



Science B



INSTRUCTOR'S GUIDE



SONLIGHT

Thank you for downloading this sample of Sonlight's Science B 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

**Homeschool
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Science (5-Day)

Animals, Astronomy, and Physics

by The Sonlight Team

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

Psalm 19:1 (NIV)

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Sonlight Curriculum® “Intro to the World: Cultures” (5-Day) Instructor’s Guide and Notes, Twenty-Ninth 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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SCIENCE Instructor's Guides

Try before you buy!

Get a three week sample of any Sonlight Instructor's Guide—FREE!

sonlight.com/samples

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

Days 1–5: Date: _____ to _____

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
<i>Children's Encyclopedia</i>	pp. 8–9		pp. 10–11	pp. 12–13	pp. 14–15
Activity Sheet Questions	#1–2 [a]		#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. [a]

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:

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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 experiments as boring demonstrations without making much of a point, it's time for you and your children to try *The Usborne Book of Science Activities, Vol. 2*. Packed with simple activities and experi-

of the page. It is of your reading, in the book for

of, but the center is called the layers egg. The shell and the yolk is in egg and talk the "core," you'll cut the egg in the "Earth". Of an egg, but nei- warts on the top

Parental Notes

Week 1 | 1

Instructor's Guides A-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 cutouts, 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 .

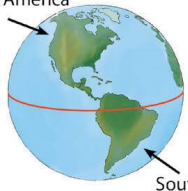
5. Can you name the four seasons? (p. 12)

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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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 everyone 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. ■

1. How many continents does the Earth have? Count them. (p. 8)

(7)

On which continent do you live? (Answers will vary.)

2. Why is a day 24 hours long? (Put an X next to the correct answer.) (p. 8)

☒ because that's how long it takes for the Earth to spin once on its axis

☐ because that's how long it takes for the Earth to travel around the Sun

3. Discuss with Mom or Dad: Why is it daytime on only one side of the Earth at a time? (p. 10)

(As the Earth turns, only one side faces the Sun; one side of the Earth is in light while the other side is in the shadow.)

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.

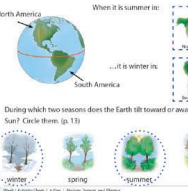
5. Can you name the four seasons? (p. 12)

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)



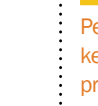
winter



spring



summer



fall

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



“I am so thankful for Sonlight Science,” writes Janine B of Peoria, AZ. “The gentle overview of many topics in Science A has kept both of us engaged all year. I love that the materials are all provided in the Science Supply kit, so I’m not left scrambling for uncommon items on the morning of Experiment Day. Thank you, Sonlight, for making my job easy!” In this picture, Levi (7, Science A) learns about carbonation with the help of some raisins.

Welcome!

In Science B, you will learn about biology, zoology, astronomy, human anatomy and physiology, and magnetism.

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. Therefore you will find we follow a spiral pattern of education, touching on certain topics repeatedly this year and again in future years.

In this way the basic *vocabulary* of science becomes ingrained not only in short-term, but also in 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 behaviors cannot be taught simply by reading books; they have to be modeled.

One quick note before you begin: The experiments 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.

Evolution and the Age of the Earth

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. We encourage you, as the parent, 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 view 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 question 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

Inside this Instructor's Guide, 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.

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 it.

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 student's 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.

Helpful Hints for Using the Cut-Out Sheets

We hope that the cut-out sheets included in this guide will be a wonderful resource for you and your children. They should provide your student with another avenue for

demonstrating comprehension even though they have not yet mastered the written language. Some of the questions on the Activity Sheets ask the student to write simple words (usually terms they are studying in the material at the time). Whenever this occurs, we have structured the sheet to already include the word in dashed letters. We suggest your children practice forming letters to produce a word to show familiarity with science concepts while minimizing the work involved. More importantly, these exercises also allow your children to practice their writing skills in a very practical way. By integrating handwriting and science skills, your children will begin to see how two separate subjects are related and how each is important to the other.

So why the dashed letters? This relates to an educational concept called “scaffolding.” When you “scaffold” knowledge, you give them a little information that they didn’t have before to get them to a higher level of comprehension than they might have been able to achieve on their own. For example: students are asked to label the four stages of a butterfly’s life. It would be very difficult for children to recognize the “pupa” stage, think of the word “pupa,” remember that the letters p-u-p-a spell “pupa,” and then get their pencil to actually write p-u-p-a without transforming a “p” to a “b” or a “q” in the process!

With the dashed letters, students are provided with the correct letters in the correct order, and as they trace them, they are helping to memorize how to form the letters correctly in the future. Be sure to talk with your children as they trace to help them read the word and recognize it as something you’ve been talking about—not just tracing.


A Few Other Helpful Hints

1. Write or color first, then cut out. Small pieces of paper are hard to work with, even if your children have fully developed fine motor skills. Eliminate some frustration for your children (and mess for you!) by cutting out the pieces last.
2. Assist with cutting! Always be sure to help your children with scissors. Safety scissors with the rounded tips are best (especially for younger children), but they can still cause damage to items you’d rather not cut, or even to children themselves. Cut with care as a pair! **Also:** a few of the pieces may be small or require a little fancier scissor work. We recommend that an adult cut out these pieces (to prevent frustrating your children), or share the cutting project—give your children some to do (larger, more basic pieces) while you work on the harder ones.
3. Resist the temptation to do it all! No matter how prepared you’d like to be for a day of teaching, don’t think that you need to cut things out ahead of time. Your children will love to help! Not only will they achieve a sense of accomplishment when they have finished, but they are also learning a valuable life skill while developing their fine motor skills.

Practical Suggestions 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

For your convenience, we have created a website that is dedicated to providing you with links that we thought may be helpful for supplementing the material your children will be learning. That website is <http://www.sonlight.com/iglinks.html>. Every time we have provided a corresponding link on this page, you will see this symbol: . 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 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.html . Report new information by sending a short e-mail to: IGcorrections@sonlight.com. It would be helpful if the subject line of your email indicated where the problem is. For instance, “Science B/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 might 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 these instructions help you. If we can be of any further assistance, please don’t hesitate to write or call or, better yet, visit us at forums.sonlight.com . We would love to be of service. **I would especially like to encourage you to visit the Sonlight Forums.** There you can converse with other homeschoolers, seek advice, offer your insights, and join our community. If you are looking for help and encouragement, our forums are just for YOU! ■

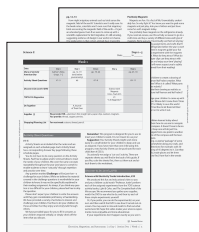
Science B—Science Supplies

BSK (Science Supplies Kit) Item	Week(s) Used
magnet pack	13, 14, 16, 17, 19, 22, 23
thumbtacks	9, 13, 15, 16, 20
paper clips	13, 14, 15, 16, 18, 21, 23
masking tape (sticky tape, adhesive tape, etc.)	8, 13, 14, 15, 16, 19, 20, 21, 23, 25, 26, 28, 29, 30, 31, 33, 34
tissue paper	14, 24
cow magnet	14, 15, 18
straight pins	5, 14, 15, 18, 21, 31
aluminum foil	4, 15, 24, 25, 26
Styrofoam tray	4, 15
cork	3, 15, 19
nail, steel	15, 21
clay (plasticine, model dough, etc.)	3, 4, 8, 17, 18, 19, 20, 21
iron fillings pac	19
AA batteries	20
straws	5, 20, 21, 30
rubber bands	20
wire	5, 20
spools	8, 21
tubing	2, 4, 9
toothpick	3
balloon	3, 26
tracing paper	24, 28, 31, 33
paint powder	7
magnifying glass	10, 30
sponge	10
carbon paper	27
mirrors	25, 27, 28, 29, 34
marble	30
colored cellophane square	32

Quick Start Guide—Science

The Sonlight Instructor's Guide (IG) is designed to make your educational experience as easy as possible. We have carefully organized the materials to help you and your children get the most out of the subjects covered. Subjects are interwoven to avoid redundancy and to get the most out of your day.

This IG includes an entire 36-week schedule, notes, assignments, readings, and other educational activities. Sonlight's unique literature based approach to learning promotes an enjoyable learning experience that will keep your children asking for "just one more chapter, please." What helpful features can you expect from the IG?

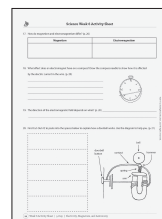


Easy to use

Schedule pages are laid out so a quick glance will tell you exactly what to do each day. Check off each assignment as you go to create instant records. Notes for each book follow directly behind the schedule page.

Activity Sheets

Engage your students with easy-to-follow Activity Sheets to express their growing knowledge as they explore and discover. Same-view answer keys make it easy to check your student's work.



Science Experiments

Truly explore with hands-on science experiments. Sonlight Science Supply kits contain the hard-to-find materials to complete science experiments.

Notes

When relevant, you'll find notes about specific books to help you know why we've selected a particular resource and what we hope children will learn from reading it. Keep an eye on these notes to also provide you with insights on more difficult concepts or content (look for "Note to Mom or Dad").

Note: The Yangtze River is the third longest river in the world. The author talks about "the yellow waters of the Yangtze river." The river carries an enormous amount of silt from higher elevation in Western China. It drops the silt on the central plains which creates good soil for rice planting. In 2010, the Chinese government completed the Three Gorges Dam across the Yangtze, the world's largest dam. It generates electricity and will hopefully cut down on flooding. To build it, the government moved 1.2 million people.




Instructor's Guide Resources and New User Information

Don't forget to familiarize yourself with some of the great helps you get when purchasing a guide from Sonlight. In the **My Downloads** section of your Sonlight Account, you will find New User Information, extra schedule pages, field trip planning sheets and so much more. An overview of topics covered is located in **Section Four** of the guide.

Science B

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
The Usborne World of Animals	pp. 6–7	pp. 8–9	pp. 10–11	pp. 12–13	pp. 14–15
Activity Sheet Questions	#1	#2–3	#4–5	#6–8	#9
Do Together	Kids' Choice		The World Around You	Lunch Time	
Shopping/Planning List	For next week: Science Notebook  : sheets of paper tied with yarn or a spiral bound notebook or an artist's sketchbook (use for all experiments); various empty containers to hold water, jar with water, funnel, soda bottle filled part way with water, books.				
Additional Subjects:					

The Usborne World of Animals

Day 1 pp. 6–7

The book says, “Earth is the only known planet to support living things.” Isn’t that amazing? Scientists known as astrobiologists attempt to find signs of life in space. While other planets have been discovered, the conditions necessary for them to support life would need to be finely tuned in a number of ways for life to be able to survive in these worlds. Is earth just a lucky planet capable of sustaining life or is there a greater design involved? Although this documentary is too advanced for young children, you might want to take a look at the DVD *The Privileged Planet* (Illustra Media, 2004) to learn more about the idea that earth is finely tuned in a number of ways to support life.

As the book points out, a basilisk lizard can run on water. It can do so only because it doesn’t weigh much (from 2 grams up to about 7 ounces), and because it moves quickly. Due to this unique ability, these lizards have actually been nicknamed Jesus lizards, referring to Jesus and his miracle of walking on water (Matthew 14: 25–31; John 6:16–21). By the way, after about 15 feet of running on water, a basilisk sinks and starts to swim, making it more of a Peter lizard than a Jesus lizard.

Day 3 pp. 10–11

What does the book mean when it says, “Only animals with well-developed wings can fly”? Do some animals have poorly developed wings? If so, which animals do the authors of the book have in mind? Do they think that if an ostrich or penguin had “well-developed wings” these flightless birds could fly? Maybe they should have just written, “Not all animals with wings can fly.”

The origins of flight is a persistent problem for non-theistic macroevolutionists, who not only have to explain flight as being the result of an undirected process despite its apparent complexity, but also must explain it for flying reptiles, birds, mammals (bats), and insects. Given all of the factors necessary for flight to succeed, it seems a stretch to claim that it came about in four different kinds of animals without any sort of intelligent direction whatsoever.

Day 4 pp. 12–13

On page 13, the book says, “All bugs have mouths designed to cope with their different diets.” The word “designed” in the sentence comes across more as accepting the reality of God as designer than the undirected process of non-theistic macroevolution. Isn’t it interesting that even books with a generally secular orientation turn to words such as “design” to describe the natural world? But true design requires intelligence—something that naturalistic macroevolution lacks.

 Parental Notes

The seahorse is not the only animal that “can move its eyes independently of each other.” A chameleon’s eyes can also move independently. Scientists aren’t sure how the chameleon brain is able to make sense of eyes that can look in different directions at the same time.

What animal has the largest eyes? That distinction goes to the colossal squid. One such creature had eyes that measured nearly eleven inches across (10.8 inches).

The method of hunting used by bats and dolphins as described in the book is known as *echolocation* or *biosonar*.

Activity Sheet Questions

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 sets of the Activity Sheets may be purchased for each child (Item #BSG1).

Occasionally we assign a “cut-out” activity. We recommend that you find these separate sheets in Section Three of your guide. If you like, color the sheets first, then cut them out and attach them to the worksheet.

Do Together

Each week throughout Science B, we will provide ideas for fun activities to do with your children. In general, we will try to make the activities actually “active”: performing additional research on a particular topic, playing a game, getting outside, or some other type of “hands-on” activity that seeks to apply what your children have been learning in a meaningful way.

Take our ideas for what they are—mere suggestions—and don’t feel enslaved to them. If your children don’t want to do a particular activity or have a different, better idea, by all means ditch ours and go with theirs!

Put this attitude into practice today by actively listening to your children. As they embark on their studies, what interests them most? What do they want to learn more about? What do they not have an interest in? Do they have any ideas for fun activities they could do that relate to what they’re learning about?

Make a list of their thoughts and ideas. Then let them pick one to do today. In this way, you will let them know that their opinion is important. Children who feel they have an important, active role in determining what they learn about will be more engaged in their studies. Have fun and treasure these times together.

Today, spend some time outside with your children. It’s always fun to “do school” outside. Your children will enjoy the change of pace and so will you!

As they begin their study of the wonderful world of animals, go on a tour around your yard and/or neighborhood. What animals do they see? Do you have any “hairy” animals nearby, such as dogs, cats, deer, raccoons, squirrels, badgers, etc.? What about feathered friends? How many different types of birds can your children spot? Don’t forget about the creepy crawlies! Can your children find any examples of insects, bugs, reptiles, and/or amphibians?

What do your children notice about the animals they see? Reinforce what they learned this week about how animals move. Did they see any animals that slithered? Ran? Swam? Flew?

As you begin this year’s Science studies together, be on the lookout for ways to reinforce what your children read about. Nearly every day, you will likely run across opportunities to discuss something your children see in the “real” world and connect it to something that they’ve read about in their books. When you homeschool your children, learning can—and often does—occur any time and anywhere. So be prepared and make the most of these moments when they present themselves. You never know when the most mundane of occurrences will reinforce an important lesson and help cement it in your children’s minds.

Today, ask your children to help you make a nutritious lunch. What are they hungry for? Peanut butter and jelly sandwiches? A salad? Maybe a nice fish fillet?

As you plan, prepare, and cook lunch, use the time to discuss what they learned today about the many different types of foods that animals eat. Have your children ever thought about what they have in common with other animals? If they eat fish, they have something in common with certain birds, such as the kingfisher. If they eat meat, they’re just like any of a number of carnivores. If they eat their vegetables, then they have something in common with the thousands upon thousands of animals who rely on plants to survive.

After lunch, spend some time discussing what they would eat if modern supermarkets did not exist. Ask them to pretend that they are pioneers who have just come to America for the first time. There are no grocery stores just down the street. If they want to eat, they’re going to have to be resourceful. How would they go about finding food? Would they hunt for animals? Search for edible plants? Go fishing? Have fun comparing what life must have been like for our early ancestors to the relative ease with which we feed ourselves today.

Supplies/Shopping Planning List

Supplies

Note to Mom or Dad: When supplies are listed as **We provide**, they are materials found in your course-specific (BSK) supplies kit. When supplies are listed as **You provide**, they are materials you can generally find around your home. We will also help provide a list of materials that will be needed for the following week, to help you prepare in advance.

Science Notebook

Scientists keep diaries and journals. In these journals they record their theories, the procedures of their experiments, and their observations as their experiments progress. Their hope is that the results they observe will lead to new discoveries. Skills of observation and data collection are therefore fundamental to scientific research. These are important skills and habits for everyone to learn.

Help your children to learn this discipline by working with them to record their experiments and observations in their own personal Science Notebook.

You can either make your own notebook by tying together sheets of paper with yarn or use a spiral-bound notebook. I prefer to use the bound ruled notebooks that college students use because they are durable and stack so nicely on our bookshelves. Don't worry about making it too complicated. Just provide a vehicle for recording drawings, questions, and observations. Make a special heading for each new experiment or field trip.

Perhaps someday when your children are grown and working as medical doctors keeping logs on their patients, or are researchers, keeping records of their experiments, you can smile to yourself and remember how you helped to get them started. ■



The Usborne World of Animals

Note: We have provided lines for dictation. Simply note your children's answers as you talk about each question.

1. Where will you find the most animals living in one place? (p. 7)

- ☐ North America ☐ Deserts
☐ Antarctica ☒ Rainforests



2. Write the letter of the correct picture next to each statement that describes that kind of animal.

(pp. 8–9)

(E) All have dry, scaly skin. (C) All have feathers.

(B) All have six or more legs. (C) All have wings.

(D) All live in the water. (C) All lay eggs.

(A) Mothers feed milk to their babies. (A) All have hair or fur to keep warm.



A mammal



B bugs



C bird



D fish



E reptile

Animals, Astronomy, and Physics | 5-Day | Week 1 Activity Sheet 1



3. What fraction of all animals are bugs? Shade the picture of the Earth to show your answer.* (p. 9)



*Mom or Dad: If this is your children's first experience with fractions, you may want to talk through this question.

4. What are flying animals' bodies like? (Circle the best choices.) (p. 11)



Light



heavy

strong

weak

arms

wings

bodies, muscles to power their

2 Week 1 Activity Sheet | 5-Day | Animals, Astronomy, and Physics



5. Match each creature to the way it moves. (pp. 10–11)



snake



flying squirrel



orca



horse



jellyfish

uses tail to push through the water

uses muscles to move body back and forth in an S shape

squirts water backward to move forward

moves diagonally opposite legs to walk

uses flaps of skin to glide through the air

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Animals, Astronomy, and Physics | 5-Day | Week 1 Activity Sheet 3



6. Carnivores eat meat.

Herbivores eat plants.



Look at the teeth of each animal and label either **carnivore** or **herbivore**. (p. 12)



(carnivore)



(herbivore)

7. Match the following mouths to their function. (p. 13)



sticky

(C)



hook

(F)



pliers

(A)



saw-tooth

(D)



tube

(B)

A. to nip tiny pieces of plants

D. to hold slippery fish

B. to pierce skin and suck blood

F. to tear meat

C. to stick to food

4 Week 1 Activity Sheet | 5-Day | Animals, Astronomy, and Physics



8. Name one food bugs eat. (p. 13)

(Possible: plants; other bugs; animal droppings; dead animals)



9. Draw a line to show why each animal has each kind of eye. (p. 15)

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on the side
of its head



on the front
of its head

to see a wider area
and have clear vision
in the middle

to watch for
predators
while feeding



The Usborne World of Animals

Note: We have provided lines for dictation. Simply note your children's answers as you talk about each question.

1. Where will you find the most animals living in one place? (p. 7)

☐

North America

☐

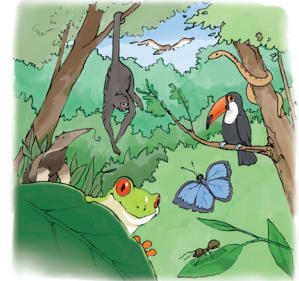
Deserts

☐

Antarctica

☐

Rainforests



2. Write the letter of the correct picture next to each statement that describes that kind of animal.

(pp. 8–9)

_____ All have dry, scaly skin.

_____ All have feathers.

_____ All have six or more legs.

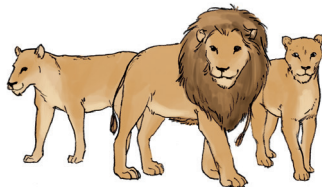
_____ All have wings.

_____ All live in the water.

_____ All lay eggs.

_____ Mothers feed milk to their babies.

_____ All have hair or fur to keep warm.



A mammal



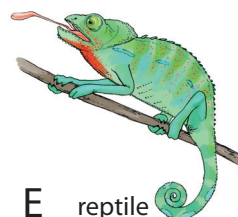
B bugs



C bird



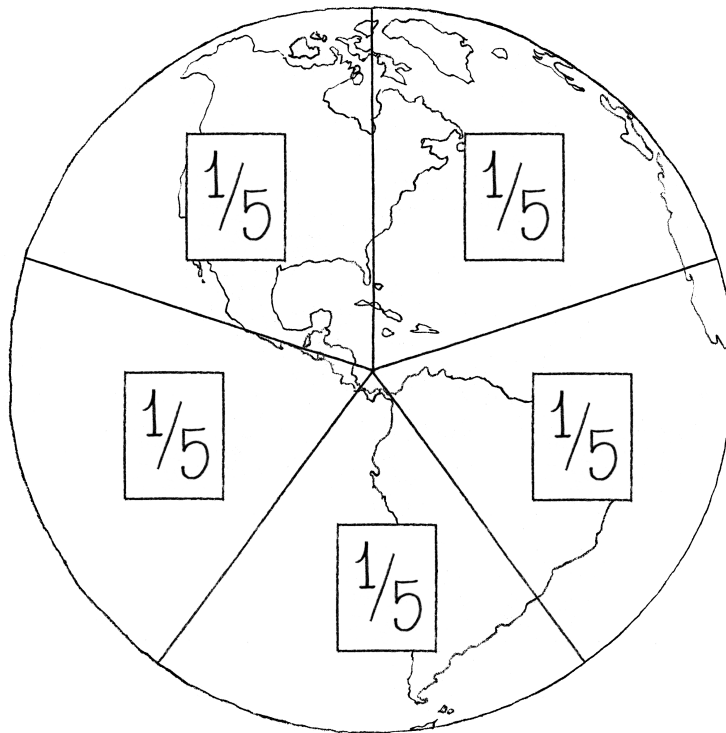
D fish



E reptile



3. What fraction of all animals are bugs? Shade the picture of the Earth to show your answer.* (p. 9)



*Mom or Dad: If this is your children's first experience with fractions, you may want to talk through this question.

4. What are flying animals' bodies like? (Circle the best choices.) (p. 11)



Light

strong

arms

heavy

weak

wings.

bodies,

muscles to power their



5. Match each creature to the way it moves. (pp. 10–11)



snake

- uses tail to push through the water



flying squirrel

- uses muscles to move body back and forth in an S shape



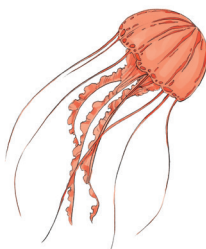
orca

- squirts water backward to move forward



horse

- moves diagonally opposite legs to walk



jellyfish

- uses flaps of skin to glide through the air



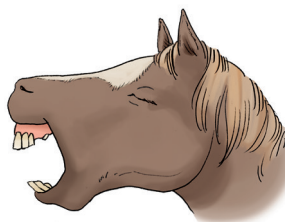
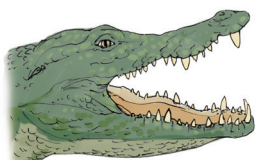
6. **Carnivores** eat meat.



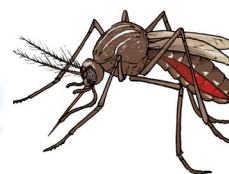
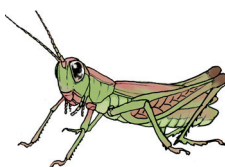
Herbivores eat plants.



Look at the teeth of each animal and label either **carnivore** or **herbivore**. (p. 12)



7. Match the following mouths to their function. (p. 13)



sticky

hook

pliers

saw-tooth

tube

A. to nip tiny pieces of plants

D. to hold slippery fish

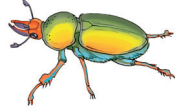
B. to pierce skin and suck blood

F. to tear meat

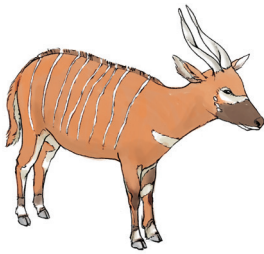
C. to stick to food



8. Name one food bugs eat. (p. 13)



9. Draw a line to show why each animal has each kind of eye. (p. 15)

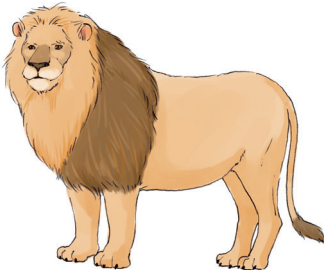


•

to see a wider area

- and have clear vision in the middle

on the side
of its head



•

to watch for

- predators while feeding

on the front
of its head

Science B

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
<i>The Usborne World of Animals</i>	pp. 16–17	pp. 18–19	pp. 20–21	pp. 22–23	
Activity Sheet Questions	#1–2	#3	#4	#5–6	
<i>Discover & Do Level 1 DVD</i>					Before You Begin, Introduction to Science with Water, Tracks #1–2
<i>Science Activities, Vol. 1</i>					“Experimenting with water” pp. 2–3
Activity Sheet Questions					#7
Do Together	The Five Senses	Animal Charades		Getting Bigger	
Supplies	We provide: BSK— plastic tubing. You provide: Science Notebook [N]: sheets of paper tied with yarn or a spiral bound notebook or an artist’s sketchbook (use for all experiments); various empty containers to hold water, jar with water, funnel, soda bottle filled part way with water, books.				
Shopping/Planning List	For next week: various items to test (piece of wood, empty can, sea shell, spoon), large container of water, wide glass of water, felt tip pen/marker/crayon.				
Additional Subjects:					

The Usborne World of Animals

Day 7 pp. 18–19

The book says, "Some animals are very like humans in the ways they communicate." While this is true of some animals in a basic sense, human forms of communication are much more complex. Humans, for instance, have developed complex languages, speaking and writing, as well as inventions to aid in communication such as computers, telephones, Morse code, and more. In these and other key areas, human beings are vastly different from animals such as chimpanzees.

Day 9 pp. 22–23

Do penguins have knees? We just know you want the answer to that question! While penguins don't appear to have knees because of the way they waddle, they do in fact have knees—they're just hidden by fur.

Although the book doesn't use the term, the life cycle transformation of caterpillar to butterfly is known as *metamorphosis*.

[N] Parental Notes

Discover & Do Level 1 DVD

We produced this fun and educational DVD so you and your children could watch “Professor Justin” perform each of the assigned experiments from *Science Activities, Vol. 1*. 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 what works best. We hope this DVD 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 DVD* by using the DVD menu on your screen.

Do Together

Day
6

Five Senses

Have some fun with your children today by testing their five senses. Pick out a variety of fun and interesting items for them to identify. Make them rely on their senses other than sight to try to identify the items. If they can’t figure out what it is by feeling it, smelling it, hearing it, or tasting it (if appropriate, of course), then let them open their eyes to see what it is.

Here are some suggestions you might try: spaghetti (can be especially fun to feel), pickles (they’ll probably smell them first), sugar (taste!), dripping water (listen closely!), a tool or other piece of equipment from the garage, etc. Any interesting or odd objects will work fine. Try to find several different objects that will appeal to each of the senses.

As you have fun with your children, reinforce what they learned this week about animals’ senses. Ask them to compare their own senses to those of various animals. Do they have eyes like a hawk? If they could hear or smell like any animal, which would it be? Enjoy your time together!

Day
7

Animal Charades

To reinforce what your children learned about animal communication today, play a fun game of “animal charades” with them. Their job is to pretend to be a variety of animals. To communicate with you, they must do so without using speech. Animal noises, body language ... even smells or colors ... are all fine.

Urge them to keep their messages short, such as “I’m hungry,” “stay away,” or “be my friend.” Your job is not only to guess what message they’re trying to communicate, but also what animal they’re pretending to be. Encourage them to think beyond the animals discussed in their book. What other animals are they familiar with? How do dogs, cats, birds, squirrels, or badgers communicate with each other?

If your children have a hard time getting started with this game, feel free to go first to show them how to play. Puff out your cheeks like a porcupine fish to try to scare them off. Or pretend to be a chimpanzee mimicking eating a banana or rubbing his stomach to show he’s hungry. If it helps them, tell your children to pretend that you are the same animal they are pretending to be. How would they tell you—a fellow otter or sea lion—that there are plenty of clams nearby? Have fun!

Day
9

Getting Bigger

It’s true. Your babies are growing up. Yes, we know. You don’t want to hear it, but it’s inevitable. Just like the baby animals your children learned about this week, your own children are growing up, too—probably faster and sooner than you want them to. That’s why homeschooling them is such a blessing. You get to spend such quality time with them and help to shape them into the people they will eventually be.

Today, discuss with them how various animals protect and care for their young when they’re most vulnerable. Explain to them how you protect them in similar ways. Use this opportunity not only to reinforce what they’re learning about in their Science studies, but also to let your children know how precious they are to you.

Talk with them honestly about growing up. Discuss with them the challenges they will face and how you will be there to help them through the rough spots. Help them dream big about what they want to be when they get older. Spend some time talking about seeking God’s will for their lives and learning to follow His call. Your children are precious in His eyes, and He has entrusted you with their care. Be sure to set aside some time to thank the Lord for the trust He has placed in you to care for His children. Enjoy these moments that only homeschooling can provide. ■

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The Usborne World of Animals

1. How can animals use their whiskers to avoid getting stuck? (p. 16)

(they know if their whiskers fit through a gap, the rest of their body will too)



2. What two things can antennae sense? (p. 17)



hear



smell



taste



see

3. Why do animals talk to each other? (pp. 18–19)



(to scare away enemies)



(to tell others where to find food)



(to attract a mate)



(to greet friends, comfort each other, etc.)



4. Name two ways male birds win a female for a mate. (pp. 20–21)

(Possible: wrestling, dancing, by building a nest for her)



5. Why do some babies stay with their parents for a period of time? (Circle all that apply.) (pp. 22–23)

they like to

for protection

to learn skills

to have sandwiches made for them

6. Do most reptiles care for their young? (p. 23)

Yes

No



Science Activities, Volume 1

7. What happened when you tried to make the water in the bottle tip? (p. 3)

(the top of the water stayed level with the table)

Why do you think this happened? (because gravity is still pulling

straight down on the water, and it flows as you tip the bottle to

keep the surface of the water level with the ground)

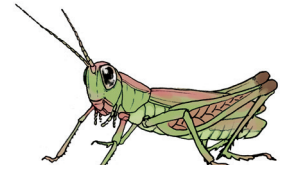


The Usborne World of Animals

1. How can animals use their whiskers to avoid getting stuck? (p. 16)



2. What two things can antennae sense? (p. 17)



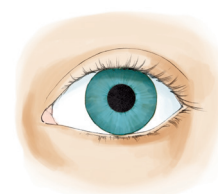
hear



smell

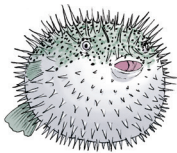


taste



see

3. Why do animals talk to each other? (pp. 18–19)



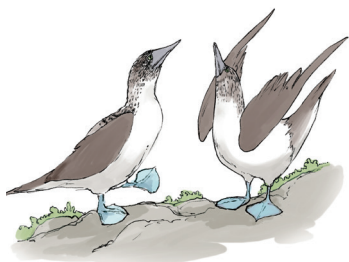








4. Name two ways male birds win a female for a mate. (pp. 20–21)



5. Why do some babies stay with their parents for a period of time?
(Circle all that apply.) (pp. 22–23)

they like to

for protection

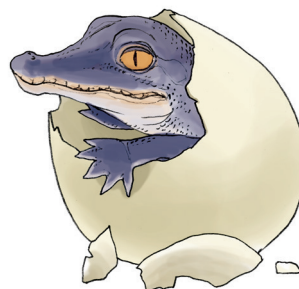
to learn skills

to have sandwiches made for them

6. Do most reptiles care for their young? (p. 23)

Yes

No



Science Activities, Volume 1

7. What happened when you tried to make the water in the bottle tip? (p. 3)

Why do you think this happened?

Science B

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
<i>The Usborne World of Animals</i>	pp. 24–25	pp. 26–27	pp. 28–29	pp. 30–31	
Activity Sheet Questions	#1–2	#3–4	#5–6	#7–8	
<i>Discover & Do Level 1 DVD</i>					Tracks #3–6
<i>Science Activities, Vol. 1</i>					“Floating” pp. 4–5
Activity Sheet Questions					#9
Do Together	An Incredible Journey!		Hide and Seek	Home Sweet Home	
Supplies	We provide: BSK—toothpick, balloon, cork, clay (plasticine). You provide: various items to test (piece of wood, empty can, sea shell, spoon), large container of water, wide glass of water, felt tip pen/marker/crayon.				
Shopping/Planning List	For next week: matchbox, egg carton, empty drink can, container of water, stones, pebbles (or marbles), plastic bowl, jar or small glass, salt.				
Additional Subjects:					

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The Usborne World of Animals

Day 11 pp. 24–25

The book mentions two theories regarding animal migration. First, they might travel by using landmarks as visual reference points. Second, they may navigate using the sun and stars. Another theory is that somehow certain migratory animals use the magnetic poles of the earth as a basis for migration. Even if scientists were to come up with definitive explanations regarding how animals are able to migrate, the fact of migration would remain intriguing as supporting evidence for the reality of an Intelligent Designer.

Science Activities, Volume 1

Day 15 "Floating" pp. 4–5

Wet clay is difficult to work with. Dry it with a paper towel or use dry clay. [p. 4]

Do Together

Day 11 An Incredible Journey!

Today, tell your children they're going to be storytellers. They're not going to be themselves telling just any old story. They're going to pretend to be loggerhead turtles telling the story of their adventures from birth to the sea to their 8,000-mile journey back to the beach on which they were born.

 Parental Notes

To help your children prepare, review with them what they learned about loggerhead turtles from their reading today. Then, use the Internet to do a little more research about these fascinating creatures. Where does their 8,000-mile journey take them? Why do they travel so far? Help your children learn all they can about these turtles.

Then, after they've learned a lot of interesting facts, ask your children to fire up their imaginations. If they were really loggerhead turtles, what would they want the world to know about their incredible journeys? What is it like to be born and head straight into the gigantic ocean? Where do their travels take them? What adventures do they have? Why do they travel like they do? How do they find their way back "home"?

Have fun with your children as you help them expand their creativity and imagination, as well as their storytelling skills, in a way that reinforces what they've learned in their Science studies this week. Feel free to repeat this type of activity at any point in their studies. The more you encourage them to learn to research and present information, even imaginative stories, the better communicators they will become one day.


Day 13 Hide and Seek

Get outside and play an old-fashioned game of "hide and seek" with your children today. Yes, you heard us correctly. We want you to play. There's no reason "school work" can't be fun. That's why you homeschool! Take some time to review with your children what they learned this week about how animals camouflage themselves in various environments. Then challenge your children to put that information to good use in your game of "hide and seek."

Can they successfully camouflage themselves in your particular environment to make it harder to find them? If you live near the woods, perhaps they can camouflage themselves with leaves or fallen tree branches. Or they could wear brown clothing that helps them to blend

in with the trees. If it's raining and you're forced to play inside, maybe they could hide in the closet and disguise themselves with clothing.

The possibilities here are endless. If your children have trouble figuring out how to camouflage themselves, give them all the help they need. Figure out where a good hiding spot might be, and then talk about it with them. Be sure to relate their ideas and experiences back to what they learned in their Science studies this week. We think you'll be impressed by how much they learn when you help them practically apply their knowledge in fun ways. Enjoy your time "playing" together!

Note: for a fascinating video about cuttlefish, masters of camouflage, visit our IG links page .

Day 14 Home Sweet Home





Today, reinforce what your children learned about animal homes by having them compare your home to those of various animals. How is our home similar to an animal's? How are they different? What animal homes could you live in if you had to?

If possible, take some time to get outdoors today. Explore your yard and/or neighborhood, looking for animal homes. Can your children spot any birds' nests in trees? Are there any nearby creeks or rivers where they might find evidence of snakes, crayfish, or even a beaver dam? What about a squirrel's home in a tree or a mole's underground lair? Help your children play detective to see what animals make their homes close to yours.

After exploring animal homes in your area, spend some time discussing human homes with your children. What would you do if houses weren't available for purchase? Where would you live? What kind of shelter would you seek? Pretend that you are a pioneer who has just come to this area to make your home. What materials are readily available to construct a shelter? How would you go about it? ■

Science B: **Week 3 Activity Sheet**



The Usborne World of Animals

- What is it called when animals travel a long way for food or breeding locations? (p. 24)

migration hibernation spawning
- What is it called when animals sleep through the winter? (p. 25)

hibernation insomnia napping
- Draw arrows between the pictures below to show who eats who in the food chain. (p. 26)

- How can two different animals help each other? (pp. 26–27)



(one animal cleans the other, and the first animal provides protection in return)

Animals, Astronomy, and Physics | 5-Day | Week 3 Activity Sheet 9

Science B: **Week 3 Activity Sheet**

- What is camouflage? (p. 28)
(colors and patterns on animal bodies to help them blend in with their surroundings)

- What two things does camouflage help animals do? (p. 28)


1) *(helps them hunt for food)*





2) *(helps them hide from enemies)*


Week 3 Activity Sheet | 5-Day | Animals, Astronomy, and Physics 10


Science B: **Week 3 Activity Sheet**


- Draw a line to match each animal to its home. (pp. 30–31)



bat



acacia thorn



fox


under a leaf


koala


den


ants ★


crook of a tree
- In the previous activity, draw a star next to the animal that helps another living thing by using it for a home. How does it do so? (p. 31)

(the ant lives in the acacia's hollow thorns and defends it from animals that would like to eat the plant)

Animals, Astronomy, and Physics | 5-Day | Week 3 Activity Sheet 11

Science B: **Week 3 Activity Sheet**

Science Activities, Volume 1

- Name three things that float and three things that sink. (p. 4)

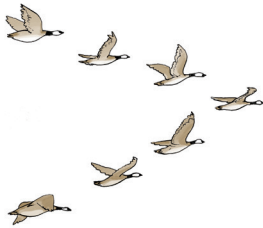
Float:	Sink:
<i>(Answers will vary.)</i>	

Week 3 Activity Sheet | 5-Day | Animals, Astronomy, and Physics 12



The Usborne World of Animals

1. What is it called when animals travel a long way for food or breeding locations? (p. 24)



migration

hibernation

spawning

2. What is it called when animals sleep through the winter? (p. 25)



insomnia

hibernation

napping

3. Draw arrows between the pictures below to show who eats who in the food chain. (p. 26)



4. How can two different animals help each other? (pp. 26–27)

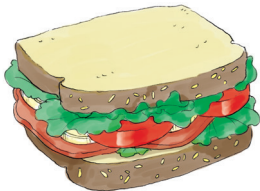




5. What is camouflage? (p. 28)



6. What two things does camouflage help animals do? (p. 28)



1)



2)



7. Draw a line to match each animal to its home. (pp. 30–31)



bat



acacia thorn



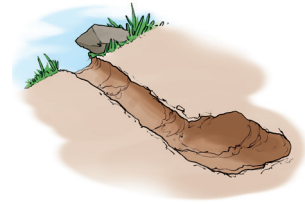
fox



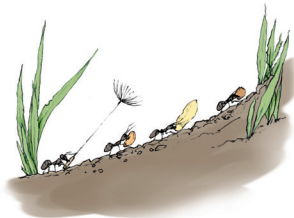
under a leaf



koala



den



ants



crook of a tree

8. In the previous activity, draw a star next to the animal that helps another living thing by using it for a home. How does it do so? (p. 31)



Science Activities, Volume 1

9. Name three things that float and three things that sink. (p. 4)

Float:	Sink:

Appendix 1: Science B—Weekly Subject List

Week Subject

1	animals intro/kingdoms/movement/seeing and hearing
2	smell, taste, and touch/animals/communication/growing up/experiment with water
3	journeys and resting/living together/animal camouflage/animal homes/flying
4	conservation/South and Central America/Andes Mountains/rainforest canopy/fun with boats
5	Amazon/Grasslands/North America/Rocky Mountain/water's skin
6	prairies/Sonoran Desert/Florida Everglades
7	Namib Desert/Congo jungle/Serengeti plains/Okavango Delta/mixing
8	Madagascar/Europe/Pyrenees Mountains/Coto Donana/water power
9	Western Isles/Asia/desert lands/Himalayan Mountains/air and water tricks
10	Sichuan forests/Borneo's swamps/Sumatra/Australasia/take in water
11	Tropical north/the Outback/southern forests/New Zealand/frozen water
12	the Arctic/tundra and taiga/Antarctica/ocean life/water facts
13	coral reefs/open ocean/deep sea monsters/animal facts/magnets
14	animal records and quiz/water cycle/water purification plant/inside the human body (cells and parts)
15	brains and nerves/seeing and hearing/taste and smell/pulling through
16	touch/skin/hair and nails/bones/push and pull
17	joints/muscles/blood/heart/finding a way
18	breathing/voice/teeth/digestion/making magnets
19	water and kidneys/hormones/genes/babies/around a magnet
20	growing and changing/staying healthy/eating healthy/why we need food/electricity and magnets
21	vitamins, minerals, and fibers/digestion and intestines/keeping food fresh/hunger/electromagnets
22	bad foods, fats, allergies/where food comes from/around the world/germs/magnets and machines
23	doctors/xrays/hospitals/being ill, having pain/toys and games
24	germs and accidents/immune system/lights
25	allergies/airborne illnesses/accidents/doctors/traveling light
26	where you live/staying healthy/Pasteur
27	Pasteur/looking in mirrors/space/earth/astronomer's tools/reflections
28	trips to the moon/sun/solar system/changing reflections
29	Mercury/Venus/Mars/asteroid belt/looking around
30	Jupiter/Saturn/Uranus/Neptune/Pluto/comets/tricks of light
31	stars/Milky Way/universe/space travel/making pictures
32	life in space/future in space/oil painting/ice cream/color of light
33	blown glass/pointe shoes/sausages/plastic blocks/light and shadow
34	compact discs/apple juice/skateboard/honey/fun with light and mirrors
35	cotton shirts/chocolate/pencils/electric guitar/ceramic mug
36	rope/cheese/soap/crayons/glass bottle



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