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Nature Friend

Helping Children Explore Wonders of God's Creation

Volume 26 | Issue 8



Bonus Readers' Issue



SCAVENGER HUNT

In this issue are hidden a rabbit and a clover. You can see here what they look like; however, where they are hidden they may be any size and any color. So get your binoculars (or magnifying glass) and start searching. See if you can help the rabbit find the clover.

I See It! from July



page 6
butterfly



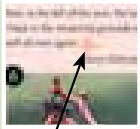
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butterfly



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FRONT
COVER:

Tiger
Swallowtail



BACK COVER:
Cedar Waxwing



This August issue you are holding is the bonus Readers' Issue of 2008 we promised you in the June Readers' Issue. Since you sent us a lot more good material than we could include in the June Readers' Issue, we decided to make August a second readers' issue this year.

As in the June issue, we are giving you some bonus pages again. You have two "You Can Draw" lessons to choose from, or you may draw both. We are also including two bonus pages of your bluebird drawings from the April lesson. We were planning to give you one bonus bluebird page and two bonus "Pictures and Poems" pages, but guess what—I made a mistake. I hit the wrong key on the computer and accidentally deleted all the e-mailed submissions for the "Pictures and Poems" feature. E-mails had not been included in what got backed up each night, so now I need your help. For those of you who have sent drawings and poems via e-mail over the last six months, we invite you to send them again, as we no longer have them to select from. New submissions are welcome too.

On a positive note, we think the phoebes in the nest outside the *Nature Friend* office door will be leaving any day. There are five in the nest, and it seems there just isn't room for them to grow any larger. Here is a photo Shaphan took a few hours ago.

Kevin Shaphan

INVISIBLES

Can you find the small objects hidden in the big picture?



Pencil



Egg



Ball



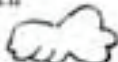
Nest



Water



Pear



Cloud



Banana



Trowel



Feather

Stephanie Jacob, U. Highland, IN



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EVENING
PRIMROSE

A rufous
hummingbird visits an
evening primrose.

by Anita Burkholder
Fleetwood, PA



© Roger Whiteaway / iStockphoto.com

when Great-Aunt Priscilla gave it to us last summer when we visited her in Virginia,” put in twelve-year-old Cletus as he came out the walk carrying the milk pail. “It was just a tiny plant in a tin can.”

“And once it almost dried up because Trixie decided to bury something right where Mom had planted the primrose,” added Thelma, casting a sour look at the big black dog snoozing nearby.

Grandma laughed. “Well, it seems to have survived. Such big stems, and so many buds. But I don’t see any flowers.”

“Just wait,” said Julia, picking off a few withered flowers. “It’s called an evening primrose for a reason... wait until about half an hour before dark.”

“Well, then, let’s go see if we can help Mom with supper,” suggested Grandma.

* * * * *

Well, so this is the evening primrose you were telling me about, girls,” said Grandma Shirk, pausing before the flowerbed along the east side of the house.

“Yes, that’s the one,” said seven-year-old Thelma.

“Why, it’s almost as tall as you are, Grandma,” said ten-year-old Julia, chuckling.

“But you should have seen how small it was

“Let’s get some chairs for Grandma and Grandpa,” proposed Cletus as the sun slipped behind the Evansville Hill, silhouetting the distant chestnut trees.

“Yes, let’s,” agreed the girls, “and chairs for Dad and Mom.”

“This looks funny,” giggled Thelma, surveying



the row of chairs facing the house. “Soon our neighbors will think there’s something wrong with us that we sit looking at the wall.”

“It smells like we’re on time,” said Mom as she came out of the house, followed by Grandpa and Grandma.

“Yes, I see two flowers open already,” crowed Julia, plopping down on the grass.

A quick movement caught Cletus’s eye. “There’s another one,” he announced.

Dad, who had finished chores, joined them in the gathering dusk. Excited cheers, oohs, and aahs were heard during the next twenty minutes as over a hundred fragrant yellow flowers unfurled.

“Just from hearing us, someone would think

we’re watching fireworks,” commented Cletus.

“It’s better than fireworks,” said Grandpa. “It’s one of God’s miracles.”

“Look,” whispered Father. “Here comes the grand finale.” Everyone watched intently as two large hummingbird moths flitted from flower to flower. Uncurling their long proboscises (feeding tubes), they poked them into one flower after the other, sucking up the nectar.

“There they go,” said Thelma in hushed tones as the two winged visitors disappeared into the night.

Everyone began to talk again as they gathered up chairs and headed for the house. “What a special evening to tuck into our memory chests,” declared Grandma. ◀

▼ White Peacock Butterfly

Carissa Mann, 17, North Port, FL



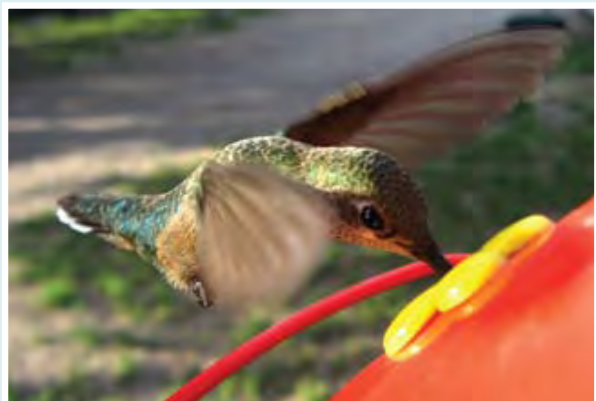
▲ American Toad

Leah Newswanger, Danville, PA



▲ Fisher

Max Negley, 12, Bowdoin, ME



▲ Hummingbird

Joshua Malueg, 13, Hooper, CO

◀ Praying Mantis

Asa Schultz, 16, Forest, VA

Creation Close-ups continued on page 24.



Animal Word SEARCH

by Sarah Abigail Misko, 11
South Royalton, VT

- | | |
|--------------|-------------------|
| 1. Leopard | 8. Pronghorn |
| 2. Oryx | 9. Peacock |
| 3. Alligator | 10. Dik-Dik |
| 4. Pelican | 11. Falcon |
| 5. Emu | 12. Water Strider |
| 6. Kangaroo | 13. Red Panda |
| 7. Mole | 14. Opossum |

Answers on page 11.

A F S D P E L I C A N K H R E E A W A
 S U I G J Y R E Y R Y V C E B C L M B
 D P P R O N G H O R N F A D H K L Q R
 W A T E T G H S M J T U G P G P I I Y
 G J K L D S A F F Q W E R A T Y G U I
 I O P A L E O P A R D S D N F G A H J
 K L Z X C V B N L M G G D D E A T C B
 E E M U S F G H C I J I K A L M O N O
 P Q R S T V U W O Z X K Y I O P R U U
 A S D F G H J K N L U A Q W E R Q H A
 Z X V M H J S A S F D D I K D I K K R
 F S T O R Y X R J B V I J J N M A E O
 P A D L O N B D K E O K I O G M N Y Q
 X S P E A C O C K S G F H P K K G O O
 Q W E R T Y U I O P A S Z O Z X A P S
 D W A T E R S T R I D E R S Z X R O E
 F G H J K L Z X C V B N M S Q W O S W
 R T Y C U I C O P X A S D U F F O S Z
 G H J K L Z Z X V C V B N M T M D A C
 E E H S A F D H J K J Y T S F G B D V

Unscramble the name of each bird, and write it in the blanks. The letters in the colored column spell the continent where all of these birds are found.

- | | |
|---------------|-------------------|
| 1. NOLO | ___ _ _ N |
| 2. ORSEUG | ___ _ O ___ _ |
| 3. LKRA | ___ _ R ___ |
| 4. HLCYCEFRT | ___ _ _ T ___ _ |
| 5. ARREHSHT | ___ _ H ___ _ |
| 6. GERANAT | ___ _ _ A ___ _ |
| 7. PAMGEI | ___ _ M ___ _ |
| 8. GAESLUL | ___ _ E ___ _ |
| 9. WOPRASR | ___ _ _ R ___ _ |
| 10. NIROB | ___ _ _ I ___ |
| 11. DCINHGOFL | ___ _ _ _ _ C ___ |
| 12. WKAH | ___ _ A ___ |


by Marlea Bontrager, 13,
Bonduel, WI

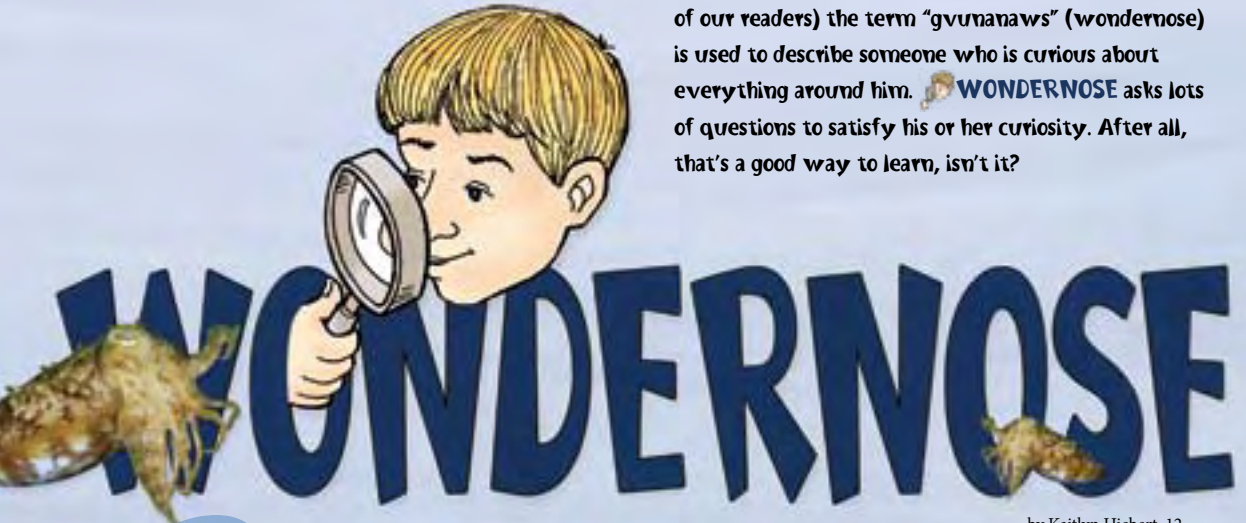
Answers on page 11.

SOME BIRDS OF NORTH AMERICA

© Christopher Pallack / iStockphoto.com




In Pennsylvania Dutch (a language spoken by many of our readers) the term “gvumanaws” (wondernose) is used to describe someone who is curious about everything around him.  **WONDERNOSE** asks lots of questions to satisfy his or her curiosity. After all, that’s a good way to learn, isn’t it?




by Kaitlyn Hiebert, 12
Worsley, AB



Wildlife Wondernose Question #72

What sea creature, when **frightened**, will perfectly **blend** in with its **surroundings**?



A Well,  **WONDERNOSE**, I hope you’ll be really stumped this time, especially since you don’t live in the sea like this creature does. And if you live in North America, you probably know even less about this fellow, since he lives in seas far away, mostly in Australia’s coastal waters.


Our mystery animal ranges from quite small to rather large. You might find a three-inch, a twelve-inch, or a two-foot-long one. But the biggest you could find would be about six feet long. This sea creature is in the same family as the octopus and squid, so think along that line,  **WONDERNOSE**. He has eight tentacles like

the octopus; two tentacles are for feeding, which he shoots out to capture his prey.

Here is more description. First of all,  **WONDERNOSE**, our sea creature is an *invertebrate*. That means he has no backbone. Fins help him swim through the water. And as I mentioned in the beginning, he can change color when he is frightened or angry. Their colors can also change when they want to catch their food and baffle their prey by “turning on lights”—well, sort of. By changing their pigment, they can appear to have bands of colors pulsating through their bodies. What,  **WONDERNOSE**? What are the colors? This creature can change from red

to green to blue to yellow—quite a few colors.

Still don't know our mystery animal,  **WONDERNOSE**? Well, I'll give you a little more description of what he looks like. The pupil of his eye is sort of in the shape of a "w." But despite the shape, he can see very well. He has binocular vision, and if you don't know what that is,  **WONDERNOSE**, he can see with the same focus you have.

There is something from this animal that is made into food for some domestic birds—cuttlebone. Ah, now you have it,  **WONDERNOSE**! That's right—cuttlefish! I guess "cuttlebone" gave it away.

The cuttlefish has an inky substance which he

squirts out to make the water dark when his enemies are around. This contains something called sepia, a brown pigment that was used as ink by people long ago.

Isn't it amazing what God has made the cuttlefish to do? To be "smart" enough to blend in with his surroundings when he is scared, like changing to the colors of sand or rock and hiding from enemies by darkening the water with ink from his sacks, or to know that he should migrate from the shallow waters to deeper waters in winter...this is only a small part of the creation God took so much care to make. Isn't he a wonderful Creator God who made us and cares for us? ◀



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Splash! Oh, hi! You surprised me. Sorry about that smell, but I do that when I am surprised. I have dark splotches on the side of my head, along with several white stripes. I live in streams, ditches, ponds, and lakes in the eastern United States. Be careful; I may steal your bait while you're fishing. I am about 5 inches long. I am in the turtle family. My name comes from my defense system. Who am I?

Answer on page 11.

Who am I?

Joseph Henderson, 13
Burnsville, MN



The Mailbox

Dear Nature
Friend,
We just
recently drove to
California and

back. We saw so much nature. We saw a whole herd of elk just about 5 yards away! We also saw a whole herd of around 200 elephant seals, and we fed a bagel to some squirrels that would climb right into our laps! We went through some redwood forests. The redwoods were so tall that one tree could build several houses. We really enjoyed seeing God's amazing creation! We have such an awesome, mighty God!

*Sydney and Maya Simao
Poulsbo, WA*

Dear Nature Friend,

Someone in the March issue mentioned something about "frozen fish." I learned that some ants can freeze in the winter and come out alive! When they freeze, they have eaten lots of food. They live through

the winter in their "ice huts." In spring when the ice melts, they unfreeze and are still healthy!

*Anna Olivia Lattus
Beaverton, OR*

© Eric Isselee / istockphoto.com



Nature Friend to the Rescue!

One of our milk cows was missing, so my brother and I went to look for her. In the pasture are some homemade feeders lying upside down until we need them. I like to see what is living under them. I have found mice and black bugs under them. Once, one of my sisters even found a garter snake! Maybe it wanted a "mouse dinner."

Tonight I turned a feeder over, saying to myself, "I wonder what is under this

one," and before I had time to think—a skunk sprayed right past my face! And oh, did it ever burn! My brother went on to look for the cow, while I ran back to the barn with burning eyes and horrible-tasting mouth.

I went to the milking parlor where Mom and my sister were milking. "Mom," I said, "a skunk sprayed me."

At first she looked shocked, then she assured me that I would be all right. "Tears are the best thing to cleanse burning eyes," she told me, "so let your eyes water." I did, and in about ten minutes I could see again.

Many thoughts ran through my mind: "That bad skunk! What will my friends say? How long will I have to live with this bad smell?"

As Mom and I walked to the house, she said, "I think *Nature Friend* has a recipe to take away the skunk smell." I waited in the basement while Mom mixed one quart hydrogen peroxide, one-fourth cup baking soda, and a squirt of liquid soap (see inside the front cover of the March 2008 issue of *Nature Friend*).

I scrubbed my face, hair, and hands with the foaming mixture, then Mom put my shirt and cap in it to soak. My tattered everyday coat went to the trash burner. Last of all, I took a hot shower.

After that, I smelled only faintly like skunk. How glad I was—now I could go along to prayer meeting in another hour, and no one would know what had happened unless I told them. In case they wouldn't believe me, I could tell them to sniff my hair!

Thank you, *Nature Friend*, for helping me out of my predicament! The rest of the family says "Thank you" too.

*Philip Zimmerman
Tunas, MO*

Dear Nature Friend,

During our last shopping trip, my brother found something he thought was a butterfly. Mother said it was a



© John Coffman

Do you have a nature experience you want to share, a question you'd like to ask, or a thought you want to share about something in *Nature Friend*? We want to hear from you! Write to: The Mailbox, 4253 Woodcock Lane, Dayton, VA 22821, or e-mail mailbox@naturefriendmagazine.com.

moth, and since they live a short time, we could take it home. At home, we looked it up and found out it was a luna moth. We learned that it doesn't hear or eat, and it only lives in North America. I think it is very pretty.

*Caeli Werner
Steelville, MO*

Dear Nature Friend,

Once my brothers and I were sitting on an overhanging tree around dusk watching our neighbours' goats when suddenly we noticed something swoop into a tree on the opposite end of the field. We looked, and it was a big barred owl. It just sat there looking around. Every once in a while it would silently swoop into the grass and flutter on the ground, then fly back up into another tree. It kept doing that again and again, every time flying back with nothing. A few days later my brothers saw the same owl again. This time he was sitting right over them looking at them when suddenly he spit a pellet at the goats. He stayed around for quite a while, but when I wanted to take a picture of him, he flew away and never came back. It seems that always happens when you want a picture. I am wondering if it swallows the mouse right away, or carries it back to its perch first. It seems strange that the owl never manages to catch anything.

*Conrad Vander Eyk
Langley, BC*

Dear Conrad,
Barred owls hunt from a perch for food they can swallow whole. When they observe prey, they swoop down and grab it with their sharp talons. They are good at catching prey, but I am sure they

do not catch prey 100% of the time. I once observed a barn owl feeding young, and, if I recall correctly, I believe she would return with a mouse every 20 or 30 minutes. I have no idea how many she caught and ate.

—Nature Friend

Dear Nature Friend,

Seashells are interesting! Take one of the spiral shells and look at the top spiral. Then, slowly spinning the shell, watch the same spiral. The spiral goes to the bottom!

There is a pond on our land, and we collect snail shells all the time.

Look up and read about different kinds of seashells!

*Katy M. Webster
Willcox, AZ*

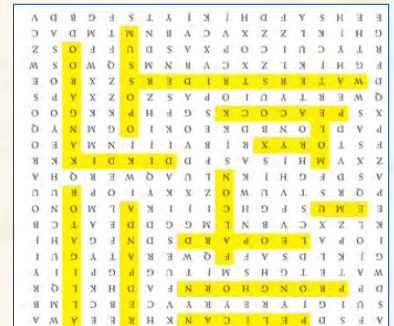
Dear Katy,

Yes, seashells are interesting! You may read an article about them in the August 2007 Nature Friend.

—Nature Friend

ANSWERS

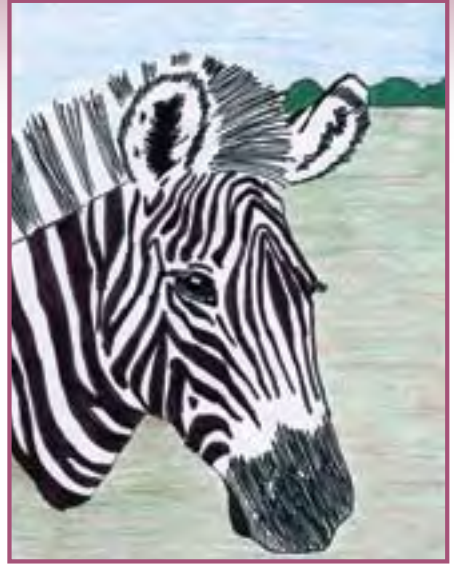
- Answer to Who Am I on page 10:
 1. Loon
 2. Grouse
 3. Lark
 4. Flycatcher
 5. Thrasher
 6. Tanager
 7. Magpie
 8. Seagull
 9. Sparrow
 10. Robin
 11. Goldfinch
 12. Hawk
 Answer to Birds from North America on page 7:



Answer to Animal Word Search on page 7:



Tabitha Thompson
Kooskia, ID



Amanda Newswanger, 14
Versailles, MO



Alysha Gaskill, 10
Dry Ridge, KY



Paige Johnson, 13
Trempealeau, WI

The Honeybee

There once was a small honeybee
Who collected her nectar with glee.
She buzzed and she flew—
That's all she could do—
Pollinating both flower and tree.

Reagan Schwartz, 12
Williamsburg, VA

*Want to have your picture or poem published in Nature Friend? Use black ink, dark pencil, colored pencils, or paints on **clean, unlined paper**, and do not fold drawing. Send to Pictures and Poems, 4253 Woodcock Lane, Dayton, VA 22821, or e-mail to picturesandpoems@naturefriendmagazine.com. Include your name and address. If you want your work returned (whether we use it or not), please include a self-addressed, stamped envelope. Space is limited, so it is not possible to publish every submission.*

pictures & poems **Bonus Page**



Keziah Vanderhoff, 9
Williamstown, NJ



Brenden D. Eshbach, 12
Kemp, TX



Kaitlyn Hogeterp, 13
Centreville, NS



Wilma Beachy, 15
Flat Rock, IL



Martha Hoffman, 10
Earlville, IL

IN THE BEGINNING...

by Emily Lewis, 15
King George, VA

One chilly morning in early December, I was sitting at the kitchen table with my mother and sister when I happened to look out of the window. Gathered at the birdbath was a group of cedar waxwings (*bombycillia cedrorum*). I had seen this songbird only in books and such, so this was a rare treat. Eight were drinking at the bath while a greater number hungrily consumed berries from nearby holly trees. There were over a dozen! The usual chickadees, sparrows, cardinals, and other familiar species sat in the trees, observing the newcomers from a distance.

The cedar waxwing is about the size of a northern cardinal. This six-to-seven-inch grayish-brown bird has a crest on its head and a black mask edged in white. The other distinguishing features include a small bill, yellowish belly, white undertail, black chin patch, and yellow band at the tip of the tail. Can you guess why it is called a waxwing? It has waxy red droplets on the tips of the secondary wing feathers.

The male and female are nearly alike, except that the male's chin patch is a little larger and darker than the female's. Grayer than the adult, the juvenile features broad streaks on its underparts and has no black on its throat or behind its eyes. A slightly larger species, the Bohemian waxwing, has a reddish color on the underside of its tail. Its belly is gray, and white and yellow stripes are evident on its closed wings.

The range of the cedar waxwing extends through all of southern Canada, the U.S., and down into Mexico and Central America. In its summer range, the cedar waxwing breeds from British Columbia across Canada, southward to northern California, northern Arkansas, and northern Georgia. Wintering from the very southernmost parts of Canada, it will also reside southward through the U.S. and Mexico down into Central America. Their numbers vary in each location from year to year. The cedar waxwing prefers areas where there are shrubs and trees to roost in. Here are some likely places you might find the cedar waxwing: open woodland, old fields with shrubs and small trees, near water, farms, and suburban gardens. They love to winter in areas with fruit-bearing trees and shrubs.

Cedar waxwings are frugivorous, meaning they eat fruit; however, they also enjoy insects. The cedar waxwing swallows its fruit whole, without expelling the seeds.

The nest of the cedar waxwing is a bulky, open cup made of twigs, moss, grasses, and other materials. It is often positioned in the fork of a tree branch. The eggs, usually 4 to 5 in a clutch, are a pale blue-gray with sparse black spots.

When I spotted the cedar waxwings at our birdbath, I wanted to learn more about them. Here is an interesting fact you might like to know. Typically, most cedar waxwings have yellow tail

"THOU hast created all things, and for THY pleasure they are and were created." REVELATION 4:11



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tips. Cedar waxwings with orange tail tips started to appear in the northeastern U.S. and southeastern Canada beginning in the 1960's. The orange color results from a red pigment in the berries of an introduced species of honeysuckle that the cedar waxwings ate. If the cedar waxwing ingests the

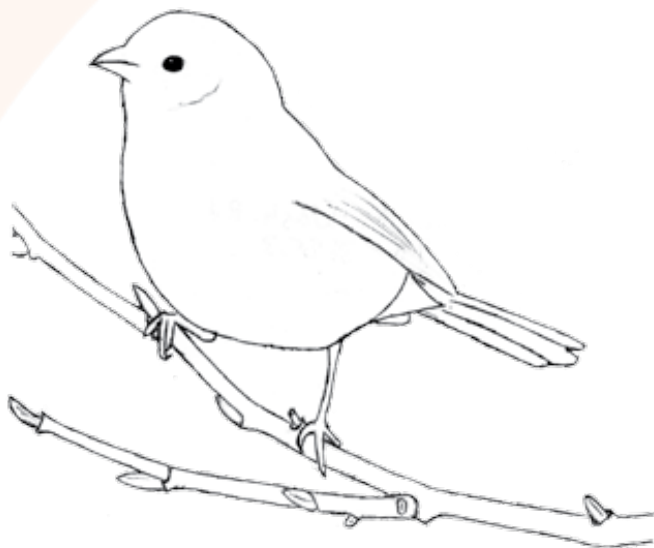
berries while growing a tail feather, the tip will turn out orange.

The visit of the cedar waxwings was a special blessing. This is particularly true since we live just outside of their usual range. I thank God that He caused the cedar waxwings to visit our house for a day. ◀

...GOD
created
Cedar Waxwings

YOU CAN DRAW ... a House Finch

by Wendell Schlabach, 14
Clarkrange, TN



YOU WILL NEED:

- ✓ Pencil
- ✓ Pencil colors
- ✓ Paper
- ✓ Eraser
- ✓ Black pen

1 Sketch the outline of the finch and branch.

2 Color the finch, using red, red orange, gray, brown, and black. Using a black pen, outline the claws and beak lightly. Also make the eye with a black pen.

3 Color the branch with brown and light brown. Lightly shade the buds purple, and then finish with brown.



The Finch drawings will be featured in the December issue. Please return your drawing by September 15.

Want us to consider your drawing for publication? Send your completed drawing on clean, unlined paper, and do not fold. On the back write your name, age, and address. Send to You Can Draw a Finch, 4253 Woodcock Lane, Dayton, Virginia 22821. If you would like it returned, you must include a self-addressed, stamped envelope.

You may e-mail scanned art as a high-resolution jpeg attachment, 3 inches and 300 d.p.i. Send to youcandraw@naturefriendmagazine.com. Label art with name, age, address, and then crop excessive margins. Name file: finch-child's name-age

While we appreciate all the hundreds of submissions we get, we can print only a few of them. Selections are made from all age groups and not based on quality alone.

YOU CAN DRAW ... Dolphins

by Lynette Hoover
Blain, PA

Bonus Lesson

YOU WILL NEED:

- ✓ Colored Pencils
- ✓ White paper
- ✓ Pencil
- ✓ Eraser
- ✓ White paint
- ✓ Small scruffy brush



1 With a pencil, lightly sketch the outlines of the dolphins and water spray.



2 Use black and gray pencil crayons to shade the dolphins. The edges of the water spray are shaded with ultramarine (dark blue) and light cerulean blue (light blue). Color the water with sketchy ultramarine lines.



3 Color over the entire surface of the water with light cerulean blue to give it a rippling look. Fill in the dolphin's eyes with a pen. You may leave the water spray as it is, or use a small scruffy brush to dab some white paint on the dolphin's tail and the water spray. To finish your drawing, rub some light cerulean blue pencil shavings around your picture with a paper towel.

The Dolphin drawings will be featured in the December issue.

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You may e-mail scanned art as a high-resolution jpeg attachment, 3 inches and 300 d.p.i. Send to youcandraw@naturefriendmagazine.com. Label art with name, age, address, and then crop excessive margins. Name file: dolphins-child's name-age

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YOU CAN DRAW a Bluebird FROM APRIL



Kaylyn Martin, 9
Lebanon, PA



Carrie L. Mitchell, 12
Vandalia, IL



Twilene Beiler, 5
Mason Grove, PA



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Readers' Issue RULES

We are planning for our next Readers' Issue to be the June 2009 issue. Yes, that is a little way off, but you can be thinking about it now and preparing your submission any time. After all, right now might be the gorgeous butterfly on a flower blossom—a picture you cannot take in the winter.

We will be looking for your art and photos, your stories, puzzles, and experiments. We will award \$50 to the photographer or artist whose work we select for the front cover, and \$25 for the back cover. We will award \$10 to the artists whose work we select for the "Invisibles" activity and the "You Can Draw" lesson. We will also award \$10 for the stories we choose for "Wondernose," "In the Beginning," and the "Learning by Doing" features.

Tip: As we compiled the 2008 Readers' issue, good stories were the shortest in supply. While we would like to see more stories submitted, please keep the photographs and artwork coming too. We need everything, from cover to cover.

We also encourage detailed captions identifying subjects in photographs. Instead of "butterfly on a flower," we appreciate knowing it is a "red admiral on an apple blossom."

1. We are about wild animals, birds, and plants. Wild animals in zoos or domestic animals such as dogs, cats or farm animals are not our focus.
2. Your **name, address, and age** should appear on every page, all art, and every photograph. When possible, **we appreciate a phone number too**. Labeling is very important so we do not lose track of your work among the hundreds of submissions we receive.
3. We accept slides, prints, and digital photographs on CD or DVD. Digital submissions must **include a color printout** of the photographs for easy review. Please **provide a caption** for each photo, identifying the bird, flower, insect, etc. and telling about your getting it.
4. The work must be your own. Parents may help, but do not copy from a book or someone else's work. If several children worked on the project, please include the names and ages of all who helped.
5. If you want your submission returned, **you must include a stamped, addressed envelope**. Make sure the envelope is large enough and has adequate postage. Please include one return envelope for every child's entry even if several entries are submitted to us in one envelope. We need to

separate multiple submissions when we categorize them and cannot keep multiple entries with one return envelope.

6. Artwork and photographs should be mailed flat with cardboard stiffener. Do not fold.

Deadline for submissions is February 10, 2009. Send materials to Readers' Issue, 4253 Woodcock Lane, Dayton, VA 22821. E-mailed submissions should be sent to readersissue@naturefriendmagazine.com and say "Story, photo, etc. - Readers' Issue 09" in the subject line.

Tips: Photos must be sharp, so use a tripod. To be considered for the front or back covers, the format must be vertical. We need room for "Nature Friend" above the subject of the photo, for a front cover. On the back cover, we need space below the subject for placing address information. Digital submissions should be the **largest file size you have**. Prints should be on photo paper, not computer printer paper. For a print to be considered for the front or back cover, the print must be 8x10. We will consider 4x6 and 5x7 prints for inside usages.

It will be exciting to see your submissions. Enjoy!



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Lightning Flash and Thunder Crash

By Cherish Marie Morie
Inola, OK

Editor's note: While many aspects concerning lightning and the benefits of it have been discovered, lightning is still one of God's wonders that man has not been able to fully understand. There are various theories concerning how static electricity is generated in a thunderstorm, and how thunder is produced. We present this as one theory.

Have you ever wondered what causes the lightning to flash across the sky or the loud clap of thunder that follows?

Lightning! As a large column of warmer air rises into the sky, many little raindrops fall through it. Now as these raindrops fall through this fast-rising column of air, friction is produced, which causes static electricity. Since one rain cloud can have as many as 6 trillion raindrops, that's a lot of friction! When the raindrops fall through this fast-rising column of air, they are broken up. Like a battery that has a positive and a negative terminal, the larger raindrops take on a positive charge while smaller raindrops are negatively charged. So, if a negative cloud gets too close to a positive cloud, electricity shoots back and forth from one to the other. This we know as lightning! And if a negative cloud gets too close to earth, it causes the earth to become positive, and electricity strikes the earth. The same is true if a positive cloud gets too close to the earth. Then the earth becomes the negative. Lightning has been known to jump as much as a hundred miles, between two very large clouds. On the average, however, it jumps about eight miles.

Thunder! Well, lightning has to flash through the sky first, and that heats the air. A flash of lightning may be 100 million to 1 billion volts of electricity. This produces temperatures up to 54,000 degrees Fahrenheit, which is very hot—five times the temperature of the surface of the sun! This super-heated air expands rapidly and smashes into the cool air surrounding the lightning channel, causing a shock wave—BOOM!

The sound of thunder travels $1/5^{\text{th}}$ of a mile per second, but the flash travels the speed of light—186 thousand miles a second. If you want to know how far the lightning and thunder are from you, just count the seconds after the lightning flashes until the clap of thunder. For every 5 seconds, it is 1 mile from you.

Something else interesting is that when the lightning flashes up in the sky, nitrogen is released into the air. Then the rain washes it down to the earth, and it goes into the soil and helps the plants and trees to grow. God has a purpose for everything!

The Bible says in Job 28:26, “When he made a decree for the rain, and a way for the lightning of the thunder.” ◀





▲ Praying Mantis

This praying mantis is forming an egg case.
Tim Flemming, 12, Shippensburg, PA

◀ Ocean Waves

Ocean waves crashing over rocks at Porth Beach on the Atlantic coast of Cornwall, England.
Grace Barns, 13, Kent, England

▼ Common Seal

A common seal in the Shetland Islands, about one hundred miles north of the northernmost tip of Scotland.
John Barns, 17, Kent, England



▲ Portuguese Man of War

Makayla Wheeler, 9, Merritt Island, FL





▲ Joey
Matthew Davies, 15, Mt. Beauty, Victoria, Australia



▲ Tree on Rock, Unicoi State Park
Megan Zanone, 14, Lula, GA



▲ Sunflower
Melrose Heatwole, 12, N Lawrence, OH

The Red-Shouldered HAWK

by Carissa Mann, 17, North Port, FL



It was a warm afternoon in December. What? Warm in December? Yes, my family and I live in Florida!

We were on a camping trip in Orlando, and I was resting in the tent. Suddenly, I saw a large, brown bird fly down to the little stream near our tent site. *That must be the hawk I heard earlier,* I thought. My heart pounding with excitement, I grabbed my trusty camera, unzipped the screen “window,” and quietly slipped out.

Cautiously, but quickly, I walked towards the water. There he was—a red shouldered hawk, looking rather silly for a

hawk, awkwardly sitting in the shallow water.

I started snapping pictures. Suddenly, he crouched down in the water, fluffed his feathers, and began swishing them back and forth in the water.

It must have been his bath day!

Then he skimmed over to a nearby pine tree, and, after posing for a few pictures, flew to another tree. Finally he left.

Red-shouldered hawks are fifteen to nineteen inches tall and have a wingspan of three and one-half feet. They share their range with the barred owl. Both birds like the same moist woodland habitat and have a similar diet. The hawk is active during the day, while the owl is active during the night. Some favorite foods are snakes, small birds, and large insects.

They lay 2-4 white eggs with dark markings. The male and female work together to build the nest and raise their young. Nests are high, but if you see fresh bird droppings on the ground, it is a sure sign the nest is active. When they are 35-42 days old they are called branchers, and begin to leave the nest. When they are 10 weeks old, they can catch some food themselves. Their parents continue to feed them up to 19 weeks of age.

There are many names for a group of hawks, such as a boil of hawks, a knot of hawks, a spiraling of hawks, a tower of hawks, and a stream of hawks.

I felt blessed to get a chance to see this amazing creation so close up. I thank God for this unique experience, and for creating an enormous variety of creatures for us to enjoy. ◀

Electrons are negatively-charged particles. Since electrons are in every element, everything has electrons.

When an object has too many electrons (or is missing some), it has a charge. If it has too many, it has a negative charge. If it is missing some, it is positively charged. If it doesn't have any extra or missing electrons, it is neutral.

Like the poles of a magnet, opposite electrical charges will attract, while like charges repel.

When a balloon is charged by rubbing it on your hair, it gains electrons and your hair loses them. The balloon is then negatively charged and your hair positively charged. Hair is a good object for making static electricity because it loses electrons easily. Here are some fun experiments.

Number 1. To show that opposite charges attract, charge an inflated balloon by rubbing it briskly on your hair for 30 seconds. Next, hold it about an inch from your hair and watch it stand up to meet the balloon.

Number 2. To show that a charged object attracts a neutral object, turn on a faucet to a thin stream of water (not drips). Now charge an inflated balloon by rubbing it briskly with your hair for about 30 seconds. Hold the balloon about six inches away from the stream of water. You may have to move it a few inches closer. Are you amazed? If you touch something like the sink with the charged balloon, this may not work.

Number 3. Here is an interesting experiment to show how like charges repel. Cut two 12-inch strings and tie them to the ends of two inflated balloons. Now charge them like you charged the other balloons. Tape the loose ends of the strings to a table, six inches apart. You may need to charge the balloons again. The more charge they have, the farther apart they will stay. If you touch both balloons, you will take the charge from them, and they will swing closer to each other.

Number 4. If you have fluorescent lights (the



A Hair-Raising Experience

by Benjamin Smucker, 14
Sonora, Mexico

long-tube kind), you can ask someone to get one down for you. (Be careful because they break easily.) Get a piece of wool or fur and go into a dark room. Rub the light briskly with the wool or fur, and watch it dimly glow.

You might want to know why it glows. Again, it is because of electrons. As you rub the light with the wool, the wool loses some of its electrons, and they go through the light. Inside the light there are phosphors which glow when ultraviolet light strikes them. Phosphors also glow when electrons go through them. ◀

