

# Natural Science

*Maureen Wittmann*

**T**ogether, grandson and grandfather kept watch over the backyard bird feeders and bath. Lounging in their lawn chairs, sipping lemonade, they chatted about wildlife.

“Grandpa, did you know that the Scissor-Tailed Flycatcher is 14 inches long?”

“No Joe, I didn’t know that.”

“Yep, and more than half of that is his tail!”

“Interesting Joe.”

“They eat insects like flies. That’s why they’re called Flycatchers.”

As this conversation between my six-year-old son and my 66-year-old father continued to unfold, I couldn’t help but smile and think, “This is homeschooling at its best.” My son’s enthusiasm for birds did not come from a science textbook, it came from the study of natural science in a relaxed home setting. Due to the birth of their new baby brother, Joe and his siblings had just spent eight weeks immersing themselves in the study of nature.

## **Preparing for a New Baby**

Whenever a new baby comes into our lives, formal academics are put aside for six to eight weeks. However, learning is never put aside. With each new baby, I have sought to provide my other children with the tools necessary to spark their interest in various subjects. With a little pre-planning,

children can be kept busy with good educational activities.

For example, when my fourth child was born, I stocked up on board games. The older children entertained themselves with Scrabble, Yahtzee, backgammon, and more. They had great fun, while at the same time reinforcing their math, spelling, and logic skills. Baby number five was born in the summer, so we concentrated on gardening; that was also the year we first learned how to can our harvest. Baby number six came to us in the dead of winter, shortly after my husband had built an ice-skating rink in our backyard. The children spent day after day entertaining friends, playing hockey, and choreographing figure skating routines. Early in my seventh pregnancy, I read an article in *Homeschooling Today* about teaching natural science by creating a backyard habitat. I knew immediately that this was what I wanted to do with my children when our spring baby arrived. The article told of a family that dug a small backyard pond and then made daily observations to study the creatures that came to the man-made habitat. Even though I eventually decided against the building of a pond, much to my husband’s relief, the article was the inspiration that I needed to get started.

## **Preparing for Natural Science**

We live in an urban area, but we are blessed to have a little strip of woods

behind our home. A short walk takes us to a nice creek that eventually flows into the Grand River. This was our classroom for eight weeks of nature study.

Of course, the children have studied this area greatly over the many years that we have lived in our home: building forts, forging paths, planting flowers, etc. Now they would study the area as part of their school lessons.

My original plan was to simply purchase art sketch books, to be used as journals, and colored pencils for my four oldest children. Then once the new baby arrived, I would make a point to send the children out to the backyard each day for fifteen minutes to make observations, writing and drawing in their journals about their findings.

However, our foray into nature journaling turned into a bigger, and more enjoyable, project. In the seventh month of my pregnancy, the children accompanied me to the craft store to purchase their art sketch books. As we talked about my ideas for nature journaling, they began to come up with their own ideas. Soon they were eyeing the water colors, wondering if they could learn to use them to paint flowers and birds. Then the discussion took a turn to crafts using materials found in the backyard. We found ourselves becoming more and more enthused about our future project.

And future project it was. Our craft store purchases were set upon the bookshelf to wait for the arrival of the newest Wittmann. Though it was not my original intention, this arrangement was instrumental in creating an air of excitement about nature studies. The jour-

nals sat there on the bookshelf begging the children to take them down and draw in them. However, Mom insisted that the books remain empty until just the right time.

During this time of waiting, we began to learn more about natural science in a very relaxed manner. I found a set of flashcards that teach about the birds of North America. On the front of each of the oversized cards is a picture of a bird. The back contains vital information, including eating habits, size, range, habitat, etc. Two or three times a week the children and I would play with the cards, learning about a new bird at each sitting and reviewing the birds learned in previous lessons. The children really enjoyed these short 10 minute lessons.

During our weekly trips to the public library, I found myself scouring the shelves for books and videos on the topic. One book that I found was *Keeping a Nature Journal: Discover a Whole New Way of Seeing the World Around You* by Clare Walker Leslie and Charles E. Roth. A book written for adults, it is filled with ideas and advice from both amateur and professional nature journalists. The authors provide an abundance of examples taken directly from a variety of journals. Sitting in my favorite reading chair with *Keeping a Nature Journal*, I often found myself surrounded by curious children. They couldn't wait to see what Mom was enjoying; so together we studied the lovely drawings of animals, birds, and plant life. We didn't read the book cover to cover, but we did pick up all kinds of tips on drawing techniques, advice on observing nature, and ideas



about what to write in our journals.

At the local homeschool store I found a book titled *Wild Days: Creating Discovery Journals* by Karen Skidmore Rackliffe, a short, easy read. This book is written with the homeschooling mom in mind. It includes examples from the journals of the author's children, giving my children a realistic view to what their journals may look like. While the *Homeschooling Today* article suggested studying the same spot each day, *Wild Days* gives ideas for taking your nature studies outside of your backyard and to other habitats. This is an appealing approach to me.

Another treasure that I found was *Pocketful of Pinecones: Nature Study with the Gentle Art of Learning* by Karen Andreola. Having read Karen's other books, *The Charlotte Mason Companion*, *Simply Grammar*, and *Beautiful Girlhood*, I knew that I would enjoy *Pocketful of Pinecones*. The book presents journaling in a way that is very natural for families to learn. The approach is thoughtful, yet informal. The suggested reading list proved most helpful. It gave me the idea to add "living" books to our nature studies. I moved books such as *Snowflake Bentley*, *Bully for You Teddy Roosevelt*, *Song of the Swallows*, *Crow Boy*, *All Creatures Great and Small*, *Blueberries for Sal*, *Make Way for Ducklings*, and Beatrix Potter books to the shelf next to the art sketch books.

Also during this time of waiting, I found bird feeders and baths on sale. I added those items to my school budget. In the past squirrels made bird feeders difficult to keep in our yard, so the

children and I had to keep this in mind in choosing the design and placement of the new bird feeders.

Knowing that my children would want to properly identify the birds that they observed, I made sure that our shelves included several field guides. My husband is a bird lover, so the Audubon Society's *Master Guide to Birding* was already in our home. To that I added *Critters of Michigan: Pocket Guide* by Ann E. McCarthy and *Animal Tracks of the Great Lakes* by Ian Sheldon, which I found at our local bookstore. These two small books were big hits with my children, especially with my boys. They loved learning about tracking and the comparisons between different animals. They were also interested in learning which animals are native to our part of the country. (I am confident that if you live outside of the Great Lakes region, similar books are available to you.)

Another great find at the bookstore was the *Peterson Field Guide Coloring Books*. They are very well drawn and informative. By coloring in the guides, the children became familiar with the coloration of many birds and animals. They are available on birds, butterflies, reptiles, mammals, insects, wildflowers, fishes, and shells, and can be found at most bookstores. The guide on birds is made up of drawings by John James Audubon himself.

The key for us here was to have the children see Dad checking his field guide when making a siting, and then providing them with guides of their own.

A popular item with my children is my husband's col-



lection of bird songs on cassette tape. We listen to them during dinner time so that we can recognize the songs of the birds that visited our backyard. We learned to keep a pair of binoculars close by so that when a new song was heard in the yard, we could find the bird that produced it. In fact, we made a particularly rare sighting this way.

One evening our eight-year-old daughter thought that she heard a Purple Finch in the yard, but the binoculars told a different story. At first the bird appeared to be an Indigo Bunting, but further investigations revealed that what they heard was actually a Blue Grosbeak. The coloration of the two birds is similar; using the field guide we were able to correctly identify the bird. According to our field guide, the Blue Grosbeak's song is very similar to the Purple Finch and furthermore it is not normally found in our part of the country. Though it sometimes wanders into the Great Lakes region, its normal range is no farther north than Illinois. It was an exciting event for the children and for Dad.

### **From Preparation to Action**

By the time Brendan Thomas was born in April, our family had already begun our immersion into natural science and we were looking forward to nature journaling.

Shortly after coming home from the hospital, I sent my children out to the great backyard with their journals to observe nature. We had not done much in the way of journaling in the



past, so this was a new experience for us. Of course, the children did not immediately fill their art sketch books with gorgeous watercolor pictures and beautiful poems about nature.

They were unsure at first as to what was expected of them. I reassured them that this was a fun project and that they should fill their journals with things that interested them. One child pressed wildflowers while another child chose to draw them with colored pencils. My oldest son wrote about the small animals that he tracked. When they brought their journals to me, I praised them for their efforts and gently offered ideas to expand on them. Soon the collections, artwork, and writings became more intricate.

You will be amazed at what your children will find in your backyard, even in the most urban of areas. Raccoons, foxes, pigeons, hawks, and others have adapted themselves to city life. Though in the past we had seen a variety of animals in our "little piece of country in the city," new observations were now made. Muskrats were discovered, for example. Holes that housed woodchucks were unearthed and deer tracks identified. An interesting find by my oldest son was pollutants in our creek. We live directly across the street from the airport and apparently the antifreeze used by the airlines to de-ice their planes runs off into our creek. This provided the opportunity to present several lessons. A science lesson in testing the water and a civics lesson in seeking a solution, just to start.

The *Homeschooling Today* article that was my inspiration suggested that children spend at least 15 minutes in one spot to make their observations.

This is good advice. I stressed the importance of quiet time in the woods to my children. They need to stay quiet in one spot for at least fifteen minutes if they want to observe animals and other creatures. It was in this way that the muskrat family was discovered. It was also in this way that my oldest son had a close encounter with two deer. He was sitting quietly, partially hidden in the brush, when the deer walked up so close to him that he could reach out and touch them if he had wished.

I also like that they are becoming accustomed to sitting quietly for considerable lengths of time for another reason. We cannot hear God's voice if we do not stop and listen. Our society is filled with noise. We need to block the noise out from time to time so that we can pray and reflect and, most importantly, listen. One of the many things that I enjoy about homeschooling is the opportunity to provide quiet times of reflection for my children. My husband does visit the Blessed Sacrament with the older children once a week for an hour, but I also want them to be able to pray quietly outside of church. I feel blessed as a home educator to be able to raise my children in a peaceful environment, since site-based schools are often filled with an overabundance of visual and audio stimuli.

## Epilogue

Eight weeks after Brendan's birth, the children and I traveled to St. Louis to visit family. Staying at my parents home, we were able to continue our backyard nature studies in new environments. During the long drive, we



used our newly heightened observation skills to find buffalo, sheep, and deer, in addition to the usual cows and horses. In the middle of our stay we visited The Butterfly House, which was a huge hit. The children were able to stand still as butterflies landed on them, allowing them to observe the beautiful-winged creatures up close.

Also during our visit we met some homeschooling friends at a nearby state park. Between the two families, we had thirteen children in tow. We hiked to a lovely creek filled with all kinds of plant life and creatures just waiting to be observed. As the other mother pushed her stroller and I carried my eight-week-old baby nestled in his sling, the children brought nets, buckets, and other tools. They went on to collect tadpoles, crawdads (known as crayfish to you non-Missourians), and water samples. We were enjoying ourselves so immensely that a short down-pour did not dampen our spirits. The children continued to play, and collect, through the rain. We found tadpoles in various stages of development, which was particularly educational. We even observed a Copperhead swimming near our group, reminding me that we were no longer in Michigan, where poisonous snakes are rare.

In Grandma and Grandpa's backyard the children observed the differences in Missouri and Michigan squirrels. In Michigan we have black squirrels and fox-tailed squirrels. Grandma and Grandpa's squirrels are gray and larger in size. There were other differences that they discovered. Our bird feeders tend to attract Cardinals,

Blue Jays, and Chickadees. Grandpa's bird feeders attracted humming birds, robins, sparrows, goldfinches, mourning doves and more. We noticed the different eating habits of the birds; for example, the goldfinches would eat at the feeder while the mourning doves ate the seed that fell to the ground. It was also noted that Grandpa used different types of birdseed in different bird feeders. It was decided that we would do the same at home to see if we could attract a wider variety of birds.

The best of the best was Grandpa's raspberry patch. Each morning the children ran out to the yard to pick raspberries to put in their cereal, and again in the evening to serve with dinner. They came to appreciate God's hand in nature. He provides us not only with beauty in nature to nurture our souls, but food to nourish our bodies.

My father sent me home to Michigan with a box full of *Missouri Conservationist* magazines. Published by the state of

Missouri, it is an excellent magazine. On our drive home the children began to pull them out and read. They found interesting articles on bugs, deer, wildflowers, and more. It was great fun for me to peek at them in the rearview mirror as they giggled at the gross pictures of fish guts and bugs. They also admired the beautiful pictures of wildlife and read the articles of interest. With three years worth of back issues, they should be enjoying these magazines for a long time. In fact, I look forward to enjoying natural science for a long long time!

Finally, as a homeschooling mother I have learned to keep my children involved in the decision-making process. I often introduce an idea to them and then ask for their input. I should say that while I do want my children to have a say in the direction of their education, the big decisions are made by my husband and me. There was never any question about whether or not we

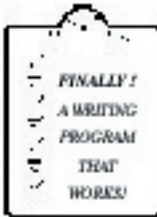
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were going to immerse ourselves in natural science upon the arrival of our newest family member. I made that decision. However, I allowed the children to take ownership of the project and run with it. I stayed involved and studied alongside them, keeping their interest from waning.

## Nature Science and Journaling in a Nutshell

### Some useful tools:

- Field guides
- Magnifying glasses/binoculars
- Journals/colored pencils/waterproof pens/water colors
- Compass
- Outdoor thermometer
- Rainfall measure
- Backpack
- Flashlight

### Basic rules

- Spend a minimum of 15 minutes in observation
- Describe the weather
- Note any overnight changes
- Record insects, animals, tracks, feathers, etc.
- Identify plants and flowers
- Draw/label something each day

### Ask yourself questions, for example:

- Will the birds come to the feeder if you put up a scarecrow?
- How close can you get to a bird before it flies away?
- What birds like what kind of seeds?
- When are the squirrels most active?
- When do the birds begin to leave for the winter?
- When do the animals begin to come out of hibernation?

### Literature ideas:

- Read the journals of famous naturalists
- Read biographies of scientists/naturalists
- Read books set in nature

### Other Observations:

- Location
- Time of day/date
- Measurements – distance, length, width, and volume
- Soil conditions

### Collections:

- Rocks
- Shells
- Butterflies
- Insects
- Feathers



### Crafts:

- Paper making
- Rock painting
- Leaf and bark rubbings
- Flower press/dry flowers

### Math:

- Graphs
- Measurements
- Charting the weather

### Websites:

- Backyard Nature Specialist:  
[www.pclink.com/rlovgren](http://www.pclink.com/rlovgren)
- Nature Study Websites:  
[www.csuchico.edu/~pmaslin/nature/naturesites.html](http://www.csuchico.edu/~pmaslin/nature/naturesites.html)
- Catholic Charlotte Mason:  
[www.4realllearning.com](http://www.4realllearning.com)

### Other

- St. Francis of Assisi Ecology Unit Study by Lesley Payne. Go to [www.heart-and-mind.com](http://www.heart-and-mind.com)

*Sharing Nature With Children* by Joseph Cornell. Great outdoor activities for kids. To order, call (866) 693-4263 or go to [www.sharingnature.com](http://www.sharingnature.com).

*Explorations in Backyard Biology* by Gary Raham. Grades 4-6. Includes drawing, observation, experiments. Order from Acorn Naturalists, (800) 422-8886 or [www.acornnaturalists.com](http://www.acornnaturalists.com). They sell lots of other great nature study resources.

*Missouri Conservationist* monthly magazine. Every third issue contains an excellent 16-page

pull-out entitled, *Outside In: The Missouri Conservationist for Kids*. Subscriptions free to Missouri residents. Call (877) 521-8632 or visit [www.conservation.state.mo.us](http://www.conservation.state.mo.us).

Macbeth Durham's great web site on nature journaling: <http://charlottemason.tripod.com/nature.html>.

*Maureen Wittmann and her husband Robert are homeschooling parents of seven children. Maureen is also coeditor of A Catholic Homeschool Treasury: Nurturing Children's Love of Learning (Ignatius Press).*