

Natur**L**xplorers

Educational Journeys into God's Creation

Captivating Clouds

by Cindy West and Melissa Leach

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Topics:

What Clouds Are

Cloud Formation

Types of Clouds

Using Clouds to Predict Weather

Seasons:

All

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Welcome!

Welcome to the *NatureExplorers* series of nature-based unit studies! You are in for such a treat when studying nature with your children. We pray these materials will inspire you, encourage you and supply you with an abundance of great ideas. Whether you're just looking for information and ideas as you prepare for a nature walk, or you'd like to take nature studies further than the walk, this book will provide you with a variety of ideas and resources.

For each theme, you will find:

- Inspiration for the parent or teacher and inspirational literature suggestions for the children
- Background information concerning the main focus of the nature topic
- Ideas for nature walks and other outside activities
- Follow-up hands-on activity ideas
- Writing and research ideas
- References for Bible study, artist and composer study, and poetry tie-ins
- As well as bonus ideas for other subjects when applicable
- Kid-friendly internet links and book lists for further study
- Ideas for adapting the material for younger and older children, as well as ideas for groups of children
- Notebooking pages

Any homeschooler using **any homeschooling style** will find this resource useful. **Charlotte Mason** homeschoolers will love the ideas for tying in poetry and artist and composer studies, as well as the living literature lists to enhance learning. Those who use **Unit Studies** will be excited that most of what they need for a full unit is already here. **Unschoolers** will appreciate the ability to find easy to implement ideas at just the right time. **Project-Based** homeschoolers will be excited at the large amount of project ideas that meet **many learning styles**. **Traditional and Classical** homeschoolers will be able to pull as little or as much from the book as they desire. **New Homeschoolers** will appreciate the thoroughly laid out ideas, while **Veteran Homeschoolers** will be thankful that the ideas are already pulled together and ready to use.

This curriculum isn't only for homeschoolers! **Classroom Teachers, Nature Club Teachers, Co-op Teachers, Camp Directors** and **After-School Program Coordinators** will all find this resource useful.

The beauty of each unit is its adaptability. You can simply take one nature walk and put the book down, or you can take nature walks again and again focusing on the same theme and not run out of new ideas for a very long time. If desired, the nature theme can be used as a full-fledged science-based unit study. You will find ideas that include the subject of science, language arts, history, geography, art, music, and even some math! Unit studies provide complete immersion into the topic so that the student can see things as a "whole" instead of bits and pieces learned throughout their education.

The units were written with the elementary child in mind, but most ideas are very adaptable for younger and older students. We have personally used our nature studies with children from the ages of three-fifteen, with all ages (even adults) drawn in almost magically. May God bless you as you study His creation with your students!

Before you get started we highly recommend you read the articles located in the appendix at the back of this book: *Why Study Nature*, *Where to Study Nature*, and *Gearing Up and Being Safe*. These articles will give you some added inspiration and needed information to make your nature studies the best they can be!



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How to Use this Book

We hesitate to even attempt to tell you how to use this book since it can be used in such a variety of ways! Maybe a better title would be “What You Will Find in Each Section”. Either way, you’ll find a description of each section of the unit(s) below with suggestions on how you might choose to incorporate the activities.

Getting Started

Literature Launch – We’ve included one or more children’s books in this section that we hope will spark initial excitement about the topic. All are great pieces of living literature or really super non-fiction selections. You can choose to use them as a springboard to read before starting your study, or they can be used at any time during or after the unit. There’s never a need to worry if you can’t find a title since the studies don’t rely on these books in any way.



Inspiration Point – No matter how much we love teaching, sometimes we could use a little help getting motivated! This section is for the teacher and includes just a few thoughts to get you interested and excited about teaching and studying the topic.

A Bit of Background – This section is to help the teacher have some background knowledge about the topic before heading outdoors or starting the indoor studies. This section would certainly be okay to share with children, but the intention is to empower the teacher with basic knowledge about the subject so all those spur of the moment questions can be answered with authority during a nature walk. This section will not be exhaustive by any means, and many of the research activity suggestions will require other books or internet resources to find in-depth information. You will also find information such as the best places to go and safety precautions regarding the particular topic.

Getting Outside

Nature Walks and Outside Activities – This is the core of the curriculum. Above everything else, we hope to give you plenty of ideas for actually being outdoors enjoying, studying, and loving God’s creation. Of course, simple nature walks where you set out to look for whatever comes your way concerning the topic are just fine. Sometimes though, you and/or your children need a little direction. You need a goal, or ideas, or even assignments before setting foot outdoors. We hope this section does that for you. We hope you will be able to open to this section and be inspired as you set out on your walk. And as we mentioned before, we hope you will use this section (and the rest of the unit) in a way that meets your family’s needs.

Some ideas for how to use this section:

- Choose one activity and set out to do only that activity today.
- Choose several ideas and accomplish as many as you can today.
- Bring the book along and decide what best meets your needs today as you walk.
- Choose to study this topic for a month and pull out a new activity per walk to complete.
- Just read through the ideas before you go outside and be ready to suggest ideas as your children show interest.

We don't suggest using every activity idea at once. We've given you a large variety of ideas so that you can, hopefully, find at least one or two that meet your needs right now. We also hope that this guide will be useful to you for many nature walks – over a short period of time or over several years even.

Branching Out

We can't stress enough our intention for the units we've created. Use them as you see fit. If you simply want to take a nature walk concentrating on the topic, that's okay. Don't worry about the rest of the ideas. If you'd like to create an entire unit study (minus the phonics and math lessons) on the topic, we've given you all sorts of ideas below for tying in other subjects. If your child became very interested during the nature walk and you're hoping to take the learning a step or two further, we've supplied great ideas for that as well. This section is meant to help you "branch out" with more learning after the nature walk.

Hands-on Activities – The ideas in this section are just what the name implies – hands-on. You'll find science experiments, art and craft ideas, recipes, building projects and more. Remember that we have written several units, so not all units will contain all varieties of activities.

Writing and Research Ideas – From choosing a specimen found on the nature walk and researching it to writing stories to creating posters, this section will give you tons of ideas for all ages. We have found that the same assignment can be given to old and young students with the expectations being higher the older the child is.

Bible Lesson from His Creation – We hope this will be a foundational part of your nature study even if you choose to just find ideas for nature walks. One of the best ways for our children to learn concretely about God, His power, His consistency and His ways is through observing and learning about His creation. God tells us in Deuteronomy 6 to teach our children about Him "when you sit at home and when you walk along the road, when you lie down and when you get up." (Verse 7) What better way to teach our children His Word than to tie it into the very subjects we are learning! In this section you'll find verses and topics to talk about with your children concerning the nature theme.

Poetry Place – Here we've included at least one reference poem, usually from a famous poet, that you might use as inspiration for writing poetry in nature, in a language lesson, as memory work, or simply for reading aloud. Unfortunately, we were unable to include the text of the poem(s) in our book because of copyright laws, but almost all of them can be easily found with a quick internet search.

Artist and Picture Study References – Many nature study lovers happen to be Charlotte Mason style homeschoolers. We included this section to help them tie artist and picture study into nature study. Of course, these would fit well with any unit study, Charlotte Mason style or not. For some units, we were able to find one artist who completed several pictures on the nature topic. We have given you that artist's name and several pieces of his or her art you might choose to study. For other units, we have supplied you with a variety of artists and one or two pieces of their art to consider. Since internet pages are forever changing, we have left it up to you to do an internet search for the particular art work. The pieces of artwork we have referred to were easily found on the internet after a title search.

Composer and Music References – For the same reasons as the Artist and Picture Study References, we've included Composer and Music References. Some unit topics lend themselves to more references than others, so you will find one or more composers and/or references to their compositions. If we had to stretch the comparison between the nature topic and the composer a bit, we've always given an explanation.

Other Related Literature – We searched long and hard for the best of the best reference, non-fiction, fiction and poetry books to include in this section. When available, we tried to choose books that didn't include any references to "millions of years". Sometimes this wasn't possible, but we've tried to warn you if evolutionary terms are mentioned in the book. Use these books as you like. None of them are necessary for completing the unit activities.

Related Internet Links – We've included just a few of the best links that will enhance the learning in a kid-friendly way. Even after our careful review for inappropriate or evolutionary material, we feel it's necessary to warn you that you should always preview the internet sites before you allow your children to view them. Internet content can change overnight!

Including Younger Children – Nature study can easily be a whole-family, multi-aged event. In this section we've included just a few ideas to help you grab the attention of little ones. Of course, they can also be included on many of the actual nature walk activities as well. Just keep a close eye on them!

Including Older Children – We certainly don't want to leave out the older students either! They can always do any of the activities we've already mentioned, just expect a little more from them. In this section, though, we've provided you with an idea or two that will really challenge their minds.

Additional Suggestions for Nature Clubs or Co-ops – Nature clubs and nature classes at co-ops are growing. In fact, we're both part of one or the other! These clubs and classes often give us an opportunity to do group activities and/or games that we might not be able to do in families. In this section, we've supplied you with ideas and challenges for groups of children.

Nature Notebooking Pages – Copy and go! You'll find lots of prepared notebooking pages that will enhance your nature studies.

Getting Outside with Clouds

- Use a cloud identification chart on a partly or mostly cloudy day to observe the clouds and identify them. Discuss what the weather is like.
- Grab a cloud identification chart, a pencil and the notebooking page *What's That Cloud*, and go outside for a walk. Observe the clouds for a moment and fill out the notebooking sheet. As your cloud identification skills improve, take the *Name That Cloud* quiz located in the notebooking page section.



“Contrail”

- For a week or more, keep a log of the cloud types you see each day using the notebooking page *Clouds Brighten My Day*.
- Observe clouds that are *moving*. Talk about how fast or slow they are moving and that this is directly related to how hard the wind is pushing them. Sometimes it is windier higher in the sky than it is near the ground which is why the clouds might be sailing on without you feeling much wind yourself.
- Use a compass to identify which direction the clouds are moving. You might bring along a map of the United States or a world map to discuss where the wind is originating and how fast it is pushing the clouds. Did you know most of the wind in the northern hemisphere (north of the equator) blows from west to east and in the southern hemisphere (south of the equator) it blows mainly from east to west?
- Some clouds are lower in the sky than others. As you will learn in several of the activity ideas in the *Hands-On* section, different types of clouds are found at different *altitudes*, or levels, of the sky. Can you clearly see clouds at different levels? It's especially interesting to watch a lower level cloud move more quickly than an upper level cloud, or vice versa. Practice foreground and background sketching by drawing one cloud in front of another. Use the notebooking page *How High in the Sky* to document the clouds you observe on a day when there are clouds at varying levels in the sky.

What's That Cloud?

Your Name: _____

Today's Date: _____

While observing a cloud, use a cloud identification chart to fill out the following information.

Current Weather Conditions (circle all that apply):

Rainy

Stormy

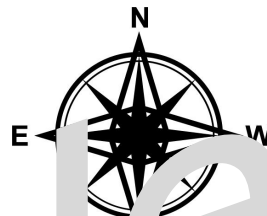
Full Sun

Fair/Calm

Partly Sunny

Overcast/No Sun

Wind Direction:



Predicting the Weather

Cloud Movement - Indicates Rate of Weather Change

(circle all that apply):

Stationary

Moving Slowly

Moving Rapidly

Cloud Color - White Indicates Fair Weather Gray/Black Indicates Foul Weather

Gray/Black: _____ OF _____ White

Shapeless = nimbus

Thunderhead = cumulonimbus

Low Layer = stratocumulus

Current Temperature: _____

Basic Cloud Shape:

Cirrus

(wispy, feathery)

Cumulus

(puffy)

Stratus

(layer, blanket)

Altitude:

Cirro-

(+18,000 ft)

Alto-

(6-20,000 ft)

Strato-

(-6,000 ft)

Today's Cloud Name:

Draw a picture or take a photo of your cloud: