the Way-Questions <b>Chemistry Ch 8: Worksheet 1 • Page 71 • (LP)</b>			
	Day 133				
	Day 134	<b>Chemistry Chs 5–8 Quiz 2 • Page 107 • (LP)</b>			
	Day 135				
		Second Semester-Fourth Quarter — <i>Exploring Chemistry</i>			
Week 1	Day 136				
	Day 137	Read pages 70–76 • (EWC)			
	Day 138				
	Day 139	Compounds by Electrical Attraction-Questions <b>Chemistry Ch 9: Worksheet 1 • Page 73 • (LP)</b>			
	Day 140				
Week 2	Day 141				
	Day 142	Read pages 78–84 • (EWC)			
	Day 143				
	Day 144	Water-Questions <b>Chemistry Ch 10: Worksheet 1 • Page 75 • (LP)</b>			
	Day 145				
Week 3	Day 146				
	Day 147	Read pages 86–89 • (EWC)			
	Day 148				
	Day 149	Read pages 90–94 • (EWC)			
	Day 150				
Week 4	Day 151	Carbon and Its Compounds-Questions <b>Chemistry Ch 11: Worksheet 1 • Page 77 • (LP)</b>			
	Day 152				
	Day 153	Carbon and Its Compounds-Questions <b>Chemistry Ch 11: Worksheet 2 • Page 79 • (LP)</b>			
	Day 154				
	Day 155	Read pages 96–102 • (EWC)			
Week 5	Day 156				
	Day 157	Organic Chemistry-Questions <b>Chemistry Ch 12: Worksheet 1 • Page 81 • (LP)</b>			
	Day 158				
	Day 159	<b>Chemistry Chs 9–12 Quiz 3 • Page 109 • (LP)</b>			
	Day 160				

Date	Day	Assignment	Due Date	✓	Grade
Week 6	Day 161				
	Day 162	Read pages 104–110 • (EWC)			
	Day 163				
	Day 164	Nitrogen and Its Compounds-Questions <b>Chemistry Ch 13: Worksheet 1 • Page 83 • (LP)</b>			
	Day 165				
Week 7	Day 166				
	Day 167	Read pages 112–118 • (EWC)			
	Day 168				
	Day 169	Silicon and Its Compounds-Questions <b>Chemistry Ch 14: Worksheet 1 • Page 85 • (LP)</b>			
	Day 170				
Week 8	Day 171	Read pages 120–126 • (EWC)			
	Day 172				
	Day 173	Modern Metals-Questions <b>Chemistry Ch 15: Worksheet 1 • Page 87 • (LP)</b>			
	Day 174				
	Day 175	Read pages 128–134 • (EWC)			
Week 9	Day 176	Chemistry in Today's World-Questions <b>Chemistry Ch 16: Worksheet 1 • Page 89 • (LP)</b>			
	Day 177				
	Day 178	<b>Chemistry Chs 13–16 Quiz 4 • Page 111 • (LP)</b>			
	Day 179				
	Day 180	<b>Chemistry Chs 1–16 Test • Page 113 • (LP)</b>			
		<b>Final Grade</b>			

## Suggested Optional Science Lab

There are a variety of companies that offer science labs that complement our courses. These items are only suggestions, not requirements, and they are not included in the daily schedule. We have tried to find materials that are free of evolutionary teaching, but please review any materials you may purchase. The following items are available from [www.HomeTrainingTools.com](http://www.HomeTrainingTools.com).

### *Planet Earth*

BK-MAPCOMP Basic Essentials Map & Compass

### *The World of Chemistry*

CM-ELEMATS Laminated Placemat Size Chart-The Elements Periodic Tables

KT-CHEM1K Chem C1000 Kit

## **Special Projects**

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The Exploring series offers a unique perspective filled with biographical, historical, and scientific perspectives. By highlighting the work and relevance of scientists and innovators, students are introduced to the people behind the knowledge and discoveries that continue to impact their world. This provides exceptional learning opportunities above and beyond the worksheets, quizzes, and tests. Below are three areas of possible activities or bonus point projects that can be undertaken to enhance study.

### **Biographical**

- Select your favorite scientist mentioned in the book and do a research paper on this person's life and/or work. Be sure to include details that enhance the understanding of why they worked in the area of science that they chose, information on their worldview (Christian or secular) and why their work remains relevant.
- There have been some amazing discoveries by women — see if you can find three discoveries by researching at your local library or online at parent-approved sites.

### **Historical**

- Do three short essays — no more than two typed pages each — on discoveries that laid the groundwork for future science fields or the advancement of knowledge.
- Discover where 25 important discoveries related to the earth or science took place; mark the map for each place and label with the name of each discovery.
- The Bible contains some amazing information about the creation of the earth. See how many related verses you can find.

### **Scientific**

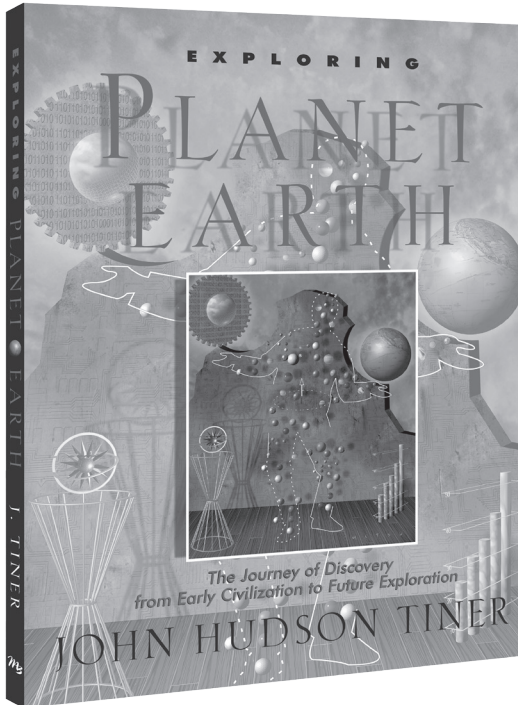
- Imagine an invention related to exploration or chemistry that could change the way you and others live. See if you can visualize your invention by drawing it out or providing details that would enable someone else to understand the relevance of your invention and how it works.

## **Applied Learning**

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These ideas provide a way for the student to acquire knowledge and then apply it — whether that is done in a technical sense or by being able to recognize the concepts at work in the course of their daily experiences. Consider doing one of the two following options as an opportunity to earn bonus points or to extend the learning process:

- Take a spiral notebook and name it “My Learning Observations.” Then, using the following concepts, mark the date and time you observe each example over a two-week period. Remember, science is happening around you all the time in every day life, so make sure your observations correlate with your current study.
- You can keep a running study journal using the words and people to know on the following pages. By writing down the definition of words, or the contribution of an individual, you can develop a deeper understanding of the subject matter and have notes available when studying for quizzes and exams.



**Earth Worksheets**  
**for Use with**  
***Exploring Planet Earth***





