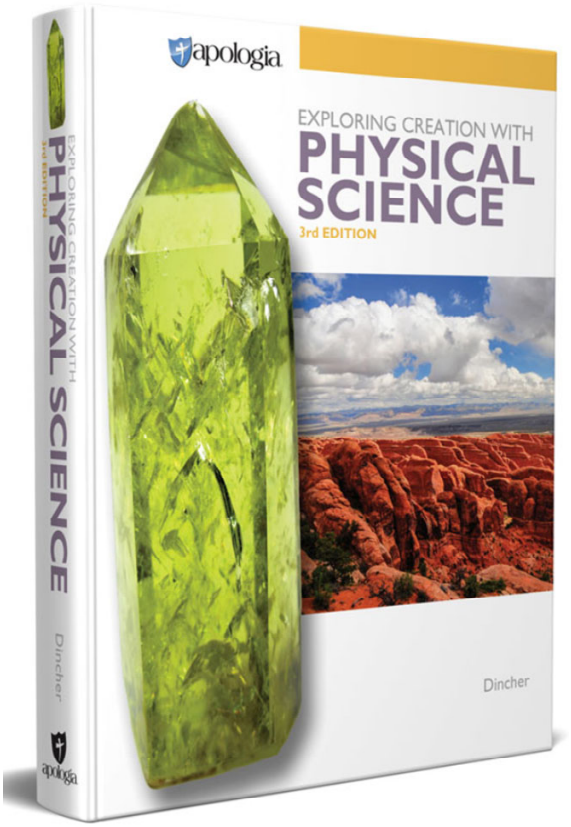
LJ-PS3

Apologia Exploring Creation With Physical Science 3rd Edition Lapbook Journal



This Lapbook Journal has been specifically designed for use with the book, Exploring Creation with Physical Science 3rd Edition by Apologia Science.

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

Exploring Creation With Physical Science
3rd Edition Lapbook Journal

www.KnowledgeBoxCentral.com

ISBN #
Ebook: 978-1-62472-726-9
CD: 978-1-62472-727-6
Printed: 978-1-62472-728-3

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

Knowledge Box Central

www.knowledgeboxcentral.com

Welcome to our Lapbook Journal for
Apologia's Exploring Creation With Physical Science 3rd Edition

We are very pleased to offer this product, as authorized by Apologia Science.

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:

1. *On Your Own Journal* (OYOQ)
2. *Study Guide Questions (Journal or Lapbook) Pages* (SGQP)
3. *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 14 files (15 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 Questions Journal Pages
2a. Study Guide Questions Journal Pages
2b. Study Guide Questions Lapbook Pages - Booklet Templates
2c. Study Guide Questions Lapbook Pages - Background Pages
3a. Lab Reports (Partially completed))
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 14 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 Questions Journal Pages
2b. Study Guide Questions Lapbook Pages - Booklet Templates
2c. Study Guide Questions Lapbook Pages - Background Pages
3a. Lab Reports (Partially completed))
3b. Lab Reports (No information already filled in...only the report itself with the title of the experiment at the top)

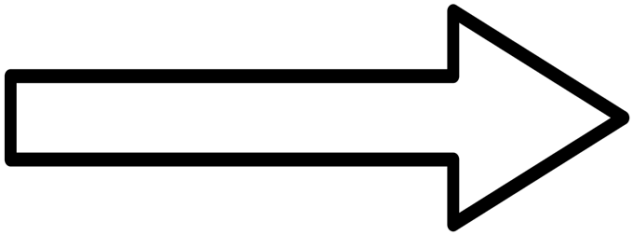
On Your Own Questions Journal Pages

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.



IMPORTANT NOTE About THIS Section:

*NOTE: 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 PRINT 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 Questions Lapbook Pages and their 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 use the Study Guide Questions Journal Pages.

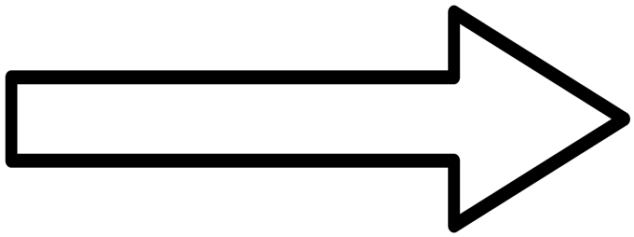
You may change after a few modules. You may even want to use both...but not at the same time….just every other module.

2a. Study Guide Questions Journal Pages

Supplies Needed: Regular White Copy Paper

This section is OPTIONAL and **could** replace the Study Guide Questions Lapbook Pages These pages will be solely devoted to the Study Guide Questions that appear at the end of 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/Journaling" styled setting. There will be ample space for the students to answer the questions within these pages, and the borders provide a decorative page for documenting learning.

If you choose to use these pages, print them, and file them all together under your "Study Guide Questions" divider tab.



2b. Study Guide Questions Lapbook Pages Booklet Templates

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 Questions at the end of each module of the book. Instead of writing the questions and answers in a regular notebook or on the "Journal Pages" within this product, the student would complete these booklets to place in 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. 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 Questions Journal Pages.*

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

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

2c. The Study Guide Questions 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 makes. Allow your student to arrange the completed booklets in any order he desires – be creative! You may need a bunch of these pages printed if he really gets the hang of this!

Printing Suggestion:
* Study Guide Questions 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.)

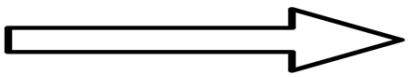
3b & c Lab Reports

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, Purpose, Materials, Questions, Hypothesis, and Procedure already filled in. The back of these reports has no information filled in, other than the Conclusion question. The student will document the Data, Results, and Conclusion. 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.

BOTTOM LINE:

Here is what your 3-ring binder will look like:

** Section 1: On Your Own
** Section 2: Study Guide Questions (either the lapbook booklets OR the journal pages)
** Section 3: Lab Reports (either the ones that are partially completed OR the ones that you complete entirely on your own)

ONE OTHER OPTION:

I have had a few moms tell me that they would RATHER divide their notebook into 16 sections – one for each module. These moms said that they put all of the above mentioned items in order in EACH section of the notebook.

The choice is yours.

AT THE END OF THIS FILE:

At the end of this file, you will see a page that you may print and use as the 1st page in your binder. Then you will see covers that you may use for each section of your binder. You do not have to use these, but they are here if you would like to use them.

Frequently Asked Questions:

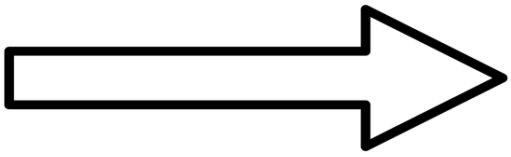
1. What if I don't have enough time to do all of this? What's ok to leave out?

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.

As for Co-Ops, we do 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. It doesn't matter how many children are represented in your Co-Op….print away!! I assure you that it's WAY less expensive than for each family to purchase their own copy. You can all split the cost, and it comes out great for everyone.

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

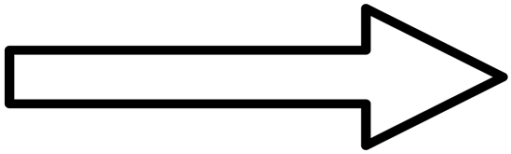
After much research, we believe that the children of this generation are visually over-stimulated. Between video games, internet, and television, there is very little left to the imagination. While colors play an important role in memory and retention of information, OVER-stimulation with colors has 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 if I don't have a printer, or my printer isn't working?

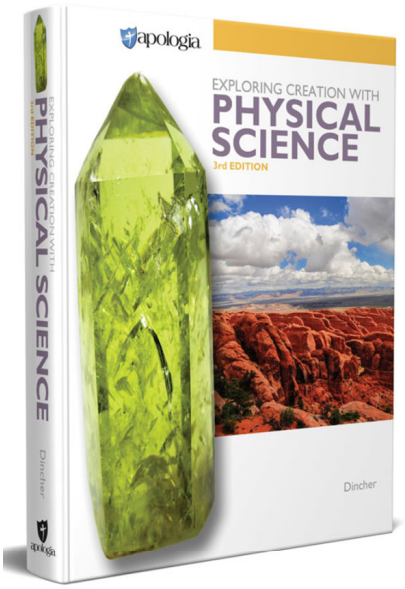
Most print shops will allow you to email your document to them for printing. Or, you may choose to burn the Ebook to a CD and take it to them for printing.

6. 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!)

7. 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 Physical Science 3rd Edition

By

_____

Exploring Creation With Physical Science

3rd Edition

On Your Own Journal

Exploring Creation With Physical Science

3rd Edition

Study Guide Questions Journal

Exploring Creation With Physical Science

3rd Edition

Study Guide Questions Lapbook Pages

Exploring Creation With Physical Science

3rd Edition

Lab Reports

www.knowledgeboxcentral.com

Physical Science 3rd Edition
Module 1

The following pages are divided into 6 sections, with a page like this one between each section.

The sections are:

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

The following section is:

Physical Science 3rd Edition
Module 1

On Your Own Journal Pages

1.1 What is science?

1.2 How are science and technology related?

1.3 What is physical science and why is it an important course?

1.4 Label each of the following observations as qualitative or quantitative.

a. It is light blue in color. _____

b. It makes a loud popping sound.
_____

c. It is 8.3 centimeters long.
_____

d. It smells sweet. _____

e. The temperature increases by 6 degrees C.
_____

1.5 For a hypothesis to be considered useful, it should be

a. in mathematical terms.

b. a creative guess made without observations.

c. capable of being tested.

d. general and broad in scope.

1.6 What are variables? How are they important in controlled experiments?

1.7 What is the difference between independent and dependent variables?

1.8 Match the term with the definition.

a. hypothesis	A well supported description of a natural phenomenon
b. scientific theory	A possible, testable explanation for an observation
c. scientific law	A well supported explanation of a range of phenomena

1.9 Why do we say science cannot prove anything?

1.10 What is meant by a model in science?

1.11 Give the name and symbols for the following base SI units (Hint: look back at Table 1.1):

a. time

b. mass

c. length

1.12 If a glass contains 0.121 L of milk, what is the volume of milk in mL? What is the volume of milk in gallons (gal)? (1 gal = 3.78 L)

The following section is:

Physical Science 3rd Edition
Module 1

Study Guide Questions
Journal Pages

You MAY choose to use these Study Guide Questions Journal Pages INSTEAD of the Study Guide Lapbook Pages in the next section.

1. Match the following words with their definitions.

	Tentative explanation for an observation
a. Quantitative observation	A well-supported, in-depth explanation of a broad range of phenomena
b. Qualitative observation	Observations made using 5 senses
c. Hypothesis	Observations made using numbers or measurements
d. Variable	Conclusions based on observations, previous knowledge, and available information
e. Scientific Theory	Any factor that changes in an experiment
f. Inference	

2. Which type of data can you graph, quantitative or qualitative data? Why?

3. Give the numerical meaning for the following prefixes:

a. centi-

b. milli-

c. kilo-

4. If you wanted to make the following measurements, what metric unit would you use?

a. mass b. length c. solid volume d. liquid volume

5. What is a conversion factor (give an example of one)? Why is it helpful in solving problems in physical science?

6. To convert 3.8 cm to m, you should multiply by which conversion factor?

a. $\frac{1\text{ km}}{1{,}000\text{ m}}$ b. $\frac{1{,}000\text{ m}}{1\text{ km}}$ c. $\frac{0.01\text{ m}}{1\text{ cm}}$ d. $\frac{1\text{ cm}}{0.01\text{ m}}$

7. In the SI symbol km, the "m" stands for ___?

a. minute b. meter c. milli- d. metric

8. The SI unit for power is the watt (W). One kW must be equal to ___?

a. 1,000 W b. 1,000 m c. 0.001 W d. 0.001 m

9. How many centimeters are in 1.3 meters?

10. If a person has a mass of 75 kg, what is their mass in grams?

11. A meterstick is 100.0 centimeters long. How long is it in inches (in)? (1 in = 2.54 cm)

12. A small pool filled with water is being drained. Table 1.6 shows the volume of water remaining in the pool at different times.

a. Make a graph showing how the volume of water changes as time passes. Include title, labeled axes, and units. (Hint: time is the independent variable.)

b. What type of relationship between the independent and dependent variable does your graph show? (Hint: use the Think About This box to help you describe it.)

c. Predict how long it will take for half the water to drain out. How long will it take to drain the pool?

TABLE 1.6

Time (min)	Volume of Water Remaining in Pool (L)
0	1,000
5	950
10	900
15	850
20	800
25	750
30	700

The following section is:

Physical Science 3rd Edition
Module 1

Study Guide Lapbook Pages – Booklet Instructions & Templates

You MAY choose to use these Study Guide Questions Lapbook Pages INSTEAD of the Study Guide Questions Journal Pages in the previous section.

Physical Science 3rd Edition - Module 1
Study Guide Lapbook Pages - Booklet Templates
Assembly Instructions

Question 1
Cut out along the outer edges of the one-page booklet. Then glue it to a slightly larger piece of paper of a different color, creating a small border.

Questions 2-5
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 and questions are in order. Secure along the top or left side with staples.

Questions 6-9
Cut out along the outer black line edges. Glue to your paper and answer the questions within each box.

Questions 10-11
Cut out along the outer edges of the booklet. Fold inward along the horizontal dotted line. Then cut on the vertical solid line to create flaps. Glue ONLY the portion above the dotted line to your paper. Write your answers under each flap.

Question 12
Cut out along all 3 pages of the booklet. Stack so that the questions are in the correct order. Secure at the top or along the left side with staples.

Question #1

1. Match the following words with their definitions.

a. Quantitative observation

b. Qualitative observation

c. Hypothesis

d. Variable

e. Scientific Theory

f. Inference

Tentative explanation for an observation

A well-supported, in-depth explanation of a broad range of phenomena

Observations made using 5 senses

Observations made using numbers or measurements

Conclusions based on observations, previous knowledge, and available information

Any factor that changes in an experiment

Questions #2-5

2. Which type of data can you graph, quantitative or qualitative data? Why?

3. Give the numerical meaning for the following prefixes:

a. centi-

b. milli-

c. kilo-

4. If you wanted to make the following measurements, what metric unit would you use?

a. mass

b. length

c. solid volume

d. liquid volume

5. What is a conversion factor (give an example of one)? Why is it helpful in solving problems in physical science?

Questions #6-9

Questions

#6 - 9

6. To convert 3.8 cm to m, you should multiply by which conversion factor?

a. $\frac{1\text{ km}}{1{,}000\text{ m}}$ b. $\frac{1{,}000\text{ m}}{1\text{ km}}$ c. $\frac{0.01\text{ m}}{1\text{ cm}}$ d. $\frac{1\text{ cm}}{0.01\text{ m}}$

7. In the SI symbol km, the "m" stands for ___?

a. minute b. meter c. milli- d. metric

8. The SI unit for power is the watt (W). One kW must be equal to ___?

a. 1,000 W

b. 1,000 m

c. 0.001 W

d. 0.001 m

9. How many centimeters are in 1.3 meters?

Questions #10-11

10. If a person has a mass of 75 kg, what is their mass in grams?	11. A meterstick is 100.0 centimeters long. How long is it in inches (in)? (1 in = 2.54 cm)

Question #12

12. A small pool filled with water is being drained. Table 1.6 shows the volume of water remaining in the pool at different times.

TABLE 1.6

Time (min)	Volume of Water Remaining in Pool (L)
0	1,000
5	950
10	900
15	850
20	800
25	750
30	700

Question #12

a. Make a graph showing how the volume of water changes as time passes. Include title, labeled axes, and units. (Hint: time is the independent variable.)

Question #12

b. What type of relationship between the independent and dependent variable does your graph show? (Hint: use the Think About This box to help you describe it.)

c. Predict how long it will take for half the water to drain out. How long will it take to drain the pool?

The following section is:

Physical Science 3rd Edition
Module 1

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

The following section is:

Physical Science 3rd Edition
Module 1

Lab Reports
(partially completed)

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

Exploring Creation With Physical Science 3rd Edition

Lab Report
Experiment # 1.1
Making Observations

Date: _____ **Name:** _____

Purpose:

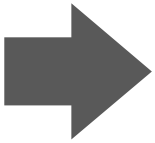
To explore qualitative and quantitative observations as they relate to the properties of solids.

Materials:

- **Alka Seltzer tablet**
- **A small solid object (such as a pebble or eraser)**
- **Magnifying glass**
- **Centimeter ruler**
- **Kitchen balance**
- **Beaker of water**
- **Stirring rod or spoon to stir**

Procedure:

1. Examine the small solid object using your senses. In the data table in your student notebook, make a list of your observations. CAUTION: Never taste anything in a science experiment. Unknown substances may be hazardous.
2. Observe the object with a magnifying glass. Record what you see.
3. Use the kitchen balance to determine the weight of the object. Add the weight (be sure to include units) to your list of observations.
4. Use a centimeter ruler to measure two dimensions (length, width, height, or diameter). Record these observations and be sure to include units.
5. Place the object in the beaker of water and stir. Record any observations.
6. Remove the object from the beaker.
7. Repeat steps 1 through 5 for the Alka Seltzer tablet. Record all observations in the data table of your student notebook.
8. Empty the beaker down the drain, rinse the beaker and return all materials to their proper place.

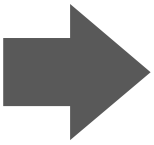


Exploring Creation With Physical Science 3rd Edition

Lab Report
Experiment # 1.1
Making Observations

Date: _____ **Name:** _____

Data & Observations:



Exploring Creation With Physical Science 3rd Edition

Lab Report
Experiment # 1.1
Making Observations

Date: _____ **Name:** _____

Conclusion:

Answer the following questions in a paragraph as you sum up what you learned.

1. How did the appearance of each object differ under the magnifying glass?
2. Which data were obtained by qualitative observations?
3. Which data were obtained by quantitative observations?
4. How did the instruments extend the observations you made with your senses?
5. How did the objects change when placed in the beaker of water?

Exploring Creation With Physical Science 3rd Edition

Lab Report
Experiment # 1.2
Practice Collecting and Analyzing Data With Pendulums

Date: _____ **Name:** _____

Purpose:

To explore collecting and analyzing data using tables and graphs while investigating pendulums

Materials:

- **String**
- **Masking tape**
- **Stopwatch or other 30 second timer (If you have access to a timer you can set the timer for 30 s and do this experiment without a helper. Otherwise you will need a helper to track the stopwatch and tell you when 30 seconds has gone by while you count swings.)**
- **Pencil**
- **Paper clip**
- **5 Washers**
- **Half a piece of cardstock paper (cut paper in half lengthwise) or cardboard 8.5" × 5.5"**
- **Protractor**
- **Metric ruler**

Question:

How does changing the mass of a pendulum affect the number of swings in one minute? How does changing the length of a pendulum affect the number of swings in one minute?

Hypothesis:

Write your prediction of how the number of swings of a pendulum will change as mass is changed. Write your prediction of how the number of swings of a pendulum will change as length is changed.

Procedure-- Part 1, MASS :

1. Write what the independent and dependent variables are in the data section of your lab notebook.
2. You must keep all the variables constant except the one you're testing. So to keep the height from which you release the pendulum the same each time, follow these instructions.

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Lab Report
Experiment # 1.2
Practice Collecting and Analyzing Data With Pendulums

Date: _____ **Name:** _____

Procedure – Part 1, MASS (Continued):

With the protractor draw a dotted line down the center of your paper or cardboard. Then position the protractor so the center line of the protractor (90o) is on the dotted line as shown in Figure 1.30. Draw a solid line about 20 degrees from the dotted line as shown. Set aside the protractor.

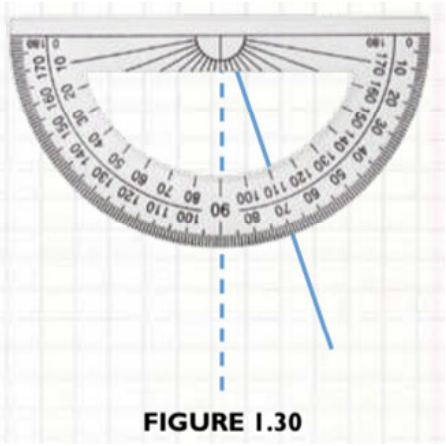

FIGURE 1.30

3. Tape the card to the edge of a table so that it hangs down and you can see the lines you just drew.

4. With the ruler, measure out 32 cm of string. Tie one end of the string to the end of the pencil.

5. Tape the pencil to the top of the table so that it lines up with the dotted line on your paper and hangs out over the edge enough that the pendulum can easily swing.

6. Next, take the paper clip and bend it so it has a loop at the top and a hook shape at the bottom. It should look like a Christmas ornament hanger (see Figure 1.31 for an example).

