

EXTENDED RESOURCE LIST

“Let us know all about it —

let us pick it to pieces and see what it is made of.

We have a good long evening before us,

and nothing to do but grow wise.”

— *A Lady (anonymous)*, *The Young Philosophers*

Availability of Resources — The majority of resources are likely to be stocked in most public libraries or available through inter-library loan. Many are also available for purchase from major bookstores or homeschool book retailers. For any items deemed difficult to locate, a retailer has been listed.

Explicitly Christian Resources — Items labeled with a cross (V) are explicitly from a Christian perspective.

Use Your Discretion With All Resources — With all resources, please USE YOUR OWN DISCRETION in their usage. Many do address topics such as evolution, may include illustrations not deemed appropriate, may interject thoughts contrary to Biblical thought, and so forth. “So, why have they been included?” The answer is simple. There is a glaring lack of explicitly Christian resources for CKEC’s topics. It is far more so for chemistry than it was for biology. Thus, secular items, which were deemed useful in part or in full for one or more topics in CKEC, have been listed here for your consideration. You may find that some are perfectly fine, while others need a section or illustration to be skipped, and yet others have only one section that you will wish to utilize due to its content on a key topic that couldn’t be found in a better book.

Aid to Raise Biblical-Thinking Children With Respect to Science — It is my heartfelt prayer that you and your children will be richly blessed by this curriculum and the supplemental resources while you seek to raise a generation of Biblical-thinking children in the realm of science. To this end, some resources for parents have also been included and are designated as such with an “AD” after their description.

Fun and Educational Supplements — For those of you who enjoy purchasing fun and educational supplements other than books, some have been listed. They can also serve as gift ideas for a child who shows a special interest in a unit or as birthday, Christmas, or incentive gifts for any child.

Unit Chemistry Reference Books — Please note the list of chemistry reference books. These may be utilized with every chapter in addition to the other library books but are especially helpful for a number of chapters that have no library books listed. These reference books have illustrations, charts, and explanations that compliment CKEC and may be particularly appreciated by younger and visual learners. Note that they are not from an explicitly Christian perspective.

FEATURES OF THE CKEC BOOK AND RESOURCE LIST

- Checkboxes for optional recordkeeping
- Resource Vendors — all the vendors used to locate resources in this list
- Unit Reference Books — see explanation in previous paragraph
- Books by individual chapter, when possible; also check for related resources in Unit Videos and Unit Biography sections; when no book are listed, refer to Unit Reference Books
- Unit Biographies — books, videos, and movies about the lives of scientists related to unit topics
- Unit Videos — videos addressing one or more chapter topics; check here for each chapter
- Other Chemistry-Related Books — books that may address multiple chapter topics or chemistry-related topics
- Computer Programs — computer programs about dealing with chemistry
- Games — chemistry games to add variety to the educational experience and aid in review of facts

- Science Magazines — yes, there is a chemistry magazine among the general science magazines
- Miscellaneous — includes web sites*, unique items like Periodic Table t-shirts, etc.
- Experiment/Science Fair Books
- Famous Chemists — web sites* and a sizeable print list for research, speeches, presentations, projects, and fostering a curious mind

**At the time this list was compiled, all web addresses listed were functional. However, due to the ever-changing nature of the Internet, some may not be accessible now. If that is the case, you may wish to do a web search on a similar topic.*

KEY

- † = explicitly Christian resource
- [] = other important information
- ISBN — often listed for the library edition (if purchasing, check for other formats of lower cost)
- LG = Lower grammar books - generally those under 32 pages unless stated otherwise.
- UG = Upper grammar books - usually 64 or more pages unless stated otherwise.
- AD = Adult level - in-depth topic coverage; may be useful for background knowledge of subject
- Resources of any length may be useful for both lower and upper grammar level children.

RESOURCE VENDORS

Most resources may be purchased from one or more of the following vendors. For hard-to-locate items, a specific vendor is listed in the item's description.

- Answers in Genesis (AIG) www.answeringenesis.org (science from an explicitly Christian perspective)
- Amazon.com www.amazon.com (books, kits, etc.)
- Barnes and Noble www.barnesandnoble.com (books, kits, etc.)
- Books-A-Million www.bamm.com (books, kits, etc.)
- Children's Books www.childsbooks.com & Order line 1-800-344-3198 (discount, Christian, hs, family-operated business); (books, kits, etc.)

- Christian Book Distributors (CBD) www.Christianbook.com (books, kits, etc.)
- Discover This www.discoverthis.com (many chemistry kits)
- Everything Science www.everythingscience.com (many science kits)
- Homeschool Source [homeschool lending library] www.thehomeschoolsource.com (lender of Moody Science videos and much more)
- Home Training Tools www.hometrainingtools.com (science kits)
- Library Video Company www.LibraryVideo.com (Schlessinger Media videos/CD-ROMS)
- Moody Bible Institute www.moodyvideo.org (incredible science videos)
- NestFamily Videos www.nestfamily.com (biography animated videos)
- Rainbow Resource www.rainbowresource.com (tons of science materials)
- Schlessinger Media see Library Video Company above; (videos)
- ShowForth Videos www.showforth.bjup.com (Moody Science videos)
- Smithsonian www.smithsonianstore.com/home.asp (science kits)
- Teacher Source www.TeacherSource.com (unique and harder-to-find science books, kits, etc)
- Timberdoodle www.timberdoodle.com (Moody Science videos, science kits and games)
- Wild Goose Science www.wildgoosescience.com (science kits)

UNIT 1 — THE BASICS OF CHEMISTRY

Unit 1 Chemistry Reference Books

- *A Guide to the Elements*, Stwertka, Alvert. (Oxford University Press; ISBN: 0195150279; 2002) 248p FYI: Written for 9-12 year olds
- *Chemistry* (Eyewitness Science), Newmark, Ann. (Dorling Kindersley (DK); ISBN: 0789448815; 1999) 64p
- *Matter* (Eyewitness Science), Cooper, Christopher. (Dorling Kindersley (DK); ISBN: 0789448866; 1999). 64p
- *Ultimate Visual Dictionary of Science*, (Usborne Books; ISBN: 0789435128; 1998) 448p
- *Usborne Illustrated Dictionary of Chemistry*, (Usborne Books; ISBN: 0746037945; 2000) 128p
- *Usborne Illustrated Dictionary of Science*, (Usborne Books; ISBN: 0794500641; 2001) 382p

- *Usborne Book of Science* (Usborne Books; ISBN: 0-7460-0830-9) 144p Chemistry, physics and biology
- On-line chemistry encyclopedia @ Science Daily (on-line magazine); brief listings with illustrations @ www.sciencedaily.com/encyclopedia/chemistry

Chapter 1 — What is Chemistry?

General chemistry reference books

Chapter 2 — Tools

General chemistry reference books

Test Tubes and Beakers: Chemistry for Young Experimenters, Coulson, E.H., Trinder, A. E. J. and Klein, Aaron E. (Doubleday; 1971) 134p

Chapter 3 — Matter

General chemistry reference books

Matter Really Matters (Let's Wonder About Science series), Patten, J.M. (Rourke, ISBN: 1559161248; 1995). 24p.

Matter (Eyewitness Science), Cooper, Chris. (Dorling Kindersley (DK); ISBN: 1879431882; 1992) 64p

Chapter 4 — Elements

General chemistry reference books

WebElements (fantastic on-line interactive periodic table) Includes all the typical information about each element plus hard-to-find facts such as the history and uses of each element. Award-winning site that's been around for over a decade. <http://www.webelements.com/webelements/scholar/index.html> ALL

The Periodic Kingdom: A Journey into the Land of the Chemical Elements (Science Masters Series) Atkins, P.W. (Basic Books; ISBN: 0465072666; 1997). 176p AD

Elements, Compounds, and Mixtures (Let's Wonder About Science series), Patten, J.M. (Rourke, ISBN: 1559161272; 1995). 24p.

What Is the World Made Of? All About Solids, Liquids, and Gases, (Let's-Read-and-Find-Out Science Book) Weidner Zoehfeld, Kathleen. (HarperCollins; ISBN: 0060271442; 1998). 32p

A Guide to the Elements, Stwertka, Albert. (Oxford University Press; ISBN: 0195150279; 2002) 248p FYI: 9-12 yrs

Sparks of Life series; Blashfield, Jean F. (Raintree Steck-Vaughn) 64p

- *Magnesium* ISBN: 0739843605
- *Iron and the Trace Elements* ISBN: 0739843591
- *Chlorine* ISBN: 0739843583
- *Sulfur* ISBN: 0739834525
- *Potassium* ISBN: 0739834517
- *Phosphorus* ISBN: 0739834509
- *Sodium* ISBN: 0817250425
- *Oxygen* ISBN: 0817250379 [+Unit 7]
- *Nitrogen* ISBN: 0817250395
- *Hydrogen* ISBN: 0817250387
- *Carbon* ISBN: 0817250417 [+Unit 5]
- *Calcium* ISBN: 0817250409

The Elements series, Thomas, Jens. (Benchmark Books; 2002). 32p

- *Silicon* ISBN: 0761412743
- *Carbon* ISBN: 0761408789 [+Unit 5]
- *Noble Gases* ISBN: 0761414622 [+Unit 4]

Chemicals in Action series, Oxlade, Chris. (Heinemann Library; 2002) 48p

- *Metals* ISBN: 1403425000
- *Elements and Compounds*; ISBN: 1588101967
- *Atoms*; ISBN: 1588101959
- *Materials, Changes and Reactions*; ISBN: 1588101975 [+Unit 3]
- *States of Matter*; ISBN: 1588101991 [+Unit 4]

First Books — Chemical Elements series, Karen Fitzgerald. (Franklin Watts, 1997) 64p

- *The Chemical Elements*, ISBN: 0531194558
- *The Story of Oxygen* ISBN: 0531202259
- *The Story of Nitrogen*, ISBN: 0531202488
- *The Story of Iron*, ISBN: 0531202704

Unit 1 Biographies

Youngfolk's Book of Invention, T.C. Bridges (Little, Brown, & Company; 1925) Read chapter 17 "Electric Light and the Phonograph" for a story about Mr. Edison and how carbon became a key to one of his inventions. <http://www.usgennet.org/usa/topic/preservation/science/inventions/cover.htm>

Youngfolk's Book of Invention, T.C. Bridges (Little, Brown, & Company; 1925) Read chapter 27 "The Electric Furnace" for a story about Henri Moissan and his work with carbon. <http://www.usgennet.org/usa/topic/preservation/science/inventions/cover.htm>

Marie Curie: Discoverer of Radium, [BIO] Poynter, Margaret. (Enslow; ISBN: 0894904779; 1994). 128p

Marie Curie (History Maker Bios), [BIO] Hamilton Waxman, Laura. (Lerner Publications; 2004) 48p

Youngfolk's Book of Invention, T.C. Bridges (Little, Brown, & Company; 1925) Read chapter 26 "Radium and the X-Ray" for a story about Marie Curie. <http://www.usgennet.org/usa/topic/preservation/science/inventions/cover.htm>

Youngfolk's Book of Invention, T.C. Bridges (Little, Brown, & Company; 1925) Read chapter 4 "Iron, Tin, and Steel" for a story about "Dud" Dudley, Andrew Yarranton, and Richard Reynolds. <http://www.usgennet.org/usa/topic/preservation/science/inventions/cover.htm>

The Story of Science series, Joy Hakim (author of A History of US series). (Smithsonian Institution Press;2004). 256 pages each. Likened to reading an adventure story filled with chronological narratives about many scientists and their discoveries not just those in the titles. UG

- *The Story of Science Book One: Aristotle Leads the Way*, ISBN: 1588341607.
- *The Story of Science, Book Two: Newton at the Center*, ISBN: 1588341615.
- *The Story of Science, Book Three: Einstein Adds a New Dimension*, ISBN: 1588341623.
- *Three volume set*, ISBN: 1588342174.

Also see videos below.

Unit 1 Videos

The World of Chemistry on-line video series; if still available, you may wish to view one or more segments @ www.learner.org/resources/series61.html#program_descriptions; 26 segments [ALL units] 30 minutes

PLAY on VHS/DVD *Oxygen* Description quoted from the www.TeacherSource.com web site says, “This play, written by renowned chemists Carl Djerassi of Stanford University and Nobel Laureate Roald Hoffmann of Cornell University, tells the story of a fictitious modern day Nobel panel’s attempt to determine who discovered oxygen. The story is told in a series of flashbacks to the 18th century lives of Joseph Priestley, Antoine Lavoisier, and Karl Wilhelm Scheele and presents three experiments, one reflecting the work of each scientist.” *The Elements* (Discovery School Science DVD series) history of the elements from ancient Greece to modern day (Item #V9371 @ www.libraryvideo.com or 1-800-843-3620.); 52 min. FYI: Teacher’s Guide on-line; Grades 6 – 12.

The Physical Science for Children series; 23 minutes each; www.LibraryVideo.com; Teacher guides available on-line; Grades K-4

- *All About Properties of Matter*; Item #K7112
- *All About Solids, Liquids, and Gases*; Item #K7114

Physical Science in Action series; 23 minutes each; www.LibraryVideo.com; Teacher guides available on-line; Grades 5 – 8

- *Atoms and Molecules*; Item #N6731
- *Changes in Properties of Matter*; Item #N6732
- *Elements, Compounds, and Mixtures*; Item #N6735
- *The Periodic Table*; Item #N6743
- *Properties of Matter*; Item #N6744

Matter: Solids, Liquids, and Gases (Real World Science series) Item #8088; 20minutes; www.LibraryVideo.com; Grades 2 – 5

- *Marie Curie* (Animated Heroes Classics) [VHS/DVD] animated (Nest Video; Item #V6634; 1997) @ www.libraryvideo.com or 1-800-843-3620. 30 min.
- MOVIE *Marie Curie: More Than Meets the Eye* (The Inventor's Specials) [VHS] Award-winning; live action (Item #K3585; 1997) @ www.libraryvideo.com or 1-800-843-3620; 50min.
- *Water Cycle* (Science Court) animated (Tom Snyder Productions; Item #K0061; 1997) @ www.libraryvideo.com or 1-800-843-3620; 23 min. FYI: 3 – 6
- 1943 MOVIE — *Madame Curie* (1943) Re-released by Warner Home Video in 1992; B&W; Cast: Margaret O'Brien, Ray Collins, & Henry Travers; Director: Mervyn LeRoy; ASIN:6302308577 (VHS) 124 minutes
- *The Standard Deviants — Chemistry, Parts 1, 2 & 3*, (Cerebellum Corp., 1998, VHS ISBN: 6305217203); DVD's also available. UG++ This series addresses more concepts and depth than CKEC. Possible tool for parent-teacher or very high level UG and above. FYI: Target audience = high school

UNIT 2 — ATOMS AND MOLECULES

Unit 2 Chemistry Reference Books

A Guide to the Elements, Stwertka, Alvert. (Oxford University Press; ISBN: 0195150279; 2002) 248p FYI: Written for 9-12 year olds

Ultimate Visual Dictionary of Science, (Usborne Books; ISBN: 0789435128; 1998) 448p

Chemistry (Eyewitness Science) Newmark, Ann. (Dorling Kindersley (DK); ISBN: 0789448815; 1999) 64p

Matter (Eyewitness Science), Cooper, Christopher. (Dorling Kindersley (DK); ISBN: 0789448866; 1999) 64p

Usborne Illustrated Dictionary of Chemistry, (Usborne Books; ISBN: 0746037945; 2000) 128p

Usborne Illustrated Dictionary of Science, (Usborne Books; ISBN: 0794500641; 2001) 382p

Usborne Book of Science (Usborne Books; ISBN: 0-7460-0830-9) 144p Chemistry, physics and biology

On-line chemistry encyclopedia @ Science Daily (on-line magazine); brief listings with illustrations @ www.sciencedaily.com/encyclopedia/chemistry

Chapter 6 — The Atom

Chemistry reference books

Atoms and Molecules (Usborne Understanding Science) P. Roxbee-Cox and M. Parsonage. (Usborne, ISBN: 1-88110-589-9) 32p UG+

The Atom (poster); Item SA29810-21 @ Everything Science @ www.everythingscience.net

See below

Chapter 7 — Atomic Number

Chemistry reference books

Atoms and Molecules (Usborne Understanding Science) P. Roxbee-Cox and M. Parsonage.
(Usborne, ISBN: 1-88110-589-9) 32p UG+

See below

Chapter 8 — Atomic Mass

Chemistry reference books

Atoms and Molecules (Usborne Understanding Science) P. Roxbee-Cox and M. Parsonage.
(Usborne, ISBN: 1-88110-589-9) 32p UG+

See below

Chapter 9 — Periodic Table

Chemistry reference books

Atoms and Molecules (Usborne Understanding Science) P. Roxbee-Cox and M. Parsonage.
(Usborne, ISBN: 1-88110-589-9) 32p UG+

Los Alamos Lab's Periodic Table downloadable (pdf) 716 page document (their entire web site for kids) about the periodic table and each element with a section for elementary, middle school, and high school students. <http://pearl1.lanl.gov/periodic/downloads/PeriodicWebSite.pdf>

Los Alamos National Laboratory's chemistry for kids download page; pdf and MS Word colored Periodic Tables; Color Your Own Periodic Table pdf page, and more. <http://pearl1.lanl.gov/periodic/downloads/main.html>

See below

Chapter 10 — Molecules

Chemistry reference books

Atoms and Molecules (Usborne Understanding Science) P. Roxbee-Cox and M. Parsonage. (Usborne, ISBN: 1-88110-589-9) 32p UG+ The Atoms Family (Let's Wonder About Science series), Patten, J.M. Rourke, ISBN: 1559161256; 1995. 24p

The World of Atoms and Quarks, Stwertka, Albert. (Twenty-First Century Books; ISBN: 0805035338; 1995) 96p

Atoms (Chemicals in Action). Oxlade, Chris (Heinemann Library; ISBN: 1588101959) 48p

The Periodic Table (True Book: Elements), Salvatore, Tocci. (Children's Press; 2004) 48p

Adventures With Atoms and Molecules — Chemistry Experiments for Young People, Books I — V (Enslow Publishers, 1998); 82 pages

- *Book I* — ISBN 0-7660-12224-7
- *Book II* — ISBN 0-766-1225-5
- *Book III* — ISBN 0-7660-1226-3
- *Book IV* — ISBN 0-7660-1227-1
- *Book V* — ISBN 0-7660-1228-X

The Periodic Kingdom: A Journey into the Land of the Chemical Elements (Science Masters Series), P. W. Atkins (Basic Books; ISBN: 0465072666; 1997) 176 p. Entertaining way to educate yourself about the Periodic Table. Award-winning book written as if a travel guide to the "Periodic Kingdom". AD

See below

Unit 2 Biographies

The Mystery of the Periodic Table (Living History Library), [CROSS-CURRICULAR] Benjamin Wiker and Jeanne Bendick. (Bethlehem Books; ISBN: 188393771X; 2003). 170p CB
FYI: History of the periodic table

The Story of Science series, Joy Hakim (author of A History of US series); (Smithsonian Institution Press, 2004). 256 p/bk. Likened to reading an adventure story filled with chronological narratives about many scientists and their discoveries not just those in the titles. UG

- *The Story of Science Book One: Aristotle Leads the Way*, ISBN: 1588341607.
- *The Story of Science, Book Two: Newton at the Center*, ISBN: 1588341615.
- *The Story of Science, Book Three: Einstein Adds a New Dimension*, ISBN: 1588341623.
- Three volume set, ISBN: 1588342174.

Unit 2 Videos

The World of Chemistry on-line video series; if still available, you may wish to view one or more segments @ www.learner.org/resources/series61.html#program_descriptions; 26 segments [ALL units] 30 minutes each

Physical Science in Action series; 23 minutes each; www.LibraryVideo.com; Teacher guides available on-line; Grades 5-8

- *Atoms and Molecules*; Item #N6731
- *Changes in Properties of Matter*; Item #N6732
- *Elements, Compounds, and Mixtures*; Item #N6735
- *The Periodic Table*; Item #N6743
- *Properties of Matter*; Item #N6744

The Periodic Table for Students series; 23 minutes each; www.LibraryVideo.com; Teacher guides available on-line; Grades 9+

- *Atomic Structure and the Periodic Table*; Item #N6791
- *The History of the Atomic Table*; Item #N6792
- *Properties of Compounds*; Item #N6793
- *Properties of Elements*; Item #N6794
- *Using the Periodic Table*; Item #N6795

Particles In Motion (Science Court) [VHS] animated (Tom Snyder Productions; Item #K0056; 1997) @ www.libraryvideo.com or 1-800-843-3620. 23 min.

Atomic Structure — Mapping an Invisible World; www.LibraryVideo.com; Item #V9508; 21 minutes; Grades 6-12

Kitchen Chemistry [DVD] Crawford, Derek (a polymer engineer) 10 chemistry experiments performed and explained on DVD; especially for K-6; sample and purchase @ www.thechemistryguy.com [Units 2, 3, 4]

Bill Nye the Science Guy: Atoms [DVD]. (Disney Educational Productions; ISBN: 0896259277; 2003). 26 min.

Moody Science videos — [VHS] see Video List below for a number of videos to use with Unit 2

The Standard Deviants — Chemistry, Parts 1, 2 & 3, (Cerebellum Corp., 1998, VHS ISBN: 6305217203); DVD's also available. UG++ This series addresses more concepts and depth than CKEC. Possible tool for parent-teacher or very high level UG and above. FYI: Target audience = high school

UNIT 3 — THE NATURE OF CHEMISTRY

Unit 3 Chemistry Reference Books

A Guide to the Elements, Stwertka, Alvert. (Oxford University Press; ISBN: 0195150279; 2002) 248p FYI: Written for 9-12 year olds

Ultimate Visual Dictionary of Science, (Usborne Books; ISBN: 0789435128; 1998) 448p

Chemistry (Eyewitness Science) Newmark, Ann. (Dorling Kindersley (DK); ISBN: 0789448815; 1999) 64p

Matter (Eyewitness Science), Cooper, Christopher. (Dorling Kindersley (DK); ISBN: 0789448866; 1999) 64p

Usborne Illustrated Dictionary of Chemistry, (Usborne Books; ISBN: 0746037945; 2000) 128p

Usborne Illustrated Dictionary of Science, (Usborne Books; ISBN: 0794500641; 2001) 382p

Usborne Book of Science (Usborne Books; ISBN: 0-7460-0830-9) 144p Chemistry, physics and biology

On-line chemistry encyclopedia @ Science Daily (on-line magazine); brief listings with illustrations @ www.sciencedaily.com/encyclopedia/chemistry

Chapter 11 — Ionic Bonds

Chemistry reference books

Chapter 12 — Covalent Bonds

Chemistry reference books

Chapter 13 — Formulas

Chemistry reference books

Chapter 14 — Naming Compounds

Chemistry reference books

Mixtures and Compounds (Usborne Internet-Linked Library of Science) A. Smith and P. Clarke. (Usborne, ISBN: 1-58086-377-9) 64p UG

Chapter 15 — Reactions

Chemistry reference books

Chemicals and Reactions, Richards, Jon. (Copper Beech Books; ISBN: 0761311602; 2002). 32p

Chemistry (Eyewitness Science), Newmark, Ann. (Dorling Kindersley (DK); ISBN: 0789448815; 1999) 64p

Chapter 16 — Acids

Chemistry reference books

Chapter 17 — Bases

Chemistry reference books

Acids and Bases, Oxlade, Chris. (Heinemann Library; ISBN: 1588101940; 2002). 42p

Acids and Bases, Patten, J.M.. (Rourke Book Co., ISBN: 1559161280; 1995). 24p

Chapter 18 – Salts

Chemistry reference books

Unit 3 Biographies

Youngfolk's Book of Invention, T.C. Bridges (Little, Brown, & Company; 1925) Read chapter 22 “From Gunpowder to High Explosives” for a story about Alfred Nobel’s work with acids leading to explosives and establishing the annual Nobel Prize. <http://www.usgenet.org/usa/topic/preservation/science/inventions/cover.htm>

The Story of Science series, Joy Hakim (author of A History of US series); (Smithsonian Institution Press, 2004). 256 p/bk. Likened to reading an adventure story filled with chronological narratives about many scientists and their discoveries not just those in the titles. UG

- *The Story of Science Book One: Aristotle Leads the Way*, ISBN: 1588341607.
- *The Story of Science, Book Two: Newton at the Center*, ISBN: 1588341615.
- *The Story of Science, Book Three: Einstein Adds a New Dimension*, ISBN: 1588341623.
- Three-volume set, ISBN: 1588342174.

Unit 3 Videos

The World of Chemistry on-line video series; 26 segments [ALL units] 30 minutes each; view segments @ www.learner.org/resources/series61.html#program_descriptions

Bill Nye the Science Guy: Chemical Reactions [DVD]. (Disney Educational Productions, ISBN: 0896259323). 26min.

The Periodic Table for Students series; 23 minutes each; www.LibraryVideo.com; Grades 9+

- *Atomic Structure and the Periodic Table*; Item #N6791
- *The History of the Atomic Table*; Item #N6792
- *Properties of Compounds*; Item #N6793

- *Properties of Elements*; Item #N6794
- *Using the Periodic Table*; Item #N6795

Matter: Solids, Liquids, and Gases (Real World Science series) Item #8088; 20minutes; www.LibraryVideo.com; Grades 2-5

Strong Chemistry (Discovery School Science DVD series) View second section — “Combined Strength” which addresses compounds and composites (Item #V9204 @ www.libraryvideo.com or 1-800-843-3620.); 52 min. FYI: Teacher’s Guide on-line; Grades 6-12

Kitchen Chemistry [DVD] Crawford, Derek (polymer engineer) 10 chemistry experiments performed and explained on DVD; especially for K-6; sample and purchase @ www.thechemistryguy.com [Units 2, 3, 4]

Elements, Compounds, and Mixtures (Physical Science in Action) (Schlessinger Media; Item #N6735; 2000) @ www.libraryvideo.com or 1-800-843-3620.); 23 min. FYI: Teacher’s Guide on-line; Grades 5-8

Bill Nye the Science Guy: Chemical Reactions [DVD]. (Disney Educational Productions, ISBN: 0896259323). 26min

The Standard Deviants — Chemistry, Parts 1, 2 & 3, (Cerebellum Corp., 1998, VHS ISBN: 6305217203); DVD’s also available. UG++ This series addresses more concepts and depth than CKEC. Possible tool for parent-teacher or very high level UG and above. FYI: Target audience = high school

UNIT 4 — STATES OF MATTER

Unit 4 Chemistry Reference Books

- *Ultimate Visual Dictionary of Science*, (Usborne Books; ISBN: 0789435128; 1998) 448p
- *Chemistry* (Eyewitness Science) Newmark, Ann. (Dorling Kindersley (DK); ISBN: 0789448815; 1999) 64p
- *A Guide to the Elements*, Stwertka, Albert. (Oxford University Press; ISBN:

0195150279; 2002) 248p FYI: 9-12 yrs

- *Matter* (Eyewitness Science), Cooper, Christopher. (Dorling Kindersley (DK); ISBN: 0789448866; 1999) 64p
- *Usborne Illustrated Dictionary of Chemistry*, (Usborne Books; ISBN: 0746037945; 2000) 128p
- *Usborne Illustrated Dictionary of Science*, (Usborne Books; ISBN: 0794500641; 2001) 382p
- *Usborne Book of Science* (Usborne Books; ISBN: 0-7460-0830-9) 144p Chemistry, physics and biology
- On-line chemistry encyclopedia @ Science Daily (on-line magazine); brief listings with illustrations @ www.sciencedaily.com/encyclopedia/chemistry

Chapter 19 — Solids and Liquids

Chemistry reference books

Materials (Usborne Internet-Linked Library of Science) A. Smith. (Usborne, ISBN: 1-58086-378-7) 64p UG

Chapter 20 — Gases

Chemistry reference books

Materials (Usborne Internet-Linked Library of Science) A. Smith. (Usborne, ISBN: 1-58086-378-7) 64p UG

See Biography section

Chapter 21 — Gas Laws

Chemistry reference books

What Is the World Made Of? All About Solids, Liquids, and Gases, Weidner, Kathleen. (HarperCollins Publishers; ISBN: 0060271442; 1998). 32p

Solids, Liquids, and Gases (Let's Wonder About Science) Patten, J.M. (Rourke Book Co., 1995, ISBN: 1559161264). 24p

Solid, Liquid, Gas (Rookie Read-About Science) Robinson, Fay. (Children's Press; ISBN: 0516460412; 1996) 32p

Chapter 22 — State Change

Chemistry reference books

Liquid to Gas and Back (Let's Wonder About Science) Patten, J.M. (Rourke Book Co., 1995, ISBN: 1559161299). 24p

States of Matter (Chemicals in Action series). Oxlade, Chris (Heinemann Library; ISBN: 1588101991; 2002) 48p

All About Solids, Liquids & Gases [VHS] (Schlessinger Media; ISBN: 57225291X; 2000;). 23min.

States of Matter (Chemicals in Action), Oxlade, Chris. (Heinemann Library; ISBN: 1588101991; 2002) 48p

Materials, Changes and Reactions (Chemicals in Action) Chris Oxlade. (Heinemann Library; ISBN: 1588101975; 2002) 48p

Chapter 23 — Solutions

Chemistry reference books

Unit 4 Biographies

Youngfolk's Book of Invention, T.C. Bridges (Little, Brown, & Company; 1925) Read chapter 19 "Balloons and Airships" for a story about gases, Bartolome Lorenzo di Guzman, Francis Lana, Cavendish, Stephen and Joseph Montgolfier, M. Pilâtre de Rozier, and James Sadler.
<http://www.usgennet.org/usa/topic/preservation/science/inventions/cover.htm>

The Story of Science series, Joy Hakim (author of A History of US series); (Smithsonian Institution Press, 2004). 256 p/bk. Likened to reading an adventure story filled with chronological narratives about many scientists and their discoveries not just those in the titles. UG

- *The Story of Science Book One: Aristotle Leads the Way*, ISBN: 1588341607.
- *The Story of Science, Book Two: Newton at the Center*, ISBN: 1588341615.
- *The Story of Science, Book Three: Einstein Adds a New Dimension*, ISBN: 1588341623.
- Three volume set, ISBN: 1588342174.

