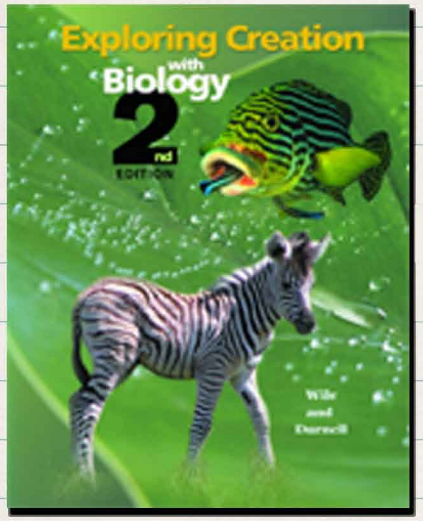
LJI-B2

Apologia "Exploring Creation With Biology" 2nd Edition Interactive Lapbook Journal



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

Designed By
Cyndi Kinney and Pamela Sutton
of Knowledge Box Central
with permission from Apologia Science

Knowledge Box Central™

Exploring Creation With Biology 2nd Edition Interactive Lapbook Journal

www.KnowledgeBoxCentral.com
ISBN #'s
Ebook: 978-1-61625-550-3
CD: 978-1-61625-549-7

Publisher: Knowledge Box Central
Http://www.knowledgeboxcentral.com

Cyndi Kinney ~ 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.

Pamela Sutton ~ I dedicate this work to the greatest blessings and loves of my life, Kerry, Shelby and Cody. The three of you are the heart and soul of what makes me complete and defines who I am most proud to be: Wife and Mom.

PLEASE, PLEASE, PLEASE

Read THIS First!!

We know it's tempting to go ahead and get to "the good stuff," but we assure you; your use of this product will be greatly enhanced if you take a few minutes to read a little more about it. Within this introduction, you'll learn how to set up your binder, how to save and print the finished modules, what types of paper to use, where to view pictures of completed booklets, frequently asked questions, what can be easily omitted due to time constraints, and so much more. Also, if after reading this, you think of tips that would have helped you assemble and use this curriculum, please feel free to let us know. It is our goal to make sure we are providing the best product to supplement these awesome Apologia textbooks.

Table of Contents

Welcome to our Interactive Lapbook Journal for
Apologia's "Exploring Creation With Biology" 2nd Edition
by Dr. Jay Wile.
We are very pleased to offer this product, as authorized by Dr. Wile and Apologia Science.

So...Now You Bought It... What Do You Do With It?

We'll try to answer your questions here. Please note 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 16 sections. Your dividers should be numbered 1-16 (one divider per module).

Now You Have Your Binder Ready...So What Next?

Save Your File! This lapbook journal features "type-in" form fields enabling you to type answers directly into the document before printing. The file name for this document is LJI_GS2. We recommend you save this file with a DIFFERENT name in order to save the progress of your work. To do so, simply click "File", "Save As..." Our best advice is to save the file to your desktop. That makes it much easier to locate. You may then just drag and drop the document to the file of your choice when ready to save it to a permanent location.

example
original file name LJI_B2.pdf
saved file name
Johns_LJI_B2.pdf
or
Johns_Biology_work.pdf

Save Your Work! As you type answers into the document it's super important to save the file. Not doing so can result in lost work.

It's Time To Print! After you've typed in your answers for each module, it's time to print your completed pages. Each type of home/ office/personal use printer works differently, but within every printer is the ability to choose the RANGE of pages you wish to print. You may choose to print all the journal pages for each module as the pages have been completed, or you may choose to print and assemble a few of the lapbook booklets each day as you're completing the module.

Contents You will find 16 sections (one for each module) and an instruction guide within this product. Each module is divided by a cover page and organized into the following 8 sections:

1.) Module Cover Page
2.) On Your Own Journal Pages
3.) Study Guide Lapbook Pages – Booklet Instructions & Templates
4.) Study Guide Lapbook Pages – Background Pages
5.) Study Guide Journal Pages
6.) Module Summary Pages
7.) Lab Reports (Partially completed with Supply list, Introduction & Procedure already filled in)
8.) Lab Reports (Blank - no information filled in...only the report itself with the title of the experiment at the top)

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

1.) **Module Cover Page**
Supplies Needed: Regular White Copy Paper, Markers and/or Coloring Pencils

Each Module Cover Page features a title and includes words or graphics pertaining to the topic of that particular module. You may wish to use markers or coloring pencils to color these pages. These are also a valuable tool in record keeping because it includes space to document the date the module was began and the date it was completed.

2.) **On Your Own Journal Pages**

Supplies Needed: Regular White Copy Paper

These pages will be solely devoted to the "On Your Own" questions which appear throughout each of the modules. Instead of the having to re-write the questions in a notebook, we have provided the questions in a "Notebooking" styled setting. There is ample space provided within each text box for the answers to be typed in, and the borders and graphics provide a decorative page for documenting information.
We recommend these pages be printed on regular, white paper. There is no need to print these pages on any special type or colored paper, unless that is your preference.

IMPORTANT NOTE About THIS Section:

There are TWO DIFFERENT OPTIONS for the Study Guide questions – they are the Lapbook Pages OR the Journal Pages – depending on your student's preference.

There is NO NEED TO COMPLETE BOTH!!!!!

HOW do I know which one of these options to use????

*** If your child enjoys hands-on projects, scrapbooking, crafty projects, etc., then you will probably want to use the Study Guide Lapbook Pages and the Background Pages.

*** If your child does NOT enjoy these types of hands-on projects and would rather have a journaling-style area for documenting the answers to the Study Guide questions, then you will probably want to utilize the Study Guide Journal Pages.

After a few modules have been completed, you may choose to switch formats.
You may even want to use both...but not at the same time….just every other module.

2. Study Guide Lapbook Pages Booklet Templates

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

This section is used in conjuction 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 may complete these booklets to place into his binder.
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. The booklets are glued onto the background pages which are then placed inside the binder.

Study Guide Lapbook Pages Booklet Templates ...cont.

We recommend you print these pages 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)

These lapbook-style booklets provide a 3-dimensional aspect to your student's learning experience. Science has proven the more senses a student uses when learning and reviewing new material, the more he will retain. 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 the background pages as needed).

This is the most time consuming portion of the Lapbook Journal, and we realize 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 or areas that most interest him.

Allow the student to have fun with this section. As he cuts, glues, and folds, he will be documenting this wonderful journey of learning. He will also be creating something that will be WONDERFUL when it comes time to review! In our opinion, there is NO better way to gain knowledge than allowing the student to be intensely involved in the process of hands-on learning.

3. The Study Guide Lapbook Background Pages

Supplies Needed: White or Colored Cardstock

Each of these pages feature the correlating module number and topic. These can be printed on regular white paper; however we recommend cardstock. Cardstock is more durable, holds the weight of the booklets, and holds up to years of "thumbing through" the pages. The number of background pages printed per module will greatly vary; some modules are longer than others and it can also depend on how many booklets your student chooses to create. You may also choose to print these double sided.

SPECIAL NOTE: Remember, IF your student DOES NOT want to create the lapbook booklets, we have added another option for the Study Guide Questions, and that is the Study Guide Journal in the next section.

4. Study Guide Journal Pages

Supplies Needed: Regular White Copy Paper

This section is provide as an ALTERNATIVE if your student doesn't wish to create the lapbook booklets. These pages will be solely devoted to the "Study Guide" questions which appear at the end of each module. Instead of the student having to re-write the questions in a notebook, we have provided the questions in a "Notebooking/Journal" styled setting. There is ample space for students to type in the answers to the questions within these pages, and the borders and graphics provide a decorative page for documenting information. We recommend 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.

5.) Module Summaries

Supplies Needed: Regular White Copy Paper

This section is OPTIONAL and could even be used as a "Pre-Test." This is a copy of what is found at the back of the book, and it is exactly as it sounds...a summary of the entire module. There is ample space to type in the answers before printing.

6) Lab Reports (Partially Completed or Blank)

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.

A poll was conducted before finalizing this section. We wanted to know if parents would like the Lab Reports to be partially completed….or whether they would rather have the students 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 we did!

SPECIAL NOTE: There are 2 different options available for Lab Reports.
Lab Reports (Blank) and Lab Reports (Partially Completed)
There is no need to complete BOTH

The Lab Reports (Partially Completed) feature the module Experiment Title & Number, Supplies, Introduction, & Procedure information already filled in. The second page of these reports feature areas for the student to type in his observations, conclusions, etc. and space to draw any diagrams necessary.

The Lab Reports (Blank) have just the Experiment Title & Number filled in...the rest is blank with ample space for typing in answers. The second page of these reports also features type in areas for the student to document his ovservations, conclusions, etc. and space to and draw any diagrams necessary.

Choose the format that works best for your student's style of learning. The choice is yours!

Print these on regular white copy paper, unless you WANT to print them on cardstock. If you prefer, these can be printed as double-sided.
PLEASE NOTE: Some Lab Reports are longer than others (3-4 pages max), so be aware when printing.

Continue on to the next page for Frequently Asked Questions

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 truly pushed for time, please don't feel that you have to "do it all"! Attempting to do it all may quickly lead to burn out. We often fall prey to the fear of needing to do EVERYTHING, in order for our students to "get it." YOU alone know what is best for your schedule and your student's style of learning.

If you choose to omit something, we recommend utilizing the Lab Reports that are partially filled in. This can save a lot of time. You may also opt for your child to answer some of the questions orally, as certain students are best able to express themselves in this modality.

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 your budget is stretched to the max, and you only have white paper, then print it all on white! We are confident 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 lapbook booklets themselves ...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.

As for Co-Ops or other types of group classes , we have a Co-Op License available. All you have to do is purchase the Ebook or CD version of the product as well as the Co-Op License through our website. In the "comments" section of the purchase, state which product(s) will be used at the Co-Op. That's it! It doesn't matter how many children are represented in your Co-Op….print away!! We assure you, a Co-op License is a more economical option than for each family having to purchase their own copy. You can all split the cost, and it works out great for everyone.

Frequently Asked Questions... continued...

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

After much research, we believe 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 can be very expensive!

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. My child doesn't like lapbooks, so why use this product?

If your child has never used lapbooking, he may not know what he's missing. However, if he just doesn't want to do it – "no how and no way" – then we have included Study Guide Journal Pages to replace the lapbooking portion of this product. They are included within the file, right after the lapbooking section.

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

Utilizing this interactive format with type-in boxes will allow your student to go ahead and begin completing his work, then print the pages at a later time. Also, 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!)

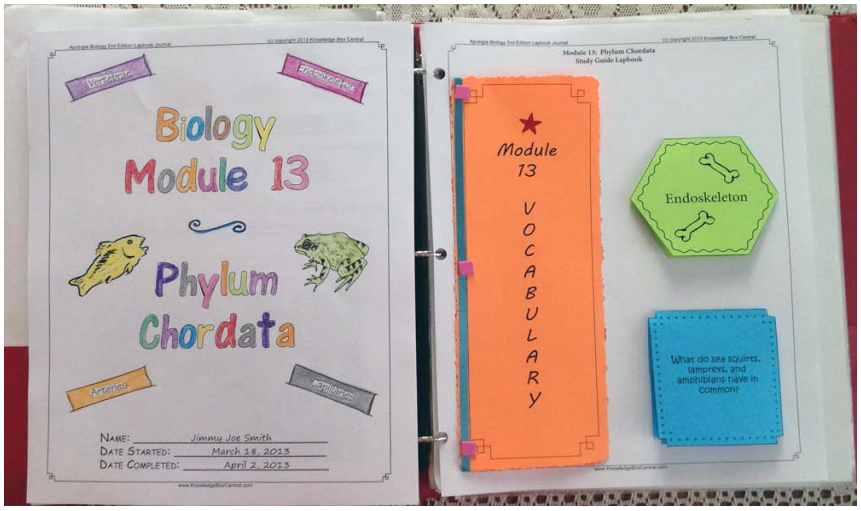
8. What if I'm not creative, crafty...etc….and I don't really want to be?

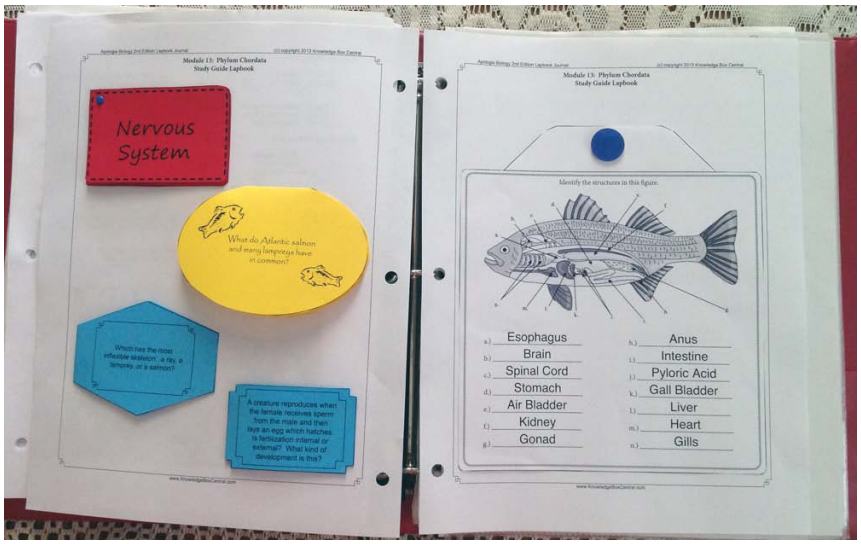
That's ok. Not everyone enjoys working with "hands-on" materials. That is why we've formatted this product to include different options. Both lapbooking for those that enjoy hands-on learning, and also the journaling sections for those that do not. No matter your choice, you will find this Lapbook Journal will greatly enhance your studies. Take it from Mr. Davis Carman himself.

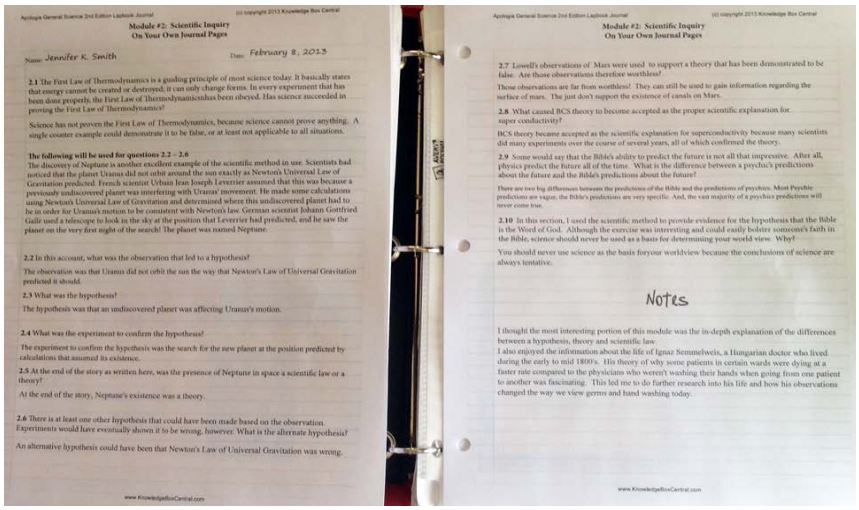
"The use of Lapbooks is a creative way to enhance the educational process with children. And the ones developed by Knowledge Box Central are excellent supplements to the Apologia textbooks allowing for wonderful hands-on learning opportunities for students."

Davis Carman | President
Apologia Educational Ministries

The images below are examples of completed Lapbook Pages and Journal pages.







Supply List

Each Lapbook Journal can easily be created with items you most likely already have hand. For your convenience we've compiled this list of helpful supplies.

The Basic Supply list is the "bare bones" basic essentials and the Additional Supplies is a resourceful listing of additional items you may wish to utilize.

*Basic Supplies

3-Inch 3-Ring Binder
Printer with Ink/Toner
Hole Punch
White Copy Paper
Scissors
Stapler
Glue Sticks (liquid glue typically takes too long to dry and is not recommended)

*Suggested Additional Supplies

Colored Copy Paper (the local wholesale membership club is our favorite resource for very reasonably priced reams of colored copy paper)
Cardstock - white
Cardstock - colored
Metal Brads/Paper Fasteners
Ribbon, Yarn or other Decorative Cording
Markers/Coloring Pencils
Gel pens/Paint pens
Glitter glue
Odd and end pieces of scrapbooking paper
Any other items you may wish to use as embellishments, such as stickers, die cut shapes, buttons, brads eyelets, tags, felt pieces, etc.

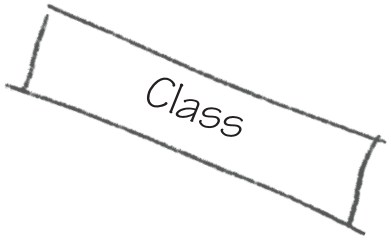
The most important thing is to use your imagination!
Be creative and make it your own!!

Biology 2nd Edition
Module 1

The following pages are divided into 8 sections, with a page like this one between each section.

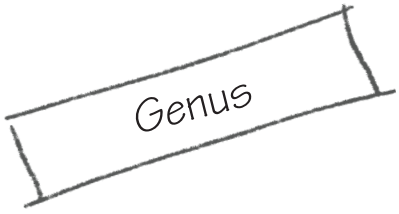
The sections are as follows:

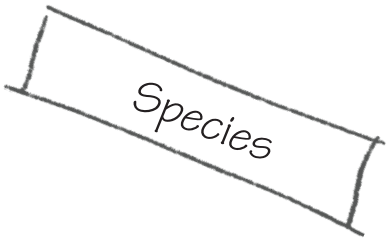
*Module Cover Page
* On Your Own Journal Pages
* Study Guide Lapbook Pages – Booklet Instructions & Templates
* Study Guide Lapbook Pages – Background Pages
*Study Guide Journal Pages
* Module Summary Pages
* Lab Reports (Partially Completed)
* Lab Reports (Blank)



Biology Module 1

The Study of Life





NAME: _____

DATE STARTED: _____

DATE COMPLETED: _____

Biology 2nd Edition Module 1

The following section is:

On Your Own Journal Pages

Module 1: The Study of Life
On Your Own Journal Pages

Name: Date:

1.1 Classify the following organisms as herbivores, carnivores, or omnivores:

A. Tigers
B. Cows
C. Humans
D. Sheep

1.2 Classify the following organisms as producers, consumers, or decomposers:

A. Rose bushes
B. Yeast (a fungus)
C. Lions
D. Humans

1.3 A biologist studies an organism and then two of its offspring. They are all identical in every possible way. Do these organisms reproduce sexually or asexually?

1.4 When trying to convince you of something, people will often insert "Science has proven… " at the beginning of a statement. Can science actually prove something? Why or why not?

1.5 A scientist makes a few observations and develops an explanation for the observations that she has made. At this point, is the explanation a hypothesis, theory, or scientific fact?

1.6 Suppose you chose two organisms at random out of a list of the members of the kingdom Plantae, then you chose two organisms at random out of a list of the members of family Pinaceae. In which case would you expect the two organisms to be the most similar?

Module 1: The Study of Life
On Your Own Journal Pages

1.7 You compare several organisms from different orders within a given class. You then compare organisms from different classes. In which case would you expect the differences to be greater?

1.8 An organism is made up of one eukaryotic cell. To what kingdom does it belong?

1.9 An organism is multicellular and an autotroph. To what kingdom does it belong?

1.10 An organism is multicellular with eukaryotic cells. It is also a decomposer. To what kingdom does it belong?

notes:

Biology 2nd Edition
Module 1

The following section is:
Study Guide Lapbook Pages
including
Background Pages
Booklet Instructions & Templates

Biology 2nd Edition - Module 1
Study Guide Lapbook Pages
Assembly Instructions

Before printing the Study Guide Lapbook Booklet Templates, be sure to type your answers into the answer boxes.

Question 1. a-aa
Cut out along the outer black line edges of each page of the booklet. Then stack the pages in order, with the title page on top. Punch 2 or 3 holes along the left side of the stack, and secure with a ribbon or metal brad fasteners. You may choose to just staple the stack along the left side.

Question 2
Cut out along the outer black line edges of the one-page booklet. Glue to another piece of paper of a different color and a slight larger size. Cut around the edges, leaving a small border.

Question 3
Cut out along the outer black line edges of the booklet and answer box. Fold along the center line, making sure that the words are on the outside. Then cut along the 2 horizontal lines, creating "tabs." Glue the answer boxes inside the booklet.

Question 4
Cut out along the outer black line edges of the booklet as well as the question and answer boxes. Fold the booklet in the center, leaving the title on the outside. Glue the smaller question and answer boxes inside the booklet.

Question 5
Cut out along the outer black line edges of the booklet. Fold along both horizontal lines. Tri-fold so that the beginning of the question is on the outside, and the second part of the question is on the inside. Cut out the answer box and glue it inside the booklet.

(continued on next page)

Question 6
Cut out along the outer black line edges of the booklet. Fold along the center line so that the question is on the outside. Cut out the answer box and glue it inside the booklet.

Question 7
Cut out along the outer black line edges of the one-page booklet. Glue to another piece of paper of a different color and a slightly larger size. Cut around the edges, leaving a small border.

Questions 8-10
Cut out each page of the booklet along the outer black line edges. Stack the pages so that the title is on the front and the questions are in order. Punch 2 holes along the top of the stack, and secure with metal brad fasteners or a ribbon. A second option would be to only use a staple at the top of the booklet.

Questions 11-15
Cut out along the outer black line edges of the booklet. Fold along both vertical lines. Keeping the title "Classifications" on the outside, fold the section with the questions so that it is on the inside. Now cut along the small horizontal lines between the questions, creating "tabs" under which to write your answers. Cut out the answer boxes and glue them inside the booklet.

Question 16
Cut out along the outer black line edges of the booklet and answer boxes. Fold along the center line, making sure that the words are facing forward. Then cut along the red dotted vertical line, creating "tabs." Glue the answer boxes underneath the "tabs" inside the booklet.

Biology 2nd Edition
Module 1

The following section is:
Study Guide Booklets Background Page

Study Guide Booklets may be glued to these background pages. Print as many as needed for each Module on white or colored cardstock.

Module 1: The Study of Life
Study Guide Lapbook

Module 1: The Study of Life
Study Guide Booklet Templates

Question #1a-aa

Module # 1

Definitions

a. Metabolism

b. Anabolism

c. Catabolism

d. Photosynthesis

Module 1: The Study of Life
Study Guide Booklet Templates

Question #1a-aa
(continued)

e. Herbivores

f. Carnivores

g. Omnivores

h. Producers

i. Consumers

j. Decomposers

k. Autotrophs

l. Heterotrophs

Module 1: The Study of Life
Study Guide Booklet Templates

Question #1a-aa
(continued)

m. Receptors

n. Asexual reproduction

o. Sexual reproduction

p. Inheritance

q. Mutation

r. Hypothesis

s. Theory

t. Scientific Law

Module 1: The Study of Life
Study Guide Booklet Templates

Question #1a-aa
(continued)

u. Microorganisms

v. Abiogenesis

w. Prokaryotic cell

x. Eukaryotic cell

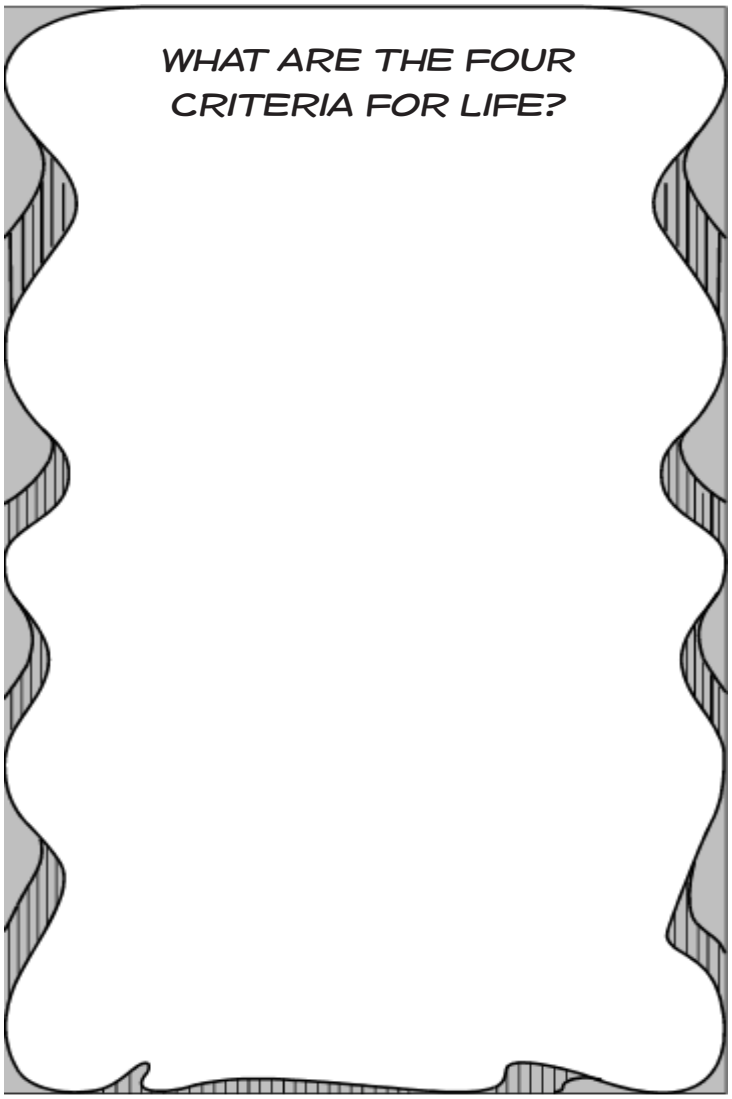
y. Species

z. Taxonomy

aa. Binomial nomenclature

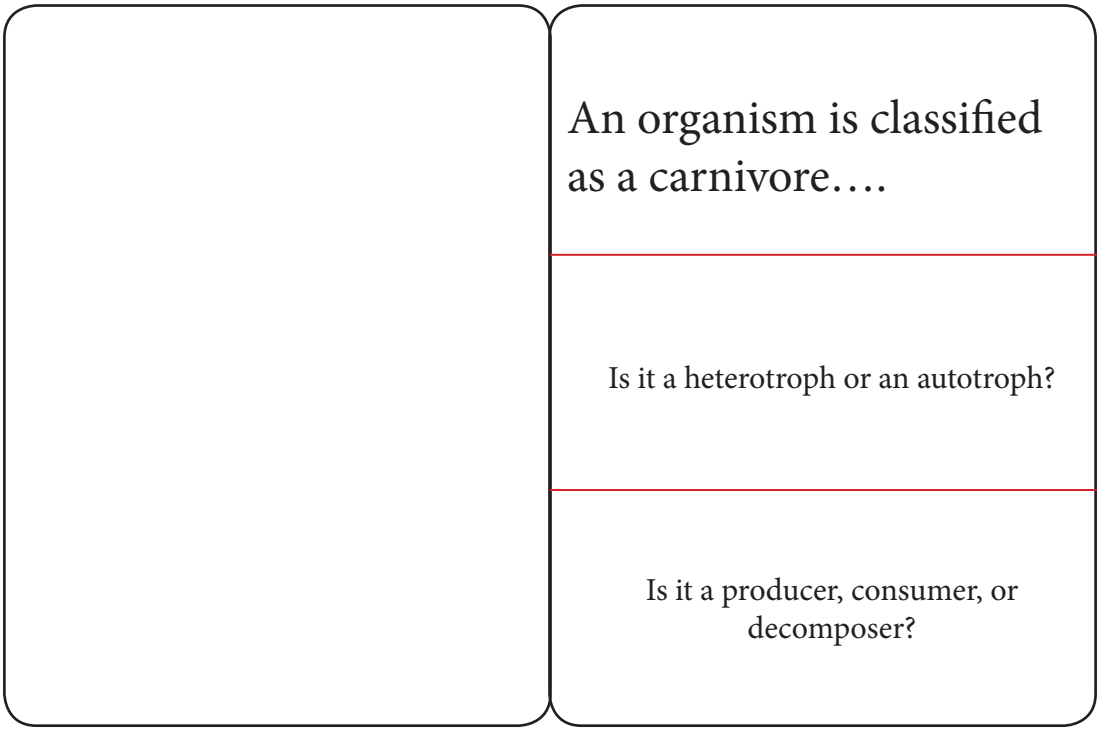
Module 1: The Study of Life
Study Guide Booklet Templates

Question #2

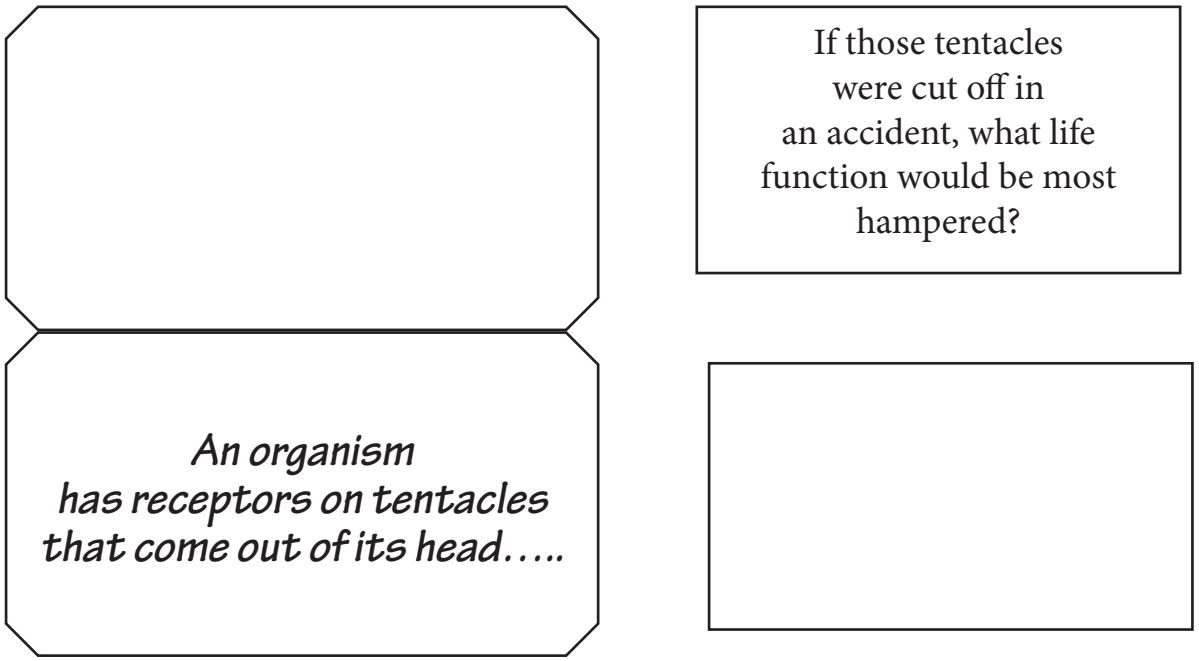


Module 1: The Study of Life
Study Guide Booklet Templates

Question #3



Question #4



Module 1: The Study of Life
Study Guide Booklet Templates

Question #5

A parent and two offspring are studied...

Although there are many similarities between the parent and the offspring, there are also some differences. Do these organisms reproduce sexually or asexually?

Module 1: The Study of Life
Study Guide Booklet Templates

Question #6

What is wrong with this statement?

"Science has proven that energy must always be conserved."

Question #7

Briefly describe the scientific method.

Module 1: The Study of Life
Study Guide Booklet Templates

Questions #8-10

Limitations of the Scientific Method

Where does the wise person place his or her faith: science or the Bible?

Why does the story of spontaneous generation illustrate the limitations of science?

Why is the theory of abiogenesis just another example of the idea of spontaneous generation?

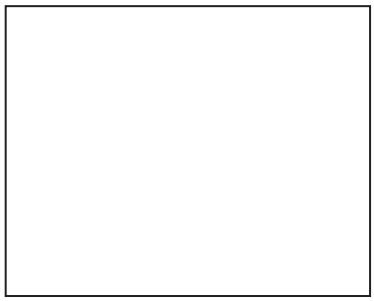
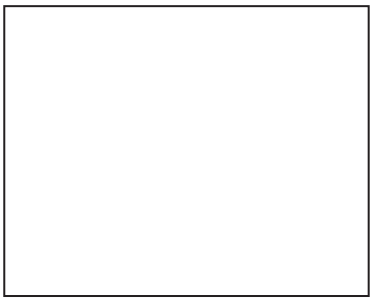
Module 1: The Study of Life
Study Guide Booklet Templates

Questions #11-15

	CLASSIFICATION	Name the classification groups in our hierarchal classification scheme in order. An organism is a multicellular consumer made of eukaryotic cells. To what kingdom does it belong? If we were using the three-domain system of classification, in which domain would the organism in the above question belong? An organism is a single-celled consumer made of prokaryotic cells. To what kingdom does it belong? If we were using the three-domain system of classification, could you determine the domain of the organism in the question above? If so, give the domain. If not, give the possible domains in which it could be placed.

Module 1: The Study of Life
Study Guide Booklet Templates

Questions #11-15
(answer boxes)


Module 1: The Study of Life
Study Guide Booklet Templates

Question #16

Use the biological key in the appendix of the book to classify the organisms pictured.

Owl

Fly

Biology 2nd Edition Module 1

The following section is:

Study Guide Journal Pages

You MAY choose to use these INSTEAD of the preceding Study Guide Lapbook Pages.

Module 1: The Study of Life
Study Guide Journal Pages

Name: Date:

1.) Define the following terms:

a.) Metabolism

b.) Anabolism

c.) Catabolism

d.) Photosynthesis

e.) Herbivores

f.) Carnivores

g.) Omnivores

h.) Producers

i.) Consumers

Module 1: The Study of Life
Study Guide Journal Pages

j.) Decomposers

k.) Autotrophs

l.) Heterotrophs

m.) Receptors

n.) Asexual reproduction

o.) Sexual reproduction

p.) Inheritance

q.) Mutation

r.) Hypothesis

s.) Theory

Module 1: The Study of Life
Study Guide Journal Pages

t.) Scientific Law

u.) Microorganisms

v.) Abiogenesis

w.) Prokaryotic cell

x). Eukaryotic cell

y.) Species

z.) Taxonomy

aa.) Binomial nomenclature

2.) What are the four criteria for life?

Module 1: The Study of Life
Study Guide Journal Pages

3.) An organism is classified as a carnivore; is it a heterotroph or an autotroph? Is it a producer, consumer, or decomposer?

4.) An organism has receptors on tentacles that come out of its head. If those tentacles were cut off in an accident, what life function would be most hampered?

5.) A parent and two offspring are studied. Although there are many similarities between the parent and the offspring, there are also some differences. Do these organisms reproduce sexually or asexually?

6.) What is wrong with this statement? "Science has proven that energy must always be conserved."

7.) Briefly describe the scientific method.

8.) Why does the story of spontaneous generation illustrate the limitations of science?

9.) Where does the wise person place his or her faith: science or the Bible?

10.) Why is the theory of abiogenesis just another example of the idea of spontaneous generation?

Module 1: The Study of Life
Study Guide Journal Pages

11.) Name the classification groups in our hierarchal classification scheme in order.

12.) An organism is a multicellular consumer made of eukaryotic cells. To what kingdom does it belong?

13.) If we were using the three-domain system of classification, in which domain would the organism in question #12 belong?

14.) An organism is a single-celled consumer made of prokaryotic cells. To what kingdom does it belong?

15.) If we were using the three-domain system of classification, could you determine the domain of the organism in question #14? If so, give the domain. If not, give the possible domains in which it could be placed.

16.) Use the biological key in the appendix of the book to classify the organisms pictured on page 36 of the book.

Biology 2nd Edition Module 1

The following section is:

Module Summary Pages

Module 1: The Study of Life
Module Summary

Name Date

1. Four characteristics of life:
a. All life forms contain _____, which is called ____ .
b. All life forms have a method by which they _____ from the surroundings and convert it into _____ .
c. All life forms can _____in their surroundings and _____.
d. All life forms _____.

2. DNA provides the _____ necessary to take a bunch of lifeless chemicals and turn them into _____.

3. _____ can be split into two categories: (1)_____ , which involves using energy and simple chemical building blocks to produce large chemicals and structures and (2) catabolism, which involves _____ .

4. The vast majority of energy that sustains life comes from _____. _____ use that energy to make food for themselves via a process called _____. Consumers get energy from the producers by _____. Consumers can be split into three categories: _____ (which eat only plants), _____(which eat only non-plants), and _____ (which eat plants and non-plants). The energy of dead producers and consumers is recycled back into creation by the _____ .

5. Producers are often called _____, the Greek roots of which literally mean "self-feeder." Consumers and decomposers are often called _____, which literally means " _____."

6. Living organisms are equipped with structures called _____, which receive information about their surroundings. God's creation is always _____, which is why these structures are necessary for survival.

7. In asexual reproduction, the characteristics and traits inherited by the offspring are, under normal circumstances,_____ to the parent. In sexual reproduction, under normal circumstances, the offspring's traits and characteristics are _____. When _____ occur, the offspring can possess traits that are incredibly different from those of the parent or parents.

8. In the scientific method, the scientist starts by _____ the world around him. He then forms a _____ to explain some aspect of how the world functions. He then _____ in an attempt to test his _____. If a large amount of _____ confirms the _____, it becomes a _____, which is tested with even more _____. If it continues to be confirmed over several generations, it might become a _____.

9. Scientists once believed that life could spring from non-living things. This was called _____, and it was refuted in the mid 1800s by a scientist named _____. The story of how the scientific community believed in it for so long demonstrates that science has _____.

Module 1: The Study of Life
Module Summary

10. The newest version of spontaneous generation is called _____, and it claims that long ago, _____ _____.

11. The groups used in our classification scheme, from largest to smallest are: _____ , _____, _____ , _____ , _____ , _____ , and _____.

12. The five kingdoms we use in this course are _____ , _____ , _____ , _____ , and _____.

13. A cell with no membrane-bounded organelles is _____ , while one with membrane-bounded organelles is a _____ . Members of kingdom Monera are composed of _____.

14. A unit of one or more populations of individuals that can reproduce under normal conditions, produce fertile offspring, and are reproductively isolated from other such units is called a _____.

15. A series of questions that is designed to classify organisms is called a biological _____ .

16. When we call wolves "Canis lupus," we are using _____.

l7. In the _____ system of classification, the three basic groups are _____ , _____ , and _____ . Members of kingdom Monera are placed in either _____or_____, and all of the other kingdoms are placed in _____.

18. A creationist taxonomy scheme that attempts to classify organisms based on the kind of organisms that God made during creation is called _____ .

19. Multicellular autotrophs are typically placed in kingdom _____.

20. Single-celled creatures made of eukaryotic cells are placed in kingdom _____.

21. Multicellular consumers are typically placed in kingdom _____.

22. Decomposers made of eukaryotic cells are mostly found in kingdom _____.

23. Organisms made of prokaryotic cells are found in kingdom _____.

Biology 2nd Edition Module 1

The following section is:

Lab Reports

(partially completed)

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

Exploring Creation With Biology 2nd Edition

Lab Report
Experiment #1.1
Using a Biological Key

Name Date

Supplies:

*Photographs on pages 25-26 of your textbook
*Biological key in Figure 1.7 on pages 21-23 of your textbook

Object:
Identify fifteen living things by using the biological key in the text. Keys vary in their style and content. This key is applicable to all five kingdoms, made especially for use in this course. A good library exercise would be to check other keys and how they are used.

Procedure:

The chart on page 25 of the textbook gives you an example of how to identify the elephant that was described for you in the text. Reread the section on how to identify the elephant and note how the chart has been completed for the elephant. Once you understand how the chart is filled in, identify each of the pictures below by working through the key. As you work through the key, make a chart in your laboratory notebook like on page 25 of your textbook.

Continue the chart so that you have an entry for each specimen. Please note that you may not be able to answer every question in the biological key based on the picture alone. You might have to do a little research to classify some of the specimens. Also, because of the nature of the key, you will not have a kingdom, phylum, class, and order for every specimen. For some specimens, listing the kingdom may be the best that you can do. Once you have completed the chart in your laboratory notebook, check the answers that are provided after the answers to the "On Your Own" questions.

Specimens for the lab: See Fig. Page 25 and 26 of your textbook

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Lab Report
Experiment #1.1
Using a Biological Key

Observations:

Diagram:

Summary:

Exploring Creation With Biology 2nd Edition

Lab Report
Experiment #1.2
Introduction to the Microscope

Name Date

Supplies:

*Microscope *Lens paper *Slides *Coverslips
*Cotton swabs *Eyedropper *Water *Small pieces of bright thread
*Methylene blue stain

Object:

To learn the various parts of the microscope and to learn to use the microscope properly

Procedure:

A. Place the microscope on your table with the arm of the microscope nearest you. With the aid of the illustration, locate all the parts of the microscope and become familiar with them.
1. The eyepiece (called the ocular) is what you look through. It usually contains a 10x lens.
2. The body tube starts at the eyepiece and runs to the part that holds the revolving nosepiece.
3. The revolving nosepiece is the disc that holds the lenses (which are called objectives).
4. The coarse focus is controlled by two large knobs on each side of the microscope. It allows for quick focus, but it does not make the image as sharp as it could be.
5. The fine focus knobs are used to produce sharp focus. They are usually smaller and lower than the coarse focus knobs, but in some scopes they are mounted on top of the coarse focus knobs.
6. The arm supports the body and stage and is attached to the base.
7. The base is the heavy structure at the bottom that supports the microscope and makes it steady.
8. The stage with clips is a platform just below the objectives and above the light source. The clips are used to hold the slide in place.
9. The objectives are found on the revolving nosepiece. They are metal tubes that contain lenses of varying powers, usually 4x, 10x, and 40x. Some microscopes have a 100x objective as well.
10. The diaphragm regulates the amount of light that passes through the specimen. It is located between the stage and the light source. It might be a disc that has several holes (a disc diaphragm), or it might be a single hole whose diameter can be varied (an iris diaphragm).
11. The condenser is also located between the light source and stage. It is a lens system that bends and concentrates the light coming through the specimen.
12. The light source is on the base and provides necessary light for the examination of specimens.

Exploring Creation With Biology 2nd Edition

Lab Report
Experiment #1.2
Introduction to the Microscope

Procedure continued.....

Magnification is an important feature of any microscope. In your laboratory notebook, write down the magnifications of the objectives on your microscope. You calculate the total magnification of the scope by taking the power of the ocular (usually 10x) and multiplying it by the power of each objective. Thus, if your ocular is 10x and your objectives are 4x, 10x, and 40x, your three magnifications are 40x, 100x, and 400x. Label your three magnifications as low, medium, and high.

B. Now that you are familiar with the parts of the microscope, you are ready to use it to view thread.

1. Rotate the low-power objective so that it is in line with the eyepiece. Listen for a click to make sure it is in place.
2. Turn your light on. If you have a mirror instead of a light, look through the eyepiece and adjust the mirror until you see bright light.
3. Using the coarse focus, raise the stage (or lower the body tube) until it can move no more. (Never force the knobs.)
4. Place a drop of water on a clean slide and add several short pieces of brightly-colored thread.
5. Add a coverslip (a thin piece of plastic or glass that will cover the water and press it against the slide). This works best if you hold the coverslip close to the drops of water and then drop it gently. If air bubbles form, tap the coverslip gently with the lead of your pencil.
6. Put the slide on the stage and clip it down, making sure the coverslip is over the hole in the stage.
7. Looking in the eyepiece, gently move the stage down (or body tube up) with the coarse focus. If you do not see anything after a couple of revolutions, move your slide a little to make sure the threads are in the center of the hole in the stage. This indicates that the threads are in the field of view.
8. Once you have the image in focus using the coarse focus, “fine tune” it with the fine focus.
9. Place the threads in the very center of the field of view by moving the slide as you look at it through the microscope. Make sure that the threads are at the center of the field, or you will lose them when you change to a higher magnification.
10. Turn the nosepiece so that the medium-power objective is in place. Until you are very familiar with any microscope, do not turn the nosepiece without checking to make sure it will not hit the slide. Always move the nosepiece slowly, making sure that it does not touch the slide in any way. A lens can easily be damaged if it hits or breaks a slide.

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Lab Report
Experiment #1.2
Introduction to the Microscope

Procedure continued.....

11. Once the medium-power objective is in place, you should use only the fine focus to make the image sharp. Once again, move the slide so that the thread is at the center of the field.
12. Again, watching to make sure you don't hit the slide, turn the nosepiece so that the high magnification objective is in place. You should use only the fine focus to refocus.
13. (Optional) If you like, repeat steps 1-12 using a strand of your own hair rather than thread.
If we wanted to look at the threads at high magnification, why didn't we just start with the high-power objective? Had we tried to bring the threads into focus under high magnification without first looking at them under low and then medium magnification, we almost certainly would have never found the threads. When you look at the slide at high magnification, you are looking at a very, very tiny portion of the slide, and it is unlikely that what you are looking for will be there. As a result, you should always start your microscope investigation with the lowest magnification and then work your way up, centering the specimen in the field of view each time before you increase magnification.

C. Now it is time to get your first look at cells! (The course website discussed in the "Student Notes" section of this book has some magnified images of cheek cells. They may be of some help to you.)

1. Collect some cheek cells by rubbing a cotton swab back and forth on the walls of your cheek inside your mouth. Use only one side of the swab.
2. Remove the swab carefully without getting a lot of saliva on it.
3. Rub the wet side of the swab on the slide. You should see a smear where you rubbed the slide.
4. If you were to look at the cells under the microscope right now, it would be hard to find them, because they are almost transparent. To help make them easier to see, you will add a dye to them. This dye is called a stain, and it will help contrast the cells against the light, making them much easier to see. Place a drop of methylene blue stain on the area where you placed the cells. (This stain will not come out of most fabric, so use it with care.)
5. Add the coverslip carefully.
6. Place the slide on the microscope and begin the procedure outlined in section B, looking at the cells under low, then medium, and then high magnifications. At low magnification, the cells will look like dots. Once you find some dots, center them and increase the magnification. At high magnification, you should see a dark blob (the nucleus) and a ring outlining the cell (the plasma membrane). Note the irregular shape of the cells. Draw what you see at each magnification.
7. Rinse the slides that you used in water and wipe them dry with a paper towel. Wipe the lenses of the scope with lens paper, and put everything away. Clean up any mess you made.

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Lab Report
Experiment #1.2
Introduction to the Microscope

Observations:

Diagram:

Summary:

Biology 2nd Edition Module 1

The following section is:

Lab Reports

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Exploring Creation With Biology 2nd Edition

Lab Report
Experiment #1.1
Using a Biological Key

Name Date

Supplies:

Object:

Procedure:

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Lab Report
Experiment #1.1
Using a Biological Key

Observations:

Diagram:

Summary:

Exploring Creation With Biology 2nd Edition

Lab Report
Experiment #1.2
Introduction to the Microscope

Name Date

Supplies:

Object:

Procedure:

Exploring Creation With Biology 2nd Edition

Lab Report
Experiment #1.2
Introduction to the Microscope

Procedure continued.....

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Lab Report
Experiment #1.2
Introduction to the Microscope

Procedure continued.....

Exploring Creation With Biology 2nd Edition

Lab Report
Experiment #1.2
Introduction to the Microscope

Observations:

Diagram:

Summary: