

# Alabama Natural History

## Supplies needed for this course:

1. [Discovering Alabama series](#) of programs (available at the library or for [free download from itunesU](#)). **All programs are listed in RED on these plans.**
2. [Teacher' s Guides](#) that coordinate with [Discovering Alabama](#) programs. Many, but not all, programs have available teacher' s guides for free download. Many of the ideas on these plans come from or have been adapted from those teacher' s guides.
3. Blank outline maps of the state of Alabama (Uncle Josh' s Outline maps work well or there are a lot of [free maps of features of Alabama here](#)).
4. Field guides on birds, trees, and wildflowers pertinent to the state of Alabama, some information available online. ([Outdoor Alabama Birds](#), [Alabama Birds.com](#))
5. Two references I highly recommend:
  - a. [Handbook of Nature Study](#) by Anna Botsford Comstock
  - b. [The Amateur Naturalist](#) by Lee and Gerald Durrell (now out of print, but can be found used at Amazon.)
6. Small blank sketchbook - 1 for each student and/or a 3 ring binder to contain Alabama natural history work (maps, sketches, lists, copywork)
7. Color pencils
8. All book recommendations in **GREEN**. **Preview all content!!!!** I have read many, but not all books recommended.

# Alabama Natural History

## TERM 1 (approximately 8 weeks)

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\* View [Alabama Adventure](#) from the *Discovering Alabama* series as an Introduction.

\* **Book resource:** (elementary)

\* [Y is for Yellowhammer](#) by Carol Crane

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\* View [Alabama's Natural Diversity](#) from the *Discovering Alabama* series

\* Make a copy of a map of the state of Alabama from [Uncle Josh's Outline Maps](#) - one for each student. This is to be used while viewing program.

\* Make note on the map of particular features and species of significance as seen on the program. Add map to your Alabama sketchbook/notebook.

\* Make special note of the significance of the bald eagle to the state of Alabama and to America's natural heritage.

\* **Bald Eagle** - middle/high school: Work on a sketch of the bald eagle using a field guide. Label parts of the bird and classification from Kingdom to Species on sketch (resource for classification: see Enchanted Learning link below). Write short report detailing history and efforts to encourage repopulation of the Bald Eagle.

\* **Resources for research:** [Outdoor Alabama Bald Eagle](#), and [Bald Eagle in Alabama](#).

\* **Book resource:** [The Ways of Nesting Birds](#) by Raymond Holden, p. 112

\* **Bald Eagle** - elementary: Enchanted Learning printable activities: [Bald Eagle](#)

\* Using color pencils - color [Bald Eagle printout](#).

\* **Picture Books:** (elementary)

\* [A Bald Eagle's World](#) by Caroline Arnold

\* [The Bald Eagle](#) by Normal Pearl

\* [Bald Eagle](#) by Gordon Morrison

\* Natural qualities that offer positive impact on environment - discuss ways these sometimes overlooked areas offer positively to local wildlife and environments:

\* shade trees

\* dead trees or scrub (provide homes for animals)

\* tree lines (noise break, wind break, homes for animals)

\* **Activity:** allow one small square of the back yard to naturalize. Add rocks or limbs to provide visual boundary. Observe insect, botanical, and animal life in the naturalized square through the seasons. Journal and sketch.

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- \* Research list of Alabama places and names that are of Indian derivation. Include listing in notebook. Illustrate if desired. (best source for this is the book recommendation below)
  - \* **Book resource:** (general)
    - \* Indian Place Names in Alabama by William A. Read
- \* **Book resources:** (elementary)
  - \* Audubon: Painter of Birds in the Wild Frontier by Jennifer Armstrong (note - this book does point out the fact that Audubon shot birds so that he could more closely observe and sketch them. It does not gratuitously glorify this practice. Pre-read for your young children.)
  - \* Backyard by Donald Silver
- \* **Book resources:** (middle/high school) \*NOTE\* Preview for content!
  - \* Travels of William Bartram by William Bartram
  - \* William Bartram, Travels and Other Writings, edited by Thomas P. Slaughter (William Bartram was a naturalist who traveled through Alabama in the 1700' s)
- \* Make copies of the final page of the Teacher' s Guide for this program ([Alabama' s Natural Diversity](#)) on quality paper - one copy for each student. How many animals, birds, and fish can be identified? Color picture if desired. Include in notebook.
- \* **Nature Walk:** Walk in your yard only, or your neighborhood only. Bring your camera and a clipboard. Make note of wildflowers, trees, plants, rock formations, exposed soil...anything native to Alabama. Make note of rare species or special features like exposed limestone, mountains within view, streams, natural springs, etc. Pay special attention to native trees (free pdf download: [A Key to Common Trees of Alabama](#)). Take pictures of the native species you observe. How many trees can you identify? Choose one to illustrate and journal in your notebook when you get back home.
- \* **Field Trip:** Take a field trip to a local nursery (call first) and ask for information on the native plants of Alabama

# Alabama Natural History

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- \* **View [Wildlife History](#) from the [Discovering Alabama series](#)** (note - this program does introduce the concept of hunters as contributing to conservation)
  
- \* **Notebook list:** List all native animals you' ve seen locally in the wild. Add to this list when new animals are spotted on future nature walks or right in your yard. See activity sheet in teacher' s guide for a good listing (make a copy of this for each child to keep in their notebook and check off species as they are spotted.) Some examples could include:
  - \* white tailed deer
  - \* turkey
  - \* raccoon
  - \* quail
  - \* mallard duck
  - \* red tailed hawk
  - \* pileated woodpecker
  - \* king snake
  - \* grey fox
  - \* yellow shafted flicker (state bird)
  
- \* **Brainstorm ways you could attract more native wildlife to your yard - shelter, water, food sources.**
  - \* **Book resource:** [Attracting Backyard Wildlife](#) by Bill Merilees
  - \* **Resources for reading:** Outdoor Alabama - [Wildlife in Your Backyard](#) and any of Outdoor Alabama' s Watchable [Wildlife Articles](#)
  
- \* **Discussion or writing opportunity for middle/high school students:** Discuss the different ways hunters have been both a major threat and a major benefit for wildlife.
  
- \* **Discussion or writing opportunity for middle/high school students:** **Catholic viewpoint**
  - \* **Read the Catechism of the Catholic Church [Respect for the integrity of creation](#), CCC # 2415 - 2418 and Genesis 2:19-20, 9:1-4.** Discuss/write an essay on the Catholic Church' s wisdom and teaching on stewardship of God' s Creation and ways hunting can comply with the wisdom of the Church.
  - \* **Alternative - write an essay discussing CCC #2418 and the dangers of directing affection to animals which are due only to persons.**
  
- \* **Book resources:** (elementary) (topics include care of God' s creatures and creation)
  - \* [St. Francis and the Proud Crow](#) by Bernadette Watts
  - \* [Saint Brigid and the Cows](#) by Eva Betz (or any of the [Saints and Friendly Beasts series](#))
  - \* [Brother Bartholomew and the Apple Grove](#) by Jan Cheripko

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- \* Read the story of Joseph and Egypt (Catholic Children's Bible, p. 67-71). Talk about how Joseph was a good steward of the blessings God sent to Egypt.
- \* **Book resources:** (middle/high school) (preview for content!)
  - \* Theodore Roosevelt - Hunter, Conservationist by R. L. Wilson - a Boone and Crockett Club publication - available used from Amazon and directly from The Boone and Crockett Club.
- \* **Nature Walk** - choose a local wildland (forested area). Practice quiet observation skills. Bring your camera! See if you can spot any wild game! You'll have to keep your eyes open scanning underbrush, the horizon, and the skies. You may need to repeat this nature walk a few times before you can spot anything. Ask locals in your community for permission to walk on their land, and if they've ever spotted local game on their land. Journal and sketch any wild game you come across.

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# Alabama Natural History

TERM 2 (approximately 8 weeks)

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\* View [Geological History of Alabama](#) from the *Discovering Alabama* series.

\* Resource references:

- \* [The Geography of Alabama](#) and [detailed physiographic regions](#) of Alabama.
- \* [Geographical Map of Alabama](#)

\* Print a blank outline map of Alabama for each child. Using a good atlas or other maps, have children indicate Alabama's:

- \* major mountain areas
- \* major valleys
- \* fall line
- \* prairie region
- \* sandy hills region
- \* major rivers, bays, and wetlands
- \* coastal area
- \* the highest point in Alabama (bonus - what does the Creek Indian name for this point mean?)
- \* Continue work on map (or begin new map) including:
  - \* the part of the state with the oldest rocks
  - \* the part with the youngest rocks
  - \* the region with the darkest fertile soils
  - \* the region with dinosaur age fossils

\* Using the [Geographical Map of Alabama](#) assembled by the UA Dept. of Geological Sciences:

- \* Print and assemble the 7 different individual sections as well as the legend for each section.
- \* Study and make note of the different geological regions of the state which are discussed in the video.
- \* Read further about [geologic mapping](#) in Alabama
- \* Locate our county on the geological map. Identify the region in which we live. Try to pinpoint the geographical conditions where our house is located. Can we see geological evidence around us that is consistent with the geological map?

\* **Book resources:** (elementary)

- \* [The Genesis of It All](#) by Luci Shaw
- \* [The Best Book of Fossils, Rocks, and Minerals](#) by Chris Pellant
- \* [Let's Go Rock Collecting](#) by Roma Gans
- \* [Archaeologists Dig for Clues](#) by Kate Duke
- \* [Cave](#) by Donald Silver

\* **Book resources:** (middle/high school)

- \* [Creator and Creation](#) by Mary Daly

# Alabama Natural History

\* [Prehistoric America](#) (out of print Landmark series book) by Ann Terry White and Aldren Watson

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\* View [Tracks Across Time](#) from the [Discovering Alabama](#) series

- \* Gather fossils and rocks collected locally. If you don't have any local fossils, time for a Nature Walk! Can you identify the prehistoric age of the fossils or arrowheads you have?
- \* What were the paleontology conditions of Alabama from the Precambrian to Quaternary time periods? Check out the great information at the [Paleontology Portal!](#)
- \* Using a small fossil kit, review different fossils placing them in the appropriate era. (educational fossil kits [available for purchase](#), but a walk along a riverbed looking through river rock will yield several small fossils!)
- \* Discussion opportunity for middle/high school students: [Catholic viewpoint](#)
  - \* Read together:
    - \* Catechism of the Catholic Church # 290, 296
    - \* Romans 1:20
    - \* John Paul II's [Message to the Pontifical Academy of Sciences concerning the relationship between Revelation and theories of evolution](#) (for older high school students)
  - \* Discuss together the topic of evolution juxtaposed with the idea of strict 7 day creationism in light of the teachings of the Catholic Church.
- \* Color the geological history activity sheet in the teacher's guide
- \* **Nature Walk** - choose a local park or setting with unique geologic features. A couple of great ideas are to walk along the Green Mountain hiking path, on the Monte Sano Mountain hiking path, or take a trip to one of the [caves](#) in the North Alabama area. View [Caves of Alabama](#) from the [Discovering Alabama](#) series first. [Cathedral Caverns](#) is very close by. Make special note of the stalagmite formations. Take pictures of interesting formations and journal one geological feature from the walk in the sketch book.

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\* View [A Walk in the Woods](#) from the *Discovering Alabama* series.

\* Pop quiz - can you identify NORTH?

\* What are some signs nature gives us to help us with direction?

\* **Book resource:**

\* [Be Expert With Map and Compass: The Complete Orienteering Handbook](#) by Bjorn Kjellstrom

\* [The Boy Scout Handbook](#), “Finding your way”

\* A great deal of this program focuses on the Native American Indians and their respect for the land and the resources therein. This could provide a great opportunity for some reading of non-fiction and historical fiction about the Native Americans.

\* **Book resource:** (general)

\* [52 weekends in the Tennessee Valley](#) by Charles and Daniel Frew - p. 8 - 13 give a great historical account of Indian Tribes of the Valley.

\* **Book resource:** (elementary)

\* [The Winding Trail: The Story of the Alabama-Coushatta Indians](#) by Vivian Fox

\* [Three Little Indians](#) (National Geographic Books for Young Explorers)

\* [The Sign of the Beaver](#) by Elizabeth George Speare (historical fiction - upper elementary)

\* [The Sun, Our Nearest Star](#) by Franklyn Mansfield Branley

\* **Book resource:** (middle/high school)

\* [America's Fascinating Indian Heritage](#) (Reader's Digest) (this book is out of print but can be found used, and may be at the library)

\* [Cacique: A Novel of Florida's Heroic Mission History](#) by Bishop Robert Baker (historical fiction based on Franciscan missions and the Potano Indians of Florida)

\* [Historic Indian Towns in Alabama](#) by Amos Wright, Jr.

\* [Calico Captive](#) by Elizabeth George Speare (historical fiction set during the French and Indian War - upper elementary/middle school age)

\* **Resource:** [Alabama Indian Tribes and Languages](#). Print a blank map of Alabama and designate which Indians settled in which regions of Alabama.

\* Review the facts for kids on the different Alabama Indians:

\* [Alabama Indians](#)

\* [Cherokee Indians](#)

\* [Chickasaw Indians](#)

\* [Choctaw Indians](#)

\* [Koasati/Coushatta Indians](#)

\* [Muskogee Creek Indians](#)



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\* Resource: [What is Archaeology](#)

\* Play the [Prehistoric Artifact game](#) and the [Historic Artifact](#) game

\* **Nature Walk:** Choose a nearby woodland. Observe the signs of nature that assist in offering direction to navigate safely through the woods. A sharp eye will always keep a watch for arrowheads - we've found two in the ditch across the street from our house! (Note!! Arrowheads can only be kept if found on private property with the permission of the property owner. It's worthwhile to read about the [ethics of arrowhead hunting](#).)

\* **Field Trip:** Oakville Indian Mounds Education Center, Danville, Alabama (read details about this attraction in [52 Weekends In the Tennessee Valley](#), p. 111)

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# Alabama Natural History

TERM 3 (approximately 8 weeks)

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\* View [Alabama Forests](#) from the *Discovering Alabama* series.

\* Choose two trees nearby - the trees should be the same type and roughly the same size/height (use [A Key to Common Trees of Alabama](#) as a reference). One tree should be out in an open area; the other tree should be a part of a forest within a group of trees. Compare and contrast the two trees:

- \* the size of the tree crowns
- \* the trunk
- \* the number of leaves
- \* any occupants in the tree?

\* Complete the leaf collection and the dichotomous classification activity in the “After Viewing” section of the Teacher’ s guide.

- \* Using a field guide, identify the trees to which the leaves belong.

\* **Book Resource** (elementary)

- \* [One Small Square: Woods](#) by Donald Silver

# Alabama Natural History

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- \* View [Alabama Trees](#) and [National Forests in Alabama](#) from the *Discovering Alabama* series.
  
- \* View: [How a Tree Works](#)
  
- \* Vocabulary work - In your notebook define the following terms using this [forestry terms glossary](#)
  - \* cord
  - \* deciduous tree
  - \* firebreak
  - \* forestland
  - \* hardwood
  - \* natural stand
  - \* reforestation
  - \* wildfire
  
- \* Print [puzzles and word game activities](#) to complete.
- \* Resource: [Alabama Forestry Commission](#)
  - \* [Alabama Forest Facts](#) - print the printable version of the types of forests to include in your notebook. Remember the forest type for the area you live in - this will be important for your upcoming nature walk.
  
  - \* **Writing opportunity:** Download the pdf: [Forest Management in a Nutshell](#) and include the 4 principles of forestry management as part of a short written essay.
  
- \* **Book resource:** (general)
  - \* [Tree Finder](#) by May Thielgaard Watts
  - \* [The Tree Book for Kids and Their Grownups](#) by Gina Ingolia
- \* **Book resource:** (elementary)
  - \* [Be a Friend to Trees](#) by Patricia Lauber
  - \* [Trees, Leaves, and Bark](#) by Diane Burns
- \* **Book resource:** (middle/high school)
  - \* [Reading the Landscape of America](#) by May Thielgaard Watts
  - \* [The Natural History of the Oak Tree](#) by Richard Lewington and David Streeter
  - \* [A Notebook of Trees](#) by Eves Marie Alain
  
- \* **Notebooking work** - Using the information on [Alabama State Symbols](#) complete one page for each symbol. Illustrate and color your work. Use your neatest penmanship.

# Alabama Natural History

\* **Nature Walk** - Choose a local forest for a nature walk. Download a free copy of the book, [100 Forest Trees of Alabama](#) by Dr. Harlan York ([available for download as a pdf](#)). How many forest trees can you identify? Can you identify trees common to the forest type associated with the area? (Example: Are there hickory trees present if you are walking within an \*Oak-Hickory\* area?) Journal and illustrate at least one tree from your nature walk.

# Alabama Natural History

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\* [View Alabama Wetlands](#) from the [Discovering Alabama](#) series.

\* Define wetland in natural history notebook. What are the various features that constitute a wetland?

- \* bog
- \* swamp
- \* bayou
- \* marsh
- \* others?

\* Think of local wetlands. What are the positive roles they play in the areas around them?

\* **Book resource:** (general)

- \* [Discovering Alabama Wetlands](#) by Doug Phillips
- \* [Pond Life](#) (a Golden Guide) by George Reid

\* **Book resource:** (elementary)

- \* [Pond](#) by Donald Silver
- \* [Swamp](#) by Donald Silver

\* **Nature Walk:** to a local wetland! Note and list the variety of landforms present. Take small samples of water for water quality tests at home (this [water quality and pond test kit](#) from Home Science Tools is very nice). List any wildlife present, insects, vegetation. Are there adjoining bodies of water? Watercolor or pencil a scene from the wetland. Include in your notebook. An idea might be to visit Madison County Lake or another local lake or pond. Child should be able to narrate an accurate and detailed description of the pond/lake after the walk - type or write the narration of the details to save in the notebook (if you have an older child, this should be a written narration.)

- \* what is the setting?
- \* trees around the water
- \* water vegetation present
- \* any aquatic life spotted
- \* birds spotted near the water
- \* condition of water (from visual cues - muddy, clear, algae present, stagnant)
- \* how large?

Return to the pond/lake setting the following week and observe how accurately the setting was narrated. Is there anything that could be added? Did anything change in a week? Why?

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# Alabama Natural History

# Alabama Natural History

TERM 4 (approximately 8 weeks)

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\* View [Alabama Rivers](#) from the *Discovering Alabama* series.

\* Print [map of Alabama rivers](#) or using a blank map of Alabama, label the major rivers of Alabama. Investigate [Alabama rivers and streams](#).

\* View [Bear Creek Watershed](#) from the *Discovering Alabama* series.

\* Discover how land problems turn into water pollution.

\* What is a watershed? ([Answer](#))

\* View a topographical map of rivers and streams of Alabama (there are SEVERAL AMAZING maps available at [this site](#) - scroll down to the bottom to find a map to print of [Rivers and Streams of Alabama](#). You will have to [submit a quote](#) to the University of Alabama for purchasing a map - ask for a quote for a small map if budget is of concern because they can make the maps smaller. 3 full size laminated maps (21" x 14" ) were price quoted at \$50, but 3 half size maps were \$25.)

\* Determine the primary stream associated with the watershed where you live.

# Alabama Natural History

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\* View [Flint River](#) from the *Discovering Alabama* series.

\* Download the [Flint River History and Management plan](#). There are many wonderful maps as part of this publication along with a very informative history of the Flint River watershed.

\* Using the map on p. 68, locate where you live in relation to local watersheds, streams, and rivers.

\* Read the Activity and Information Sheet included in the Flint River teacher's guide. Having learned about the importance of watersheds to the health of the surrounding land, discuss challenges the current Flint River watershed faces.

\* Investigate [Water Science](#).

\* [Rivers and Water](#) - *Science Explorations* newsletter (grades 5 - 9)

\* Read and investigate

\* **Book Resources** (elementary)

\* [The River](#) (First Discovery Books) by Jeunesse Gallimard

\* [Nature Hide and Seek - Rivers and Lakes](#) by John Norris Wood

\* [Rivers and Streams](#) (Exploring Ecosystems series) by Patricia A. Fink Martin

\* **Nature Walk** - to the Flint River! What kind of observations can you make about the health of the river in your area? Note on your maps which part of the Flint river you're walking along. Do you notice any aquatic life? What are the plants that grow along the river bank? Keep an eye out for wildlife and birds. If there is river rock on the banks along the area where you walk, keep an eye out for small fossils. Journal and illustrate the area of the Flint River from your nature walk.



# Alabama Natural History

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\* [View Alabama Soils from the Discovering Alabama series.](#)

\* Find an area with rich humus soil - a good place to check is at the edge of a wooded area - look for lots of leaves and decaying matter. Using stones or sticks, mark a border of about one yard square (either allow all children to work together, or mark out individual squares). Slowly and carefully remove the leaves and organic matter and probe the soil. Bring a clipboard and grid paper and pencil. Mark out the size of your square yard of rich soil on the grid and record what is found and where it is found along with approximate numbers. Look for:

\* eggs

\* skinks or lizards

\* ants

\* insects

\* earthworms

\* spiders (be careful - brown recluse and black widow spiders are common to this area!)

\* fungi

\* Collect a small sample of moist, dark soil in a ziploc bag. View under a microscope when you get home or complete a soil test kit on the soil sample. ([Soil test kit](#) from Home Science Tools)

\* Replace the leaves, logs, debris and organic matter back on the square yard of soil and review the findings. Keep grid and any illustrations in natural history notebook.

\* What are the major Alabama soil categories? (Answer: see [teacher's guide](#))

\* What is Selma chalk and how does it impact the “black belt” of Alabama? (see teacher's guide) For more information on the “black belt” , [view Alabama Black Belt, part I and II.](#)

\* What soil type is most common locally, where we live?

\* **Activity** - Make a compost bin and gather worms from around the yard to add to your compost bin.

\* **Book Resources:** (elementary)

\* [A Handful of Dirt](#) by Raymond Bial

\* [An Earthworm's Life](#) by John Himmelman

\* [Dig In - Hands-On Soil Investigations](#) by Tom Levermann

\* **Book Resources:** (middle/high school)

\* [Life in the Soil: A Guide for Naturalists and Gardeners](#) by James Nardi

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\* **Nature Walk** - Choose a woodland or forested area. Find logs, fallen trees, and medium size rocks to move and investigate the soil under the object. Be careful of spiders and snakes! Can you identify different types of soil along the walk?

\* powdery and red

\* dark black and rich

\* wet and clay-like

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