Unit 4 Videos

The World of Chemistry on-line video series; 26 segments [ALL units] 30 minutes each; view segments @ www.learner.org/resources/series61.html#program_descriptions

Kitchen Chemistry [DVD] Crawford, Derek (polymer engineer) 10 chemistry experiments performed and explained on DVD; especially for K-6; sample and purchase @ www.the-chemistryguy.com [Units 2, 3, 4]

Solids, Liquids, and Gases — A First Look (A First Look Series) (Schlessinger Media; Item #K4369; 2001) @ www.libraryvideo.com or 1-800-843-3620.; 23 min. FYI: Teacher's Guide on-line; Grades 1-3

Changes in Properties of Matter (Physical Science in Action) [VHS] (Schlessinger Media; Item #N6732; 2000) @ www.libraryvideo.com or 1-800-843-3620.; 23 min. FYI: Teacher's Guide on-line; Grades 5-8

All About Solids, Liquids, and Gases (Physical Science for Children Video Series) (Schlessinger Media; Item #K7114; 1999) 23 min. FYI: K-4

Chemical Demonstration Videos for years 1993-2004. Description quoted from www.TeacherSource.com say, "Dr. Bassam Z. Shakhashiri, Professor of Chemistry at the University of Wisconsin-Madison, is renowned worldwide for his chemical demonstration shows, and in particular for his annual presentation, Once Upon a Christmas Cheery in the Lab of Shakhashiri. For over 30 years, this show has played to packed houses at such varied locations as the University of Wisconsin, the National Academy of Sciences and the

Smithsonian's National Air and Space Museum in Washington, and Boston's Museum of Science. It has been televised by stations across the county.

In these fun-packed and educational presentations, Professor Shakhshiri demonstrates: balloons that explode and balloons that collapse; liquids that change color and liquids that solidify; polymers that expand and polymers that shrink; and solutions that glow in the dark."

Physical Science for Children series; 23 minutes each; www.LibraryVideo.com; Grades K-4

- *All About Properties of Matter*, Item #K7112
- *All About Solids, Liquids, and Gases*, Item #K7114
- *All About Solids, Liquids & Gases [VHS]* (Schlessinger Media, 2000; 157225291X). 23min [Unit 4]

Air: A First Look (A First Look Series) (Schlessinger Media; Item #K4381; 1999) @ www.libraryvideo.com or 1-800-843-3620.; 16 min. FYI: Teacher's Guide on-line; Grades 1-3

Water: A First Look (A First Look Series) (Schlessinger Media; Item #K4380; 1999) @ www.libraryvideo.com or 1-800-843-3620.; 16 min. FYI: Teacher's Guide on-line; Grades 1-3

The Standard Deviants — Chemistry, Parts 1, 2 & 3, (Cerebellum Corp., 1998, VHS ISBN: 6305217203); DVD's also available. UG++ This series addresses more concepts and depth than CKEC. Possible tool for parent-teacher or very high level UG and above. FYI: Target audience = high school UNIT 5 - ORGANIC CHEMISTRY

Unit 4 Chemistry Reference Books

- *Ultimate Visual Dictionary of Science* (Dorling Kindersley (DK); ISBN: 0789435128; 1998) 448p
- *Chemistry* (Eyewitness Science) Newmark, Ann. (Dorling Kindersley (DK); ISBN: 0789448815; 1999) 64p
- *Matter* (Eyewitness Science) Cooper, Christopher. (Dorling Kindersley (DK); ISBN: 0789448866; 1999) 64p
- *A Guide to the Elements*, Stwertka, Albert. (Oxford University Press; ISBN: 0195150279; 2002) 248p FYI: 9-12 yrs
- *Usborne Illustrated Dictionary of Chemistry*, (Usborne Books; ISBN: 0746037945; 2000) 128p

- *Usborne Illustrated Dictionary of Science*, (Usborne Books; ISBN: 0794500641; 2001) 382p
- *Usborne Book of Science* (Usborne Books; ISBN: 0-7460-0830-9) 144p Chemistry, physics and biology
- On-line chemistry encyclopedia @ Science Daily (on-line magazine); brief listings with illustrations @ www.sciencedaily.com/encyclopedia/chemistry

Chapter 24 — Hydrocarbons

Chemistry reference books

Carbon (Sparks of Life), Blashfield, Jean F. (Raintree Steck-Vaughn; ISBN: 0817250417; 1999). 64p

Carbon (The Elements), Sparrow, Giles. (Benchmark Books; ISBN: 0761408789; 1999). 32p

Chapter 25 — Alkanes,

Chemistry reference books

Chapter 26 — Alkenes

Chemistry reference books

Chapter 27 — Alkynes

Chemistry reference books

Chapter 28 — Alcohols

Chemistry reference books

Chapter 29 — Esters

Chemistry reference books

Carbon Rings (Item # N0935) (Standard Deviants: Deep-Fried World of Organic Chemistry Series) [VHS] (Schlessinger Media; Item #0935; 2002) @ www.libraryvideo.com or 1-800-843-3620.; 23 min. FYI: Teacher's Guide on-line; Grades 5-8

The World of Chemistry on-line video series; if still available, you may wish to view one or more segments @ www.learner.org/resources/series61.html#program_descriptions; 26 segments; 30 minutes each

Chapter 30 — What is Biochemistry?

Chemistry reference books

Human Body (Usborne Internet-Linked Library of Science) K. Rogers. (Usborne, ISBN: 1-58086-375-2) 64p UG

Darwin's Black Box — The Biochemical Challenge to Evolution, Behe, Dr. Michael. (Simon and Schuster; Item #10-3-081 @ Answers in Genesis, PH.1-800-778-3390 or order on-line @ www.aig.org FYI: Technical biochemistry resource; Adult

Chemicals to Living Cell: Fantasy or Science [DVD or VHS], Sarfati, Dr. Jonathan Sarfati. Item #30-9-075 @ Answers in Genesis, PH.1-800-778-3390 or order on-line @ www.aig.org FYI: Teen to adult Fat Chance — The Chemistry of Lipids (Science In Our World) National Science Foundation and Henckel Corporation, Emory Group; ISBN: 1-883822-09-2). 96p FYI: Grades 4-12

Unit 5 Biographies

Oxford Portraits in Science, various authors. (Oxford University Press, 2000+) 144p UG FYI- Well written, easy to read and understand for the UG child

Linus Pauling: And the Chemistry of Life (Tom Hager, ISBN: 0195139720, 2000) 144p UG

Louis Pasteur And the Hidden World of Microbes (Louise Robbins, ISBN: 0195122275, 2001) 128p UG

Francis Crick and James Watson: And the Building Blocks of Life (Edward Edelson, ISBN: 0195114515, 1998) 110p UG Antoine Lavoisier: Founder of Modern Chemistry (Great Minds of Science) Yount, Lisa. (Enslow Publishers; ISBN: 0894907859; 1997). 128p

Louis Pasteur: Disease Fighter, Smith, Linda Wasmer. (Enslow; ISBN: 0894907905; 1997). 128p

Louis Pasteur (Animated Classics series) [VHS] (Nest Video; Item #V6644;1995) @ www.libraryvideo.com or 1-800-843-3620. 30 min.

Louis Pasteur (Inventors of the World) [VHS] (Item #D6829; 2002) @ www.libraryvideo.com or 1-800-843-3620. 23 min.

MOVIE — *The Story of Louis Pasteur* (1936) [VHS] Re-released by Warner Studios (2000) B&W; Cast Paul Muni & Josephine Hutchinson; ASIN: B00030STS

Youngfolk's Book of Invention, T.C. Bridges (Little, Brown, & Company; 1925) Read chapter 7 "Gas Lighting and the Safety Light" for a story about William Murdoch (plus Sir Humphry Davy and Mr. Edison). <http://www.usgennet.org/usa/topic/preservation/science/inventions/cover.htm>

The Story of Science series, Joy Hakim (author of A History of US series), (Smithsonian Institution Press, 2004). 256 pages each. Likened to reading an adventure story filled with chronological narratives about many scientists and their discoveries not just those in the titles. UG

- *The Story of Science Book One: Aristotle Leads the Way*, ISBN: 1588341607.
- *The Story of Science, Book Two: Newton at the Center*, ISBN: 1588341615.
- *The Story of Science, Book Three: Einstein Adds a New Dimension*, ISBN: 1588341623.
- Three volume set, ISBN: 1588342174.

Unit 5 Videos

Also see Louis Pasteur entries in Unit Biography section

The World of Chemistry on-line video series; 26 segments [ALL units] 30 minutes each; view segments @ www.learner.org/resources/series61.html#program_descriptions

Kitchen Chemistry [DVD] Crawford, Derek (polymer engineer) 10 chemistry experiments performed and explained on DVD; especially for K-6; sample clips and purchasing @ www.thechemistryguy.com [Units 2, 3, 4]

The Magic School Bus Gets Baked in a Cake, [VHS]. (Scholastic; ISBN: 0590222953; 1995).

Carbon Rings (Standard Deviants: Deep-Fried World of Organic Chemistry Series) [VHS] (Schlessinger Media; Item #0935; 2002) @ www.libraryvideo.com or 1-800-843-3620.; 23 min. FYI: Teacher's Guide on-line; Grades 5-8 (esters)

Nutrition and Diet (Schlessinger Teen Health Video series), [VHS]. (InVision Communications, Inc.; ISBN: 1879151855). 30 min.

The Standard Deviants — Chemistry, Parts 1, 2 & 3, (Cerebellum Corp., 1998, VHS ISBN: 6305217203); DVD's also available. UG++ This series addresses more concepts and depth than CKEC. Possible tool for parent-teacher or very high level UG and above. FYI: Target audience = high school

The Standard Deviants — Organic Chemistry, Parts 1, 2 & 3, Cerebellum Corp. (1998), ASIN: 6305216940. UG++ This series addresses more concepts and depth of them than CKEC. It could be a training tool for the parent-teacher or high level UG and above. FYI: Target audience = high school

CHEMISTRY REFERENCE BOOKS

A Guide to the Elements, Stwertka, Albert. (Oxford University Press; ISBN: 0195150279; 2002) 248p FYI: 9-12 yrs

Chemistry (Eyewitness Science), Newmark, Ann. (Dorling Kindersley (DK); ISBN: 0789448815; 1999) 64p

Matter (Eyewitness Science), Cooper, Christopher. (Dorling Kindersley (DK); ISBN: 0789448866; 1999). 64p

Usborne Illustrated Dictionary of Chemistry, (Usborne Books; ISBN: 0746037945; 2000) 128p

Usborne Illustrated Dictionary of Science, (Usborne Books; ISBN: 0794500641; 2001) 382p

Ultimate Visual Dictionary of Science, (Usborne Books; ISBN: 0789435128; 1998) 448p

Usborne Book of Science (Usborne Books; ISBN: 0-7460-0830-9) 144p Chemistry, physics and biology

On-line chemistry encyclopedia @ Science Daily (on-line magazine); brief listings with illustrations @ www.sciencedaily.com/encyclopedia/chemistry

The Story of Science series, Joy Hakim (author of A History of US series); (Smithsonian Institution Press, 2004). 256 p/bk. Likened to reading an adventure story filled with chronological narratives about many scientists and their discoveries not just those in the titles. UG

- *The Story of Science Book One: Aristotle Leads the Way*, ISBN: 1588341607.
- *The Story of Science, Book Two: Newton at the Center*, ISBN: 1588341615.
- *The Story of Science, Book Three: Einstein Adds a New Dimension*, ISBN: 1588341623.
- Three volume set, ISBN: 1588342174.

OTHER CHEMISTRY-RELATED BOOKS

Exploring the World of Chemistry [book] Tiner, John Hudson. Item #10-1-179 @ Answers in Genesis, PH.1-800-778-3390 or order on-line @ www.aig.org 42p. FYI: Free on-line lesson plans at AIG web site at book's page

Uncle Tungsten — Memories of a Chemical Boyhood, Oliver Sacks. Item #BK-810 and quote from www.TeacherSource.com. High School — Adult FYI: Gift set also available including book, spectroscope and Nitinol wire like that used by Oliver Sacks. Item #BK-825

Careers Ideas for Kids That Like Science, [CAREERS] Reeves, Diane Lindsey. (Facts On File; ISBN: 0816036861; 1998) 176p UG

Galen and the Gateway to Science (Living History Library) [BIO] Bendick, Jeanne. (Bethlehem Books; ISBN: 1883937752; 2002). 152p

Wallace Carothers and the Story of DuPont Nylon (Unlocking the Secrets of Chemistry). Graham Gaines, Ann. (Mitchell Lane; ISBN: 1584150971; 2002). 48 p

Teaching with Toys series, McGraw-Hill Trade (1995)

- *Teaching Chemistry with Toys: Activities for Grades K-9*, ISBN: 0070647224, 304 pages LG & UG
- *Investigating Solids, Liquids, and Gases with Toys*, ISBN: 0070482357, 283 pages, UG

The Chemical Adventures of Sherlock Holmes: The Blackwater Escape; free on-line six-page chemistry mystery story from the Journal of Chemical Education (or read a hardcopy at your library with Vol. 80, No. 4, April 2003, pp. 401-408 in Journal of Chemical Education); includes solution to mystery; <http://www.umich.edu/~chemstu/studios/electrochemistry/ECSEA/WholeSherlockArticle.pdf>. FYI: This story is part of a series compiled into a book (see next listing)

The Chemical Adventures of Sherlock Holmes [book - compilation of 15 stories] @ <http://jchemed.chem.wisc.edu/JCEBooks/SherlockHolmes.html> (Journal of Chemical Education web site)

Chemical Chaos, Nick Arnold (Horrible Science). (Scholastic, ISBN: 0590108859, 1998) UG

Crime Lab Chemistry: A Chromatography Mystery Jacqueline Barber and Kevin Beals (Consortium, ISBN: 0924886900; 2004) 72p UG

Jacqueline Barber has authored a number of books on chemistry like the one above for UG children. Amazon.com carries many of them. Here are a few:

- *Chemical Reactions*
- *Density*
- *Paper Towel Investigations*
- *Dry Ice Investigations*
- *Of Cabbages and Chemistry*
- *Bubble-ology*
- *Solids, Liquids, and Gases*
- *Vitamin C Testing*
- *CrimeLab Chemistry: A Chromatography Mystery*

ABC's of Chemistry Michael Morgolin (Hands on Science Series) (J. Weston Walch, ISBN: 0825139317; 2000) 94p UG

CHEM4KIDS.COM web site

From Start to Finish series; (Lerner Publishing Group, 2003 and 2004) Can be used to launch discussions of how chemistry is involved in all areas of life. LG

- *From Cane to Sugar*; ISBN: 0-8225-0940-7
- *From Cement to Bridge*; ISBN: 0-8225-1389-7
- *From Clay to Bricks*; ISBN: 0-8225-4663-9
- *From Cloth to American Flag*; ISBN: 0-8225-1386-2
- *From Cocoa Bean to Chocolate*; ISBN: 0-8225-4665-5
- *From Cotton to T-Shirt*; ISBN: 0-8225-4661-2
- *From Egg to Butterfly*; ISBN: 0-8225-0713-7
- *From Egg to Chicken*; ISBN: 0-8225-4662-0
- *From Flower to Honey*; ISBN: 0-8225-0717-X
- *From Foal to Horse*; ISBN: 0-8225-0941-5
- *From Fruit to Jelly*; ISBN: 0-8225-0942-3
- *From Grass to Milk*; ISBN: 0-8225-4664-7
- *From Idea to Book*; ISBN: 0-8225-1385-4
- *From Iron to Car*; ISBN: 0-8225-0943-1
- *From Kernel to Corn*; ISBN: 0-8225-4659-0
- *From Maple Tree to Syrup*; ISBN: 0-8225-1390-0
- *From Metal to Airplane*; ISBN: 0-8225-1388-9
- *From Milk to Cheese*; ISBN: 0-8225-1387-0
- *From Milk to Ice Cream*; ISBN: 0-8225-0714-5
- *From Oil to Gas*; ISBN: 0-8225-0718-8
- *From Peanut to Peanut Butter*; ISBN: 0-8225-0944-X
- *From Rock to Road*; ISBN: 0-8225-1391-9
- *From Sand to Glass*; ISBN: 0-8225-0945-8
- *From Sea to Salt*; ISBN: 0-8225-0946-6
- *From Sheep to Sweater*; ISBN: 0-8225-0716-1
- *From Shoot to Apple*; ISBN: 0-8225-0719-6
- *From Tadpole to Frog*; ISBN: 0-8225-0399-9
- *From Tree to House*; ISBN: 0-8225-1392-7

- *From Tree to Paper*; ISBN: 0-8225-0720-X
- *From Tree to Table*; ISBN: 0-8225-0947-4
- *From Wax to Crayon*; ISBN: 0-8225-4660-4
- *From Wheat to Bread*; ISBN: 0-8225-0715-3

COMPUTER PROGRAMS

HungryFrog.com Software [CD-ROM], Arcade-style fact drill; @ HungryFrog.com LLC, PO Box 60790, Palo Alto, CA 94306; PH/FX 650 366-2744 ; www.hungryfrog.com

Each chemistry program below drills the same facts but in a different screen format. Chose the one your child would enjoy the most. Freeware, demoware, and shareware also available at web site.

- *Hungry Frog Chemistry*
- *Jellyfish Fun Chemistry*
- *49er Gold Rush Chemistry*

Also available: Latin, Homeric Greek, Modern Greek, math, Italian, French & German.

Chemistry Jeopardy; totally FREE downloadable file; an entire year's worth of chemistry review questions in game format @ www.thecatalyst.org/forum/game.html; bear in mind this URL may change or be discontinued; please preview content; FYI: designed for high school use

Chemistry Game Show [CD-ROM]; Item #WL7019C-WIN; up to four (4) players; three (3) skill levels; Item # @ Sargent-Welch; 1-800-727-4368; www.sargeantwelch.com.

Chemistry [CD-ROM], (Discovery Communications, c2000; ISBN: 1587380293).

ChemTutor (Excalibur Edition); Item #R4198; www.LibraryVideo.com; Grades 9+

BioTutor; Item #4197; www.LibraryVideo.com; sections on biochemistry and inorganic chemistry along with biology topics; Grades 9+

I Love Science; (DK); Item #R3168; www.LibraryVideo.com

GAMES

Chem Bingo, Item #WW6900302; elements game and ions game; @ Science Kit & Boreal Laboratories, 777 E. Park Drive, PO Box 5003, Tonawanda, NY 14150; PH. 800-828-7777; www.sciencekit.com; (Fax) 800-828-3299

Chemistry Jeopardy (extensive book), Pressley, Brian, (Welch; Item # WW4684101 @ Science Kit & Boreal Laboratories, 777 E. Park Drive, PO Box 5003, Tonawanda, NY 14150; PH. 800-828-7777; www.sciencekit.com; (Fax) 800-828-3299

Element-O [board game] Item #TG-440 @ Farm Country General Store; Orders: (800)551-3276 / Questions: (309)367-2844; www.homeschoolfcgs.com/

Games: Tools for Learning [book] guide to creating your own games; includes templates, board ideas, and more; adaptable to all subjects; Item #TG-2000 @ Farm Country General Store; Orders: (800)551-3276 / Questions: (309)367-2844; www.homeschoolfcgs.com

EXPERIMENT/SCIENCE FAIR BOOKS

Science and the Bible [Set of 3 books]; DeYoung, Dr. Donald. Item #90-7-019; all ages; easy set-up; common household items; illustrate laws of nature and Biblical principles; @ Answers in Genesis, PH. 1-800-778-3390 or www.aig.org

Famous Experiments You Can Do (An Experimental Science Series Book) Gardner, Robert; (Franklin Watts, ISBN: 053110883X, 1990). 142p

Chemistry, Antonella Meiani. (Lerner Publishing Group, ISBN: 0-8225-0087-6; 2003); 40p; Grades 4 – 8

Dover Publications

- *Chemical Magic* Ford, Leonard A. (Dover Publications, ISBN: 0486676285, 1993); 128p “Magic” tricks using chemistry
- *47 Easy-to-Do Classic Science Experiments*, Eugene F. Provenzo and Asterie Baker Provenzo, (Dover Publications, ISBN: 0486258564, 1989) 128 p LG/UG Only one chemistry experiment in here, but all other experiments will be enjoyed as well.
- *Entertaining Science Experiments With Everyday Objects*, Martin Gardner, (Dover Publications, ISBN: 0486242013, 1981) 127 pages [\$3.95] LG (UG) Experiments for concepts in chemistry, geometry, astronomy, mathematics, physics, and more.

Adventures With Atoms and Molecules - Chemistry Experiments for Young People, Books I – V (Enslow Publishers, 1998); 82 pages

- Book I — ISBN 0-7660-12224-7
- Book II — ISBN 0-766-1225-5
- Book III — ISBN 0-7660-1226-3
- Book IV — ISBN 0-7660-1227-1
- Book V — ISBN 0-7660-1228-X

Hands-On Chemistry Experiments With Real Life Applications, Vol. 2 (vol. 1 is about physics), Herr, Norman and Cunningham, James. (Jossey-Bass; ISBN: 0876282621; 2002) 656p 8th-12th grade

Chemicals, Farndon, John. (Benchmark Books; ISBN: 0761414665) 32pp

Test Tubes and Beakers: Chemistry for Young Experimenters, E.H. Coulson, A.E.J. Trinder, and Aaron E. Klein (Doubleday; 1971) 134p

Science Projects About Kitchen Chemistry, Gardner, Robert. (Enslow Publishers, ISBN: 08949095330, 1999) 128p

Science Fair Projects: Chemistry, Bennet, Bob and Keen, Dan. (Sterling Pub. Co., ISBN: 080697771X, 2000) 95p

Science Fair Success Using Supermarket Products, Tocci, Salvatore. (Enslow Publishers, ISBN: 0766012883, 2000) 128p

Janice VanCleave books

- *Janice VanCleave's Chemistry for Every Kid: 101 Easy Experiments that Really Work*, Janice VanCleave (Wiley, ISBN: 0471620858, 1989), 256 p. UG+
- *Janice VanCleave's A+ Projects in Chemistry : Winning Experiments for Science Fairs and Extra Credit*, Janice VanCleave (Wiley, ISBN: 0471586307, 1993) 240p. UG+
- *Janice VanCleave's Play and Find Out about Science: Easy Experiments for Young Children*, Janice VanCleave (Wiley, ISBN: 0471129410, 1996) 128p. LG
- *Janice VanCleave's Microscopes and Magnifying Lenses: Mind-boggling Chemistry and Biology Experiments You Can Turn Into Science Fair Projects*, Janice VanCleave (Wiley, ISBN: 047158956X, 1993) 112 p. UG
- *Janice VanCleave's Molecules*, Janice VanCleave, (Wiley, ISBN: 047155054X, 1992) 96p. UG
- *Janice VanCleave's the Human Body for Every Kid : Easy Activities That Make Learn* (M A C, a Modular Approach to Chemistry), Janice VanCleave (Sagebrush Bound, ISBN: 0613966813, 1995) UG
- *Janice VanCleave's A+ Projects: Chemistry & Biology*, Janice VanCleave, (Wiley, ISBN: 0471024317, 1993) 464p. UG+ [OOP]
- *Janice VanCleave's Molecules: Mind-Boggling Experiments You Can Turn Into Science Fair Projects*, VanCleave, Janice. (John Wiley & Sons; ISBN: 047155054X; 1993)

FUN & EDUCATIONAL CHEMISTRY KITS

Traditional Chemistry Sets see Vendor list

- *Skillcraft ChemLab 1100 Chemistry Set* (Skillcraft); 1100+ experiments; 9+ yrs.
- *Skillcraft ChemLab 550 Chemistry Set* (Skillcraft); 550+ experiments; 9+ yrs.

Non-Traditional Chemistry Sets (use household items or have unique focus); see Vendor list

- *Chemistry Wiz — Solids, Liquids, & Gases* (Norman & Globis); 5+ yrs. [solids, liquids, gases, state changes] [includes colorful lesson book]
- *My First Chemistry Kit* (UC Berkeley GEMS); multiple activities; 4+ yrs. [includes 100x-200x-450x microscope]

- *Smithsonian Crime Scene Investigators Forensic Science Kit*; 9+ yrs. [microscope, synthetic blood, lab equipment, forensic science book, more]
- *Slime Chemistry (Wild Goose Science)*; 9 activities; 8+ yrs. [colloidal and polymeric chemistry]
- *Crash and Burn Chemistry Set (Wild Goose Science)*; 14 activities; 8+ yrs. [chemical and physical reactions]; [may be hard to find]
- *After Dinner Science Kit (Wild Goose Science)*; 21 activities; 8+ yrs. [biochemistry, organic chemistry]
- *Kitchen Chemistry (Wild Goose Science)*; 21 activities; 8+ yrs. [organic chemistry]
- *Oooh Aaah Chemistry Set (Wild Goose Science)*; 9 activities; 8+ yrs. [molecules; acid, base; reactions]; [may be hard to find]
- *Soda Bottle Science Kit (Wild Goose Science)*; 20 activities; 8+ yrs.
- *Soda Pop Science*; Item #SE-503 @ Discover This; multiple activities; 9+ yrs.
- *Plastic Science Kit*; Item #SE-213 @ Discover This; multiple activities; 9+ yrs. [polymers, plastics]

MOODY SCIENCE VIDEOS

O.k, so not all of these videos explain a specific aspect of chemistry, but, hey, they are just great science videos! Since God created everything and all things are comprised of atoms, chemistry is part of all these videos. For some, the connection is more obvious than others. Consider the extra listings bonuses to utilize however you wish. Videos that readily tie into a unit or may have a connection to a CKEC topic have been marked. Most are available from BJU Press, Showforth Videos, or Moody Video (see vendor list).

Award-winning videos featuring astonishing time-lapse photography and microphotography. All are filled with engaging, content-rich, and Creator-magnifying narration. The very end of each video relates a spiritual concept to the science topic viewed throughout the video. These are the most incredible, awe-inspiring videos I've ever seen! My children love to watch them. They are professional quality and can be viewed repeatedly without tiring of them. Check for them in your church library, home school library, add them to your home video collection, or borrow from Homeschool Source (lending library in the vendor list). \$9.95 for most videos. 30 minutes. ALL AGES FYI: Some of these programs are now in DVD format

MOODY - SCIENCE CLASSICS SERIES

- ✠ *City of the Bees* — All about those busy bees and their special jobs but also relates how the human design by God is even more special. [Unit 5]
- ✠ *Dust or Destiny* — interesting “oddities” of creation that indicate a Creator; fish, birds, bats, etc.
- ✠ *Experience with an Eel* — electric eel. [Unit 5]
- ✠ *Facts of Faith* — what faith is and how to get it; demonstrated via scientific experiments such as one million volts of electricity going through a man’s body with not harm to him.
- ✠ *God of Creation* — the beauty and power of the universe from a flower to space.
- ✠ *God of the Atom* — man’s need for salvation is demonstrated from the complex energy of a mere atom. [Unit 2]
- ✠ *Hidden Treasures* — a view of nature through a microscope such as a drop of sea water, a snowflake and a microscopic flower. [Water/Unit4]
- ✠ *Journey Of Life* — incredible means that seeds take to reach their destination; compares the Word of God to living seed taking root in one’s heart.
- ✠ *Mystery of the Three Clocks* — be reminded of God’s ultimate control by learning of the clocks built-in to some God’s creations.
- ✠ *Of Books and Sloths* — the sloth is used to remind of God’s Word and its accuracy.
- ✠ *Prior Claim* — shows some of man’s inventions that were actually taken from ideas derived from God’s creation such as the Venus Flytrap, archer fish, and trap-door spider.
- ✠ *Professor and the Prophets* — insight will be gleaned into the authorship of Scripture via application of math probability to prophecies of the Bible.

- ✠ *Red River of Life* — reminds us how it was necessary for Christ's blood to be shed for our spiritual life; features the circulatory system via microphotography and stressed the importance of blood to the body. [Unit 5]
- ✠ *Signposts Aloft* — demonstrates how the senses of an astronaut or pilot can be fooled in flight. They need their instruments and we need God's guidance.
- ✠ *Time and Eternity* — God is infinite. Time and space point us to Him. This videos shows how.
- ✠ *Voice of the Deep* — the depths of the ocean help to remind one they need a renewed mind.
- ✠ *Where the Waters Run* — spiritual life and death's dependence upon God's living water is stressed by learning the importance of physical water for life on Earth. [Water/Unit 4]
- ✠ *Ultimate Adventure* — "Dick Ewing was the first to cross the vast and scorching Sahara on motorcycle. Share his spine-tingly life and death struggle and the dramatic "encounter" with God that changed his life forever." Direct quote from www.moodyvideo.org.
- ✠ *Distinctively Human* — this video is no longer available for purchase from Moody, but you may be able to locate a used one or find it in your church library. [Unit 5]

MOODY — SCIENCE ADVENTURES SERIES

Each features three (3) 10-minute segments; 30 minutes total. Approx. \$14.95 each. Available from ShowForth Videos @ www.showforth.bjup.com ; 1-800-845-5731.

✠ *The Clown-Faced Carpenter*

- Part 1 — *The Clown-Faced Carpenter* — woodpeckers and the life cycle. [Unit 5]
- Part 2 — *The Journey to the Stars* — the sun to outer reaches of space.
- Part 3 — *Water, Water Everywhere* — shows how crucial water is to life. [Water/Unit4]

✠ *The Wonder of You*

- Part 1 — *The Wonders of You* — human body with NO graphic scenes! [Unit 5]
- Part 2 — *A Mystery Story* — life cycle of a caterpillar.
- Part 3 — *A Matter of Taste* — eating habits of five animals and how God supplies their special dietary needs. [Unit 5]

✠ *The Power in Plants*

- Part 1 — *The Power in Plants* — shows the immense power in a plant such as a sprout the cracks a home's foundation or a flower that cracks a sidewalk. [Unit 5]
- Part 2 — *Busy as a Bee* — a day in the life of bees.
- Part 3 — *It's a Small World* — complexity of life in a single droplet of water. [Water/Unit 4]

✠ *Treasure Hunt*

- Part 1 — *Treasure Hunt* — crystals in caves and salt-shakers. [UNIT 3]
- Part 2 — *Animals Move* — illustrates the unique means animals have for moving about.
- Part 3 — *Eight-Legged Engineer* — the incredibly skillful spider.

✠ MOODY — *Windows of the Soul* — 50th Anniversary Special Release (limited time) about the five senses; available from Moody Video www.moodyvideo.org/sciclass.htm#windows or 1-800-842-1223.

✠ MOODY — The Wonders of God's Creation Series; comes as a set of three (3) 60 minutes each. Also available: Journey to the Edge of Creation: Our Solar System plus The Milky Way and Beyond.

- Vol. 1 — *Planet Earth* — precision of life-sustaining qualities on Earth that exist nowhere else in the universe.
- Vol. 2 — *Animal Kingdom* — salmon migration, Monarch butterfly's 2000-mile yearly trip, and how honeybees communicate.
- Vol. 3 — *Human Life* — NO graphic scenes! [Unit 5]

† MOODY — THE NEWTON'S WORKSHOP SERIES — The description for this series is a direct quote from the Moody web site where they may be purchased. www.moodyvideo.org "Come on in to Grandpa Newton's workshop full of wonderful clutter—flashlights, toy soldiers, ultraviolet paint, homemade volcanos and solar systems, bugs of every shape and color, and interesting gadgets and watchamajiggers both large and small—all for weighing, watching, touching, trying, describing, but mostly for discovering. By incorporating family communication, problem solving and critical thinking into the learning process, Grandpa Newton introduces values and morals, the basic tools necessary to solve everyday problems.

Your entire family will enjoy this wonderfully entertaining and educational series. Each video comes with a study guide packed with starter questions, facts, biblical references, devotional thoughts, and activity suggestions." Approx. 28 minutes each. 8 videos — \$14.95 each

- Episode 1 — *World Building* — days of creation.
- Episode 2 — *The Germinators* — immune system. [Unit 5]
- Episode 3 — *The Name Game* — animal classification.
- Episode 4 — *As the World Spins* — solar system.
- Episode 5 — *The Bug Safari* — entomology.
- Episode 6 — *The Cell-a-bration* — cytology. [Unit 5]
- Episode 7 — *The DNA Decoders* — genetics. [Unit 5]
- Episode 8 — *The Pollution Solution* — ecology.

† MOODY — THE CREATION DISCOVERY SERIES — Here is a direct quote about this series from the Moody web site www.moodyvideo.org where these may be purchased: "Join zany Professor Walter Schnaegel and his young friends as they discover the fascinating world of plant life, geology and ecology... all from a biblical perspective. Three episodes jam-packed with fun, songs, science games, experiments and adventure. Approx. 30 minutes each.

- *God's Powerful Plants* — Energy That Grows On You
- *God's Rockin' World* — Foundations You Can Build Upon
- *God's Earth Team* — Protecting the Earth He's Given You

SCHELESSINGER MEDIA VIDEOS

A number of these videos are listed for each unit in the Unit Videos section. Check your local library for these videos, purchase them at 1-800-843-3620 or www.LibraryVideo.com.

The web site also contains numerous preview clips and printable educator's guides (described below).

These videos are filled with engaging content. Throughout each video is built-in review. Each one also includes a useful educator's guide with key terms, discussion questions, activities, and a list of related books and web sites. Many of these guides may be printed for free directly from the web site www.LibraryVideo.com. Some videos include such features as microphotography, computer graphics, science fair experiments to replicate, and more.

ASK-A-SCIENTIST & CHEMICAL FORUM — Ask your questions here!

Newton's Ask-A-Scientist Ask your chemistry questions to a real scientist of the U. S. Department of Energy — Office of Science @ <http://newton.dep.anl.gov/aasquesv.htm>

Chemical Forum — a free on-line service where you can ask real chemists your chemistry questions and receive answers in return @ <http://www.chemicalforums.com/>

MISCELLANEOUS — Web Sites and More

CHEM4KIDS — chemistry for kids @ www.chem4kids.com

Chemistry for Kids @ <http://chemistry.about.com/od/chemistryforkids/index.htm?terms=chemistry>; many helpful links for practice games, quizzes, and informative articles; at this site one may sign up for free e-mail delivery of the Chemistry for Kids Activities weekly newsletter

About.com Chemistry Guide — one may sign up to have Anne Marie Helmenstine, Ph.D from About.com e-mail them a free on-line weekly chemistry newsletter; written for the non-chemist interested in the subject; very informative, enlightening and engaging; includes links on current topic

The Chemistry Collective @ <http://www.chemcollective.org/> Here is the site's description in its own words. "The Chemistry Collective is a collection of virtual labs, scenario-based learning activities, and concepts tests which can be incorporated into a variety of teaching ap-

proaches as pre-labs, alternatives to textbook homework, and in-class activities for individuals or teams. It is organized by a group of faculty and staff at Carnegie Mellon University for college and high school teachers who are interested in using, assessing, and/or creating engaging online activities for chemistry education.” The Chemistry Collective is sponsored by the National Science Foundation (NSF). You may find it an innovative supplement for very high level UG or high schoolers in your homeschool. Students can conduct chemistry experiments in the on-line Virtual Lab with no mess, no danger, and no cost.

Institute for Creation Research’s Good Science web page; click on “Botany articles” as there are some chemistry articles included and more content will continually be added; Good Science free e-mail newsletter is also available; www.icr.org/goodsci/ ALL ages

Illustrated Periodic Table 51” x 30” color wall chart; unique; more helpful information than typical periodic tables; item # WLS18808-90 @ Sargent-Welch; 1-800-727-4368; www.sargeantwelch.com. FYI: Less expensive charts are available at your local teacher store and Rainbow Resource.

Basic Molecular Model Kit; item #WLS61855-50 @ Sargent-Welch; 1-800-727-4368; www.sargeantwelch.com.

Science in Song [audio CD] @ Science In Song, 1148 Dogwood Forest Drive, Marietta, GA 30068; fact drill songs written by a Cobb Co., GA teacher; full musical accompaniment; Vol. 1 contains a song for the elements; Vol. 2 contains a song about electrons; Hear audio samples and purchase @ www.scienceinsong.com

Links for Chemists web site has a treasure trove of chemistry web sites for all levels. www.liv.ac.uk/Chemistry/Links/links.html

[T-Shirt] *Periodic Table T-Shirt*. www.TeacherSource.com

Unusual, inexpensive chemistry kits @ www.TeacherSource.com — consider these:

- Fascinating Oscillating Reaction Kit; CK-475; the Briggs-Rauscher Oscillating Reaction (solution changes color and back again; repeats)

- Silver Secrets Chemistry Kit; CK-500; make silver mirrors, discover how silver plating works, and grow silver crystals
- Colorama Experiment Kit; CK-550; spectroscopic, phosphorescent (glow-in-the-dark), photochromic (light-sensitive) and thermochromic (heat-sensitive) materials + physics of light
- Goofy Glowing Gel Experiment Kit; CK-100; polymers, cross-linking, gels, phosphorescence and the quantum leap
- Cool Blue Light Experiment Kit; CK-150; chemiluminescence and quantum leap
- Rubber Flubber Experiment Kit; CK-200; states of matter & chemical reactions
- Patriotic Colors Chemistry Experiment Kit; CK-250; solutions, acid-base, & precipitates
- Super Water Absorber Experiment Kit; CK-300; chemistry involved in polymers, gels, absorption and osmosis
- Fizz Wizard and Jelly-Jammin' Kit; CK-350; chemical solutions, acid-base reactions, indicators, pH and gels
- Presto! Clock Reaction Kit; CK-400; solutions and rates of reaction (kinetics)
- Chroma-Tricks Chemistry Experiment Kit; CK-450; color changes, chromatography, and create chromatographic art
- *Chemistry Bits*— individual chemistry kits on a wide variety of topics; kits available one at a time or as complete set of all; inexpensive; read about all of them @ www.TeacherSource.com
- *Chemistry Song Bag*— several CD's with chemistry facts set to music @ www.TeacherSource.com

- *Read the Label* — download the free 12 page booklet (pdf) or order a free single copy. Ph. 1-800-227-5558 or http://membership.acs.org/c/ccs/pubs/read_the_label.pdf how to read and understand household chemical labels; produced by the American Chemical Society.

SCIENCE MAGAZINES

There are no chemistry magazines for young children and only one for older ones. However, you will undoubtedly want to utilize some science magazines with your kids. Thus, here is a compilation to assist you. There will be occasional articles that pertain or apply to the area of chemistry in an obvious way. However, since everything God created involved chemistry, there will be many chemistry connections to be had in each magazine, if you look for them. To utilize these magazines, you may wish to subscribe, request a subscription as a gift for one of your children, read them at the library, or order relevant back issues. LG = lower grammar UG = upper grammar

CHEM MATTERS — Quote from magazine's web page describes it as "Demystifying everyday chemistry for over 20 years!" Published four (4) times a year by the American Chemical Society. \$12/yr 1-800-228-5558 <http://www.chemistry.org/portal/a/c/s/1/acs-display.html?DOC=education%5ccurriculum%5ccchemmatt.html>

Web site offers free full sample issue (20 pages with no advertising), downloadable teacher's guides, archives of teacher's guides, and more. Magazine is full-color with engaging everyday chemistry topics and writing style while being full of information. Teacher's guides are superb with reading comprehension questions (essay, T/F, etc.), crossword puzzles, charts to complete, experiments to conduct, flow charts to complete — all based upon articles. Read the sample on-line issue and try the downloadable teacher's guide activities for free to determine suitability for your family. UG/UG+ — AD

Discovery — Scripture and Science for Kids. Apologetics Press, Inc. 1-800-234-8558 (orders only); www.DiscoveryMagazine.com On-line sample issue. \$12.00/year; monthly issues on high gloss full-color paper. 10% subscription discount for homeschoolers. LG & UG

Nature Friend; ISSN: 0888-4862; 1-800-852-4482; \$22/yr for 12 issues. The publisher states, "Nature Friend...upholds the principles of the Inspired Word of God, high Christian Family Standards, Divine Creation (no evolution), and practical Christian Stewardship of God's

Creation.” Full color with a 2-page nature poster in the center of each issue, plus puzzles, projects, reader mail, nature science articles, contests, arts and crafts. No advertising. 24 pp. LG & UG

Clubhouse Jr. by Focus on the Family sometimes will have a nature feature. ISSN: 0895-1136. Suggested donation of \$15/year. 1-800-232-6459. LG FYI — Also available is Clubhouse UG

God’s World News www.gwnews.com; (828)253-8063; \$26.95/yr for 29 weekly issues/yr. September — May. Discount for multiple orders. Different magazine for each age group. Focus is on current events which frequently encompass science. UG and LG

Creation Illustrated ISSN: 1086-1645/USPS 013-553; 1-800-360-2732; www.creationillustrated.com; E-mail: creation@foothill.net. \$19.95/year w/ discounts for longer terms. Published quarterly. 64 full-color glossy pages. Includes a kids’ story and an instructional guide with each issue. Non-denominational. (Adult w/ kid section).

Creation (Answers in Genesis) 1-800-778-3390; \$22/yr for quarterly full-color 56 page publications. Each issue contains a section for kids. (Adult w/ kid section)

Ask ISSN: 1535-4105; www.askmag.net; 1-800-821-0115. \$23.95/ year of 6 issues. Very engaging with great illustrations, photos, maps, etc. Each issue has a theme. No advertising. LG (UG might too)

CLICK! ISSN: 1094-4273; www.clickmag.com; 1-800-821-0115; \$32.97/year of 9 issues. Truly wonderful science magazine with a theme each month. No advertising. LG

Highlights for Children — Fun With a Purpose ISSN: 0018-165X; \$29.64/yr; less with longer subscription. 12 issues/year. LG+ & UG

Kids Discover magazine; ISSN: 1054-2868; (212) 677-4457; \$26.95/yr of 12 issues. Brilliant, glossy, full-color photography and illustrations with engaging text. No advertising. LG+/UG

Kids Discover 2 magazine; a lower level of Kids Discover magazine. LG

Muse www.musemag.com; ISSN: 1090-0381; 1-800-821-0115; \$32.97/yr of 9 issues. A

deeper look into science than CLICK and Ask. Themed. No advertising except one full-page ad on back cover. UG

FAMOUS CHEMISTS

Fabulous web site for children incorporating basic chronological history of chemistry with lists of chemist biography links for each segment. I hope this site is still working so you can enjoy it. It's part of the UMEA University's analytical chemistry department's web site. www.chemheritage.org/EducationalServices/chemach/home.html

Chronological list of Nobel-winning chemists * www.nobel.se/chemistry/laureates/index.html

Chemist/alchemist biographies from 40A.D. to modern day; brief; many include photos and links * <http://scienceworld.wolfram.com/biography/topics/Chemists.html>

San Benito School District web site with great chemistry biography links. * www.sanbenito.k12.tx.us/district/webpages2002/judymedrano/Nobel%20Winners/famous__chemists.htm

The print list of famous chemist below was adapted from information on these web sites and is listed in print form in the event the sites are no longer accessible. See list on next page.

Famous Chemists

Alchemists (precursors to chemists; ca 400-1400)

Ampere, Andre Marie

Armstrong, Henry

Arrhenius, Svante

Avogadro, Amedeo

Aristotle

Astbury, W. T.

Balmer, Johann Jakob

Beguín, Jean

Berthelot, Pierre

Berthollet, Claude

Berzelius, Jöns

Black, Joseph

Boyle, Robert

Bunsen, Robert Wilhelm

Cannizzaro, Stanislao

Carothers, Wallace Hume

Carver, Jr., George Washington

Cavendish, Henry

Celsius, Anders	Heroult, Paul
Charles, Jacques Alexandre Cesar	Henri-Etienne
Clarke, Hans Thacher	Hess, Germain Henri
Cottrell, Frederick G.	Hope, Thomas Charles
Crick, Dr. Francis	Joliet-Curie, Fredrick (husband-wife team)
Crookes, Sir William	Joliet-Curie, Irene (husand-wife team)
Cullun, William	Joule, James Prescott
Curie, Marie (husband-wife team)	Julian, Percy Lavon
Curie, Pierre (husband-wife team)	Kekule, Friedrich August
Dalton, John	Klaproth, Martin Heinrich
Davy, Sir Humphry	Kolbe, Adolf Wilhelm Hermann
Democritus	Kolthoff, Izaak Maurits
Deville, Sainte-Claire	Kohlrausch, Friedrich
Dewar, Sir James	Kwolek, Stephanie
Dioscorides	Laurent, Auguste
Di Salvo, Francis	Lavoisier, Antoine
Dovereiner, Francis	Le Bel, Achille
Dulong, Pierre	Le Chatelier, Henri
Dumas, Jean	Leclanche, Georges
Faraday, Michael	Lemery, Nicholas
Frankland, Edward	Levene, Phoebus
Franklin, Benjamin	Lewis, Gilbert Newton
Galen	Libby, Willard
Gay-Lussac, Joseph	Leibig, Georg
Geber	Liebig, Justus Von
Gerhardt, Charles	Lomonosov, Milhail
Gibbs, Josiah	Loschmidt, Johann Josef
Goldschmidt, Johann	Lowry, Thomas Martin
Graham, Thomas	Lucas, Howard
Guldborg, Cato	Markovnikov, Vladimir Vasilevich
Hatfield, Robert	Martin, Archer
Hahn, Otto	Martin, Dean Fredrick
Haiyan, Jabir Ibn	Material Maggie
Hales, Stephen	Mendeleev, Dmitri
Hall, Charles	Meyer, Julius Lothar
Helmont, Jan van	Miller, Stanley

Mitscherlich, Eilhardt	Rutherford, Daniel
Morley, Edward	Scheele, Karl Wilhelm
Moseley, Henry	Schonbein, Christian
Nernst, Hermann	Schrodinger, Erwin
Newlands, John Alexander Reina	Seaborg, Glenn
Nobel, Alfred	Soddy, Fredrick
Noyes, Arthur	Solvay, Ernest
Ohm, Georg Simon	Stahl, Georg
Ostwald, Wilhelm	Stas, Jean Servais
Paracelsus, Philippus	Stefan, Josef
Patterson, Clair Cameron	Stock, Alfred Eduard
Pauling, Linus	Strassman, Fritz
Perkin, William Henry	Thomson, Sir Benjamin
Pettenkofer, Max Von	Turgot, Anne-Robert-Jacque
Priestley, Joseph	Urey, Harold
Proust, Joseph-Louis	Waage, Peter
Prout, William	Willstatter, Richard
Ramsay, William	Wohler, Friedrich
Raoul, Francois	Wollaston, William
Richter, Jeremias Benjamin	Wrinch, Dorothy
Roentgen, Wilhelm Conrad	Wurtz, Charles-Adolphe
Rouxel, Jean	Zewail, Ahmed

From Apologia Education Ministries * www.highschoolscience.com, Dr. Jay Wile

- *Eco-Hysteria* — In this tape, Dr. Wile uses his development as a scientist to explain why most scientists are not creationists, even though the scientific evidence for creation is so compelling. His frank discussions of indoctrination, discrimination, and bias show quite clearly that most scientists do not reject creationism on the basis of science. If you've ever wondered why evolution is so heavily-entrenched in the scientific community, you will want to listen to this tape! Price: \$8.00
- *Why I Am a Creationist When So Many Other Scientists are Not* — The material on this 60 minute audiotape explores the current environmentalist movement in the light of our most accurate scientific knowledge. Using scientific data that relate to global warming, acid rain, overpopulation, air pollution, and the ozone layer, Dr. Wile shows how

the current environmental debate does not bear much resemblance to the relevant scientific facts. The majority of the environmental hysteria that exists today is the result of media hype, not scientific reasoning. Price: \$8.00

Maggie's comment: The Hogans used Dr. Wile's high school materials with Tyler and found them to be vastly superior to anything else we have tried. Although Tyler was not overly enthusiastic initially, he quickly came to love the logical format and especially the student-friendly text. Now in college he credits Dr. Wile's science courses for laying a strong foundation Dr. Wile's high school chemistry book would be a wonderful addition if you are schooling older students in chemistry while using CKEC with younger ones.

Apologia Educational Ministries, Inc. is proud to present the second edition of its Exploring Creation With Chemistry course. The first edition, originally published in 1995, was the first science course written by Dr. Wile. It took the homeschooling community by storm and set the stage for the rest of Apologia's courses. Now, this award-winning chemistry course will get even better!

The second edition of our chemistry course will have several features that enhance the value of the course:

- The illustrations will be in color instead of black and white.
- Dr. Wile has been answering student questions on the course for seven years. Those questions have allowed him to realize what sections of the book could be written more clearly. Thus, this edition of the chemistry course is even more understandable than the first edition!
- For students who need more practice, there are extra practice problems for each module as well as detailed solutions to those problems in the solutions and tests guide.
- The student text has graphic icons that tell the student when there is a related multimedia presentation on the optional multimedia CD.
- The text references an extra laboratory kit that can be used to add about a dozen experiments to the course. These extra labs are not required, but are optional for those students who want more laboratory experience.

- There is a special website available only to users of the second edition. This website will contain links to web resources such as animations and graphics which will enhance the material in the text.
- Advanced students who have the time and the ability to learn additional material will be directed to online resources which contain advanced subject matter.
- The tests in the solutions and tests guide contain a point system that will aid the parent/teacher in grading the tests.
- There are also cumulative tests in the solutions and tests guide if the parent/teacher wants to give the student quarterly, semester, or final exams.
- Finally, even though the module tests are found in the solutions and tests manual (so that the parent/teacher always has a copy of them), a second set of tests is also provided in a perforated booklet. This will allow the student to be given the tests without referring to the solutions and tests manual.

Please note that because of the differences between the first and second editions, students in a group setting cannot use both. They must all have the same edition. Because of this, the first edition of the course will still be available for those in schools or support groups that use the first edition.

In order to be able to understand this text, the student needs to have completed algebra I. This course is designed to be a first-year high school chemistry course and gives the student a rigorous foundation in chemistry, in order to prepare him or her for a college-level course. The course covers significant figures, units, classification, the mole concept, stoichiometry, thermochemistry, thermodynamics, kinetics, acids and bases, redox reactions, solutions, atomic structure, Lewis structures, molecular geometry, the gas laws, and equilibrium.

Students who take and understand this course will be very well-prepared for a tough university chemistry course.