FIGURE 1.31

7. Tie the other end of the string hanging from the pencil to the loop on your paperclip. You now have a pendulum. Check to make sure that the string of your pendulum lines up with the dotted line on your card. If it doesn't, adjust the pencil or the card to make it line up. The string shouldn't touch the card so that it can freely swing, but you should be able to see that the string lines up with your dotted line when looking at it from directly in front of it.

Exploring Creation With Physical Science 3rd Edition

Lab Report
Experiment # 1.2
Practice Collecting and Analyzing Data With Pendulums

Date: _____ **Name:** _____

Procedure – Part 1, MASS (Continued):

8. Now you will test the effect of mass on the number of swings. Add one washer to the paper clip. Pull the paperclip back from the rest position (B in Figure 1.32) so that the string lines up with the solid line you drew on the card (position A in Figure 1.32).
9. When your helper says "go," release the paperclip and count how many times the washer-pendulum swings back and forth in 30 seconds. One swing is counted from the release position (A) to the other side (C) and back to the release position (A). Multiply the number you counted by 2. This gives you the number of swings per minute and is known as the period. Record the period in your data table.

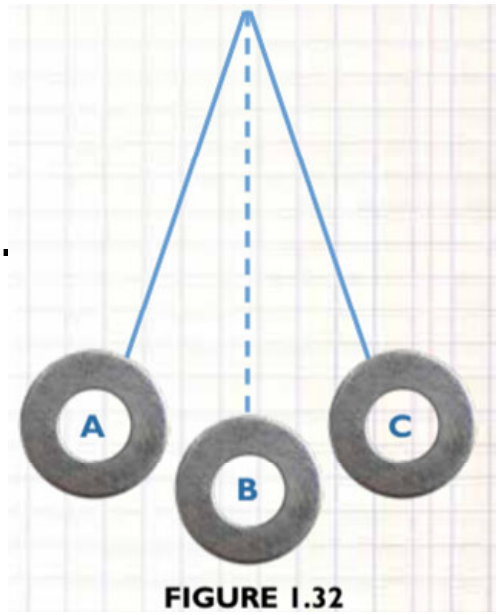

FIGURE 1.32

10. Repeat steps 8 and 9 two more times and record your data.
11. Add another washer to the paperclip. Repeat steps 8 and 9 three times and record your data in the data table.
12. Add a third washer to the paperclip. Repeat steps 8 and 9 three times and record your data.
13. Add a fourth washer to the paperclip. Repeat steps 8 and 9 three times and record your data.
14. Add a fifth washer to the paperclip. Repeat steps 8 and 9 three times and record your data.

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Lab Report
Experiment # 1.2
Practice Collecting and Analyzing Data With Pendulums

Date: _____ **Name:** _____

Procedure – Part 2, LENGTH:

15. Write what the independent and dependent variables are in the data section of your lab notebook.
16. Remove 3 washers from the paperclip. You should have 2 washers on the paperclip for the rest of this experiment.
17. Measure the length of your pendulum. Measure from the top of the paper clip to where the pendulum is attached to the pencil. It should be about 30 cm. Record this measurement in the data table.
18. Repeat steps 8 and 9 three times and record your data.
19. Shorten your pendulum to about 25 cm by winding the string around the pencil until you reach the correct height. Record this measurement in the data table.
20. Repeat steps 8 and 9 three times and record your data.
21. Shorten your pendulum to about 20 cm by winding the string around the pencil until you reach the correct height. Record this measurement in the data table.
22. Repeat steps 8 and 9 three times and record your data.
23. Shorten your pendulum to about 15 cm by winding the string around the pencil until you reach the correct height. Record this measurement in the data table.
24. Repeat steps 8 and 9 three times and record your data.
25. Shorten your pendulum to about 10 cm by winding the string around the pencil until you reach the correct height. Record this measurement in the data table.
26. Repeat steps 8 and 9 three times and record your data.
27. Clean up and put everything away.

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Lab Report
Experiment # 1.2
Practice Collecting and Analyzing Data With Pendulums

Date: _____ **Name:** _____

Data:

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Lab Report
Experiment # 1.2
Practice Collecting and Analyzing Data With Pendulums

Date: _____ **Name:** _____

Results:

1. Find the average number of swings (period) for each mass in Part 1 of the experiment by adding the period you found in each trial and dividing by 3.
2. Graph the data from Part 1. Remember to put your independent variable (the variable you changed—in this case the mass) on the x-axis and the dependent variable (the responding variable—in this case the average period) on the y-axis. Also remember to choose a scale that shows all the data well, label your axes including units, and give your graph a title.
3. Repeat steps 1 and 2 for Part 2 of the experiment.

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Lab Report
Experiment # 1.2
Practice Collecting and Analyzing Data With Pendulums

Date: _____ **Name:** _____

Results:

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Lab Report
Experiment # 1.2
Practice Collecting and Analyzing Data With Pendulums

Date: _____ **Name:** _____

Conclusion:

How has organizing your data in tables and graphs helped you to analyze the data? What patterns or trends do you see? Does this correspond to what you read in the text? Write a short paragraph responding to these questions.

The following section is:

Physical Science 3rd Edition
Module 1

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

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Lab Report
Experiment # 1.1
Making Observations

Date: _____ **Name:** _____

Purpose:

Materials:

Procedure:

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Lab Report
Experiment # 1.1
Making Observations

Date: _____ **Name:** _____

Data & Observations:

Exploring Creation With Physical Science 3rd Edition

Lab Report
Experiment # 1.1
Making Observations

Date: _____ **Name:** _____

Conclusion:

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Lab Report
Experiment # 1.2
Practice Collecting and Analyzing Data With Pendulums

Date: _____ **Name:** _____

Purpose:

Materials:

Question:

Hypothesis:

Procedure-- Part 1, MASS :

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Lab Report
Experiment # 1.2
Practice Collecting and Analyzing Data With Pendulums

Date: _____ **Name:** _____

Procedure – Part 1, MASS (Continued):

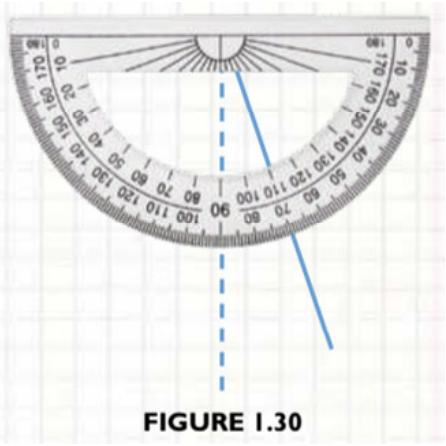

FIGURE 1.30

FIGURE 1.31

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Lab Report
Experiment # 1.2
Practice Collecting and Analyzing Data With Pendulums

Date: _____ **Name:** _____

Procedure – Part 1, MASS (Continued):

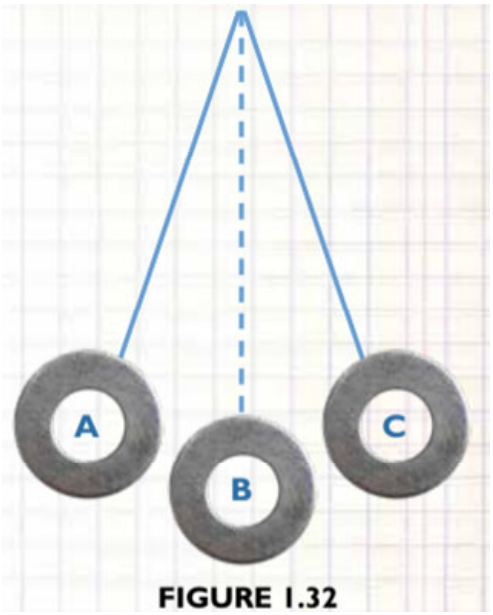

FIGURE 1.32

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Lab Report
Experiment # 1.2
Practice Collecting and Analyzing Data With Pendulums

Date: _____ **Name:** _____

Procedure – Part 2, LENGTH:

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Lab Report
Experiment # 1.2
Practice Collecting and Analyzing Data With Pendulums

Date: _____ **Name:** _____

Data:

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Lab Report
Experiment # 1.2
Practice Collecting and Analyzing Data With Pendulums

Date: _____ **Name:** _____

Results:

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Lab Report
Experiment # 1.2
Practice Collecting and Analyzing Data With Pendulums

Date: _____ **Name:** _____

Results:

Exploring Creation With Physical Science 3rd Edition

Lab Report
Experiment # 1.2
Practice Collecting and Analyzing Data With Pendulums

Date: _____ **Name:** _____

Conclusion: