

D

BIOLOGY, TAXONOMY, & HUMAN ANATOMY

SCIENCE INSTRUCTOR'S GUIDE



FUN FACT

An amoeba can swallow food from anywhere on its body.



Thank you for downloading this sample of Sonlight's Science D Instructor's Guide (what we affectionately refer to as an IG). In order to give you a full perspective on our Instructor's Guides, this sample will include parts from every section that is included in the full IG.

Here's a quick overview of what you'll find in this sample.

- A Quick Start Guide **START HERE**
- A 3-week Schedule
- Activity Sheets and Parent Answer Keys
- A Scope and Sequence of topics and skills your children will be developing throughout the school year

SONLIGHT'S "SECRET" COMES DOWN TO THIS:

We believe most children respond more positively to great literature than they do to textbooks. To properly use this sample to teach your student, you will need the books that are scheduled in it. We include all the books you will need when you purchase a package from sonlight.com.

Curriculum experts develop each IG to ensure that you have everything you need for your homeschool day. Every IG offers a customizable homeschool schedule, complete lesson plans, pertinent activities, and thoughtful questions to aid your students' comprehension. It includes handy teaching tips and pointers so you can homeschool with confidence all year long.

If you need any help using or customizing our IGs, please reach out to our experienced homeschool advisors at sonlight.com/advisors.

We hope you enjoy using this sample. For even more information about Sonlight's IGs, please visit: sonlight.com/ig. It would be our pleasure to serve you as you begin your homeschool journey. If you like what you see in this sample, visit sonlight.com/science to order your Science package.

Blessings!

Sarita Holzmann,
Co-founder and president
of Sonlight Curriculum

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Science (5-Day)

Biology, Taxonomy, and Human Anatomy

By The Sonlight Team

*“The heavens declare the glory of God;
the skies proclaim the work of his hands.”*

Psalm 19:1 (NIV)

Sonlight Curriculum® Science D “Biology, Taxonomy and Human Anatomy” (5-Day) Instructor’s Guide and Notes, Twenty-Second Edition

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“Do to others what you would have them do to you”
(Matthew 7:12).

“The worker is worth his keep” (Matthew 10:10).

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NOTE TO PURCHASER

Sonlight Curriculum, Ltd. is committed to providing the best homeschool resources on the market. This entails regular upgrades to our curriculum and to our Instructor’s Guides. This guide is the 2020 Edition of the Sonlight Curriculum® Science D “Biology, Taxonomy and Human Anatomy” (5-Day) Instructor’s Guide and Notes. If you purchased it from a source other than Sonlight Curriculum, Ltd., you should know that it may not be the latest edition available.

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For the latest information about changes in this guide, please visit www.sonlight.com/curriculum-updates. Please notify us of any errors you find not listed on this site. E-mail corrections to IGcorrections@sonlight.com and any suggestions you may have to IGsuggestions@sonlight.com.

Table of Contents

1 Introduction to Your Instructor’s Guide

- Table of Contents
- Quick Start Guide
- Introduction
 - Welcome
 - Evolution and the Age of the Earth
 - Student Activity Sheets
 - A Practical Suggestion for Experiments
 - Supplementary Websites
 - Corrections and Suggestions
 - Summary
- Science Supplies List

2 Schedule, Notes and Activity Sheets

- A Weekly SCHEDULE for Science
- ACTIVITY SHEET ANSWER KEYS

3 Appendices

- Appendix 1: Weekly Subject List

INSTRUCTOR'S GUIDES SCIENCE

Special features of Sonlight's Science Instructor's Guides:

1 Complete, Ready-to-Use Lesson Plans

All your science books and experiments are fully scheduled for the entire year. No need to create your own plans.

2 Detailed Teaching Notes

Notes explain each assignment and activity, point out fun facts about your reading, and provide extra information about important topics so you get the most from your materials.

3 Organizational Tools to Help You Plan Ahead

See at a glance the supplies you need for experiments this week and the following week. Know what supplies you'll find in the Sonlight Science Kits, and which household items you'll want to have ready.

4 Weekly Assignments and Engaging Activities

Simple, engaging experiments coordinate with your reading and provide hands-on learning. Sonlight's Science kits provide the key supplies . . . so you actually do the experiments.

Many experiments are intriguing, yet simple, activities—such as exploring taste buds using basic ingredients like lemon juice and sugar. Again, no planning necessary!

Your children will relish the discoveries they make throughout the year. And you'll love that they are actively exploring Science, Technology, Engineering, Math (STEM) concepts, and making their learning stick.

Science A					
Week 1					
Date:	Day 1	Day 2	Day 3	Day 4	Day 5
<i>Children's Encyclopedia</i>	pp. 8-9		pp. 10-11	pp. 12-13	pp. 14-15
Activity Sheet Questions	#1-2		#3-4	#5-7	#8-10
<i>Discover & Do Level K DVD</i>		"Before You Begin" Tracks #1-3			
<i>Science Activities, Vol. 2</i>		"Air All Around" pp. 2-3			
Do Together				The Seasons at Your House	
Supplies	You provide: sheets of paper, 8" x 10" cardboard for each player (optional: crayons, thread or string or yarn) bottle, bowl, water.				
Shopping/Planning List	For next week: feather from any bird, plate, 10" x 10" paper, pencil, scissors, crayons, needle, thread or string or yarn, two dish cloths, plastic bag, plate, salt, bowl, water, plastic wrap, sugar, food color, spoons, saucers, glass, plate, very warm water, long-necked bottle, deep bowl or bucket, large coin, ice cubes, plastic bag, rolling pin or hammer or rock, plastic bottle with cap.				
Additional Subjects:					

Children's Encyclopedia

Day 1 pp. 8-9

Let your children know how amazing it is that so many

Notice the "Internet links" box at the top of the page. It is not necessary to visit all these links as part of your reading, but if you'd like to, just follow the link listed in the book for supplemental online material.

The book mentions what the Earth is made of, but doesn't properly label the layers. The outer layer is called

Day 3 pp. 10-11

Do you own a globe? If not, you can also use a ball, such as a basketball or soccer ball, to demonstrate the concept of day and night. All you need is a globe or ball and a flashlight. The flashlight, naturally, represents the Sun. Shine the flashlight on one side of the globe or ball. The part of the world facing the light is experiencing day, while the other areas are experiencing night. But the world rotates, so as it turns, day turns to night on one part of the globe, while night turns to day in other areas. [p. 10]

Day 4 pp. 12-13

The book refers to the northern and southern hemispheres but does not explain the concepts of western and eastern hemispheres. You might want to show your children a world map, noting the northern and southern hemispheres, as divided by the equator, while also pointing out the western hemisphere (North and South America and the Pacific and Atlantic Oceans) and the eastern hemisphere (Europe, Africa, Asia, Australia). [p. 13]

Day 5 pp. 14-15

Occasionally, you'll notice short experiment suggestions such as "Make a rainbow" on page 15. Please consider these activities as optional.

Activity Sheet Questions

Day 1 #1-2

Note to Mom or Dad: Find each week's Activity Sheets immediately after the notes and answer the questions assigned on the schedule page. Each Activity Sheet has a corresponding Answer Key page at the end of each week's notes.

- You do not have to do every question on the Activity Sheets.
- Feel free to adjust and/or omit activities to meet the needs of your children.
- We cover the same concepts repeatedly throughout the

challenge your children. Feel free to let your children do those activities they enjoy and simply talk through others.

We have provided space for you to fill in answers as your children respond verbally, or simply check off the items that you discuss.

Suggestion: your Activity Sheets might work more easily in a small binder for your children to keep and use as assigned. If you have more than one child using this program, extra Activity Sheets can be purchased for each child (Item #ASG1).

Occasionally we assign a "Cut-Out" activity. Please find these separate sheets in Section 3.

Discover & Do Level K DVD

Day 2 "Before you Begin" Tracks #1-3

We produced this fun and educational video so you and your children could watch "Professor Ike" perform each of the assigned experiments from *The Usborne Book of Science Activities, Vol. 2*. We recommend you gather your supplies, watch the DVD to see what to do, and then try each of these simple experiments yourself.

Or, if you prefer, you can do the experiment(s) on your own and then watch the DVD to see how it turned out on screen. You may want to mix and match to find out which works best. We hope this video makes your science experiments more enjoyable and more educational.

If your experiments don't happen exactly as you see in the video, it's OK! Watch the Outtakes in the Bonus section of the DVD and see how things didn't always happen perfectly for us, either.

Note: Please navigate your *Discover & Do Level K DVD* by using the DVD menu on your screen.

Science Activities, Volume 2

Day 2 "Air All Around" pp. 2-3

If you remember school science demonstrations without making for you and your children to try *Science Activities, Vol. 2*. Packed with simple

ter is the layers shell and talk you'll be, but neither top

ential Notes
Week 1 | 1

TRY BEFORE YOU BUY!

Get a three-week sample of any Sonlight Instructor's Guide—FREE!
sonlight.com/samples

Instructor's Guides K-J also include:

5 Interactive Activity Sheets

Your Activity Sheets—with hundreds of activities, illustrations, charts, and pictures—help your children remember what they've learned. A variety of activity options coordinate with your students' science studies and draw on a range of skills and interests.

Activities progress with your children's abilities: from cut-outs, matching, circle-the-answer, and dictation, to fill-in puzzles and sequencing analysis.

6 Complete Answer Keys

Separate Answer Keys mirror your Student Activity sheets for easy grading. No need to test—you have ongoing, reliable insight into your children's comprehension.

Science A: Week 1 Activity Sheet


4. **Challenge:** Make the statement true. (Please find Cut-Out #1 in the Appendix.) (p. 10)

The Sun rises in the and sets in the .

5. Can you name the four seasons? (p. 12)

1) _____ 2) _____
3) _____ 4) _____


6. Use the map to help you answer. (Please find Cut-Out #2) (p. 13)


North America  South America


When it is summer in:


...it is winter in:

7. During which two seasons does the Earth tilt toward or away from the Sun? Circle them. (p. 13)


winter


spring


summer


fall

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5

Do Together

4 The Seasons at Your House

Using a large piece of poster board, draw a line down the middle in each direction so as to divide it into four equal parts. Label the upper left corner "Spring," the upper right corner "Summer," the lower left corner "Fall," and the lower right corner "Winter." Now ask your children to use crayons, markers, paint, colored pencils, etc. to draw a picture of what each of the seasons looks like where you live. As they draw, discuss the seasons and what's different about each one. Ask them to think about how a stranger who just flew in from halfway around the world would be able to tell what season it is at any particular time. What clues would he find? Have fun with this activity, as your children learn more about how the seasons change in your particular area. When they're done, proudly display their work of art on the refrigerator or a wall where every one can see it.

Supplies

All You Provide

Note to Mom or Dad: When supplies are listed as "We provide," they are materials found in your course-specific (ASK) Supplies Kit. When supplies are listed as "You provide," they are materials you can generally find around your home. ■

Science A: Week 1 Activity Sheet


4. **Challenge:** Make the statement true. (Please find Cut-Out #1 in the Appendix.) (p. 10)

The Sun rises in the East and sets in the West.

5. Can you name the four seasons? (p. 12)

1) (spring) 2) (summer)
3) (fall) 4) (winter)


6. Use the map to help you answer. (Please find Cut-Out #2) (p. 13)


North America  South America


When it is summer in:


...it is winter in:

7. During which two seasons does the Earth tilt toward or away from the Sun? Circle them. (p. 13)


winter


spring


summer


fall

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Biology, Botany and Physics | 5-Day | Section Two | Week 1 | 3

6



“Sonlight keeps our family learning together,” shares Mackenzie B of Morrystown, AZ. “The beautifully illustrated books captures the attention of a wide age range of children and makes homeschooling more enjoyable for the parent as well. With Sonlight’s grab-and-go Instructor’s Guides, it’s so easy for Dad to do a quick lesson before bed. Sonlight is the perfect family curriculum.” Here, Dad is reading a science book to Corbin (6, Science B), Eden (2) and Ebban (6 months).

In Science D, you will learn about physics, zoology, botany, and human anatomy. It also includes nine weeks of intensive experimental studies in plant biology.

Sonlight Science programs include introductory studies in a range of experimental sciences. The main point of all the reading, activities, and (if you choose) experiments is to introduce your children to the scientific method and the joy of discovery.

We want children to be *introduced* to a lot of different subjects, *intrigued* by the concepts and ideas, and *enticed* to come back to the same themes again in the future. And so you will find we follow a spiral pattern of education, touching on certain topics repeatedly this year and again in future years.

This way the basic *vocabulary* of science becomes ingrained not only in short-term, but also long-term memory. “Oh, yeah. I vaguely remember hearing about pistils and stamens earlier this year,” a child may say—late in the program. When the child studies biology again in future programs, the names and concepts will be vague, but recognizable, as the child gains deeper understanding. Please don’t expect mastery of the vocabulary at this age. That will come in time.

We want our children to *remember* what they have learned because they can’t help it; because they want to. We don’t want them merely to *memorize* what they are supposed to learn so they can pass a test.

The science experiments in this package, although not larger than life, work well.

As you do the experiments and demonstrate care in reading and following directions, recording data, and such, your children learn to follow your lead. An attitude of success—“Sure. We can do this!”—rubs off as well. These cannot be taught simply by reading books; they have to be modeled.

One quick note before you begin: The experiments also don’t coordinate with the other science reading. We have not found any single book that coordinates great information and exciting illustrations (as found in the majority of our science books) with great hands-on activities and experiments. We believe we have selected the best cluster of books for both interest and excitement, but know up front: the science reading will not match the experiments.

My Downloads

Find extra schedule pages, new user information (how to use a Sonlight Guide) and further helpful information specific to the Guide you have purchased from Sonlight on our website: www.sonlight.com. Go to Your Account and select the Downloads section to find all of the downloads for your Guide.

Two science-related issues require some special attention. The first has to do with evolution, while the second relates to the age of the Earth.

Evolution

Some of the book selections in our science programs contain material supportive of evolution. Why do we include these books? First, we include them because the majority of the content in these resources is of high quality, offering visually and intellectually appealing material. Second, we don’t take an isolationist approach to knowledge. The subject of evolution is not something we want to teach children to avoid or put down without adequate understanding. Third, as the dominant perspective in contemporary science, evolution deserves mention and attention, even from those who disagree with its arguments. With that said, we do our best to provide balanced perspectives in relation to any potentially divisive content such as evolution.

When it comes to evolution, there are a few important points to keep in mind. In particular, differences between *macroevolution* and *microevolution* are crucial. These terms are sometimes used to clarify what is meant by evolution. *Macroevolutionists* accept evolution as the overarching explanation for all life, believing that evolution is responsible for significant changes in life forms such as a land-based mammal changing into an oceangoing mammal or dinosaurs allegedly evolving into birds. These supposed evolutionary changes are big, hence the term *macro*, meaning something very large in scale, is used in reference to this kind of evolution.

Microevolution, however, refers to small changes within different kinds of life. This approach grants the reality of changes within kinds such as birds or dogs. Obviously, there are many kinds and sizes of birds and dogs, but despite the variations these creatures remain birds and dogs. As a result, someone can adhere to *microevolution* without granting all the beliefs of *macroevolutionists*, who tend to accept the basic underlying principles of Darwinian evolution.

Religious objections to evolution tend to stem from the accusation that *macroevolution* leaves God out of the picture, instead leaving the entire process of the emergence and development of life to chance and time. Of course, this means that evolution is undirected by any sort of intelligence, while Christianity, for instance, believes in the reality of the existence of God as Creator. In other words, one approach to evolution is based on a worldview known as *naturalism*, while another is based on *theism*.

Naturalism here does not refer to enjoying nature, as in being a naturalist, but in a worldview that denies the existence of anything beyond the material world. In other words, anything supernatural, such as the existence of God, is rejected by naturalists.

Theistic evolutionists accept the existence of God, but view Him as being active in the process of evolution. Christian theistic evolutionists may appeal to Scripture supporting God's active involvement in His creation (such as 1 Corinthians 8:6, Hebrews 1:3, etc.) . In areas where a naturalist sees random processes and events, the theistic evolutionist argues that God is actively involved in directing matters.

Theism accepts that there is more to reality than the material world. There is a supernatural world and God exists as a personal being, active in His creation. By definition, naturalism excludes God. Christian theists who reject macroevolution and theistic evolution argue that God is Creator and Designer, having made all life without resorting to any macroevolutionary processes.

Scientific objections to *macroevolution* include, for instance, allegations that the fossil record lacks transitional forms, that genetic mutations are commonly harmful not helpful, and claims that life shows signs of intelligent design.

One goal we have at Sonlight is to present fair and balanced perspectives on issues, including science and evolution. As a result, some of the materials we choose to utilize will at times present evolutionary points of view, while other selections will not. As the parent, we encourage you to provide guidance for your children on these topics. In our assessment, it's better for your children to have some exposure to controversial topics at home, with intelligent and caring guidance, rather than have them be surprised by ideas they will eventually encounter anyway.

The Age of the Earth

Another issue that will come up in the course of studying science has to do with questions about the age of the Earth. Secular books in some of our science programs will at times refer to "millions" or "billions" of years. For Christians who hold to a young Earth perspective, believing the Earth may only be several thousand years old rather than billions, such phrasings pose a problem.

We suggest two solutions. First, whenever you encounter "millions" or "billions" in a science book, feel free to rephrase the sentences in question with phrases such as "a long time," "a very long time," or variations of this phrasing. Second, you may wish to state that although the book uses millions and billions of years, there are other perspectives on the age of the Earth and the age of the universe.

If your children ask why there is disagreement on the age of the Earth and/or universe, you can explain that not everyone interprets the data in the same way. In addition, not everyone employs the same research methods or believes in the same data. Young Earth creationists, for example, include their interpretation of the Bible as a primary source of data. Those who hold to an old Earth tend either to ignore the Bible (if they are non-Christian) or interpret the biblical creation account in such a way that allows for an old Earth without diminishing essential Christian doctrine. The Bible, from this old Earth perspective, may be a supplementary witness regarding the ques-

tion of the age of the Earth, but traditional interpretations of it in reference to the age of the Earth need to remain open to reinterpretation.

You may also wish to add, "We aren't sure about how old the Earth is, but I happen to believe ..." Then state your position on the matter.

Our goal here is not to present a definitive position on the age of the Earth or to present nuanced arguments for each side in the debate, but to leave it to you, as parent, to discuss with your children as you see fit.

Discussion and disagreement about the age of the Earth leads to another important point: is a particular view of the age of the Earth an essential Christian doctrine? Sometimes nonessential beliefs can lead to problems with essential beliefs, so this point needs to be approached carefully and thoughtfully. In general, however, we do well to follow the maxim, "In essentials unity, in nonessentials liberty, and in all things charity." In other words, we should foster Christian unity on essentials, rather than division about nonessentials.

Student Activity Sheets

Behind each week's notes, you will find Activity Sheets to reinforce what you are teaching and engage your student. Each Activity Sheet lists the week it is used at the top of the page. The questions coordinate with what you are reading and each activity is assigned on the schedule page.

It is not necessary to complete every activity provided. These are merely suggestions and you, as the teacher, can determine which are best suited for your children. You will find a variety of activities included in the Activity Sheets that are designed to draw on different skills and interests. Please feel free to assist your children by doing the hard work of handwriting the answers.

We have also included corresponding Instructions and Answer Key pages for all activities. You may want to file the Activity Sheets in a separate binder for your students' use.

Note: If you might reuse your Instructor's Guide and Student Activity Sheets in the future (for a younger child, for instance), we strongly suggest that you purchase an extra set of Activity Sheets when you buy the Instructor's Guide. That way, when we update our Instructor's Guides you will have matching Activity Sheets when you need them. Please contact us if you are looking for Activity Sheets from the past.

A Practical Suggestion for Experiments

Please be aware that some of your books may imply that an experiment will knock your socks off: the results will be "bigger than life." The reality, we've found, is rarely so exciting. Often what you should be looking for is a very small change. The experiments suggested in your books are basic ideas. Try them, improve them! If you figure something out that works better than the instructions in your book, please tell us! Some experiments work every

time, some may take several tries. Even the most famous scientists have had to try the same (or similar) experiments over and over. If an experiment does not work the first time, please try again.

Supplementary Websites

We know that there are times throughout our curriculum when we simply cannot cover all the material on a given subject. In these instances we will provide internet search instructions for you to find more information. Please use caution and your own discretion as you look at different internet sites. We highly recommend that you as the parent and teacher look before allowing your student to do the search with you or on their own. We hope you find this helpful!

Corrections and Suggestions

Since we at Sonlight Curriculum are constantly working to improve our product development, we would love it if we could get you to help us with this process.

Whenever you find an error anywhere in one of our Instructor's Guides, please check our updates page for the latest information at www.sonlight.com/curriculum_updates. Report new information by sending a short e-mail to: IGcorrections@sonlight.com. It would be helpful if the subject line of your e-mail indicated where the problem is. For instance, "Science D/Section Two/Week 1/Schedule."

If, while going through our curriculum, you think of any way we could improve our product, please e-mail your suggestions to: IGsuggestions@sonlight.com. If you know of a different book we should use, if you think we should read a book we assign at a different point in the year, or if you have any other ideas, please let us know.

Summary

We hope that you enjoy your adventure this year and that it helps you learn more about the world we live in. If we can be of any assistance, please do not hesitate to e-mail us at main@sonlight.com, call us at (303) 730-6292, or better yet, join our Sonlight Connections Community (sonlight.com/connections), where you can chat with others who are going through this same program. You can ask questions, learn new ideas, share with others what you have learned, problem-solve, or just talk. Happy exploring! ■

Science D—Science Supplies

DSK (Science Supplies Kit) Item	Week(s) Used
4"x 6" index cards	20, 21, 22
aluminum foil	20, 21, 22, 24
clothespin	24
foil cutting map	20, 21, 22
kidney beans	24
lentils	28
magnifying glass	22, 25
masking tape (sticky tape, adhesive tape, etc.)	20, 24
paper clips	21, 24
pinto beans	24
plastic cups/lids	20, 21, 22, 24, 28
popcorn kernels	24
portion cups, plastic	24
potting soil	20, 21, 22, 25
radish seeds	20, 21, 22
rubber bands	25, 28
straight pins	24, 25
straws	24
styrofoam tray	20, 21, 22
wheat kernels	28

Section Two

Schedule and Notes

Science D

Days 1–5: Date: _____ to _____

Week Overview																	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

Week 1					
Date:	Day 1	Day 2	Day 3	Day 4	Day 5
Real Science 4 Kids: Biology Level I	1.1–1.2	1.3	1.4	1.5	1.6
Activity Sheet Questions	#1–3 N	#4–6	#7–8	#9–10	
Discover & Do Level 3 DVD		Track #51			
Activity Sheet Questions					
Do Together		Kingdom Poster Board		What's in a Name	
Optional: Lyrical Life Science 1	Introduction N	chaps. 1, 6			chap. 2
Additional Subjects:					

Real Science 4 Kids: Biology Level 1

Day 1	1.1–1.2
-----------------	---------

The book credits Carolus Linneaus as being the founder of taxonomy, but a case can be made for Aristotle (ca. 384–322 B.C.) being the founder of taxonomy. The beginnings of taxonomy, then, resulted from the interests of an ancient philosopher trying to make organizational sense out of life. It may be better to say that Linneaus refined taxonomy, resulting in its modern scientific form, or that he is the founder of “modern” taxonomy. [p. 3]

Day 1	Activity Sheet Questions #1–3
-----------------	-------------------------------

Note to Mom or Dad: Find each week’s Activity Sheets immediately after the notes and answer the questions assigned on the schedule page. Each Activity Sheet has a corresponding Answer Key page at the end of each week’s notes.

You do not have to do every question on the Activity Sheets. Feel free to adjust and/or omit activities to meet the needs of your children. We cover the same concepts repeatedly throughout the year (and years to come!) to enable students to learn “naturally” through repetition and practice over time.

Any question marked **Challenge:** will be just that—a challenge for your children. While we believe the material covered in the challenge questions is worthwhile for your children to know, it may not be specifically explained in their reading assignment. As always, if you think any question is too difficult for your children, please feel free to skip.

Please don’t expect your children to write the answers until they gain considerable proficiency at handwriting. We have provided a variety of activities to interest and challenge your children. Feel free to let your children do those activities that he enjoys and simply talk through others.

We have provided space for you to fill in answers as your children respond verbally, or simply check off the items that you discuss.

Remember: This program is designed for you to use to meet your children’s needs. It is not meant to use you!

Suggestion: Your Activity Sheets might work more easily in a small binder for your children to keep and use as assigned. If you have more than one child using this program, extra Activity Sheets can be purchased for each child (Item #DSG1).

N Parental Notes

Do Together

Day
2

Kingdom Poster Board

For a fun time, help your children create a poster board about one of the five Kingdoms. You'll need a piece of poster board, as well as pencils, pens, crayons, colored pencils, scissors, and glue.

Help your children choose one of the five Kingdoms that they would like to learn more about, and then help them find more information on the Internet. As they learn new and interesting facts, help them to make notes about this information. If they find interesting pictures, be sure to print some of them for your children to use on their poster board.

When they have learned a lot about their chosen Kingdom, help them to gather their pictures and facts. Which pictures and facts do they want to highlight on their poster board? Which things would other people most want to know about this Kingdom? Do they have pictures of sample species from within the Kingdom? When your children are finished with their poster board, find a place to hang it so that others can see their work.

Day
4

What's in a Name?

And the LORD God said, "It is not good that man should be alone; I will make him a helper comparable to him." Out of the ground the LORD God formed every beast of the field and every bird of the air, and brought them to Adam

to see what he would call them. And whatever Adam called each living creature, that was its name. So Adam gave names to all cattle, to the birds of the air, and to every beast of the field. But for Adam there was not found a helper comparable to him. Genesis 2:18–20 (NKJV)

The process that scientists use today to name new species seems much more complicated than the plan God used with Adam. Ask your children: if they had been Adam, would they have enjoyed naming all the animals? Why or why not?

Today, give them a chance to do just that. That's right! Let them name some animals. Use an encyclopedia or the Internet to find some pictures of animals that your children may not recognize. Pick 5 or 10 animals and then show the pictures to your children. What would they name the animal? Why? When they're done, share with them the real names of the animals. Did they come close on any of them?

If they enjoy this activity, feel free to repeat it with additional animals. Have fun!

Optional: *Lyrical Life Science 1*

Day
1

Introduction

Note to Mom or Dad: The publisher of *Lyrical Life Science* has created 2 new songs for volume 1: one song about cell organelles and the other about protists. To accompany these songs, they have created new text and workbook pages. All of these new materials are now available for FREE on their website. ■

Science D: Week 1 Activity Sheet








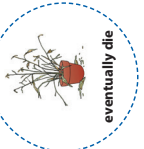


Real Science 4 Kids: Biology Level 1

- Write the meanings of the two Greek words that make up the word *biology* below. (1.1)
Remember, it is okay for you to act as a scribe on these sheets until your child is proficient at writing.
bio: (life) **logos:** (description)

Write your own definition of biology here: (Answers will vary.)

- Circle the characteristics of living things. (1.1)

			
can smile	have skin	they reproduce	require food
			
some move freely in their environment	breathe air	have legs	eventually die

- Why is taxonomy helpful to scientists? (1.2)
 - because it better shows scientists each animal's particular color
 - by organizing types of living things, scientists can better study their similarities and differences
 - by organizing types of living things, scientists better know what to feed them at the zoo
 - because organizing living things into groups helps scientists share the work of studying them
 Write the name of the scientist who founded taxonomy here:
(Carolus Linnaeus)

Science D: Week 1 Activity Sheet



- Write the names of the five kingdoms scientists use below. (1.3)

				
P. <u>(Plantae)</u>	P. <u>(Protista)</u>	A. <u>(Animalia)</u>	M. <u>(Monera)</u>	F. <u>(Fungi)</u>

- Which characteristic determines the kingdom in which an organism will be placed? Circle your answer. (1.3)
 where it lives bone structure its coloring cell structure
- Fill in the chart below with the missing information about the different kingdoms. (1.3)

Kingdom	Sample Creature	Interesting Fact
Animalia	<u>(Answers will vary.)</u>	All animals have animal cells.
<u>(Plantae)</u>	Sycamore tree	All plants have <u>(plant)</u> cells.
Fungi	<u>(Answers will vary.)</u>	Members of this kingdom were once grouped with plants in the Plant Kingdom.
<u>(Protista)</u>	Euglenas, Amoebas	Some members in this group have plant-like features, and others have <u>(animal-like)</u> features.
Monera	Common creature shapes include rods, spheres and spirals.	Most members are <u>(unicellular)</u> which means they only have one cell.

- Why aren't frogs and cats part of the same class? (1.4)
 - because frogs live on both land and water and cats nurse their young.
 - because frogs live in the water and cats live on land.

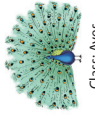
8. Match the characteristic descriptions to the animal pair that best define each. Write the letter on the line. (1.4)
- a. has a horny beak / is cold blooded
 - b. has a soft body / has a backbone
 - c. sharply hooked beak / flightless; live near oceans



Phylum: Mollusca



Phylum: Chordata



Class: Aves



Class: Reptilia



Order: Falconiformes



Order: Sphenisciformes

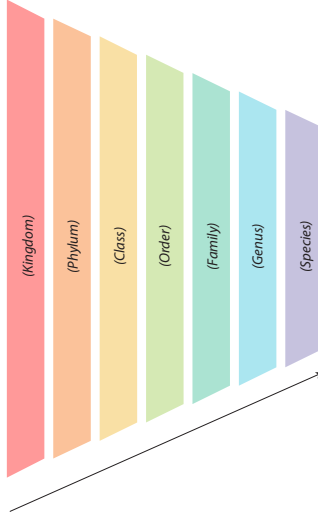
(b)

(a)

(c)

9. Use the words in the box to order the classification categories. Write them in the funnel below. (1.4–1.5)

- Species
- Family
- Kingdom
- Class
- Order
- Phylum
- Genus



10. Are you a Homo sapien? (1.5)

Yes

No



Real Science 4 Kids: Biology Level 1

1. Write the meanings of the two Greek words that make up the word *biology* below. (1.1)

Remember, it is okay for you to act as a scribe on these sheets until your child is proficient at writing.

bios: _____ **logos:** _____

Write your own definition of *biology* here: _____

2. Circle the characteristics of living things. (1.1)



can smile



they reproduce



have skin



require food



some move freely in their environment



have legs



breathe air



eventually die

3. Why is taxonomy helpful to scientists? (1.2)

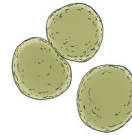
- because it better shows scientists each animal's particular color
- by organizing types of living things, scientists can better study their similarities and differences
- by organizing types of living things, scientists better know what to feed them at the zoo
- because organizing living things into groups helps scientists share the work of studying them

Write the name of the scientist who founded taxonomy here:



Science D: Week 1 Activity Sheet

4. Write the names of the five kingdoms scientists use below. (1.3)



P _____ P _____ A _____ M _____ F _____

5. Which characteristic determines the kingdom in which an organism will be placed? Circle your answer. (1.3)

where it lives

bone structure

its coloring

cell structure

6. Fill in the chart below with the missing information about the different kingdoms. (1.3)

Kingdom	Sample Creature	Interesting Fact
Animalia	_____	All animals have animal cells.
_____	Sycamore tree	All plants have _____ cells.
Fungi	_____	Members of this kingdom were once grouped with plants in the Plant Kingdom.
_____	Euglenas, Amoebas	Some members in this group have plant-like features, and others have _____ features.
Monera	Common creature shapes include rods, spheres and spirals.	Most members are _____, which means they only have one cell.

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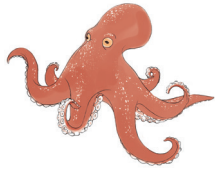
7. Why aren't frogs and cats part of the same class? (1.4)

because frogs live on both land and water and cats nurse their young.

because frogs live in the water and cats live on land.



8. Match the characteristic descriptions to the animal pair that best define each. Write the letter on the line. (1.4)



Phylum: Mollusca _____



Phylum: Chordata

- a. has a horny beak / is cold blooded
- b. has a soft body / has a backbone
- c. sharply hooked beak / flightless; live near oceans



Class: Aves _____



Class: Reptilia

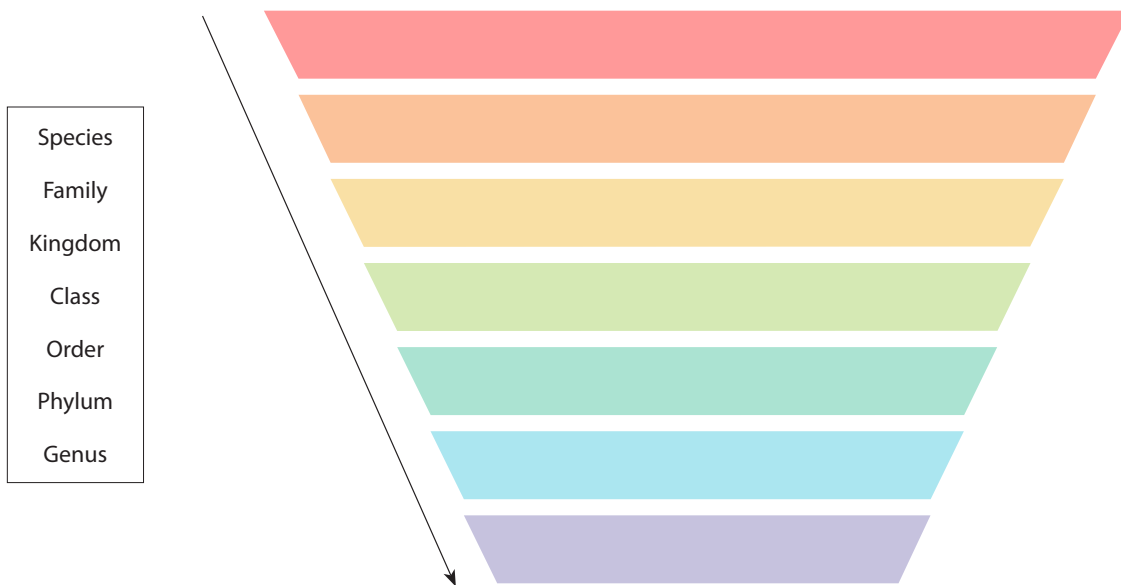


Order: Falconiformes _____



Order: Sphenisciformes

9. Use the words in the box to order the classification categories. Write them in the funnel below. (1.4–1.5)



10. Are you a Homo sapien? (1.5)

Yes

No

Science D

Days 6–10: Date: _____ to _____

Week Overview																	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

Week 2					
Date:	Day 6	Day 7	Day 8	Day 9	Day 10
Mysteries and Marvels of Nature	pp. 14–15	pp. 26–27; pp. 38–39	pp. 50–51	pp. 62–63	pp. 74–75
Activity Sheet Questions	#1–3	#4–9	#10–13	#14–16	#17–21
Incredible Creatures That Defy Evolution I (DVD)	Giraffe (track III)	Platypus (track VIII)			
Do Together		Let's Fight!			Grins and Grimaces
Optional: Lyrical Life Science 2		chap. 3	chap. 4	chap. 8	chap. 5
Additional Subjects:					

Mysteries and Marvels of Nature

Day 6 pp. 14-15

While not overtly supporting macroevolution (see our note in the Introduction), the phrase, “Mammals have developed” is at least suggestive of evolution. The book covers many “mysteries and marvels” of nature, but appears to presuppose that these mysteries and marvels are simply the result of chance and time. Interestingly, page 27 notes, “Every part of a cheetah’s streamlined body is designed for speed.” So are the amazing creatures featured throughout the book the product of randomness or design? You really can’t have both because design entails intelligence, while chance does not. [pp. 26–27].

Incredible Creatures That Defy Evolution I

Day 6 Giraffe (track III)

Note: *Incredible Creatures That Defy Evolution I* offers some amazing insights that coincide well with other things you and your children will learn about animals. As

a result, we’ve scheduled different tracks on the DVD to fit with studies in *Mysteries & Marvels of Nature* and *The Magic School Bus: Inside the Human Body*. However, if you prefer, you are welcome to watch the entire 50-minute DVD in one sitting.

Do Together

Day 7 Let's Fight

Most children find it fascinating to study the peculiar defense mechanisms that many animals possess. Who wouldn’t be intrigued by the poisonous spurs of the duck-billed platypus? Or the vicious tusks of the Arctic walrus?

But what about us humans? Do we have any special defense mechanisms? We don’t mean guns and knives either! Ask your children to brainstorm about what they might use to defend themselves in the wild.

After they’ve thought about it for a while, challenge them to either (1) write a short story, (2) draw a picture, or (3) give a brief oral report that highlights at least two human defense mechanisms. Some candidates: teeth, hands (fists), fingers (nails, claws!), feet (kicking), etc.

In today's reading, your children learned that some animals, such as the mandrill, communicate using facial expressions and body language. Do human beings do the same thing? You bet!

For fun, challenge your children to use only facial expressions or body language to communicate for a certain period of time. No speaking allowed! Are they hungry? Do they have to go to the bathroom? Make them tell you with only their facial expressions or body language.

If possible, communicate your answers back to them in the same way. No words—just body language and facial expressions. Explain to your children that what other people see in their faces and body language can communicate as loudly as if they had spoken. For example, just because they say “OK” doesn't mean that someone can't tell from their body language that they don't want to do something. We always need to strive for clarity in communication, whether it be with our words, our facial expressions, or our body language. ■

Science D: Week 2 Activity Sheet



Mysteries and Marvels of Nature

1. Mammals have hair on their bodies and feed their babies milk. (p. 14)



2. How does a Tamandua make sure it will have a meal another day? (p. 14)

When it feeds on a nest of insects, it leaves part of the nest behind so the insects can rebuild it.
The Tamandua can eat from the same nest another day.

3. Match the animals below to the special tools each is equipped with to help it find food. (pp. 14–15)

vampire bat	
giraffe	
aye-aye	
tiger	

4. Kangaroos' legs are like (Check the box that is true.) (pp. 26–27)

<input checked="" type="checkbox"/> a spring		<input type="checkbox"/> an iron	
the energy from one jump helps to power the next.		pushes everything into the ground	
<input type="checkbox"/> gasoline		<input type="checkbox"/> electricity	
can only run a little while before it runs out		with increased voltage can go faster	

5. A sugar glider _____ from tree to tree. (Circle the correct answer.) (p. 27)

- A) files B) hops C) climbs D) parachutes

6. A cheetah's flexible _____ helps it to run at high speeds. (Circle the correct answer) (p. 27)

- A) legs B) spine C) tail D) head



Science D: Week 2 Activity Sheet

7. How do many mammals impress their mates? (Circle the correct answer) (p. 38)

- A) by fighting with each other B) by their plumage C) by their smell

8. Match each animal below with the "weapon" it uses to win a mate or territory. (pp. 38–39)

9. Challenge: Circle the correct answer to complete the sentences. (p. 39)

- Antlers or Horns are shed each year and regrow.
 (Hint: a bull moose has these!)
- Antlers or Horns are permanent.





Science D: Week 2 Activity Sheet

10. How does a mammal's fur usually help to defend the animal? (p. 50)

- A) it provides camouflage
- B) it's too thick to bite
- C) it keeps the animals warm



11. Why does a zebra's black and white stripes help it to blend in with the green and yellow grasslands where it lives? (p. 50) *(since lions, the zebra's main predator, can only see in black and white, the zebra's striped coat blends in with the way grasses grow, providing great camouflage.)*

12. Check the boxes in front of two ways a polar bear's coat helps it to survive. (p. 51)

- Clear hairs reflect light which makes them look white so they easily blend in with their surroundings.
- It grows algae to help it hide in water.
- Hollow hairs trap and magnify sunlight which helps keep the bear warm.
- It is extra large to give the polar bear mobility.

13. Does a skunk warn attackers before it sprays its smelly liquid, or will it spray without warning? (p. 51)

(A skunk will move into a warning position—raising its tail—when it feels threatened.)

14. How do bats help some flowering plants to reproduce? (p. 62)

(by transferring pollen from one plant to the next as they feed.)



15. When do pangolin (anteaters) NOT eat ants? (p. 62)

(when a pangolin's scales need cleaning. It will allow ants to crawl underneath them to eat pests.)

16. What lives in a cow's digestive system that helps it digest food? (p. 63)

- A) bacteria
- B) viruses
- C) algae



Science D: Week 2 Activity Sheet

17. Mammals communicate by: (Circle all that apply.) (pp. 74–75)

- their coloring
- their scent
- their cries
- their hair styles
- winking
- facial expressions
- grooming each other
- phone calls



18. True or False? Animals in the wild work together. (pp. 74–75)

True False

19. When prairie dogs "kiss" each other, they actually touch _____. (D: teeth) _____ to see

if they belong to the same _____. (C: coterie) _____ (Write the correct answer in the blank.) (p. 74)

- A) tongues
- B) tribe
- C) coterie
- D) teeth

20. When a male mandrill yawns, he is most likely: (Circle the correct answer.) (p. 75)

- A) tired
- B) bored
- C) warning he is frustrated
- D) trying to get a female's attention

21. Why do chimpanzees groom each other? (Circle all of the reasons.) (p. 75)

- to remove dead skin and dirt
- to get ready for a party
- to make friends
- to get ready for bed
- to sort out fights
- to greet one another
- to find a meal
- to comfort each other





Mysteries and Marvels of Nature

1. Mammals have _____ on their bodies and feed their babies _____. (p. 14)



2. How does a Tamandua make sure it will have a meal another day? (p. 14)

3. Match the animals below to the special tools each is equipped with to help it find food. (pp. 14–15)

vampire bat

curved claw to dig out bugs

giraffe

excellent hearing, vision and sense of smell

aye-aye

long, sharp front teeth

tiger

long tongue

4. Kangaroos' legs are like ... (Check the box that is true.) (pp. 26–27)



a spring

the energy from one jump helps to power the next.



an iron

pushes everything into the ground



gasoline

can only run a little while before it runs out



electricity

with increased voltage can go faster

5. A sugar glider _____ from tree to tree. (Circle the correct answer.) (p. 27)

A) **flies**

B) **hops**

C) **climbs**

D) **parachutes**

6. A cheetah's flexible _____ helps it to run at high speeds. (Circle the correct answer) (p. 27)

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B) **spine**

C) **tail**

D) **head**



Science D: Week 2 Activity Sheet

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B) **by their plumage**

C) **by their smell**

8. Match each animal below with the "weapon" it uses to win a mate or territory: (pp. 38–39)



walrus



moose



platypus



spur



tusks

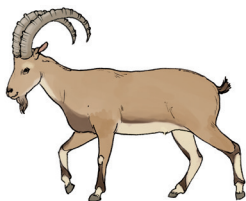


antlers

9. **Challenge:** Circle the correct answer to complete the sentences. (p. 39)

Antlers or **Horns** are shed each year and regrown.
(Hint: a bull moose has these!)

Antlers or **Horns** are permanent.





10. How does a mammal's fur usually help to defend the animal? (p. 50)

- A) **it provides camouflage** B) **it's too thick to bite** C) **it keeps the animals warm**

11. Why does a zebra's black and white stripes help it to blend in with the green and yellow grasslands where it lives? (p. 50) _____

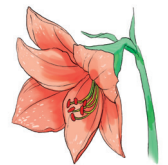


12. Check the boxes in front of two ways a polar bear's coat helps it to survive. (p. 51)

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- It grows algae to help it hide in water.
- Hollow hairs trap and magnify sunlight which helps keep the bear warm.
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13. Does a skunk warn attackers before it sprays its smelly liquid, or will it spray without warning? (p. 51)

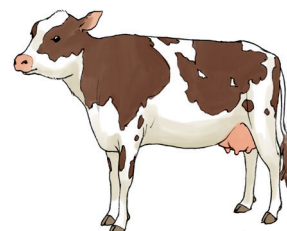
14. How do bats help some flowering plants to reproduce? (p. 62)



15. When do pangolin (anteaters) NOT eat ants? (p. 62)

16. What lives in a cow's digestive system that helps it digest food? (p. 63)

- A) **bacteria** B) **viruses** C) **algae**





Science D: Week 2 Activity Sheet

17. Mammals communicate by: (Circle all that apply.) (pp. 74–75)

their coloring

their scent

winking

grooming each other

their cries

their hair styles

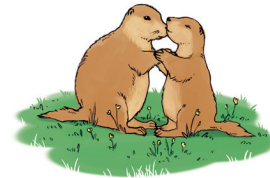
facial expressions

phone calls

18. **True** or **False**? Animals in the wild work together. (pp. 74–75)

True

False



19. When prairie dogs “kiss” each other, they actually touch _____ to see

if they belong to the same _____. (Write the correct answer in the blank.) (p. 74)

A) **tongues**

B) **tribe**

C) **coterie**

D) **teeth**

20. When a male mandrill yawns, he is most likely: (Circle the correct answer.) (p. 75)

A) **tired**

B) **bored**

C) **warning he is frustrated**

D) **trying to get a female’s attention**

21. Why do chimpanzees groom each other? (Circle all of the reasons.) (p. 75)

to remove dead skin and dirt

to sort out fights

to get ready for a party

to greet one another

to make friends

to find a meal

to get ready for bed

to comfort each other



Science D

Days 11–15: Date: _____ to _____

Week Overview																	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

Week 3					
Date:	Day 11	Day 12	Day 13	Day 14	Day 15
Mysteries and Marvels of Nature	pp. 86–87	pp. 98–99; pp.110–111	pp. 122–123	pp. 12–13	pp. 24–25, pp. 36–37
Activity Sheet Questions	#1–3	#4–8	#9–12	#13–17	#18–21
Incredible Creatures That Defy Evolution I (DVD)		Beaver (track VII)			Woodpecker (track IV)
Do Together		Sweet Dreams	See No Evil		
Optional: Lyrical Life Science 2		chaps. 6–7			
Additional Subjects:					

Do Together

Day 12 Sweet Dreams

Talk about sleep with your children today. Do they have a favorite place to nap? How is their bed like a den? Do they ever hang blankets around their bed to create a tent? How much sleep do they think they need to function properly?

If you feel like it and can afford the time, take a short nap with your children today. Find a comfy spot, pile under some blankets, grab a short story or two to read, and just enjoy the time together. Make getting a good night's sleep (and maybe even an occasional nap!) a priority. Your children will thank you for it later!

Day 13 See No Evil

Too often, we take for granted all five of our senses and how they work together to produce the experience that we daily call "life." Only when one of those senses is compromised do we realize how important it is.

Today, talk with your children about their five senses. What would it be like if they could not see? Hear? Feel? Smell? Taste? What would it be like to live in a dark hole underground like a mole?

Have them try out what it would be like to live for a while without sight. Blindfold them with a headband or kerchief, and then ask them to identify various things, using only their ears, hands, nose, or tongue. Feel free to use foods (cold spaghetti, grapes), everyday objects (remote control, fork), as well as some strange objects they're not used to interacting with everyday (go to the garage for items such as a broom or an oil pan). ■

Science D: Week 3 Activity Sheet

Mysteries and Marvels of Nature

Complete the sentence.

- Mammal mothers take care of their babies /young and feed their babies milk.
- Why are monotremes unique mammals? because they lay eggs!



- How does a marsupial carry its young? in a pouch

4. Which mammal sleeps in a tent? (Circle the correct answer.)

- A) bat
- B) fox
- C) koala
- D) beaver



- What is the only way to get into a beaver lodge?

through the underwater entrance!

6. True or False? Koalas only climb trees to eat because they sleep on the ground.

False

Why? Koalas eat and sleep in trees. They only climb to the ground to move to a different tree.

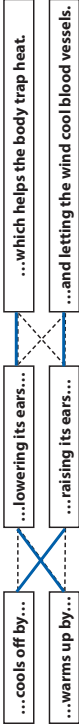
Complete the sentence:

- Mammals' bodies stay at the same temperature but they can still feel the cold or heat. This means that they are warm-blooded.



Science D: Week 3 Activity Sheet

- Draw lines between the boxes to make two true sentences. (p. 110)
A jackrabbit ...



- Tarsiers have _____ that help them hunt at night. (Circle the answer.)

- large eyes
- flashlights
- good friends
- bright colors

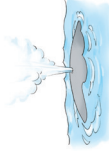


- List 5 characteristics of mammals. (Review) (pp. 14–122)

- All mammals have fur or hair.
- Mammals take care of their babies/young.
- Mammals feed their babies milk.



- Mammals' bodies stay at the same temperature unlike reptiles who must lay in the sun to get warm. This means mammals are warm-blooded.



- All mammals breathe air.



Science D: Week 3 Activity Sheet

11. Match the correct animal to the way it escapes its enemies. (Review) (pp. 50–123)



opossum



skunk



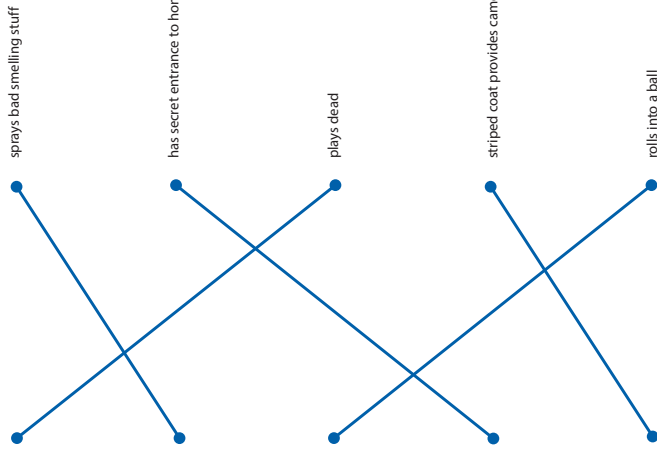
armadillo



beaver



zebra



sprays bad smelling stuff

has secret entrance to home

plays dead

striped coat provides camouflage

rolls into a ball



Science D: Week 3 Activity Sheet

12. Solve the riddles with mammals studied in your book. (pp. 15–122)

I grow up in my mother's pouch.
I am called a joey.
What am I?

(a wallaby or kangaroo)

I am a mammal that lays eggs.
My babies like the milk that
oozes from my skin.
I have webbed feet and a bill.
What am I?

(a platypus)

I have bold black and white stripes
that blur in the heat haze
of the African plain.
What am I?

(a zebra)

My antlers are rounded, and grow
from eating various plants, and
sometimes, other antlers.
What am I?

(a moose)

Though I look white,
my fur is clear and my skin is black,
which helps me to stay warm.
What am I?

(a polar bear)

My tongue is longer than an
anteater's, and I'm designed
to reach parts of a tree that
other animals can't.
What am I?

(a giraffe)

I build a lodge in the middle
of a lake.
What am I?

(a beaver)

I use two flaps of skin between my front and back legs to parachute from tree to tree.
What am I?

(a sugar glider)

13. Circle two body parts that birds use to catch food. (p. 12)



(beaks and feet)

14. List three techniques birds use to catch prey. (pp. 12–13)

- 1) (possible answers: speed)
- 2) (acrobatic skill)
- 3) (keen eyesight; stealth; cunning; bait)

15. Which birds work in teams to fish? (p. 12) (pelicans)



Science D: Week 3 Activity Sheet

16. Use the word bank to complete the sentences about owls. (p. 13)

hearing ears front

Owls have a very strong sense of hearing. Even though their ears are on the sides of their heads, they face to the front and dish shapes on their faces help channel sounds.

17. Birds use their beaks to collect food. Match the following beaks to the correct function. (pp. 12–13)



pelican



green heron

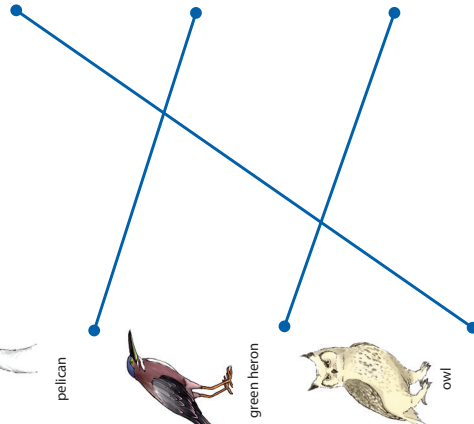


owl

tear food apart

scoop up fish

spear fish on pointed end



18. True or False? All birds fly. (p. 24)

True

False

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Science D: Week 3 Activity Sheet

19. What do large birds do to help them take off? (p. 24)

run

20. What two types of territories do birds fight over? (p. 36)

1) breeding territories

2) feeding territories

Challenge! Why do you think birds defend these territories?

To breed successfully, birds need a safe place to build their nests.

freedom from disturbances, and a good supply of food.

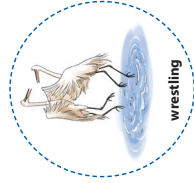
21. Circle the ways birds keep others away from their territory. (pp. 36–37)



tapping



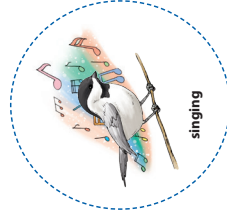
eating all the food



wrestling



bribing them with fish



singing



bringing them flowers

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Mysteries and Marvels of Nature

Complete the sentence.

1. Mammal mothers take care of their _____
and feed their babies _____. (p. 86)



2. Why are monotremes unique mammals? (p. 87)
- _____

3. How does a marsupial carry its young? (p. 87)
- _____

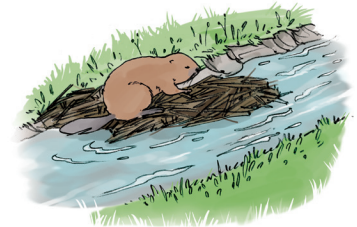


4. Which mammal sleeps in a tent? (Circle the correct answer.) (p. 98)



- A) **bat** B) **fox**
C) **koala** D) **beaver**

5. What is the only way to get into a beaver lodge? (p. 99)
- _____



6. **True or False?** Koalas only climb trees to eat because they sleep on the ground. (p. 99)

True

False

Why? _____

Complete the sentence:

7. Mammals' bodies stay at the same _____ but they can still feel the cold or heat.
This means that they are warm-blooded. (p. 110)

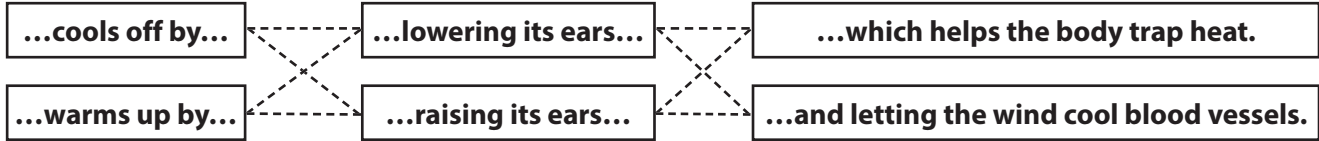


Science D: Week 3 Activity Sheet

8. Draw lines between the boxes to make two true sentences. (p. 110)



A jackrabbit ...



9. Tarsiers have _____ that help them hunt at night. (Circle the answer.) (p. 123)

- large eyes
- flashlights
- good friends
- bright colors



10. List 5 characteristics of mammals. (Review) (pp. 14–122)

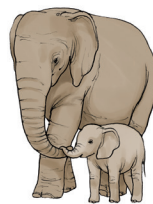
1) All mammals have _____ or _____.

2) Mammals take care of their _____.

3) Mammals feed their babies _____.

4) Mammals' bodies stay at the same temperature unlike reptiles who must lay in the sun to get warm. This means mammals are _____.

5) All mammals breathe _____.



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11. Match the correct animal to the way it escapes its enemies. (Review) (pp. 50–123)



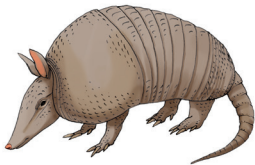
opossum

sprays bad smelling stuff



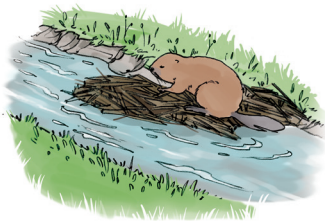
skunk

has secret entrance to home



armadillo

plays dead



beaver

striped coat provides camouflage



zebra

rolls into a ball

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Science D: Week 3 Activity Sheet

12. Solve the riddles with mammals studied in your book. (pp. 15–122)

I grow up in my mother's pouch.
I am called a joey.
What am I?

I am the fastest land animal.
What am I?

I have bold black and white stripes
that blur in the heat haze
of the African plain.
What am I?

I am a mammal that lays eggs.
My babies like the milk that
oozes from my skin.
I have webbed feet and a bill.
What am I?

Though I look white,
my fur is clear and my skin is black,
which helps me to stay warm.
What am I?

My antlers are rounded, and grow
from eating various plants, and
sometimes, other antlers.
What am I?

I sleep with one eye open and help
fishermen in Myanmar catch fish.
What am I?

My tongue is longer than an
anteater's, and I'm designed
to reach parts of a tree that
other animals can't.
What am I?

I build a lodge in the middle
of a lake.
What am I?

I use two flaps of skin between my front and back legs to parachute from tree to tree.
What am I?

13. Circle two body parts that birds use to catch food. (p. 12)



14. List three techniques birds use to catch prey. (pp. 12–13)

- 1) _____
- 2) _____
- 3) _____

15. Which birds work in teams to fish? (p. 12) _____

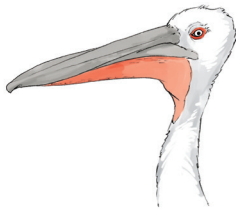


16. Use the word bank to complete the sentences about owls. (p. 13)

hearing	ears	front
---------	------	-------

Owls have a very strong sense of _____. Even though their _____ are on the sides of their heads, they face to the _____, and dish shapes on their faces help channel sounds.

17. Birds use their beaks to collect food. Match the following beaks to the correct function. (pp. 12–13)



pelican

tear food apart



green heron

scoop up fish



owl

spear fish on pointed end

18. **True** or **False**? All birds fly. (p. 24)

True

False

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Science D: Week 3 Activity Sheet

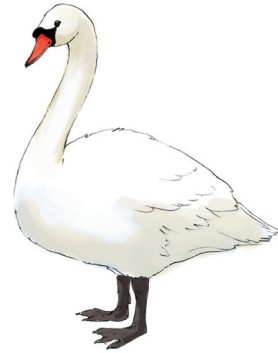
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tapping



eating all the food



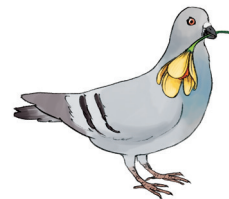
wrestling



bribing them with fish



singing



bringing them flowers

Section Three

Appendices

Appendix 1: Science D—Weekly Subject List

Week	Subject
1	biology/taxonomy/kingdoms/classification
2	mammals/giraffe/platypus/camouflage/defense/symbiosis
3	mammal nourishment, rest, and temperature/beaver/mammal senses/hunting and prey/birds/bird territories /woodpecker
4	camouflage/birds/eggs/chicken egg/incubator/nests
5	reptiles and amphibians/bird feathers (type and function)/bird eyelid
6	frog life cycle/reptiles and food/animal and reptile defense/gecko/symbiosis
7	reptile and amphibian survival and senses/ocean feeding/underwater locomotion/chuckwalla lizard/reptile and amphibian communication
8	ocean creature defense and survival/ocean creature symbiosis/shoals/dolphins/whales/ocean creature breeding
9	habitats/seas and oceans/underwater life/food webs/camouflage/coral reefs
10	symbiosis/poisonous animals/sharks/rays/whales/dolphins/deep sea life/migration/Arctic and Southern oceans/ walruses/penguins/waves
11	currents/tides/coasts/seashore life/hurricanes/tsunamis/boats and ships/submarines/shipwrecks/ocean resources/ ocean pollution/overfishing
12	undersea facts/insects/spiders/bombardier beetle/insect camouflage and mimicry/ Greenhouse Gases
13	insect colonies/bees/metamorphosis/insect homes/unique insect features/ termites/ butterfly life cycle
14	butterfly life cycle/caterpillars/cocoons/insect eyes
15	photosynthesis/leaves
16	plant life/plant parts/flowers
17	animal-eating plants/plant movement/spores/plant defense/plants
18	plant communities/plants/spores/parasites/plant survival/ GMO
19	plant growth/seeds/plant growth and nutrition/life cycle of flowering plants
20	botany (radishes)
21	botany (radishes)
22	botany (radishes)
23	botany (radishes)/experiment evaluation
24	botany (corn/beans)
25	botany (corn/beans)
26	botany (corn/beans)
27	botany (corn/beans)
28	botany (corn/beans)/plant cells
29	taxonomy/cells water/prokaryotic and animal cells
30	organelles/protists (protozoa)/microscope/Protista movement
31	protists (protozoa)/euglena/paramecia/amoeba/ earth/ecosystems
32	food cycle/air cycle/water cycle/water/saltwater/freshwater
33	water and plants/plankton/water life/ponds/lakes/wetlands/rivers/oceans/tides/currents/water and erosion/weathering/ storms/convection
34	clouds/water cycle/body water/water power/underground water/caves/water purification/rural water/ water and industry
35	pollution/flood and drought/ climate change/water conservation/water facts and figures/ water timeline/human physiology
36	Rachel Carson



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