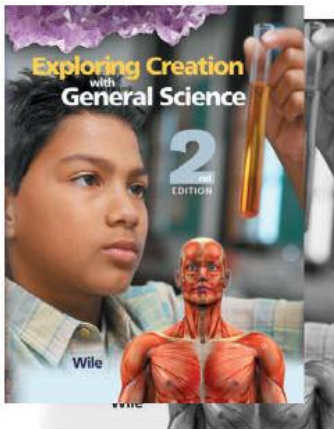


LJ-GS2

Apologia “Exploring Creation With General Science” 2nd Edition Lapbook Journal



This Lapbook Journal has been specifically designed for use with the book, “Exploring Creation with General Science “ 2nd Edition by Apologia Science.

Designed by
Cyndi Kinney
of Knowledge Box Central
with permission from Apologia Science



Exploring Creation With General Science 2nd Edition Lapbook Journal

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This book is dedicated to my amazing family. Thank you to my wonderful husband, Scott, who ate a lot of leftovers, listened to a lot of whining (from me!), and sent lots of positive energy my way. Thank you to my daughter, Shelby, who truly inspired me through her love for learning. Thank you to my parents, Judy and Billy Trout, who taught me to trust in my abilities and to never give up.



Table of Contents

- * So now you bought it...what do you do with it?Whole Thing
- * Setting up the binder.....Pg 3
- * What’s in these files?.....Pg 3
- * What to print.....Pg 3
- * What’s in each section, supplies needed, etc.....Pg 3-6
- * On Your Own Journal Pages.....Pg 4
- * Study Guide Lapbook Journal Booklet Templates & Background Pages...Pg 4-5
- * Help! I need pictures of the booklets.....Pg 6
- * Lab Reports.....Pg 6
- * Frequently Asked Questions.....Pg 7-9
- * Cover for Lapbook Journal (goes in front of binder).....Pg 10
- * Cover for On Your Own Journal.....Pg 11
- * Cover for Study Guide Lapbook Pages.....Pg 12
- * Cover for Lab Reports.....Pg 13



Knowledge Box Central
www.knowledgeboxcentral.com

Welcome to our Lapbook Journal for
Apologia's "Exploring Creation With General Science" 2nd Edition
by Dr. Jay Wile.

We are very pleased to offer this product, as authorized by Dr. Wile.

So...now you bought it...what do you do with it?

I'll try to answer your questions here. Please note that there are several ways to use our Lapbook Journal, and the BEST way is the way that works for your student.

First, purchase a 3 inch 3-ring binder, and divide it into 3 sections. Your dividers should be labeled as follows:

On Your Own Journal (OYOJ)
Study Guide Lapbook Pages (STLP)
Lab Reports (LR)

You may use the acronyms if your label space is limited.

Now you have your binder ready....so what next?

It's time to print! As for the order or printing...you may choose to print needed pages as you finish one module and begin the next....or you may choose to print everything up front. The choice is yours, but I would suggest marking off some time to print it all at once....that's just my opinion. Obviously, your time will dictate what you print when.

You will find 16 files (17 if you include THIS one) within this product. These will each consist of one file for each module of the book. Within each of these files (one per module), you will find the following:

1. On Your Own Journal Pages
- 2a. Study Guide Lapbook Pages - Booklet Templates
- 2b. Study Guide Lapbook Pages - Background Pages
- 3a. Lab Reports (Supplies, Introduction, & Procedure filled out already)
- 3b. Lab Reports (No information already filled in...only the report itself with the title of the experiment at the top)

Now I will go into detail about how to print each of these files, what type of paper to print them on, and how to use them.

As I said on the previous page, there are 16 files (one for each module of the book) included in this product, and within each of these files, you will find the following:

1. On Your Own Journal Pages
- 2a. Study Guide Lapbook Pages - Booklet Templates
- 2b. Study Guide Lapbook Pages - Background Pages
- 3a. Lab Reports (Supplies, Introduction, & Procedure filled out already)
- 3b. Lab Reports (No information already filled in...only the report itself with the title of the experiment at the top)

On Your Own Journal Pages

Supplies Needed: Regular White Copy Paper (unless you desire differently)

These pages will be solely devoted to the “On Your Own” questions that appear throughout each of the modules. Instead of the student having to re-write the questions in a notebook, we have provided the questions in a “Notebooking” styled setting. There will be ample space for the students to answer the questions within these Journal Pages, and the borders and graphics provide a decorative page for documenting learning.

We recommend that these pages be printed on regular, white paper. There is no need to print these pages on any special type or color, unless that is your preference.

For each module, print these pages, and file them all together under your “On Your Own Journal Pages” divider tab. As your student comes to these questions, he will go to this section to document his answers.

Study Guide Lapbook Pages Booklet Templates & Background Pages

Supplies Needed: Regular White Copy Paper, Colored Paper, White Cardstock Paper (if desired), Glue, Scissors, Metal Brad Fasteners (if desired), Ribbon (if desired), Staples

This section is used with the Study Guide at the end of each module of the book. Instead of writing the questions and answers into a regular notebook, the student would complete these booklets to place into his binder.

Study Guide Lapbook Pages Booklet Templates & Background Pages...cont.

This section provides more of a “hands-on” opportunity for your students. It is similar to the traditional lapbooks, but there are no folders in which to place the booklets.

We recommend that you print these on the following types of paper:

* Study Guide Lapbook Pages Booklet Templates: colored paper, any weight (we use 24#, multi-colored paper)

* Study Guide Lapbook Pages Booklet Templates Instructions: white copy paper (these will ultimately be thrown away, so the weight of the paper isn't important)

* Study Guide Lapbook Pages Background Pages: white cardstock (These can be printed on white paper, if you prefer. We print on white cardstock because it is more durable, holds the weight of the booklets, and holds up to years of “thumbing through” the pages.)

These lapbook-style booklets will provide a 3-dimensional aspect to your student's learning experience. Science has proven that the more senses a student uses when learning and reviewing new material, the more he will retain. So, by adding this section, your student will be able to use his own hands to create these memories. Also, the colors and shapes of the booklets will stimulate memory as well.

At the end of each module, allow the student time to create these booklets, and place them randomly (be creative!) on the Study Guide Lapbook Journal Background Pages (print as many copies of these as you need).

This is the most time consuming portion of the Lapbook Journal, and I know that time is very precious. So, if you simply cannot make time for creating ALL of the booklets, or if your student is at first resistant to this hands-on method, you may choose to have your student only complete a few of the booklets...maybe the ones that cover areas in which he needs extra study.

Allow the student to have fun with this section. As he cuts, glues, and folds, he will be creating something to look back on for years to come. He will also be creating something that will be WONDERFUL when it comes time to review! There is NO better way to learn, in my opinion, than for the student to be intensely involved in the process by using his hands.

