

Step Outside

Studies in Creation for Young Children



Teacher Manual *Grades 4 - 6*

Olivia Howell, Amelia Waller, & Mike Flewelling

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List of Books & Materials Needed to Complete Step Outside

Core

- Step Outside Teacher Manual Grades 4-6 (used for all levels)
- Step Outside Student Pages Grades 4-6 (one set for each student)
- Christian Liberty Nature Reader Books 4 (3rd ed.) & 5 3rd or 4th ed. (used for all levels)
- Drawing Textbook (used for all levels)
- Learn to Draw Like a Pro (Choose Level Based on Experience)

*NOTE: If you have never done the Learn to Draw Like a Pro before, all students begin at Level 1. If you have previously used this program, choose the next level beyond the one completed.)

Suggested Supplementary Read Alouds

- The Secret Garden by Frances Hodgson Burnett
- Charlotte's Web - by EB White
- A Wolf Called Wander by Rosanne Parry
- Hatchet by Gary Paulsen
- My Side of the Mountain by Jean Craighead George
- Little Britches by Ralph Moody
- Little House in the Big Woods by Laura Ingalls Wilder
- On the Banks of Plum Creek by Laura Ingalls Wilder)
- Swallows and Amazons by Arthur Ransome
- The Penderwicks by Jeanne Birdsall
- George Washington Carver: From Slave to Scientist by Janet & Geoff Benge
- Other nature themed books of your choice

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Introduction

A Brief Pep Talk

Nature study - the very mention of these two words conjures up all sorts of images in the minds of people. The environment as a whole is a fashionable topic these days, but despite the efforts of many of some engaged in natural science, or of many environmentalists, to pervert the study of nature to advance their own selfish agenda, nature study must remain what God has always intended it to be. Plainly put nature study consists of "simple, truthful observations" of the world around us. It leads ultimately to a better understanding of who we are and who God is.

Of course, this cannot be accomplished through nature study alone. We need the light of God's Word to explain our observations and to put them in perspective. Left to ourselves we too often lift up the creation and worship it while we are, in fact, commanded to worship the Creator and to glorify Him in all that we do. Examples of the former are all around us. The evening news runs another story about people chaining themselves to trees, or ramming fishing boats, or glibly referring to "Mother Nature" or "Mother Earth". Even Christians can inadvertently get caught up in this thinking. After climbing a mountain and gazing over the surrounding countryside, we may marvel at the beauty of the scene without giving a second thought to the One who created everything by the power of His spoken Word. The Lord said, "Be!"...and it was.

Therefore, it must always be kept in mind that while leading children through the study of nature, we should stick close to the goal. What is that goal? *We want to cultivate in our children the skill of accurate observation and to help them understand all that they observe.* Of course, this understanding is formed within the bounds of God's sovereign purposes that all creation will glorify Him and that man was made to have dominion over all the works of His hands. A study of nature done in this way will leave thoughtful children pondering their role as good stewards of the earth and its resources. They will be released from the oppressive slavery of radical environmentalism with its elevation of nature to god-like status and its wagging finger in the face of all mankind. They will be free to see nature as God's handiwork; something to be used and enjoyed by man, yet not abused. The Bible's dominion mandate can never be used by those who are looking for an excuse to ravish the environment for their own selfish gain.

Nature study is the way science should be learned at an early age. First of all, it gives children a *practical and helpful knowledge of the world around them*. Second, it *cultivates a child's imagination*. Third, it *develops a regard for what is true and offers a means for expressing it*. Fourth, nature study *builds up a love for what is beautiful*. Fifth, it *encourages a healthy love for the out of doors*, something increasingly important in our sedentary society.

All children, no matter where they live, should have the opportunity to "step outside" to do some nature study. It should not, however, be a forced, clinical exercise, but gently encouraged by parents or teachers. How? *Modeling nature study is one of the best ways to encourage it.*

When adults consistently are out of doors (working in the garden, walking through the forest, or playing at the park) young children tend to gain an interest in the same things. *Encouragement* will promote a child's interest. When an adult shows genuine interest in the flower, worm, or leaf that a child brings them, that child is more likely to take an interest in the study of nature. *Scheduling* time to be out of doors is a crucial factor in supporting a decision to do a nature study. We often get caught up in getting the math, reading, writing, and household chores done, but don't give a second thought to the health benefits of time out in the fresh air. As a sidebar, also consider the many ideas and opportunities that arise during the nature study in terms of possible writing topics (How many times have you heard your older children say that they have nothing to write about?); studies in math (symmetry of a leaf); history (uses of the forest in pioneer times); music (listen to the birds); art (study of colour or composition); reading (If you have never read poetry about nature while sitting in a natural setting, you're missing a real treat!); and, of course, science.

Equip children with simple materials to heighten their interest. A field notebook, several pencils with erasers, and their senses must be considered basic essentials for a nature study. However, as you progress in skill and interest, consider a good hand lens, binoculars, plastic specimen bottles with covers, a good set of coloured pencils, waterproof knapsack, handbooks and field guides and anything else that can make your time out in the open more enjoyable and profitable. These will encourage further and closer investigation. *Help children understand more of what they are observing*. Tell them what you know but don't be afraid to say "I don't know." Have a supply of resources at home to aid you in clarifying information. Encyclopedias, handbooks, field guides, pictures, and the Internet are all helps

that can shed more light and add depth to the child's nature study. Obviously, they are supplements only and are never to be used in place of the actual observation, but these resources make your job a lot easier. With them, you will be more likely to not guess at your child's question, but say, "Let's find out!"

Nature study can take place almost anywhere. To be sure certain locations lend themselves to the observation of a wider variety of life forms, but life is virtually everywhere. Even city sidewalks can often reveal an ant struggling with a bit of bread crumb. The point is you don't have to live in the country to study nature. *Be open to spontaneous opportunities for nature study and you will have few problems finding things to study.*

Another potential obstacle to nature study is the weather. Depending on where you live, there will be times when it is too hot, too cold, too stormy, even too dangerous to go outside. However, don't wait around for the perfect day. To do so is to miss opportunities to study aspects of the natural world only available to those who are willing to venture out when the weather is less than ideal. Dress appropriately, make sure books and other materials stay dry, always make safety your first priority, and there should be few days when you are absolutely stuck indoors.

Still another barrier to a love for nature study is *the modern habit of indoor entertainment.* TV, radio, computers, video games, hand-held devices of all descriptions, movies, even reading, crafts, and organized indoor sport can become a consuming passion and sap all desire to be active out of doors. Quite simply there is no better way to combine learning, physical exercise, and develop a love for God's creation than regular work, play, and leisure out of doors.

However, without a doubt, *the chief obstacle to starting and maintaining the nature study habit is the parent.* As parents we easily fall prey to the Tyranny of the Urgent. "We just don't have time today, dear." "I'm just too busy." "I'm too tired." "Why don't you just read for awhile?" How many times do our children hear our excuses? Now to be sure there are times when we cannot take children on a nature walk or we may live in an area where it would be unthinkable to send them out on their own; however, we would like to challenge parents to consider the great many benefits not only for the child but for us as well. Many adults today do not get enough exercise, have stress levels that are out of control, or simply need some time to get out of the house for just a bit. Homeschooling moms especially must make it a priority to incorporate this opportunity into their school week. Get

help with baby-sitting or crowd control if you must, but you will not regret the many benefits afforded to those who make it a habit to get out to do nature study with some or all of their children at least once a week. Who knows? You may find yourself scheduling nature study into your "school time" more than once per week!

It's time to take early grade science outdoors! The benefits are just too precious to put it off any longer. Increased respect for the world around us; cultivation of the imagination; higher regard for the truth as revealed through God's creation; development of a love for what is beautiful; establishment of a healthy lifestyle that raises fitness levels, reduced tension and stress, and bringing families together. Can you really think of a good reason why nature study should not be a regular part of your week?

The story goes that a farmer was once asked how much land he owned. His response was gold. *"I don't own none of it,"* he drawled. *"I'm just looking after it for a while."* If only we all could see our earthly possessions in this light. The reality is that we don't own anything here. We're all citizens of another place and God has given us the mandate to be good stewards of His wonderful gifts while we sojourn here. The environment is one such gift. We are not to abuse it ruthlessly. At the same time, we are not to worship it. Christians get blamed for many of the problems that apparently face the environment today. Maybe much of this criticism is rightly deserved. But Christians are the only people on this planet who have the insight and the mandate to be true environmentalists. Nature study for children is simply one step for Christians to get back in the game and bring the light of God's Word to this important contemporary issue.

Sample Schedules

Four Day School Week

*as seen in weekly schedule

Reading, Drawing Lesson, Nature Walk, Nature Project can be done in any order.

Monday: Reading and Narration, Drawing Lesson

Tuesday: Reading and Narration, Independent Drawing Practice

Wednesday: Drawing Lesson, Nature Walk

Thursday: Independent Drawing Practice, Nature Project

Friday: Free Day or Catch-Up Day

Friday Nature Day

*Or choose any day of the week to use as a Nature Day

Monday: Reading and Narration, Drawing Lesson

Tuesday: Independent Drawing Practice

Wednesday: Reading and Narration, Drawing Lesson

Thursday: Independent Drawing Practice

Friday: Nature Walk, Nature Project

Nature Walk Everyday

Monday: Reading and Narration, Drawing Lesson, Nature Walk

Tuesday: Independent Drawing Practice, Nature Walk

Wednesday: Reading and Narration, Drawing Lesson, Nature Walk

Thursday: Nature Project, Independent Drawing Practice, Nature Walk

Friday: Nature Walk

Nature Project Once a Month

*Reduce nature projects to once a month

Monday: Reading and Narration, Drawing Lesson

Tuesday: Reading and Narration, Independent Drawing Practice

Wednesday: Nature Walk, Drawing Lesson


Thursday: Independent Drawing Practice (Monthly Nature Project)

Friday: Free Day, Catch-Up Day or a Day for Monthly Nature Project

Sample Nature Journal Pages From K-3 Manual

AGE 6

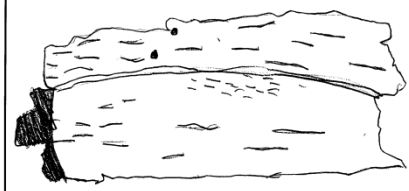
NAME Trinity DATE MARCH 19
 I WENT TO the woods
 WITH my mommy
 WEATHER (circle one or more) ☒



This is a firback stick and cone.

AGE 8


NAME Evelyn DATE March 19th 2019
 I WENT TO the woods.
 WITH my mommy.
 WEATHER (circle one or more) ☒



I found it in the wood. It is bark from a birch. I love birch it is my favorite kind of tree.

AGE 10

NAME Ellia Rose DATE March 19th 2019
 I WENT TO our field.
 WITH my mom
 WEATHER (circle one or more) ☒



This tree is a speckled Alder. In winter they are red and bloom in summer. There are buds on the branch and male catkins at the end in this picture.

Sample Nature Journal Pages for Grades 4-6

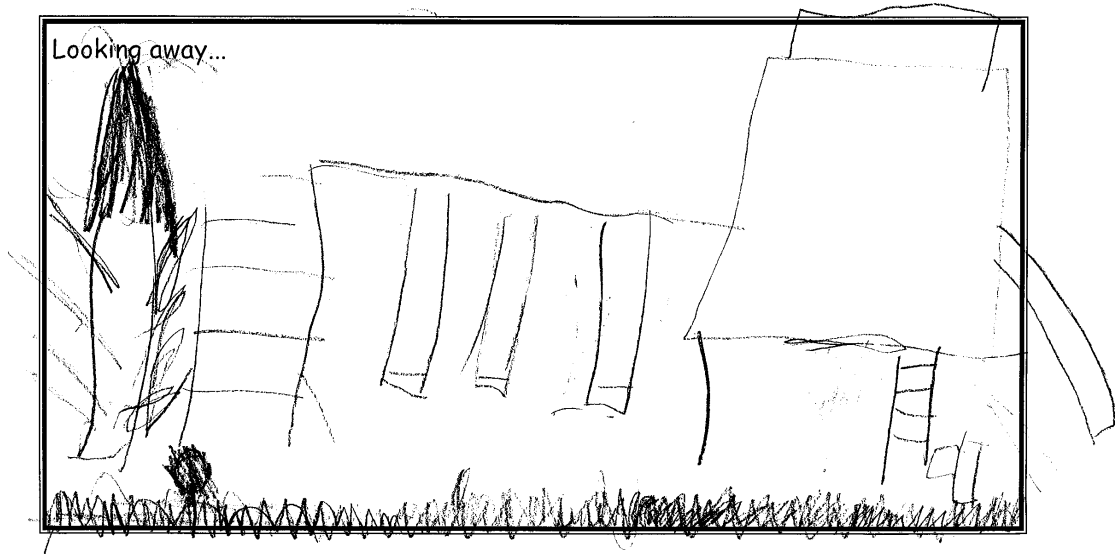
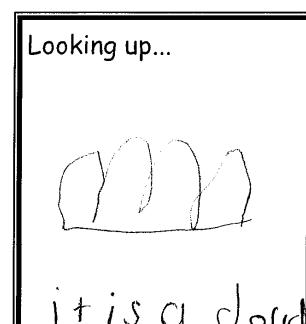
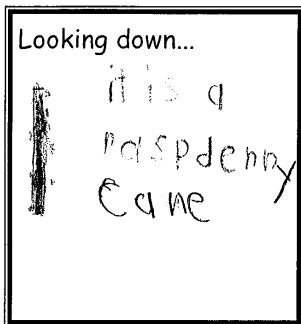
AGE 7

Name: _____ Date: March 12

Place: Raspberry patch Time: afternoon

Weather: sunny with a cold breeze

Settling in... I am sitting on snow in the
raspberry patch.



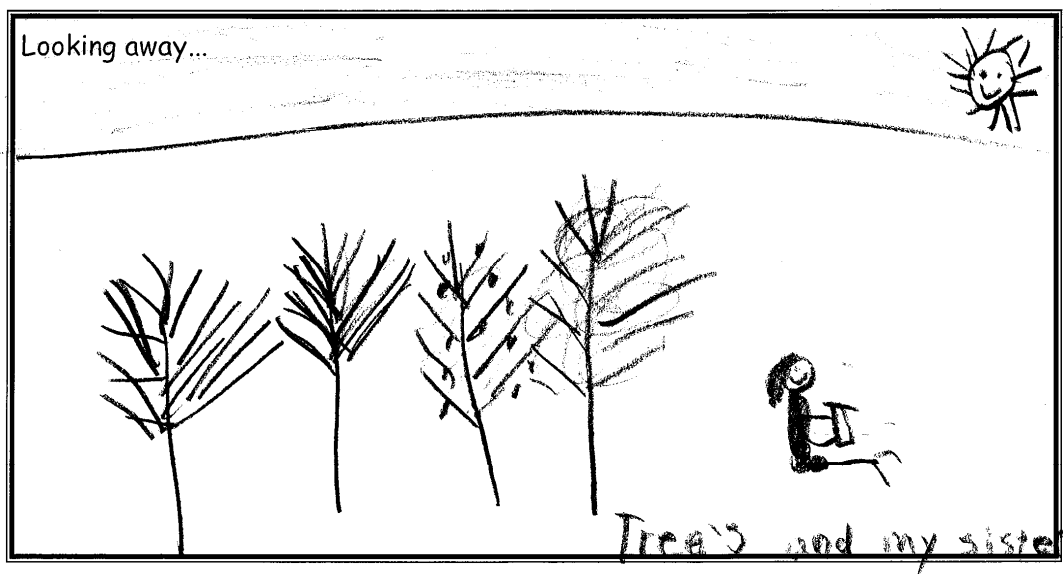
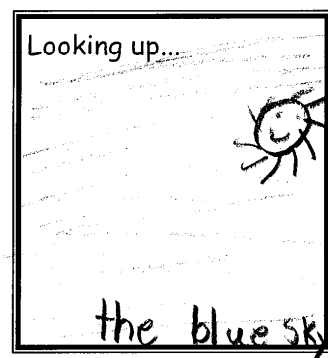
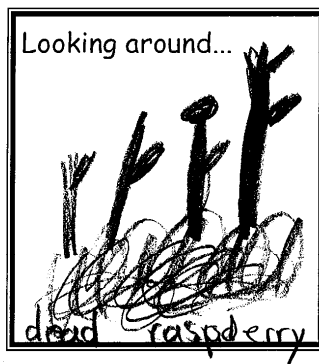
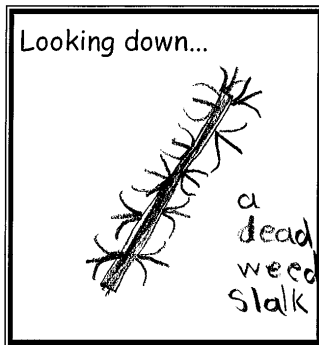
Age 9

Name: _____ Date: March 12

Place: raspberry Time: afternoon

Weather: Sunny but cold

Settling in... part of me is cold but
part of me is fine and I am
very comfortable.



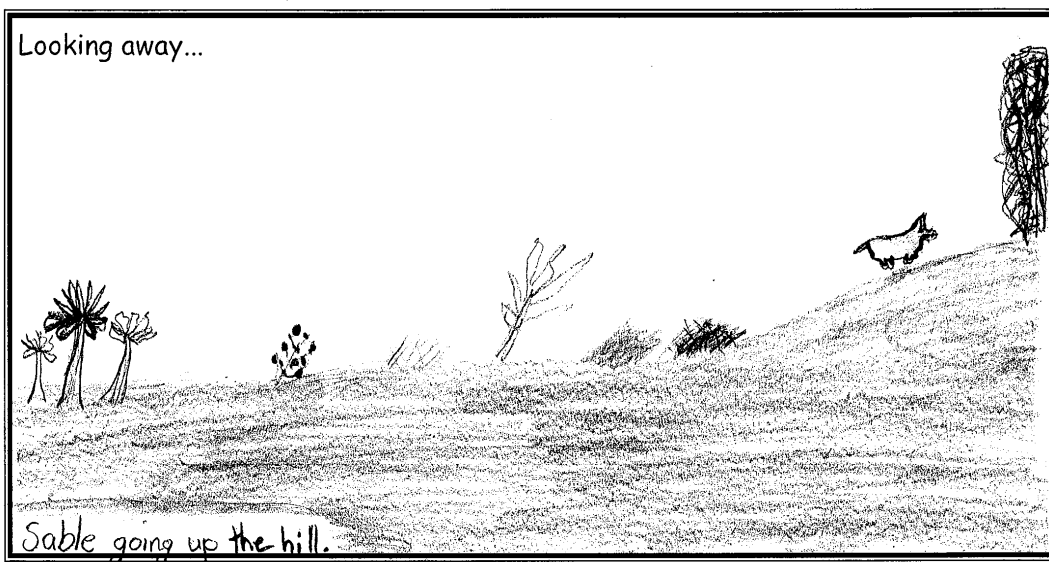
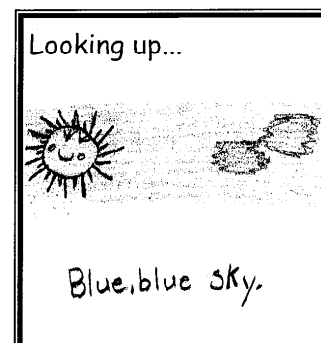
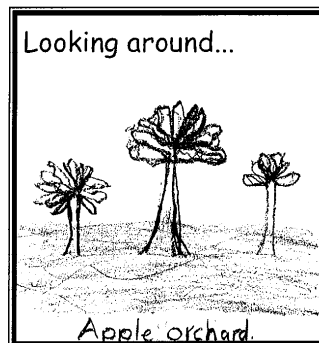
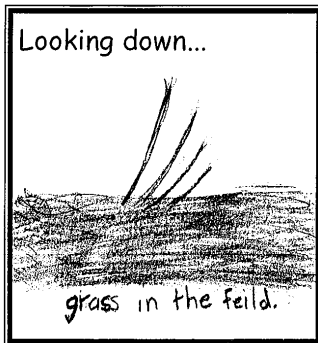
Age 11

Name: _____ Date: March 12

Place: In the orchard Time: Afternoon

Weather: Sunny but has a cold breeze.

Settling in... It's chilly but comfortable out here though
my ears are cold.ü



Weekly Schedule

The suggested schedule is for a four day school week. Following it will insure that you cover key aspects of this program. If you are following another schedule (see page 18), feel free to adjust accordingly.

Week 1: Days 1 - 4

Day 1: Read a selection from either Book 4 or 5 of the Christian Liberty Nature Readers. NOTE: These two readers will serve as the foundation (or jumping off point if you desire more study) for the entirety of Step Outside 4-6. There are about 150+ selections in all, so you should be able to read through both books over the three years you use this program. If you plan to use this program for less than the three years for which it was designed, adjust the reading schedule accordingly. You are welcome to start anywhere in the two books you choose. The reason for this flexibility is that certain units may coincide better with specific ideas you have for your nature walks and activities. We do ask, however, that once you begin a unit, you stick with it until finished. This will help the student get a better idea of the topic. After you read the selection use the suggested questions in the "Review" section to check for comprehension and understanding. Oral narration can be used for younger students or those not comfortable writing sentences on paper. Make sure the student responds in complete sentences. Older students or those who are comfortable writing on paper, should be encourage to narrate orally *first* and then write their answer in a designated "science" notebook. Also make sure you note the **bolded vocabulary words** in a reading selection. Definitions are found in the back of each reader. Students should be able to explain their meanings to you in their own words. Older students may also write definitions in their notebook using the definitions given in the "Words You Should Know" section. This pattern will be repeated for each day that you read from the texts. Of course, feel free to dive further into a particular topic if you wish!

If you have not already done it, read over the introductory material found in your Learn How to Draw Like a Pro package. Follow the suggestions there exactly as presented. This program, while not specifically dealing with drawing nature themed material, will indeed teach your student how to draw. The seven basic laws of perspective learned will impart skills that will be used in any type of sketching you do while on your nature walk. Be patient! In a few weeks you will see an improvement in your child's ability to draw. We will be following this pattern for

the lessons...new lesson on Day 1...independent practice on Day 2...new lesson on Day 3...independent practice on day 4. However, feel free to provide as much independent practice on the "off days" of this schedule. The more your child practices proper technique the faster he will master the skills.

That's it for Day 1!

Day 2: Read the next selection from either Book 4 or 5 of the Christian Liberty Nature Readers. Using the questions in the Review section at the end of the selection, have your child orally narrate answers in sentence form. Go over any of the terms in bold print found in the selection. Your child should be able to tell you what each means in their own words. NOTE: Definitions are found in the back of the text. Older children can be expected to add their sentence answers and vocabulary words to their science notebook.

Have your child do independent drawing practice based on the previous day's lesson. You can either give them an unlined piece of three hole punched paper or purchase an appropriate notebook for their practice work. If you decide on the latter, add the practice sheet to their binder that includes their drawing lessons.

That's it for day 2!

Day 3: Complete the next lesson in Learning to Draw Like a Pro. Make sure you stick to the suggestions written in the introductory notes of this program to insure good habits.

Choose a Nature Walk activity found on pages 88 to 117 for the appropriate season and complete the activity today. Refer back to the introductory notes in this manual to help you plan a strategy for today's Nature Walk. Make sure you also read the instructions from the Nature Journal package that you purchased for this program. This will help you know what you will be doing as you record your observations on the nature journal page and why you are doing it!

That's it for day 3!

Day 4: Have your child do independent drawing practice based on the previous day's lesson. Please insure that they are doing this exactly as they were instructed on the previous day.

Choose a Nature Project activity found on pages 118 to 145 for the appropriate season and complete the project today.

That's it for Day 4!

*If you have decided to read from the supplementary reading list suggested in this manual, remember to read aloud to your child throughout the week. You can, of course, choose other nature themed books...fiction or non-fiction.

Grades 4-6 Nature Walk Activities

Very often nature lessons and activities will present themselves once you get in the habit of going outdoors with your sketchbook on a regular basis. However, many people fail to get their study off the ground for lack of some direction in the beginning. We have provided 30 lesson ideas based on common discoveries your child might make outdoors. We hope this will give you a kick start and soon having you creating nature lessons of your own.

Situation One

Birds

When your child encounters different species birds on nature walks, use the following questions to help guide their observations and to aid in accurate sketching. These questions are also helpful for bird identification.

Activity: To extend learning for a bird sighting, use these questions in conjunction with nature projects like building a birdhouse and bird habitat, or making birdseed cookies. Your child may enjoy using binoculars to watch birds in the distance as well.

1. Is the bird larger or smaller than other birds that we usually see?
2. What is its general shape? (You might want to quickly sketch it on a piece of paper.)
3. Are its wings long and slender or short and stout? Is the bird's movement slow and soaring or does it move quickly? Does the bird hop or walk?
4. Is the tail long or short? Notched or straight across the end?
5. Describe the bird's feet. Are they webbed? Do they have claws? How many toes?
6. Describe the shape and colour of its beak. How is the shape of its beak designed to help it eat?
7. What colour is the bird? Does the bird blend in with the surroundings or attract attention? Take note of its peculiar markings.
8. What time of year do you see the bird?
9. Try to copy the sound the bird makes.

Grades 4-6 Nature Project Activities

Build a Nature Box

Materials:

-Your choice of box or container

(Some ideas might include a Kleenex box with the top removed, wooden chest from the craft aisle of the dollar store, shoe box with lid, small metal lunchbox with clasp, large tray with sides, a shallow plastic tote etc.)

- Thin cardboard (such as a cereal box)

-Craft paint and paint brushes

-White glue

-Scissors

-Decorating materials such as pressed leaves and flowers, construction paper and stickers

-Ruler

-Pencil

-Utensil drawer divider (optional)

-The goal of this project is to create a space where your child can store & display their exceptional nature finds throughout the year. There are many creative directions this project could take you, depending on what container the child chooses or has on hand. We have also included instructions for a simple shadow box display, in case your child has an interest in basic woodworking. Be sure to always follow safety guidelines and carefully supervise while using power tools.

Instructions:

-After choosing the preferred container, have your child spend time painting and decorating the outer sides of their nature box. They may also wish to paint the inside, depending on the type of box selected.

- Once the outer part of the box is painted, decorated and fully dry, decide what size compartments should be inside the nature box. A square grid works best, but your child may also set aside a slot for their favourite nature drawings or paintings. (You may also find a plastic or bamboo utensil drawer insert works well for creating ready made cubbies in the box. If you go this route, you may skip the next two steps.)
- Use a ruler to measure the cardboard into correctly sized pieces. Paint with craft paint.
- When pieces are completely dry, glue them into the nature box. If necessary, use small rocks to hold the dividers in place until they dry.
- Fill with natural treasures throughout the year!

How to Make a Shadow Box

Materials:

- 8 x 11 wooden picture frame (thrift stores are a great source for these)
- 1 x 4 pine board
- Circular or miter saw
- Wood glue
- Clamps
- Thick cardboard (recycled packing boxes work well)
- Finishing nails
- Hammer
- Paint and paintbrushes or a can of spray paint

Instructions:

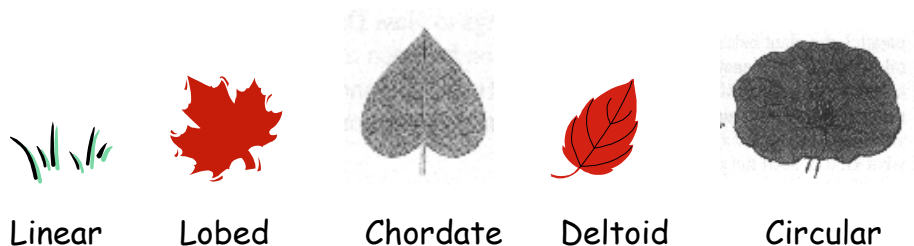
- Remove any cardboard or glass from picture frame.
- Cut board into two 8" pieces and two 11" pieces. Most hardware stores will cut lengths for a small fee.

Leaves

The leaves of plants are very useful as they help the plants produce food. Because most plants cannot move around like many animals, they need to make their own food in order to survive. Leaves do this through a process known as photosynthesis. This process is beyond the scope of this book, but make sure children know that *plants use the unique shape and position of their leaves to insure that they can get as much sunlight as they need to stay healthy*. Following you will find some information on different shapes and arrangements of leaves on various plants. A basic knowledge of this terminology will be useful in using the identification keys found in this text.

The physical appearance of a leaf is made up of three basic characteristics. Children should look at the **shape**, the **margin** (the leaf edge), and the **venation** (pattern of lines or veins visible on the leaf surface). Below you will see pictures and definitions to help you recognise and categorise the major leaf shapes and arrangements. This can be complicated. Just make sure you use this guide when trying to identify plants by their leaves. You should be able to get many of the discoveries you and your children make.

Definitions of Shapes



Linear - Long and slender. (Example: Grass)

Lobed - Has lobe-like extensions. (Example: Maple)

Chordate - Heart shaped. (Example: Basswood)

Deltoid - Rough triangular shape (Example: Wire Birch)

Circular - Rough circle shape. (Example: Water Lily)

Reference Books, Guides, and Other Helps

There are many references, guides, and helps available to anyone who has a desire to do nature study. Most of them are quite specific to a particular topic, but some are more general and will provide excellent supplementary reading. The resources below are not meant as a complete list, but should provide the novice with all that they will need for several years. The Internet section contains search ideas. Since website URL's come and go frequently, actual addresses have not been provided.

General Reference

Encyclopedia (Any reputable set of encyclopedias will answer basic questions on nature.)

The Handbook of Nature Study by Anna Botsford Comstock (Over 800 pages crammed with information and ideas on nature study. A Classic!)

Keeping a Nature Journal by Clare Walker Leslie and Charles E Roth (Lots of ideas about how to actually do a nature journal.)

Drawing Textbook by Bruce McIntyre and Learn to Draw Like a Pro by Tree of Life (Excellent drawing exercises that will, with practice, improve any child's nature sketches.)

Woods Walk by Michael w Robbins (A guided tour for all four seasons and all regions of North America)

Fabre's Book of Insects by Jean Henri Fabre (Originally published in 1921, this book provides details into the characteristics and habits of many common and not so common insects.)

Life in a Bucket of Soil by Alvin and Virginia Silverstein (A marvelous book that will open your eyes to the millions of living organisms living beneath your feet...when you're outdoors that is!) Also by these authors...A World in a Drop of Water and Life in a Tidal Pool.

Fruit and Twig Key to Trees and Shrubs by William M. Harlow (Easy to use book with over 350 photographs.)

Collecting and Preserving Plants by Ruth B MacFarlane (May be Out of Print.) (If you have always wanted to preserve some of God's beauty in nature, this book is filled with enough ideas to keep you going for quite awhile.)

Garden Secrets for Attracting Birds by Rachael Lanicci (Turn your backyard into a "go to" place for a wide variety of birds.)