

Natur  xplorers
Educational Journeys into God's Creation

Remarkable *Rain*

by Cindy West and Melissa Leach

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Topics:

Water Cycle
Types of Rain
The Beauty of Rain
Effects of Rain
Watersheds
Floods and Droughts
And More!

Seasons:

All

Remarkable Rain

By Cindy West and Melissa Leach

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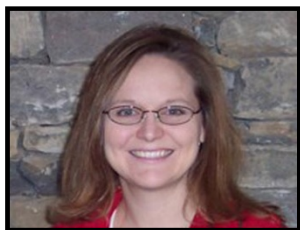


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About The Authors



Cindy West is a nature-loving mom of three from Central Kentucky. She and her husband, Steve, enjoy teaching their children about God's creation as they walk all over their cattle farm, usually looking for lost calves! Cindy is a veteran homeschooler with a master's degree in elementary education who loves to inspire other homeschoolers to hang in there through the rough times, teach creatively and make leading their children to the Lord the top priority. She speaks regularly to homeschooling groups and is so excited about her new venture into writing. *Living Literature Grammar and Language Arts Packets*, written for 3rd-4th graders, was published in e-book form in 2009. You can find Cindy's blog, *Our Journey Westward*, at <http://ourjourneywestward.com>.

Dedication:

To my nature walking buddies, Mahayla, Caleb and Eli - I so enjoy seeing God through your eyes! Thank you for taking me outside with you and loving me even when I stop to look more than you'd like. To Steve – Thank you for teaching me the joy of walking through a field and breathing in the glory of God. I love you all!



Melissa Leach is a veteran home schooling mom of three adventurous children, ages 12, 10, and 3. She travels on this exciting journey with her best friend and husband, David. They live in the suburbs of the Northern Kentucky/Cincinnati, Ohio area. For as long as Melissa can remember God has connected to her and inspired her through nature. Her desire is to teach others about what she has learned from God's creation and to provide vivid inspiration to get outdoors with your children and learn! She loves to strap on her hiking boots and go exploring with her children. She loves to sit quietly and reflect amongst the tall towering trees. And she thrives on researching and identifying everything she can in nature. Melissa founded her nature blog *In the Sparrow's Nest* in 2006, which is abundant with nature lessons and inspiration! Come visit her at <http://inthesparrowsnest.com>.

Dedication:

For our Creator – Thank you for giving me the “eyes to see”. For my three spirited nature explorers - Hannah, Alex, and Gabriella. I pray you always see HIM in the biggest mountain down to the littlest ant. For my husband – Thank you for always being supportive, and for never tiring of listening to me talk about nature.

Welcome!

Welcome to the NaturExplorers 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 one or more prepared notebooking pages that will enhance your nature studies.

Getting Outside with Remarkable Rain

Warning: Only go outside in the rain when it's safe. Never go outside during a thunderstorm, or when there is a potential for lightning. Be prepared with clothing that will keep you dry and warm if the weather is chilly. And never, ever go near flooded areas or rushing water during or after a rain. An adult should always be present during a rain walk or after rain walk.

During a Rain

- When a rain front is approaching, the ominous looking clouds are a sight to behold! And how amazing to see sheets of rain falling before they reach you! When you're blessed to watch an approaching system, use the time to practice photography skills to capture the sights. You might also choose to do quick sketches every five minutes to show how the system is changing as it approaches. Make notes on each sketch about things such as how the air smells, how the breeze feels, how loud the thunder is becoming, how many seconds are between the lightning and thunder, etc.
- Use the chart provided on the *Today's Rainfall* notebooking page to decide which type of rain is falling. Draw a picture of the rainfall noting such things as its beginning and ending times, the temperature, the cloud cover, and the final amount of rainfall on the notebooking page, too.
- Use the notebooking page *Sensing Rain* to describe how today's rain feels, looks, sounds, tastes and smells. Use your descriptions to write a praise prayer to God for the remarkable rain He sends.
- Use a rain gauge to measure rainfalls over several days and create a graph to show the data using the notebooking page *Daily Rainfall and Rainfall Averages*. After completing the bar graph, use the data to determine the average rainfall amount.
- Watch raindrops as they fall. Do they fall straight down? Do they bounce? Can you see individual raindrops? Make notations in your nature journal about these observations. Be sure to describe the type of rain falling. (You can find descriptions of the types of rain in the *A Bit of Background* section.) When a different type of rain is falling, go outside to make the same observations again and compare how the two rains were different.



Did You Know?

Have you ever smelled rain in the air before it reaches you? You aren't crazy! During dry weather, oils from the air can become trapped in the soil. As the air becomes moist with an approaching rain system, the moisture and oils react to make a "rainy" smell.

What does rain do to bare ground as it falls? Draw a picture of the bare ground and what happens to it. Is there a difference in what happens to the ground when different types of rain fall? (When rain falls on bare ground, it usually creates ruts or holes from the force

Rain Falling Down

Research the following three types of rain. Draw a simple diagram and write notes about each in the space provided.

Frontal Rain	Convectional Rain	Relief Rain
SAMPLE		