## **Quick Start Guide**

Science Instructor's Guide: Levels K-6

#### Get to Know Your Instructor's Guide

Your Instructor's Guide (IG) gives you the structure and flexibility to teach your children with confidence.

In your Science IG, you'll find detailed Notes that explain how to conduct experiments and discuss the concepts they address. The supply lists on the Schedule pages help you plan ahead for experiments. We also include a handy chart that shows which subjects you'll study and when, so you can plan field trips or other extracurricular opportunities.

Before you dive into your new Sonlight materials, familiarize yourself with your IG. Remember that you are in control of your homeschool; the wealth of information in your IG is here to help you. Only you can decide the right pace for your family. Your IG is a tool to make your life easier as you shape your children's education.

#### 🔊 Plan Your Schedule

			We	<1		Scrett		
- 6	adar.	[Ow]	T(try)	(One )	Dec.4	10mm 5		
ľ	he Oblome Harld of	30.4-7 B*	10.8-9	pp. 10-11 30				
ŀ	arthy Sheet Quantiers	113	64	15.4				
k	-Deyi Nghr Animula					99.3-		
ŀ	whity Sheet Questions		-			P3-11		
k	lyrikonali On Together	Rev Owker 18	-	The Ninks Association 28	-			
100	locarity and the Lovel 1 IND				Moducium to science with mappeds etc2012			
P	clean or Acatelytics, Mart 9 (2)				What can a suggest do? on 26-27			
ŀ	activity Sheet Questions				8-4			
		We provide Mid- We provide Scot artis's destrictions may action (10)	2 magneti, Barri ce Nordcock III d (an for all experie hc), fiercell popul r utions fixed	na ka, paper clips, tape sadu of joper tect with antici accorted iterm is points or onjoint, tepp	yon or a good bour samples (eveds), log box	d rostack ar n. okn. bette		
Ľ		Paleing Cit						
- 6	Other Notes							
ſ								
1.48	The B special means done 1 When capable are billed on 7 56, When capable are fixed	u nate foord in the su The president data set o a "free president data	ter occurrier neda saterial: Scotl institu	e) Mineig Gese shek ar por Jones I Joyde genesily find anned po	it pape. Al 310 a fee live S ritora.	ersamali in Degui		
L Sec. 1	The IS special name does the vacable are binded be Osborne World o	f Animais	ne occionimienta natoriali formali nati na materiali piccian	ny faloning drose school, or your Johanne I Taguine generally ford around you Massar marriels. In earl taining life or is the	it pape. 10 350 a far far S triana. 11 just a lucky plan re a greater design	mandis lays at capable of instituted All		
Las A	The Standard masses down the sequences table or the Usbarrage Moorld of n.4–7 The book uses. Tarth is	a national sector of the secto	en antion termedia service found and re-material pro-dar and to sup-	ny falowing these subsid- er your Science 1 Supuling generally find around you. These execution is and taxining life ar is the third-documentary is might want to take	it pape. 10 330 a for for for for risms. It just a locky plan a greater design too advanced for a lock at the OVO	enamilie laqui et capable of inscised? Alt poung childro lae Privileged		
L N N Str	The 20 spectral masses stress these sagations are labeled in the stress spectra and the stress the Osbornne Woorld on N.4-7 The book sage, "Sarthir is a living things," that the	to note for the test of the test is a second in the test of the test is "Received at the test of t	en accontinueda ateriati favel andi are materiali por der ateri to sup- tra fordanti	ry following their school, or your Joness 1 Japonie generally for arrand pro- theore marries 14 ear taking life ar is the this documentary to might eart 14 Gala- giburits Media, 200	h pages na 1900 a the Nerol rhana. Ih just a lucky pilan na greatar design liko advanciad for a kock at the OVO: B for hear more ad	ensemble base en capable of inscissed? All poung childs for Privileged out the ideal		
THE R R R. L	The St special mass afters their number on block on St other number of their number of States and the states of Schorm e Horidi of Schorf The book says, Starth in a strokebilogies anterop	La mate Nord In the ex- ling workship "share on a "Respective" share of Anderson's fill the cody known plit at amazing "School to find signe of W	en accientemente alerrato favoi aceli recenterato por der anel 10 sup- los finance en apace.	ey Moving their schol, or you known I happing generally ford union of you thear workshill is and taking the arist the third documentary of this school and Ar the book come	It pages. All 380 a fee fee fee fee fease. It just a locky plane is greater design too advanced fee a lock at the OVO- It for learn more all the accustor of an is out, a ta within the	mandih bay et capable of inscired? All poung childs out the deal rys to support of can run o		
THE R A STOR	The IR special name does then applied as backed by the second second second by Goborne Horifd of the Goborne Horifd of the Sock says, "Santhi is a thing thergo have the assertable logges and plants have the other plants have	a man found in the na in provide "shapender" they we have been as a standard of the second to annuality "Schwart to find signs of the been discovered, or cont the work?	en activitered e sterict found metti en meteral process anel to sup- tic forum i in quark. In quark. In quark	c) Minetig there should be not in our 1 inquite generally find unued (in- terining the unit of the children of the unit of the third documentary) might want to the globals triaded, 200 earthst Energytener Arther Eools point and the Eools point.	In pages. All (1906 a file files) file and the file file internal file internal file and the file internal file and the file internal file and the file internal fil	manufik lays at capable of instituted A poung childs for Physioged out the sheat out the sheat out the sheat of can run out doesn't weig		

The weekly schedules help you plan. You can follow them closely, reorganize them, or merely use them as a springboard for your own plans. Please know you DO NOT have to do everything scheduled in your IG. Find a rhythm that

works for you.

Find activity ideas and thoughtprovoking Notes for scheduled assignments directly behind your Schedule pages. Use these Notes to spark discussions with your children.

moves quickly. Because of this unique ability, these lizards	about? What do they not have an interest in? Do they have
have actually gottan the nickname Jesus Roards, referring	any ideas for fun activities they could do that relate to
to Jesus and his miracle of walking on water (Matthew 14.	what they're learning about?
25-31, John 6:16-215. By the way, after about 15 feet of	Make a list of their thoughts and ideas. Then let them
running on water, a basilisk sinks and starts to swim, mak-	pick one to do today. In this way, you will let them know
ing it more of a Pater licerd than a Jusius licerd.	that their opinion is important. Oxideen who feel they
an Mult	have an important, active role in determining what they
Mr. Marth	learn about will be more engaged in their studies. Have
What does the book mean when it says, 'Only animals	fun and treasure these times together.
with well-developed wings can By?? Do some animals have poorly developed wings? If so, which animals do the	Day 3: The World Around You
authors of the book have in mind? Oo they think that if	Today, spend some time outside with your children. It's
an ostrich or penguin had "well-developed wings" these	alwass fun to 'do school' outside. Your children will enjo
Rightless birds could fly? Maybe they should have just	the change of pace and so will you!
written, "Not all animals with wings can fly."	As they begin their study of the wonderful world of an
The origins of flight is a persistent problem for non-	multi, so on a tour around your yard and/or neighborhos
Pathdic macroevolutionists, who not only have to explain	What animals do they see! Do you have any "heiry" ani-
Easter as balance the smull of an unaformized environs densitie	mids neights such as does cats deer savroors, smitterh.
its annuant contribute but also must exclain it for the	hadness, etc.? What about leathered blands? Know many
iso sottles high memory's batul and insorth Goan	different types of high car your children west? One's far
all of the further personals for Bole to succeed it seems	out shout the casese counter! I as your children fied an
a shade it the classe that it came advect in from different	secondary of mostly have metting and/or amphibiant?
block of assessib without any cost of bitellinest descriptor	What do not a children entrop should the assess they
shahanan	case in party of the barrend day much down have
	minute many fird they are say primely first different?
Activity Sheets	Rant Swam? Revit
Your Activity Sheets might work more easily in a small	As you begin this year's science studies together, be o
binder for your children to keep and use as assigned. If	the tackout for ways to reinforce what your children reac
you have more than one child using this program, extra	about. Nearly every day, you will likely run across oppor-
sets of the Activity Sheets may be pumbased for each child	tunities to docuts something your children see in the
Den (171)	'real' world and connect it to something that they've real
	about in their books. When you homeschool your chil-
Ontional: Do Tonother	dren, learning can-and often does-occur any time an
optimizer of regeneric	anywhere. So be prepared and make the most of these
Day 1:Kidt' Choice	moments when they present themselves. You never kno
Each week throughout Science 1, we will provide ideas	on beautions because and halo assessed him on a children'
for fun activities to do with your children. In general, we	strate and the second sec
will try to make the activities actually "active" performing	HERDS.
additional research on a particular topic, playing a game, getting outside, or some other type of "hands on" activity	Discover & Do Level 1 DVD
that seeks to apply what your children have been learning	We produced this fun and educational OVD so you and
in a meaningful way.	your children could eatch "Professor Justin" perform auc
Take our ideas for what they are-more suggestions-	of the assigned experiments from Science Activities, Vol.
and don't feel endeved to them. If your children don't	7. We recommend you gather your supplies, watch the
want to do a particular activity or have a different, better	OVD to see what to do, and then try each of these simple
idea he all means dischours and on with theirs!	exercisem young
Put this attitude into oractice today by actively listening	Or, if you prefer, you can do the experimental on your
biogram a biology the theory and add on their standard and of	case and then work the PEP is one how it haved out o
homenets there most? What do they want to have more	access New state whet he say and state in her and and
and a state of the	

#### **Organize Your Activity Sheets**

In addition to the hands-on experiments scheduled throughout your program, your children can use the included Activity Sheets to interact with the science concepts they're learning. Find a complete answer key for these Activity Sheets after each week's schedule. Some parents

choose to place the Activity Sheets in a separate binder so children may work on them independently when assigned. If you think you might reuse your Science IG in a few years with a younger child, we recommend you purchase an extra set of Activity Sheets when you buy the IG. That way, you'll still have matching Activity Sheets even



after we update the IG you're using.

#### **Start Your Science Journey**

Ready? Set? Go! Your Science IG lets you to teach well from the very first day. As you progress, adapt the curriculum to meet your needs. Need to go faster or slower? Need to use more/less than what we offer? Sonlight puts you in control of your homeschool journey and enables you to customize your children's educational experience. Our goal is to make your job easier, help you overcome obstacles, and protect your family's interests. Please contact us if we can help. Visit us at www.sonlight.com/help or call (303) 730-6292.

#### Subjects in Science Levels K-6

Sonlight's unique and innovative science program will capture your children's imagination and encourage them to discover the wonders of God's world. Intriguing, full-color books and stories will bring science to life. Over the years, Sonlight children will focus on several primary fields of study:

- Biology/Nature: Children explore God's living world through biology, botany, animals and anatomy.
- Technology: Children develop an understanding of machines, inventions and modern technology.
- Physical Sciences: Children conduct experiments and discover truths as they study chemistry and physics.
- Earth and Space: Children chart new territory in oceanography, meteorology, archaeology and astronomy.
- Health and Medicine: Children delve into the world of anatomy, physiology, nutrition and medicine.

## Science 1—Weekly Subject List

#### 5-Day

#### Week Subject

- 1 animals into/kingdoms/movement/magnets/night animals
- 2 animals/eating/senses/magnetism/night animals
- 3 animals/communication/maturity/magnetism/night animals
- 4 animals/travel/rest/community/magnetism/night animals
- 5 animals/habitats/conservations/South American animals/magnetism/compass/manufacturing (oil paint)
- 6 animals/rainforests/Amazon/grasslands/magnetism/manufacturing (ice cream)
- 7 animals/ North American/Rockies/prairies/Sonoran Desert/magnetism/manufacturing (glass blowing)
- 8 animals/Everglades/Africa/Namib Desert/electricity and magnets/manufacturing (pointe shoes)
- 9 animals/Congo/Serengeti/Okavango Delta/electromagnets/manufacturing (sausages)
- 10 animals/Madagascar/Europe/Pyrenees Mountains/Coto Doñana/magnets and machines/manufacturing (compact discs)
- 11 animals/Western isles/Asia/desert lands/Himalayas/magnets (toys and games)/manufacturing (plastic blocks)
- 12 animals/Sichuan forests/Borneo's swamps/Sumatra/water experiments/manufacturing (apple juice)
- 13 animals/Australia/tropics/Outback/Southern forests/floating/manufacturing (skateboards)
- 14 animals/New Zealand/Arctic/tundra/taiga/boats/honeybees
- 15 animals/Antarctica/ocean life/coral reefs/ice/manufacturing (T-shirts)
- 16 animals/open ocean/deep sea/surface tension/manufacturing (chocolate)
- 17 animals/water works/evaporation/condensation/manufacturing (pencils)
- 18 human body/brain/nerves/eyesight/cameras/illness
- 19 hearing/taste/smell/touch/water mixtures/illness
- 20 skin/hair/nails/bones/water facts/illness
- 21 joints/muscles/blood/water power/illness
- 22 heart/breathing/voice/air and water tricks/illness
- 23 teeth/digestion/water in the body/taking in water/illness
- 24 hormones/genes/babies/mirrors/illness
- 25 growing/health/nutrition/food/illness
- 26 food/digestion/keeping food fresh/illness
- 27 bad food/where food comes from/lack of food/reflections/illness
- 28 doctors/medicine/X-rays/medical scans/hospitals/reflections/illness
- 29 Louis Pasteur/microbes/germs/manufacturing (electric guitar)
- 30 astronomy/space/Earth/light/manufacturing (ceramic mug)
- 31 space travel/Moon/Sun/light/manufacturing (rope)
- 32 solar system/Mercury/Venus/mirrors/manufacturing (cheese)
- 33 Mars/Asteroid Belt/Jupiter/light/manufacturing (soap)
- 34 Saturn/Uranus/Pluto/comets/light and color/manufacturing (crayons)
- 35 stars/Milky Way/universe/light and shadow/manufacturing (glass bottle)
- 36 space exploration/life in space/future in space/light and mirrors/manufacturing (glossary)

#### Science 1—Weekly Subject List

#### 4-Day

# WeekSubject1animals intro/kingdoms/movement/magnets2animals/eating/senses/magnetism

- 3 animals/communication/maturity/magnetism
- 4 animals/travel/rest/community/magnetism
- 5 animals/habitats/conservation/South American animals/magnetism/compass
- 6 animals/rainforests/Amazon/grasslands/magnetism
- 7 animals/North America/Rockies/prairies/Sonoran Desert/magnetism
- 8 animals/Everglades/Africa/Namib Desert/electricity and magnets
- 9 animals/Congo/Serengeti/Okavango Delta/electromagnets
- 10 animals/Madagascar/Europe/Pyrenees Mountains/Coto Doñana/magnets and machines
- 11 animals/Western Isles/Asia/desert lands/Himalays/magnets (toys and games)
- 12 animals/Sichuan forests/Borneo's swamps/Sumatra/water experiments
- 13 animals/Australia/tropics/Outback/Sourthern forests/floating
- 14 animals/New Zealand/Arctic/tundra/taiga/boats
- 15 animals/Antarctica/ocean life/coral reefs/ice
- 16 animals/open ocean/deep sea/surface tension
- 17 animals/water works/evaporation/condensation
- 18 human body/brain/nerves/eyesight/cameras
- 19 hearing/taste/smell/touch/water mixtures
- 20 skin/hair/nails/smell/touch/water facts
- 21 joints/muscles/blood/water power
- 22 heart/breathing/voice/air and water tricks
- 23 teeth/digestion/water in the body/taking in water
- 24 hormones/genes/babies/mirrors
- 25 growing/health/nutrition/food
- 26 food/digestion/keeping food fresh
- 27 bad food/where food comes from/lack of food
- 28 doctors/medicine/X-rays/medical scans/hospitals/reflections
- 29 Louis Pasteur/microbes/germs
- 30 astronomy/space/Earth/light
- 31 space travel/Moon/Sun/light
- 32 solar system/Mercury/Venus/mirrors
- 33 Mars/Asteroid Belt/Jupiter/light
- 34 Saturn/Uranus/Pluto/comets/light and color
- 35 stars/Milky Way/universe/light and shadow
- 36 space exploration/life in space/future in space/light and mirrors

SCIENCE I			1		<b>C</b>
_		VVEEK			SCHEDULE
Date:	Day 1 1	Day 2 2	Day 3 3	Day 4 4	Day 5 ₅
The Usborne World of Animals	pp. 4–7 🕅 1	pp. 8–9	pp. 10–11 🔟		
Activity Sheet Questions	#1–2	#3–4	#5–6		
5-Day: Night Animals					рр. 3–9
Activity Sheet Questions					#9–11
Optional: Do Together	Kids' Choice N		The World Around You 🛯		
Discover and Do Level 1 DVD				Introduction to science with magnets #35–38 N	
Science Activities, Vol. 1 🕅				"What can a magnet do?" pp. 26–27	
Activity Sheet Questions				#7–8	
Supplies N <sup>2</sup>	We provide: NSK — You provide: Science artist's sketchbook ( mug, scissors, foil, et	- 2 magnets, thumbta e Notebook 🛯 : shee use for all experimen :c.); thread; paper; pai	icks, paper clips, tape ts of paper tied with y ts); assorted items (ex ints or crayons; large l	, varn or a spiral bound amples: jewelry, keys pox.	notebook or an , coins, bottle caps,
Shopping/Planning List	For next week: rule	r, scissors, thread.			
		Other No	otes		

1. The 🛛 symbol means there is a note found in the notes section immediately following these schedule pages.

2. When supplies are listed as "We provide:" they are materials found in either your Science 1 Supplies Kit (15K) or the Non-Consumable Supplies Kit (NSK). When supplies are listed as "You provide:" they are materials you can generally find around your home.

#### The Usborne World of Animals

#### 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 finelytuned 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.

©2010 by Sonlight Curriculum, Ltd. All rights reserved.

As the book points out, a basilisk lizard can run on water. But it can do so only because it doesn't weigh much (from 2 grams up to about 7 ounces) and because it moves quickly. Because of this unique ability, these lizards have actually gotten the nickname 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.

#### рр. 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 nontheistic 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.

#### **Activity Sheets**

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 #1TS1).

#### **Optional: Do Together**

#### Day 1: Kids' Choice

Each week throughout Science 1, 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.

#### Day 3: The World Around You

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.

#### 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.

#### Science Activities, Vol. 1

#### Day 4

Please take a moment to look over the notes on pages 46 and 47 of this book. They offer insights you and your children may find helpful as you work through the experiments. Similar notes for other sections of the book are found on pages 22–23 and 70–71.

#### **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 all children 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.

#### **Supplies**

When supplies are listed as **We provide**, they are materials found in either your course-specific **(1SK)** supplies kit or the Non-Consumable **(NSK)** supplies kit. When supplies are listed as **You provide**, they are materials you can generally find around your home.

Week 1 Activity Sheets	Week 1 Activity Sheets
The Usborne World of Animals	<ol> <li>What fraction of all animals are bugs? Shade the picture of the Earth show your answer.* (p. 9)</li> </ol>
mom and Dad: we have provided lines for dictation. Simply note your children's answers as you talk about each question.	
Why won't you find giant pandas living in Africa? (p. 6)	The second secon
2. Where will you find the most animals living in one place? (p. 7)	*Mom or Dart If this is your children's first experience with fractions, you may want to talk through this quest
Antarctica X Rainforests	<ul> <li>5. Match each creature to the way it moves. (pp. 10–11)</li> </ul>
3. Write the letter of the correct picture next to each statement that	snake uses tail to push through the water
<u>(E)</u> All have dry, scaly skin. B	flying squirrel uses muscles to move body back and forth in an S shape
(C) All have feathers. (B) All have six or more legs. (A) All have hair or fur to keep warm.	squirts water backward to orca
_(C)_ All have wings.	moves diagonally opposite
_(A) Mothers feed milk to their babies.	horse uses flaps of skin to olide
(D) All live in the water, at least some of the time.	jellyfish
Science 1 + Week 1 + Student Activity Sheets 1	2) Student Activity Sheets + Week 1 + Science 1

nocturnal

long arms

nomads

moveable ears



4 ♦ Week 1 ♦ Section Two ♦ Science 1

## Week 1 Activity Sheets

#### The Usborne World of Animals

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

- 1. Why won't you find giant pandas living in Africa? (p. 6)
- Where will you find the most animals living in one place? (p. 7) 2. North America Deserts **Rainforests** Antarctica Write the letter of the correct picture next to each statement that 3. describes that kind of animal. (pp. 8–9) \_\_\_\_\_ All have dry, scaly skin. В *((((()))))))))))* All have feathers. \_\_\_\_\_ All have six or more legs. D \_\_\_\_\_ All have hair or fur to keep warm. \_\_\_\_\_ All have wings. Mothers feed milk to their babies. All lay eggs. All live in the water, at least some of the time.

Science 1 ♦ Week 1 ♦ Student Activity Sheets (1



## Week 1 Activity Sheets

4. 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.

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







flying squirrel



orca







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

## Week 1 Activity Sheets

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



#### Science Activities, Vol. 1

7. Draw a line to match each magnet to its name. (p. 26)



8. **Magnet Hunt:** Find three places in your house where magnets are used and write them here. Write down more if you can! (p. 27)



## <u>}</u>

## Week 1 Activity Sheets

#### Night Animals

#### 5-Day

Animals that are out at night are called... (p. 3) 9.

#### nocturnal

#### nomads

10. Why are some animals out at night? (pp. 4–5)

11. Which features help animals live well in the dark? (pp. 6–8)



fur



big eyes



long arms



moveable ears

©2010 by Sonlight Curriculum, Ltd. All rights reserved.

SCIENCE 1		WEEK	2		SCHEDULE
Date:	Day 1 6	<b>Day 2</b> 7	Day 3 8	Day 4 9	Day 5 10
The Usborne World of Animals	pp. 12–13 N	pp. 14–15 🕅	pp. 16–17		
Activity Sheet Questions	#1–3	#4–5	#6–7		
5-Day: Night Animals					pp. 10–15
Activity Sheet Questions					#10-12
Optional: Do Together	Lunch Time ℕ		The Five Senses		
Discover and Do Level 1 DVD				#39–42	
Science Activities, Vol. 1				"Pulling Power" pp. 28–29	
Activity Sheet Questions				#8–9	
Supplies	We provide: NSK — You provide: ruler, s	- pin, magnets, tape, j scissors, thread.	ı Daper clip; <b>1SK</b> — tiss	ue paper 4"x4," cow r	nagnet.
Shopping/Planning List	For next week: card baking sheet, pencil	lboard 8"x10", cloth 8 , 2 piles of magazines	"x10", sheet of paper,	2 piles of books, plast	ic bag, metal lid or
		Other No	otes		

#### The Usborne World of Animals

#### рр. 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.

#### рр. 14–15

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*.

#### **Optional: Do Together**

#### Day 1: Lunch Time

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're good and 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.

#### Day 3: The 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 an animal, what would it be? Enjoy your time together!





<b>8</b>	Week 2 Activity Sheets
. Why don't of	her animals hear owls coming? (p. 12)
C.A.	(because owls have soft and fluffy feathers so they
	don't make a noise when they fly)
. How do nigh	at animals stay cool during the day? (pp. 14–15) (by covering themselves with mud and using it like sunblock)
- EX-	(by digging a hole in the ground where it is cooler)



## Week 2 Activity Sheets

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



on the side of its head





on the front of its head

- to watch for predators while feeding
- 5. How can snakes "hear" their prey? (p. 15)



6. How can an animal use its whiskers to avoid getting stuck? (p. 16)



## 

## Week 2 Activity Sheets

11. Why don't other animals hear owls coming? (p. 12)



12. How do night animals stay cool during the day? (pp. 14–15)





Science 1		WEEK	3		SCHEDULE
Date:	Day 1 11	Day 2 12	Day 3 13	Day 4 14	Day 5 15
The Usborne World of Animals	pp. 18–19 🕅	pp. 20–21	pp. 22–23 🕅		
Activity Sheet Questions	#1	#2–3	#4–6		
5-Day: Night Animals					pp. 16–23
Activity Sheet Questions					#8–11
Optional: Do Together	Animal Charades N		Getting Bigger ℕ		
Discover and Do Level 1 DVD				#43–46	
Science Activities, Vol. 1				"Pulling through things" pp. 30–31	
Activity Sheet Questions				#7	
Supplies	We provide: NSK — (save after use), plas You provide: cardbo baking sheet, pencil	- paper clips, magnet: - tic tray with water (St oard 8"x10", cloth 8"x , 2 piles of magazines	<sup>1</sup> , tape, corks, thumb yrofoam tray). 10", sheet of paper, 2	tacks, pins, nail; <b>1SK</b> - piles of books, plastic	— aluminum foil bag, metal lid or
Shopping/Planning List	For next week: toy	car or any small toy w	ith wheels, sheet of p	aper, crayons, scissor	s, pencil.
		Other No	otes		

1. Use the cow magnet from 1SK if you would like to see a more dramatic attraction.

#### The Usborne World of Animals

#### 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.

#### 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, let your children know that the life cycle transformation of caterpillar to butterfly is known as metamorphosis.

### **Optional: Do Together**

#### Day 1: 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 3: Getting Bigger

**Note to Mom or Dad:** 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. ■

	Week 3 Activity Sheets		Les Contractions and the second se	Week 3 Activity Sheets	
e Usborne World of Ani	mals	4	. Why do some babies	stay with their parents for a p	period of time?
Why do animals	talk to each other? (pp. 18–19)		(Circle all that apply.)	(pp. 22–23)	
<b>美智·</b> 选生	(to scare away enemies)		they like to	for protection	to learn skills
ACCESS OF			to h	ave sandwiches made for t	hem
Size	(to tell others where to find food)				
T		5	. When a baby bird is b	oorn, does it immediately fly a	away? (p. 22)
A and	(to attract a mate)		Yes	No	
			Why or why not?	······································	
<u>A</u>	(to areet friends, comfort each other, etc.)			(baby birds need to be fed	and protected by their
<b>ti</b> i			and the general the	. parents until they are old e	enouah to care for
			2 2 2 2 2 2 2 3 2 3 2 3 2 3 2 3 2 3 2 3	themselves)	
Name two ways	male animals win a female for a mate. (pp. 20–21)				
he .	(Possible: wrestling, dancing, by building a nest for her)				
E ()		6	. Do most reptiles care	for their young? (p. 23)	
2 des			Yes	No	
Why do animals	go to this much trouble? (p. 20)	Se	cience Activities, Vol. 1		
	breeding places and suitable partners can be hard	7	. What does a magnet	's keeper do? (p. 30)	
(because good			(it is a piece of iron t	hat keeps the magnet from	
(because good to find)			attracting things wh	nen it's not in use)	
(because good to find)					1 1 1 1 1 1
_(because good _to find)					
(because good to find)					

Week 3 Activity Sheets	&	Week 3 Activity Sheets
t Animals	11. \	Why do animals make noises at night? (pp. 22–23)
1	(3)	(to call to family members; to keep others away; to find a mate
Why do you think some night animals bring food in	ito	
their burrow before they go to sleep? (p. 16)	00	
(Possible: so if they wake up in the daytime, they dor	n't have to go out	
into the open to find something to eat)		
How do sleeping night animals stay safe during the	day if they do not	
(i)		
(they use camouflage—they sleep	somewhere where	
their natural coloring helps them b	blend in)	
~~ <i>n</i>		
How do bats find insects to eat? (pp. 20–21)		
(the bat makes high squeaks as it	t flies)	
	······	
(the squeaks bounce off of an ins	<u>ect)</u>	
(the bats can tell where the squee	aks came from and	
catches the insect)		
catches the insect)		

## Week 3 Activity Sheets

#### The Usborne World of Animals

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







Science 1 Week 3 Student Activity Sheets (11



## Week 3 Activity Sheets

11. Why do animals make noises at night? (pp. 22–23)

#### The Usborne World of Animals

#### Cut-Outs for South America: Featured Creatures (#1)



**Cut-Outs for North America: Featured Creatures (#2)** 

Continued... 🖒





Continued from previous page...



**Cut-Outs for Africa: Featured Creatures (#3)** 















#### Cut-Outs for The Arctic and Antarctica: Featured Creatures (#7)

©2010 by Sonlight Curriculum, Ltd. All rights reserved.