The Study Guide Lapbook Background Pages – SPECIAL NOTE: You will need to print as many of these as necessary. How many you need depends on how many booklets that your student made. Allow your student to arrange the completed booklets in any order they desire – be creative! You may need a bunch of these pages printed if he really gets the hang of this!

Pictures of Completed Booklets in the Study Guide Lapbook Pages

We are in the process of assembling each and every booklet that is found in the Study Guide Lapbook Pages section. We will be adding all of these pictures to our website soon. Just go to: <http://www.knowledgeboxcentral.com/aplajopi.html>

Lab Reports

Supplies Needed: Regular White Copy Paper

This section is where the student will document all of the work done on the lab experiments within each module.

I conducted a poll before finalizing this section. I wanted to know if parents would like the Lab Reports to be partially completed....or whether they would rather have the student write in all of the information themselves. The responses were split right down the middle. Then, a really smart mom emailed and said, “Why don’t you just put both formats in the Lapbook Journal?” So....that’s exactly what I did!

There are 2 different sections of each file that are devoted to Lab Reports. There will be a section that gives you Lab Reports with the Experiment Title & Number, Supplies, Introduction, & Procedure already filled in. The back of these reports has no information filled in – this is where the student will document his observations, conclusions, etc. and draw any diagrams necessary. The other section gives you Lab Reports with ONLY the Experiment Title & Number filled in...the rest is blank. So, choose which works for you. You may even want to try both...or you may change midway through the year...or depending on your time that week. The choice is yours!

Print these on regular white paper, unless you WANT to print them on cardstock. They are meant to be printed double-sided, but feel free to print them as a 2-page report, if that works better for you (or for your printer!). File them in the “Lab Reports” section, and refer to them each time your student performs a lab experiment.

SPECIAL NOTE: Lab Reports vary from 2 to 4 pages in length....so make sure that you are printing ALL pages for each lab. Do not assume that there are only 2 pages.



Frequently Asked Questions:

1. What if I don't have enough time to do all of this? What's ok to leave out?

If you are really pushed for time, please don't feel that you have to "do it all!" I am cursed with this syndrome, and it rears it's head every time I get in a new piece of curriculum. YOU alone know what is best for your student, school, and family.

With that said, I'll say this. If I had to choose something to omit, I would probably first allow my student to use the Lab Reports that are partially filled in. This will save a lot of time...and frustration on the part of the student. If I still needed to omit something, then I would probably allow the student to answer some of the Study Guide questions verbally and only do some of the Lapbook Pages. However, I would be sure to NOT choose the lapbook booklets that deal with the easiest subject matter to leave out. I would allow the questions that deal with the easiest subject matter to be answered orally, and require that the others be answered within the booklets.

2. What if I only have white paper, and I cannot afford to get (or don't have time to get) colored paper or cardstock?

We have made suggestions as to the colors and paper types that we would suggest, but they are ONLY suggestions. If your daughter is really into pink, and everything has to be pink...then print the whole thing on pink! If you are cramped for extra money, and you only have white paper, then print it all on white! I assure you that the color of the paper will not KEEP your child from learning. There is scientific research to support the improvement in memory when using colored paper, but who says the child can't color the paper themselves (the lapbook booklets)...draw pictures on them...make them his own. Or...just leave them white. The choice is ALWAYS yours.

3. My friend wants to use this Lapbook Journal too. Can I let her use my copy? Oh, and my Co-op might want to use it too.

Our copyright states that any Ebook or CD is purchased for use by ONE household. If your Aunt Mary, Cousin Martha, and all of their children live in YOUR household (God Bless You!), then that includes them. You may print as many copies of the material as you need from the Ebook or CD for those in your household. However, PLEASE do not share these with friends and family who do NOT live with you.

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4. Why are there very few color graphics in this product?

After much research, we believe that the children of this generation are visually over-stimulated. Between video games, internet, and television, there is very little left to the imagination. While colors play an important role in memory and retention of information, OVER-stimulation with colors has just the opposite effect.

Research ALSO shows that colored shapes have an effect on the memory that is amazing. Students will remember colored shapes much more than they will remember colored graphics on white paper.

Another reason.....colored ink costs homeschool moms TONS!

Without colored graphics, students will create their own! Allow them to draw pictures, color the borders, use their imaginations.

For these reasons, we have chosen to use few color graphics. We feel that this decision, although not the popular one, will benefit your students in the long run.

5. What's the difference between the 1st and 2nd Editions of the textbooks?

This is the explanation FROM Apologia:

* Dr. Wile has been answering student questions on each of these courses for seven years or more. Those questions have allowed him to realize what sections of the books could be written more clearly. Thus, these editions of our courses are even more understandable than the first editions!

* The student text has graphic icons that tell the student when there is a related multimedia presentation on the optional multimedia CD.

* There are course websites that have links to materials which provide extra help as well as interesting news related to each field.

* There are cumulative tests in the solutions and tests guide if the parent/teacher wants to give the student quarterly, semester, or final exams.

* The tests in the solutions and tests guide contain a point system that aids the parent/teacher in grading them.

* Finally, even though the module tests are found in the solution and test manual (so 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.

6. What if I don't have a printer, or my printer isn't working?

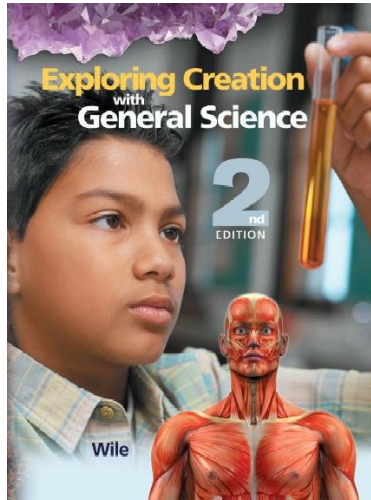
Most print shops will allow you to email your document to them for printing. Or, you may choose to burn the Ebook to a CD and take it to them for printing.

7. Is it OK to burn the Ebook to a CD?

Yes, absolutely! In fact, I would suggest it. My computer crashed last year, and I lost SO many wonderful homeschool products that were in Ebook format!! (still crying!)

8. What if I'm not creative, crafty...etc....and I don't really want to be?

That's ok. Not everyone enjoys working with "hands-on" products. That's why this product will work for you! All of the planning is done, and the instructions are written so that the student can read and follow them without assistance from an adult!



**Lapbook Journal
For
Exploring Creation
With General Science
2nd Edition**

By



**Exploring Creation
With General
Science**

2nd Edition

**On Your Own
Journal**



**Exploring Creation
With General
Science**

2nd Edition

**Lapbook
Pages**



**Exploring Creation
With General
Science**

2nd Edition

Lab Reports



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General Science 2nd Edition Module 1

The following pages are divided into 5 sections, with a page like this one between each section.

The sections are:

- * On Your Own Journal**
- * Study Guide Lapbook Pages – Booklet
Instructions & Templates**
- * Study Guide Lapbook Pages –
Background Pages**
- * Lab Reports (Partially Completed)**
 - * Lab Reports (Blank)**

The following section is:

**General Science 2nd Edition
Module 1**

On Your Own Journal Pages

1.1 Although the ancient Egyptians had reasonably advanced medical practices for their times, and although there were many inventions that revolutionized life in the ancient world, most historians of science do not think of Egyptian doctors and ancient inventors as scientists. Why? (Hint: Look at the entire definition of science.)



1.2 Based on your results in Experiment 1.1, order the items you used in your experiment (water, vegetable oil, the grape, etc.) in terms of increasing density. In other words, list the item with the lowest density first, followed by items of higher and higher density, and end your list with the item of greatest density.



1.3 Do the atoms in an ice cube move faster or slower than the atoms in a glass of water?



1.4 Dr. Steven Hawking is one of the most brilliant scientists of the decade. He believes in a theory called "the big bang." This theory tries to describe how the universe was formed. If your friend tells you that you should believe in the big bang because Dr. Hawking is smart and he believes in it, what famous example from the history of science should you tell to your friend?



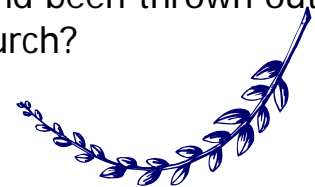
1.5 What episode from the history of science tells us we need to leave our personal biases behind when we do science?

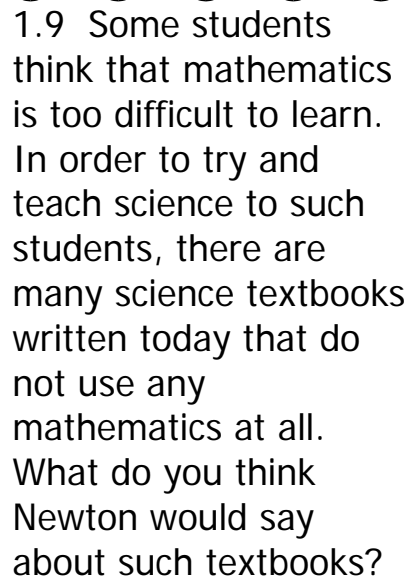
1.6 A great many scientists today worry that most students do not appreciate science very much. As a result, there are those who worry about the future of science. Although it is true that most young people today don't care about science, there are some who do. They will obviously become the scientists of the future. Since there will always be at least a few people who are interested in science, why are today's scientists worried about the future of science?

1.7 Some historians call Grosseteste the first modern scientist. Why does Grosseteste deserve that honor?



1.8 Galileo faced a very difficult decision in his life. He was convinced by science that the heliocentric system was correct. Nevertheless, his church said that it was wrong and threatened to throw him out if he didn't recant his belief in the heliocentric system. Galileo, in obedience to his church, agreed to publicly recant his belief, even though he knew it was right. Did Galileo make the right choice, or should he have stayed true to his science and been thrown out of the church?





1.9 Some students think that mathematics is too difficult to learn. In order to try and teach science to such students, there are many science textbooks written today that do not use any mathematics at all. What do you think Newton would say about such textbooks?

1.10 As I mentioned in the text, even scientific ideas which are wrong can still lead to advances in science. Besides the scientists mentioned in this section, name another famous scientist that proposed wrong ideas that still advanced science.

The following section is:

**General Science 2nd Edition
Module 1**

**Study Guide Lapbook Pages –
Booklet Instructions &
Templates**

General Science 2nd Edition - Module 1

Study Guide Lapbook Pages - Booklet Templates

Assembly Instructions

Question 1. a-c

Cut out along the outer black line edges of the booklet and the title label. Fold the booklet “accordion-style” so that the back of the “Spontaneous generation” section is on the bottom, and the blank section is on top. Glue the title label to the outside, on top of the booklet.

Question 2

Cut out along the outer black line edges of the booklet and the title label. Accordion-fold the booklet, and glue the title label to the outside top of the booklet.

Question 3

Cut out along the outer black line edges, being sure to keep the circles connected. Fold along the center between the circles, so that the title is on the front.

Question 4

Cut out along the outer edges of the booklet. Then glue it to a slightly larger piece of paper of a different color, creating a small border.

Questions 5-6

Cut out along the outer black line edges of all 5 pages to this booklet. Then, stack them so that the title is on the front. Now punch 2 holes through the left side of the stack. Secure with ribbon, yarn, or metal brad fasteners.

Questions 7-9

Cut out along the outer black line edges of all booklet pages and the 4 questions. Fold each of the booklet sections along their center horizontal lines. Stack them together, so that the title is on the outside. Secure at the top with a staple. Glue the questions inside, each on different pages.

General Science Module 1

Study Guide Lapbook Booklets

Assembly Instructions & Templates

Questions 10-11

Cut out along the outer black line edges of the booklet. Fold along the horizontal edges, accordion-style. Make sure that the title ends up on the front. Also cut out the 2 question boxes. Glue the questions on different pages within the booklet.

Questions 12-13

Cut out along the outer black line edges of the booklet. Then, fold along the horizontal line, so that the questions and graphics are on the outside. Then, cut along the center vertical line on the front cover (page with the graphics and questions) so that you now have 2 “flaps” under which to write your answers.

Question 14

Cut out along the outer black line edges of the booklet pages. Then, stack the pages so that the title is on the front. Punch 2 holes through the left side of the stack, and secure with ribbon, yarn, or metal brad fasteners.

Questions 15-16

Cut out along the outer black line edges of the circles. Then stack them so that the title is on the front of the booklet. Punch a hole through the top center of the stack, and secure with a metal brad fastener.

Question 17

Cut out along the outer black line edges of the booklet. Accordion-fold so that the title is on the front.

Question 18

Cut out along the outer black line edges of the booklet. Fold along the center vertical line so that the words are all on the outside. Now, cut along the shorter horizontal lines, creating “flaps” under which to write your answers.

Questions 19, 20, 21, 23, & 27

Cut out along the outer black line edges. Fold along the center vertical line, so that the words/graphics are on the front of the booklet. Now cut along the shorter dotted lines, creating “flaps” under which you may write your answers.

General Science Module 1

Study Guide Lapbook Booklets

Assembly Instructions & Templates

Question 22

Cut out along the outer black line edges of the booklet and the text labels. Fold along the lines between the triangles, so that the title is on the outside. Glue the text labels inside on different pages.

Question 24

Cut out along the outer black line edge of the booklet. Then glue to a slightly larger piece of paper of a different color, so that you have a small border.

Question 25

Cut out along the outer black line edges of the booklet. Fold along the center line so that the title is on the front.

Question #26

Cut out along the outer black line edges of the booklet and the text labels. Fold along the lines between the triangles, making sure to keep the title on the front. Glue the text labels on different pages inside.

Question 28

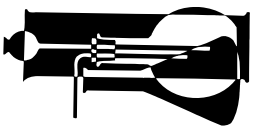
Cut out along the outer black line edges. Then stack the two pages together, and fold along the center lines. Secure at the top of the booklet with a staple.

Module #1: A Brief History of Science

Study Guide Booklet Templates

Question #1a-c

	Science	Papyrus	Spontaneous generation
--	----------------	----------------	-------------------------------



Define the following:

Module #1: A Brief History of Science

Study Guide Booklet Templates

Question #2

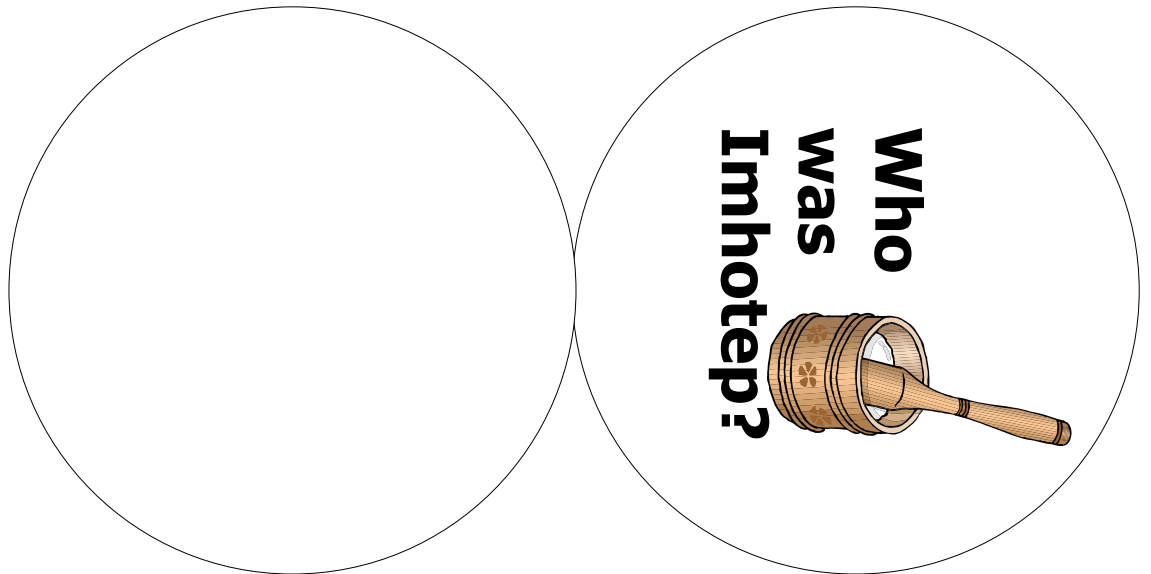
There were three lessons from the history of science I specifically mentioned in the text? What are they?

The form consists of four identical, vertically stacked hexagonal shapes. Each hexagon is oriented with a horizontal top and bottom edge. The shapes are empty, providing space for the student to write their response to the question.

Module #1: A Brief History of Science

Study Guide Booklet Templates

Question #3



Question #4

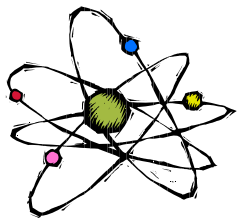
Although the ancient Egyptians had incredibly advanced medical practices for their time, we do not consider them scientists. Why not?



Module #1: A Brief History of Science

Study Guide Booklet Templates

Questions #5-6



**True Science
Begins to
Emerge...**

Who was Thales?

**Who was
Anaximenes?**

**Who was
Anaximander?**

**Leucippus and his
student,
Democritus, are
remembered for
what idea?**

Module #1: A Brief History of Science

Study Guide Booklet Templates

Questions #7-9

Who came up with the idea of spontaneous generation?

Who first came up with the first classification scheme for living creatures?

What is the main difference between the geocentric system and the heliocentric system?

Which is correct, the geocentric system or the heliocentric system?



**Other
Notable
Greek
Scientists**

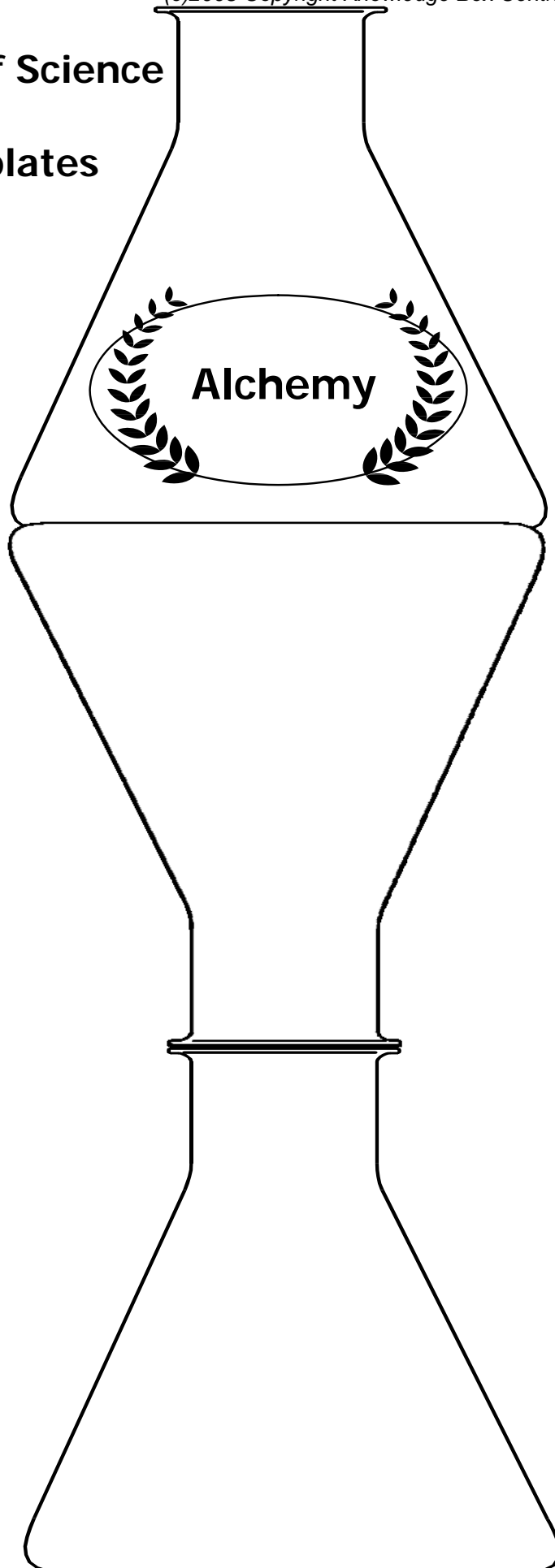
Module #1: A Brief History of Science

Study Guide Booklet Templates

Questions #10-11

What was the main goal of the alchemists?

Why don't we consider the alchemists to be scientists?



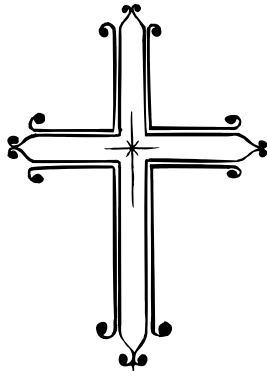
Module #1: A Brief History of Science

Study Guide Booklet Templates

Questions #12-13

--	--

What was the main reason that science progressed near the end of the Dark Ages?



Who is considered to be the first modern scientist, and why does he deserve that honor?



Module #1: A Brief History of Science

Study Guide Booklet Templates

Question #14



Who were the authors, and what were the subjects?

Author:

Subject:

Author:

Subject:

Module #1: A Brief History of Science

Study Guide Booklet Templates

Questions #15 & 16



Although Galileo collected an enormous amount of data in support of the heliocentric system, he was forced to publicly reject it. Why?

Galileo built an instrument based on descriptions he had heard of a military device. This allowed him to collect a lot more data about the heavens. What did he build?

Question #17

Module #1: A Brief History of Science Study Guide Booklet Templates

			 <p>Who was Sir Isaac Newton? Name at least three of his accomplishments.</p>
--	--	--	--

Module #1: A Brief History of Science

Study Guide Booklet Templates



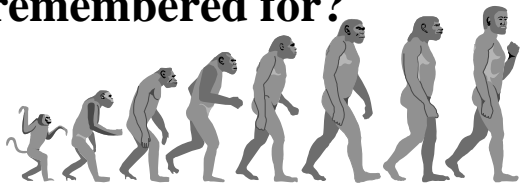
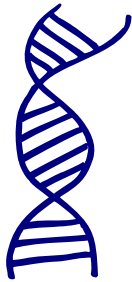
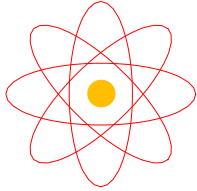
Question #18

	<p>A major change in scientific approach took place during the Enlightenment.</p>
	<p>What was good about the change?</p>
	<p>What was bad about the change?</p>

Module #1: A Brief History of Science

Study Guide Booklet Templates

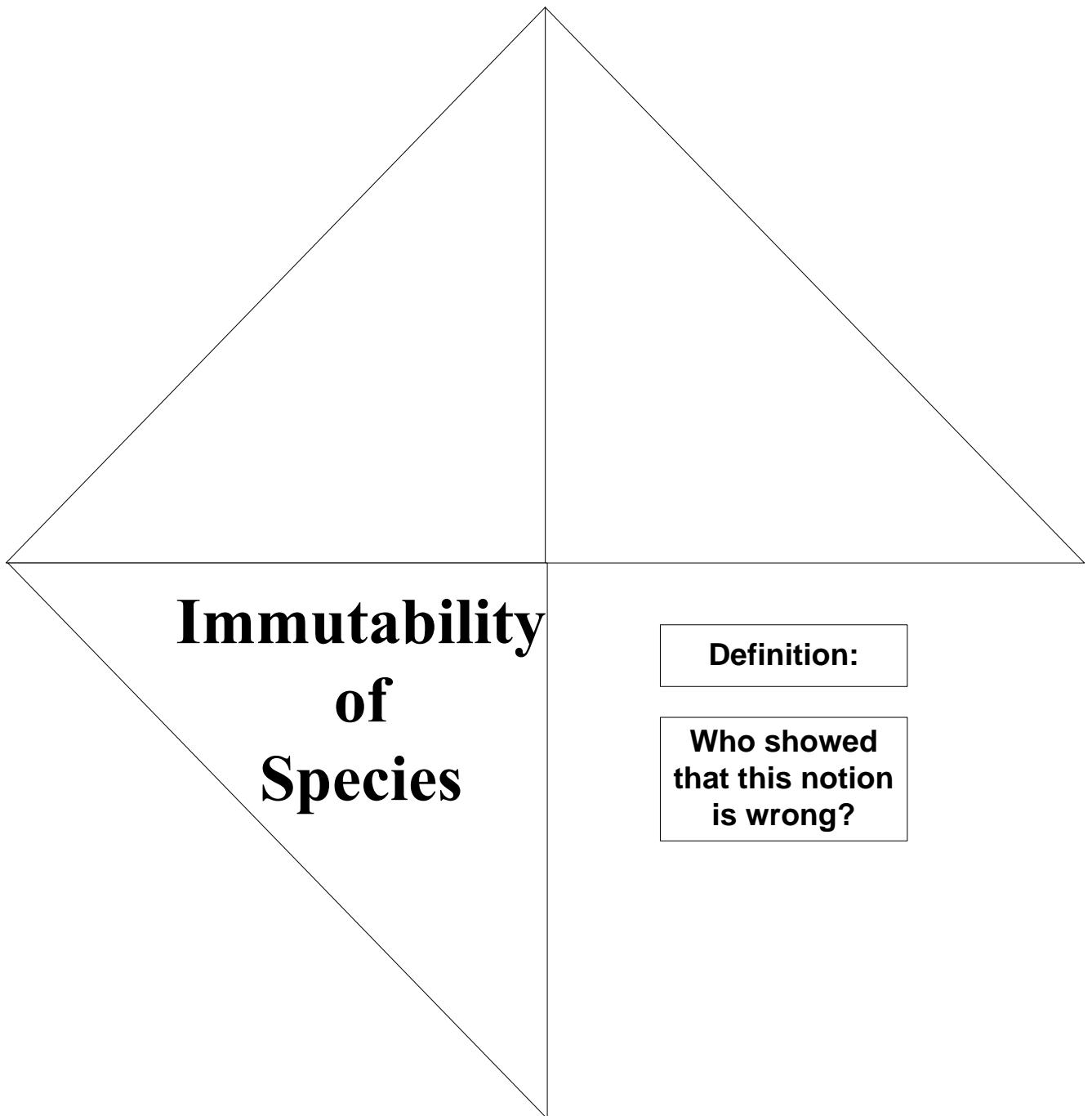
Questions # 19, 20, 21, 23, & 27

	 <p>What was Lavoisier's greatest contribution to science?</p>
	<p>What is John Dalton remembered for?</p> 
	<p>What is Charles Darwin remembered for?</p> 
	 <p>What is Gregor Mendel remembered for?</p>
	<p>What is Niels Bohr remembered for?</p> 

Module #1: A Brief History of Science

Study Guide Booklet Templates

Question #22



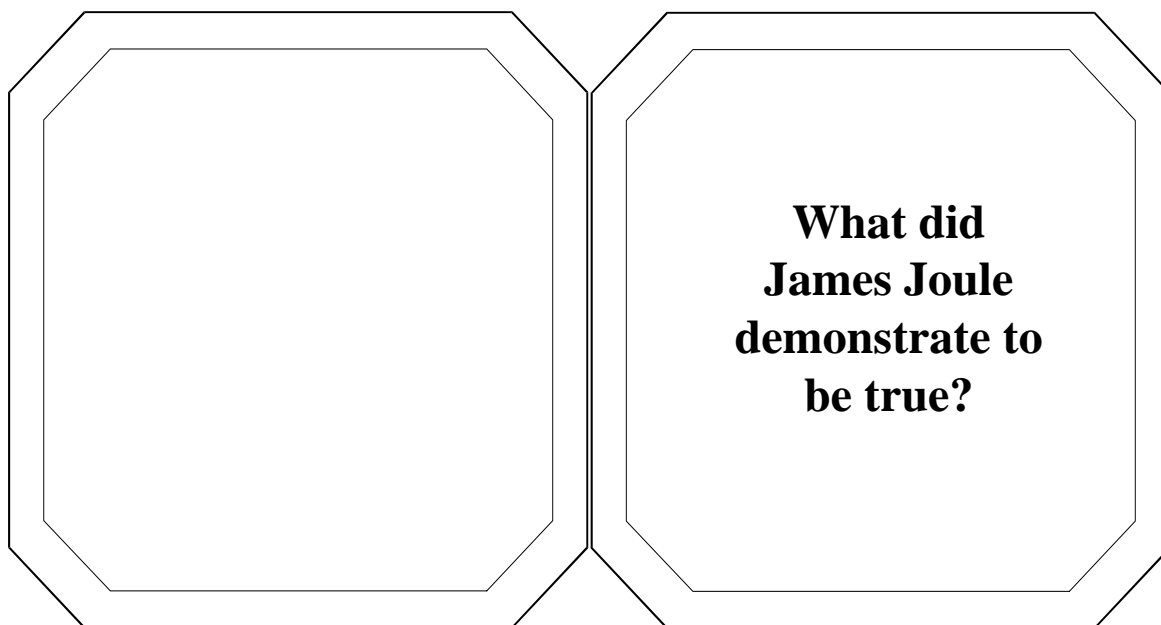
Module #1: A Brief History of Science

Study Guide Booklet Templates

Question #24

**James Clerk Maxwell is
known as the founder of**

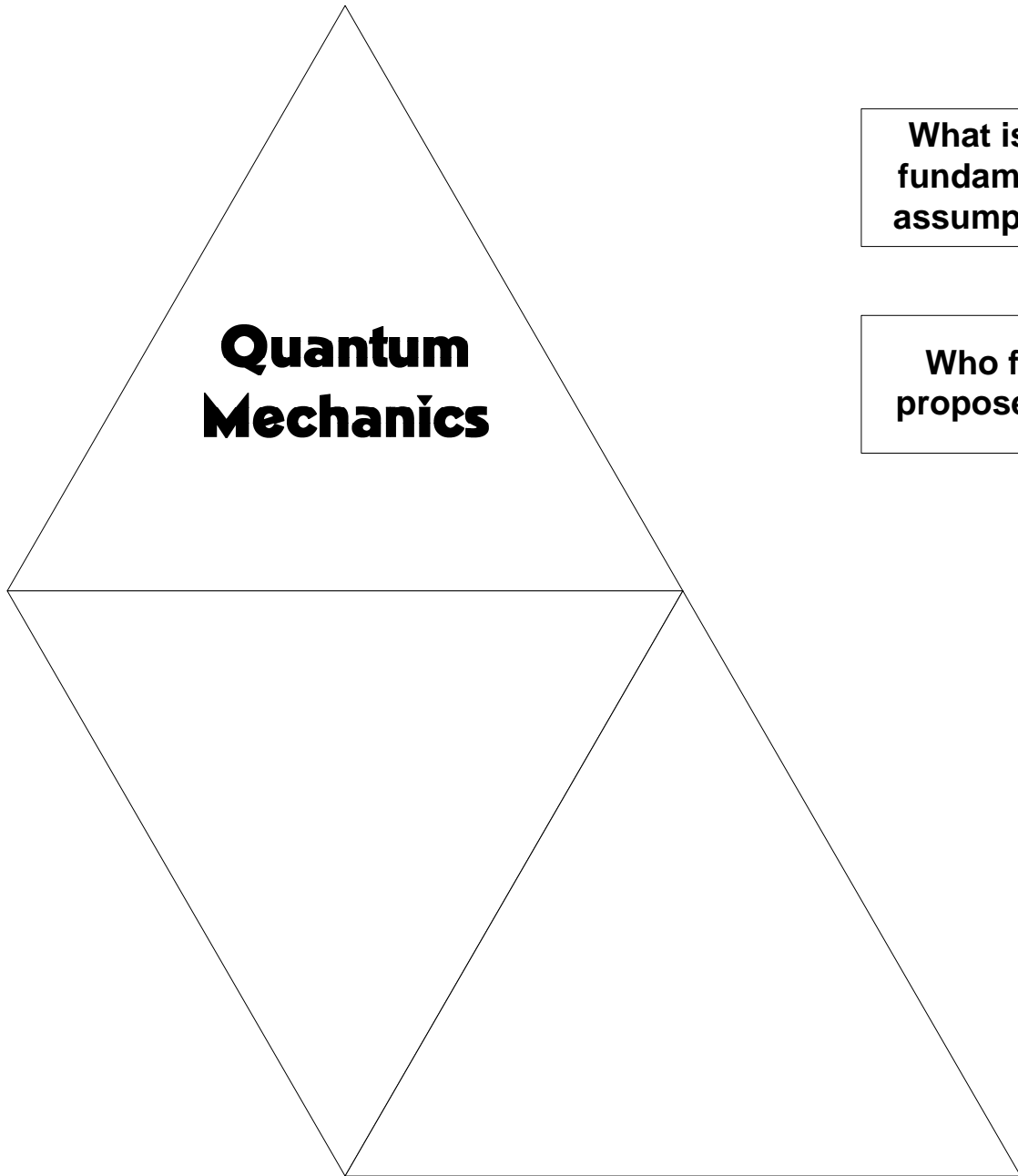
Question #25



Module #1: A Brief History of Science

Study Guide Booklet Templates

Question #26



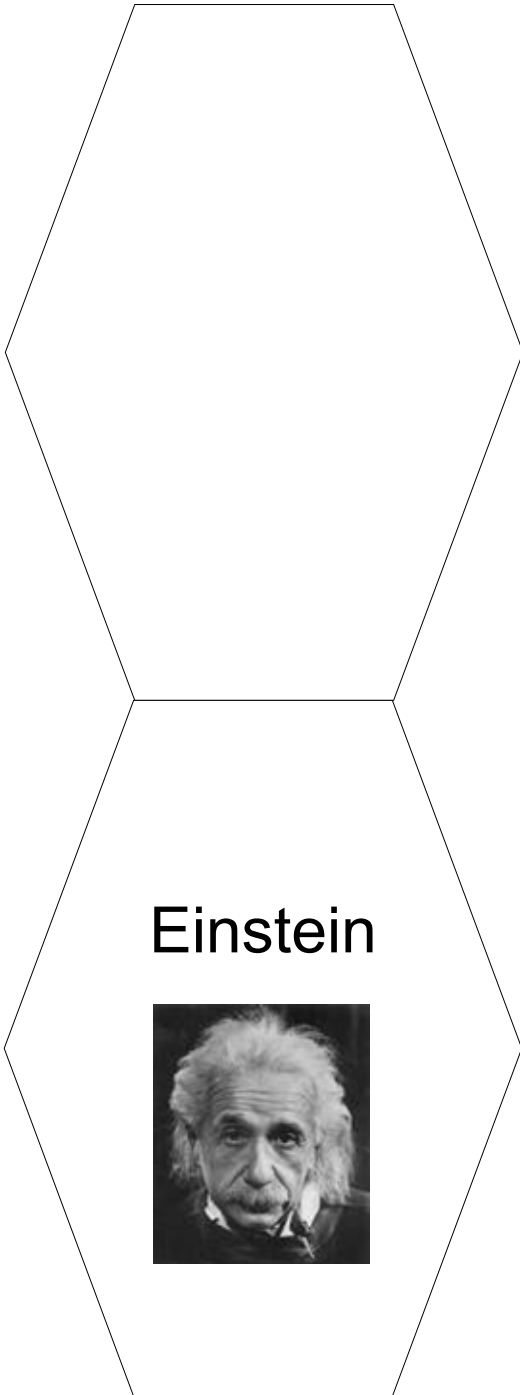
**What is the
fundamental
assumption?**

**Who first
proposed it?**

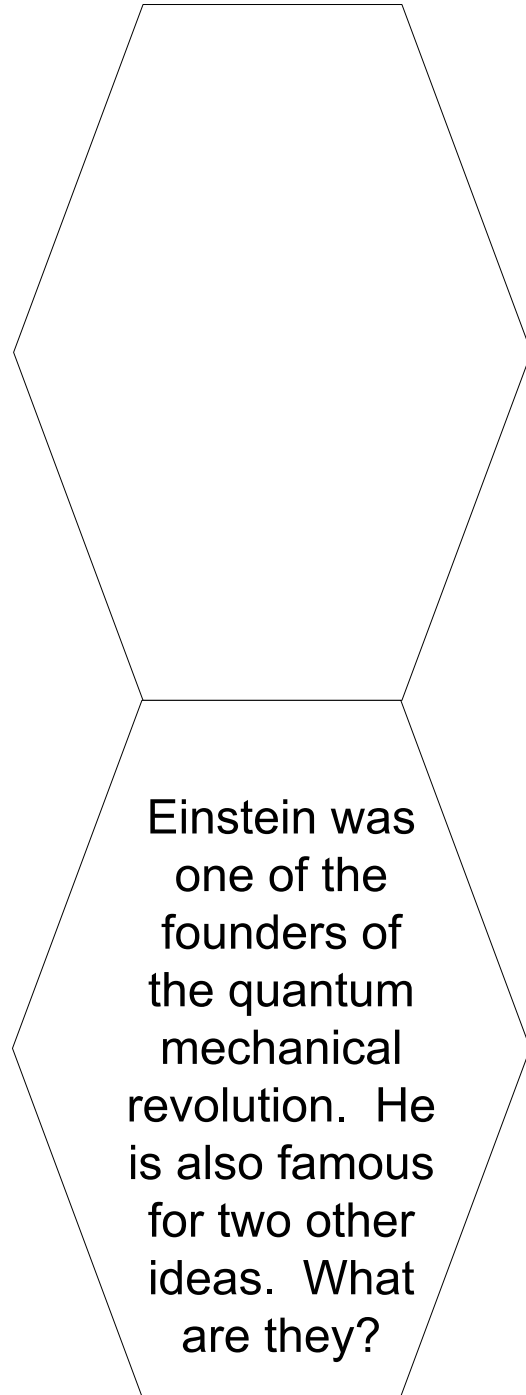
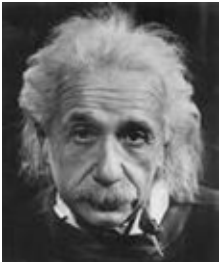
Module #1: A Brief History of Science

Study Guide Booklet Templates

Question #28



Einstein



Einstein was one of the founders of the quantum mechanical revolution. He is also famous for two other ideas. What are they?

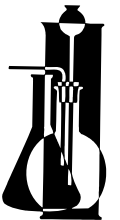
The following section is:

**General Science 2nd Edition
Module 1**

**Study Guide Lapbook
Background Page
(print as many as needed)**

Module #1: A Brief History of Science

Study Guide Lapbook



The following section is:

**General Science 2nd Edition
Module 1**

**Lab Reports
(partially completed)**

****Designed to be printed
double-sided, but may be
printed single-sided.**

Exploring Creation With General Science 2nd Edition

Lab Report Experiment # 1.1 Density in Nature

Date: _____ Name: _____

Supplies:

- | | | |
|-----------------|-------------------|-----------------------|
| * Vegetable oil | * Water | * Maple or corn syrup |
| * A grape | * A piece of cork | * An ice cube |
| * A small rock | * A tall glass | * Eye protection |

Introduction:

Observations such as the ones you will make in this experiment are easy to explain when you assume the existence of atoms.

Procedure:

- A. Take the glass and fill it about $\frac{1}{4}$ of the way with the vegetable oil.
- B. Add an equal amount of water to the glass.
- C. Add an equal amount of maple syrup to the glass.
- D. Now look at the glass from the side. What do you see? In your laboratory notebook, make a sketch of what you see.
- E. Drop the rock, the grape, the ice cube, and the piece of cork into the glass. Now what do you see? Add the rock, grape, ice cube, and cork to the sketch you made in step (D).
- F. Clean up the mess and put everything away.

Exploring Creation With General Science 2nd Edition

Lab Report Experiment # 1.1 Density in Nature

Date: _____ Name: _____

Observations:

Diagram:

Summary:

Exploring Creation With General Science 2nd Edition

Lab Report Experiment # 1.2 Atomic Motion

Date: _____ Name: _____

Supplies:

- * Two glass canning jars or peanut butter jars (both the same size)
- * Food coloring (any color)
- * A pan and stove to boil water, and a hotpad to hold the pan
- * Eye protection

Introduction:

By seeing how food coloring gets distributed through two jars of water at different temperatures, you will collect evidence for the fact that atoms are in constant motion.

Procedure:

1. Boil some water. You need to boil enough water so that the boiled water will fill one of the jars about halfway.
2. Once the water is boiling, take it off of the stove (use the hotpad!) and pour it into one of the jars. Pour in enough water so that the jar is filled about half full.
3. Fill the other jar about halfway with cold water from the tap.
4. Wait one minute so that the water in each jar is still.
5. Drop a single drop of food coloring into each jar. Observe what happens over the next several minutes. Record in your laboratory notebook the difference between what happened in each jar.
6. OPTIONAL: Let the jar with the cold water sit out for a full day. Record what the jar looks like afterward.
7. Clean up your mess.

Exploring Creation With General Science 2nd Edition

Lab Report Experiment # 1.2 Atomic Motion

Date: _____ Name: _____

Observations:

Diagram:

Summary:

Exploring Creation With General Science 2nd Edition

Lab Report Experiment # 1.3 A Chemical Reaction

Date: _____ Name: _____

Supplies:

- * A clear plastic, 2-liter bottle
- * Baking soda
- * A few leaves of red cabbage
- * Measuring cups
- * A balloon
- * A funnel or butter knife
- * A saucepan
- * A few ice cubes
- * Clear vinegar
- * A stove
- * eye protection

Introduction:

Mixing specific substances together can produce amazing results. This experiment shows you some of what can happen when the right substances are mixed together.

Procedure:

- A. Put about 2 cups of water in the saucepan and add several leaves of red cabbage. Put it on a stove burner and heat it so that the water boils.
- B. While you are waiting for the water to boil, put about 2 tablespoons of baking soda into the balloon. The best way to do this, of course, is to use a funnel. If you do not have a funnel, try picking up the baking soda on the flat end of a butter knife, pushing the knife into the balloon opening, and then tipping the knife so the baking soda spills into the balloon. It is a tedious process, but you will eventually get all the baking soda you need into the balloon.
- C. Once the balloon has about 2 tablespoons of baking soda in it, pour $\frac{3}{4}$ of a cup of clear vinegar into the 2-liter bottle.
- D. Once the water in the saucepan reaches boiling, remove it from the heat. Allow the liquid in the pan to cool by adding some ice. The liquid should have a blue or pink color now.
- E. Add $\frac{1}{2}$ cup of the liquid to the 2-liter bottle.
- F. Attach the balloon to the opening of the 2-liter bottle by stretching the balloon's opening over the lip of the bottle. In the end, your experiment should look like the diagram on page 13 of your book.
- G. Once you are ready, lift the balloon so that the baking soda falls into the vinegar. Write down what you see in your laboratory notebook.
- H. Clean up your mess and put everything away.

Exploring Creation With General Science 2nd Edition

Lab Report Experiment # 1.3 A Chemical Reaction

Date: _____ Name: _____

Observations:

Diagram:

Summary:

Exploring Creation With General Science 2nd Edition

Lab Report Experiment # 1.4 Mapping the Paths of the Planets

Date: _____ Name: _____

Supplies:

- * A pencil
- * A sheet of paper (8 ½ X 11)
- * Six thumbtacks or pushpins
- * A piece of string 8 inches long
- * A sheet of cardboard larger than or same size as the sheet of paper

Introduction:

Planets travel around the sun in ellipses, not circles. This “experiment” helps you to understand what that means.

Procedure:

- A. Lay the sheet of paper on top of the cardboard.
- B. Pin it to the cardboard at each corner.
- C. Lay one end of the string about two inches left of center, halfway down the paper.
- D. Tape it to the paper so it is held there.
- E. Push the last pin you have through the string 5 inches away from the pin that is attached to the paper and cardboard.
- F. Use this pin to attach the string to the paper about 2 inches to the right center, straight across from the end of the string that is already taped down. There will be some excess string dangling off the pin. That’s fine.
- G. Take the pencil and push the point against the string below the two pins so the string becomes tight.
- H. Keeping the string tight at all times, move the pencil from one piece of tape to the other drawing a curve on the paper. If you keep the string tight, it will guide your pencil. The end result will be a curve that begins just under and to the right of the right pin and curves around to the left of the left pin, as shown in the diagram on page 20 of your book.
- I. Repeat the process, this time starting below the two pins, keeping the string straight at all times. The result will be a curve that looks like a reflection of the first curve you drew.
- J. Now look at what you have drawn. It is an oval, which mathematicians call an ellipse.
- K. Push the right pin off of the paper and out of the string.
- L. Push the pin and string into the paper at the same place the pin was before. This setup should look very similar to the previous one. The pins will be in the same place, but there will be more string in between the pins and no excess string dangling from the right pin.
- M. Once again, use the pencil and string to draw two curves: one below the pins and one above them. Keep the string straight at all times, allowing it to guide the pencil in making the curves.
- N. Remove the tape and string from the paper and look at the two ellipses you drew.

Exploring Creation With General Science 2nd Edition

Lab Report Experiment # 1.4 Mapping the Paths of the Planets

Date: _____ Name: _____

Observations:

Diagram:

Summary:

The following section is:

**General Science 2nd Edition
Module 1**

**Lab Reports
(blank)**

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double-sided, but may be
printed single-sided.**

Exploring Creation With General Science 2nd Edition

Lab Report Experiment # 1.1 Density in Nature

Date: _____ Name: _____

Supplies:

Introduction:

Procedure:

Exploring Creation With General Science 2nd Edition

Lab Report Experiment # 1.1 Density in Nature

Date: _____ Name: _____

Observations:

Diagram:

Summary:

Exploring Creation With General Science 2nd Edition

Lab Report Experiment # 1.2 Atomic Motion

Date: _____ Name: _____

Supplies:

Introduction:

Procedure:

Exploring Creation With General Science 2nd Edition

Lab Report Experiment # 1.2 Atomic Motion

Date: _____ Name: _____

Observations:

Diagram:

Summary:

Exploring Creation With General Science 2nd Edition

Lab Report Experiment # 1.3 A Chemical Reaction

Date: _____ Name: _____

Supplies:

Introduction:

Procedure:

Exploring Creation With General Science 2nd Edition

Lab Report Experiment # 1.3 A Chemical Reaction

Date: _____ Name: _____

Observations:

Diagram:

Summary:

Exploring Creation With General Science 2nd Edition

Lab Report Experiment # 1.4 Mapping the Paths of the Planets

Date: _____ Name: _____

Supplies:

Introduction:

Procedure:

Exploring Creation With General Science 2nd Edition

Lab Report Experiment # 1.4 Mapping the Paths of the Planets

Date: _____ Name: _____

Observations:

Diagram:

Summary: