Discovering Our Heritage

A Community Collaborative Approach

Fourth Grade

Model Social Studies Program Incorporating Environmental Education to Integrate the Teaching of History, Geography, Science, Mathematics, and Language Arts

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Fourth Grade

Douglas J. Phillips

A Program of the Alabama Wildlife Federation

Alabama Wildlife Federation AWF

Developed by the Alabama Museum of Natural History in cooperation with the Alabama Cooperative Extension System and the Alabama State Department of Education

Design: Nancy Lambert-Brown

To obtain copies of the
Discovering Our Heritage Guidebook for Teachers and Administrators
and the individual grade-level
Discovering Our Heritage Kindergarten through *Fifth Grade*,
please contact:

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A Message from the State Superintendent of Education

Alabama can proudly boast of numerous innovative educational programs currently underway in school systems around the state. This variety is beneficial because specific pathways to learning that are appropriate in one situation might not be most appropriate for another situation. The professional judgement of local administrators and teachers is our strongest asset in making such determinations. With this in mind, I want to invite your attention to a very timely new program, DISCOVERING OUR HERITAGE, *developed by Alabama educators for Alabama schools and communities.*

Throughout the nation today, there is a growing recognition of the importance of environmental education, to ensure a healthy environment, to sustain a viable economy, and to augment overall student development and academic performance. DISCOVERING OUR HERITAGE *is a unique program that helps address these needs for Alabama without placing added demands on our teachers. Rather, this program incorporates environmental education to support and reinforce many requirements of the Alabama Course of Study. Also, this program is sufficiently flexible to be adapted in most school systems without disrupting existing policies and practices.*

I am pleased to acknowledge the organizations that sponsored production of DISCOVERING OUR HERITAGE, *the Alabama teachers who helped in its development, and the Alabama schools that are using this program. I would like to join them in offering* DISCOVERING OUR HERITAGE *as an especially valuable pathway to educational success.*

— DR. ED RICHARDSON

Foreword

American education today must meet a greater range of needs and serve a larger number of students than ever before. However, our schools also face an increasing array of difficulties, many of which are complex and closely intertwined with the changing conditions of society at large. Any educational program seeking long-term success must recognize this reality. Any program hoping to truly assist schools must appreciate the prevailing demands on teachers, the heavy responsibilities on administrators, and the conflicting pressures that often beset local school boards.

There may be no simple solution fitting every educational need in the nation, but Alabama educators have worked together in designing DISCOVERING OUR HERITAGE as a model for addressing many of the needs in Alabama schools. Central to this design is the philosophy that the realm of nature is an exceptional laboratory for learning, that environmental education, done correctly, provides students with meaningful connections between academic learning, applied problem-solving, civic participation, and the development of personal character and individual responsibility. DISCOVERING OUR HERITAGE is recognized by Alabama teachers for its effectiveness in demonstrating these multiple values of environmental education.

Possibly the greatest potential of this program is suggested by its subtitle, A Community Collaborative Approach. Through development of the DISCOVERING OUR HERITAGE Community Collaborative, schools can promote greater local understanding of the challenges facing education and strengthen local support for school policies and for the needs of teachers, students, and the classroom.

The heritage of our nation is one of freedom-loving peoples striving to improve opportunity for all in a land that is blessed with remarkable natural resources. As a primary vessel of this heritage, our democratic system depends increasingly upon education to inform society, sustain reason, cultivate civility, and instill both a sense of stewardship for our lands and waters and a sense of humanity for one another. In turn, to serve this role effectively, education must draw upon a central premise of democracy and ensure that communities are active participants in supporting local schooling.

DISCOVERING OUR HERITAGE provides a model for addressing these multiple aims through a coherent framework linking people to the land, learning to the real world, and the school to the community. Students and teachers are assisted in assembling otherwise fragmented subject matter into a more meaningful, conceptual understanding of our world. Science is related to society, institutions to cultures, the environment to economics, and personal responsibility to community well-being. Ultimately, DISCOVERING OUR HERITAGE is a program and a process enhancing the role of education as a purposeful means to human progress.

– DR. DOUGLAS J. PHILLIPS
Program Director, DISCOVERING OUR HERITAGE

Acknowledgments

DISCOVERING OUR HERITAGE is the product of the caring commitment of many Alabamians, including the program's sponsors, participating school systems, and, most significantly, Alabama teachers.

DISCOVERING OUR HERITAGE is the culmination of thoughtful input from master teachers in a variety of school systems, urban and rural, across Alabama. The program was initiated in 1996 as an experimental project at Westwood Elementary School, Tuscaloosa County School System, in collaboration with the "Challenge 21" planning initiative. In the following years, under the leadership of System Superintendent, Dr. Joyce Sellers, the program was piloted in elementary schools throughout Tuscaloosa County. It was later adopted and expanded in the Hoover City Schools and Escambia County Schools. Since 1999, these three systems have continued to provide field testing for the program. Sincere thanks and admiration are extended for their efforts.

Special thanks are extended to retired Westwood Elementary principal, Dr. Joan Lowery, and retired Tuscaloosa County Schools Superintendent, Dr. Neil Hyche, for their support in making this educational program possible. Thanks are also due to the Alabama State Department of Education (ADE), State Superintendent Dr. Ed Richardson; ADE specialists Judy Cooper and Frank Heatherly; and social studies consultant Jane Crowe, for assistance in helping ensure that DISCOVERING OUR HERITAGE is fully consistent with the Alabama Course of Study. Likewise, thanks are due to the Alabama Cooperative Extension System, Director Steve Jones, and Community Resource Coordinator, Warren McCord, for assistance in providing teacher training facilities.

DISCOVERING OUR HERITAGE is made available through the leadership of the Alabama Wildlife Federation (AWF). In 1995, AWF responded to the requests of Alabama teachers for development of a model environmental education program organized sequentially to support requirements of the Alabama Course of Study throughout the school year. With the active involvement of its officers and Board of Directors, AWF spearheaded a successful statewide initiative pulling together diverse interest groups and generating the necessary funding to complete DISCOVERING OUR HERITAGE.

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Teacher's Welcome

Welcome to DISCOVERING OUR HERITAGE (DOH), Alabama's first sequentially-organized, content-integrated environmental program for grades K–6 (the available sixth grade option can be found in Appendix E in the *DOH Guidebook for Teachers and Administrators*). We hope you will find DOH useful and exciting. The program is designed to be a part of a broad support network that consists of you and your students, the whole-hearted support of your school and district administrations, and real, direct connections with your community. You should never feel that you are all alone in trying to implement this new way of approaching your yearly program. An important part of DOH is the Community Collaborative process (see Appendix D in the *DOH Guidebook*), during which your school formally invites members of your local community to participate in your program. This should dramatically increase the local resources and volunteers available to you.

DOH is carefully tied to the Alabama Course of Study (ACS) in social studies, science, language arts, and math. You may be reassured that in implementing DOH, you are covering legitimate, recognized subjects and are teaching required content.

...flexibility and the inclusion of good ideas are what DOH is all about.

At first, you might be slightly uneasy that DOH combines multiple subjects throughout each unit, but you should soon see how this integrated approach can be liberating to your program. By the same token, if you have favorite lessons that seem appropriate, a teachable moment, or an insight as to how to better teach your class, trust your instincts. DOH does not require that you slavishly follow an inflexible regimen. To the contrary, flexibility and the inclusion of your own good ideas are important to DOH design.

You will note that DOH is organized largely around social studies. This is to give you the greatest flexibility in arranging situations for applied learning. Also, the subject of social studies affords a wide variety of learning opportunities suitable for underscoring an important DOH premise: a good education should provide students with a conservation ethic; responsible citizenship should include an informed commitment to environmental stewardship (see Appendix: Resources, Part III. Additional Materials for General Consideration for a list of readings, such as *A Sand County Almanac*, which include discussion of related conservation/environmental philosophy).

General Procedure

DISCOVERING OUR HERITAGE is organized on a flexible, repeating outline. Each Unit (six weeks) has a Key Question. This question, as much as any other factor, may be seen as the guiding idea for your activities. Likewise, each Unit has a Key Experience, generally recommended to be taken at the beginning of each unit. This is usually an out-of-class experience of some kind. Not to be lightly dismissed, the Key Experience gives the class a common basis of experience to discuss and write about. Importantly, it also helps to build class spirit and cohesiveness.

The class should invite at least one Community Visitor or Community Resource per week to present a program. If necessary, Key Experiences and the complementary Community Visitors and Resources can be switched as appropriate.

Additionally, we suggest that other visitors come to the classroom—parents, speakers, career representatives, etc.—until the class becomes used to visitors. It is important that standard hospitality procedures are established when dealing with guests—issuing invitations, providing escorts, and

writing thank-you notes. Each child should rotate through these various duties so that everyone becomes proficient in these important skills.

IDEALLY—

1. *Every day*, every student would have:
   - a DOH lesson/activity (this lesson, whether science or social studies, would be followed by a related language activity),
   - an additional science or social studies lesson (often a spin-off of a DOH activity),
   - a math lesson, where possible supporting the other subjects,
   - physical education,
   - individual reading and writing time, and
   - a formal period to work in the journal

2. *Every week*, the class would have:
   - a speaker to visit the class,
   - at least one video presenting visual information,
   - an out-of-school or outdoor experience,
   - a library experience,
   - a geography lesson,
   - a computer lesson,
   - a music and art lesson, and
   - a series of small group meetings followed by a group project

3. *Every unit*, the class would have:
   - a key experience,
   - a keynote visitor, and
   - a class project, to which each child would contribute

However, DOH recognizes that teaching occurs in the real world of the daily school routine, with unexpected and continuing distractions and various curriculum requirements that are difficult to integrate. This reality can pose limitations, but it should not rob us of the essential DOH idea, i.e., the intrigue of pondering our world and our place in it. Along the way and from time to time, we can expect to teach an old-fashioned math, grammar, or history lesson, and if life brings us a good teachable moment that is not "environmental," we should take it. DOH is meant to serve as a conceptual framework that allows the teacher freedom to pursue a good opportunity or idea as it occurs.

Preliminary Preparation

DOH is the product of many years of discussion and input from concerned educators, among whom there is agreement that this model program should "aim high" in expectations for students, teachers, and the community; thus, the extensive scope and regimen of the program. However, insofar as this program is oriented to overall educational improvement, it will be successful only if adjusted for proper fit and acceptance within each school. Therefore, to facilitate program adoption, DOH staff assistance is recommended for establishing the prescribed Community Collaborative (see Appendix D in the *DOH Guidebook*) and for conducting special teacher training. To arrange assistance contact: Wayne Strickland, DOH Outreach Coordinator, Alabama Wildlife Federation, P.O. Box 1109, Montgomery AL 36102; telephone (800) 822–WILD.

Fourth Grade Program Overview

Yearly Overview

ACS Social Studies Yearly Theme:
Alabama History and Geography

Fourth grade builds upon the knowledge and awareness gained in previous grades, to now focus mainly on Alabama the state. At this point, students' general awareness of history, geography, cultures, and the environment should provide a knowledge framework upon which to build a fairly broad understanding of our state, region to region, border to border, era to era. Of course from time to time, it will still be meaningful to link important state history to the local history and, conversely, to pertinent national and world events. Still, by focusing mainly upon Alabama, fourth grade provides an especially manageable, locally-relevant opportunity to cultivate more holistic understandings of many important aspects of history and geography. This should be a particularly enriching year for students, as many activities in math, science, and language arts coalesce around the active exploration of their own state, from the mountains to the seashore and from the past to present. Every state can claim its special attributes, but few have the remarkable mix of history, geography, and natural landscapes as does Alabama. Fourth grade is our opportunity to accent this in a way that not only excites and motivates children in their academic studies, but also helps engender pride in our state and fulfillment of the human need for a sense of place.

Unit I

Key Question: Who are we and what is our geography? In Unit I, we underscore our identity as Alabamians living in an impressive natural region called Alabama. Students should be encouraged to share individual experiences they might have enjoyed in outdoor areas of the state—parks, streams, farms, etc. Sharing and cooperative learning are important in Unit I to help set a tone of mutual respect, acceptance, and teamwork among students. They will soon be learning about times past when the inhabitants of Alabama were immersed in human conflict, often marked with pain, tragedy, and sorrow. As students develop a sense of place and pride in being Alabamians, we want this to stem from an accurate knowledge of the significance of Alabama history, but also with appreciation for present-day opportunities for cooperation rather than conflict among peoples.

Important connections: Alabama's landscapes are the result of immense geological events. Alabama is among the most naturally diverse states in the nation. Alabama communities and lifestyles are established in association with local geography and terrain.

Unit II

Key Question: Who were Alabama's early inhabitants? The chronological sequence of human history in Alabama is standard classroom fare. Unit II offers an early opportunity to ensure that this essential information regarding people, cultures, dates, and events is enhanced with ample attention to the relationships between such content and the natural settings and resources of Alabama.

Important connections: The geography and natural beauty of Alabama were instrumental in the arrival and survival of the earliest inhabitants of the region, from prehistoric times to the settlement period. The natural environment was integral to the development of the early economies, lifeways, and beliefs of Alabama's early inhabitants.

Unit III

Key Question: Who were the early Europeans? Unit III offers an initial opportunity to present chronological human history in association with the natural environment while also introducing

pertinent relationships that set the stage for cultural conflict.

Important connections: Different cultures derive from different views of the world. When differing cultures locate in the same new territory, transitional periods of conflict and adjustment are often predictable. Often these periods of transition result in changes to the status and use of native natural resources.

Unit IV

Key Question: What was Alabama like in the 19th century? Once again, chronological history provides a framework to instill deeper understandings. In concentrating on nineteenth-century Alabama history, we can, for example, accent the prevailing human struggle to master nature in ways useful for providing food and shelter. The nineteenth-century span from such economies as fur trade to agriculture to industry offers special opportunities for this. And, once again, various events—especially the Civil War—offer opportunities to explore the basis of human conflict.

Important connections: From the beginning to the end of the nineteenth century, Alabama was transformed from territory to statehood to contributing member of a growing nation.

Unit V

Key Question: What was Alabama like in the 20th century? Chronological history in the twentieth century takes us to a new span of economies from emerging industrial to advancing transportation to rapidly expanding and encompassing communication technology. Nevertheless, conflicts persist, but on larger scales and with far-reaching consequences. Life in Alabama during the twentieth century was significantly related to and affected by major events, not the least of which were international wars. Unit V is an early opportunity to begin "putting a human face" on history. This is the century of events that occurred during the lives of parents and grandparents.

Important connections: During the twentieth century, Alabama experienced substantial changes in many ways. Among these changes, education, social justice, and environmental quality were elevated to new levels of importance for progress in Alabama.

Unit VI

Key Question: What is Alabama's future? Unit VI takes students on an exploration of present-day realities—demographics, emerging economies, developing trends, etc.—while contemplating Alabama's future. Who knows what the future holds? With the world changing at an accelerating pace and with so many unpredictable variables in play, we would be foolish to bet on a definite prediction of what the future will be like. Unit VI is mainly an opportunity to spark imaginative thinking while reinforcing learning about how our past affects our present, how daily life is dependent upon the national environment, and how human beings hold the special capacity for responsible actions toward their fellow man and nature.

Important connections: Knowledge and information are important to future success. Understanding and cooperation are vital to future success. Ethics and responsibility are essential to future success.

DOH Fourth Grade Key Experiences

Like the Key Questions, the Key Experiences are intended to stimulate genuine curiosity and guide students in active exploration and discovery. The examples of experiences/activities listed below represent stem ideas only. In selecting preferred Key Experiences, teachers should plan for maximum learning value by organizing these experiences/activities to ensure active, hands-on student involvement in observing, investigation, and/or problem-solving.

Unit I Visit an important natural site in Alabama—Cheaha, Little River Canyon, a national forest, etc.—that is associated with Native Americans and/or early settlers.

Unit II Organize a field trip to a Native American archaeological or historic site, festival, reservation or powwow. (Moundville (Tuscaloosa), Fort Toulouse (Wetumpka), Burritt Museum (Huntsville), and Anniston Museum all have festivals.)

Unit III Take a field trip to Fort Conde (Mobile), Moundville, Fort Toulouse, Burritt Museum, or some other early Alabama historic site.

Unit IV Take a field trip to an Alabama 19th-century historic site—Alabama Constitution Village (Huntsville), Old Alabama Town (Montgomery), Old Cahawba Archaeological State Park (Selma), Sloss Furnaces (Birmingham), or one of the coastal forts.

Unit V Survey newspapers, local historians, and grandparents/great grandparents for stories/reflections about 20th-century history.

Unit VI Take a field trip to a modern farm; the U.S. Space and Rocket Center (Huntsville), or one of the big science museums in Mobile, Birmingham, or Huntsville; invite a "futurist" to speak to the class.

Understanding the Unit Plans

This Week's Topic and Focus Paragraph. Each week has a basic topic to guide the week's activities. The focus paragraph briefly explains the week's topic and suggests ways to approach it.

Correlations with Alabama Course of Study. The numbers in parentheses indicate the DOH-relevant Alabama Course of Study sections of the four subjects areas—social studies, science, language arts, and math. These are also shown in the matrices below.

Thought of the week. This is really for you, the teacher, although sometimes it may be appropriate for the children. You get only a little encouragement in this job; maybe you'll find a bit of inspiration here!

Community Visitors and Resources. These are our suggestions for appropriate visitors to the classroom. As the children become accustomed to visitors, visits will be less disruptive. Don't miss this opportunity to teach appropriate behavior and formal courtesies.

Activities and Materials. These are teacher-selected environmental activities from a variety of sources (see Appendix: Resources), presented to you as a starting point. Since many of you are as experienced as the members of the DOH team, we encourage you to search out appropriate favorite activities and materials of your own.

Unit Checkpoints. These activities are enumerated at the beginning of each unit, and it is important that the class try to accomplish them each week. Eventually, we would like every child to write in his/her journal, to write invitations and send thank-you notes, and to read quietly and aloud to others.

Program Matrices linked with Alabama Course of Study

(Social Studies, Science, Language Arts, and Math)

The following matrices compare the requirements of the Alabama Department of Education's official Alabama Course of Study (ACS) with the DISCOVERING OUR HERITAGE (DOH) units. This will serve to guide and reassure teachers, parents, and administrators that the exciting activities of DOH more than meet the requirements of the ACS.

Grade 4 Social Studies Yearly Plan

Week	Unit I Who are we and what is our geography?	Unit II Who were Alabama's early inhabitants?	Unit III Who were the early Europeans?	Unit IV What was Alabama like in the 19th century?	Unit V What was Alabama like in the 20th century?	Unit VI What is Alabama's future?
1	School location	Gathering prehistoric and historical data **6**	The Spanish **12**	Geography and settlements **17–18**	Voting rights and famous Alabamians **34, 36, 45**	Economy—technology and tourism **46**
2	Community location	Prehistoric Native Americans **7**	The French **12**	Statehood **19–21**	Technological advances & economic conditions **35, 37**	Economy—agriculture **46**
3	Mountains **4–5**	Impact of European contact **8**	The British **12**	Plantation life **22–23**	WWI and the Great Depression **38–39**	Economy—river systems **47**
4	Valleys **4–5**	Native Americans of Alabama—culture **9–10**	Conflict with Native Americans **13**	Civil War and Reconstruction **24–28**	WWII **40**	Effect of population growth on cities and roads **49**
5	Bodies of water **4–5**	Native Americans of Alabama—government and economy **9**	Creek Wars **14**	Industry, trade, and education **29–30, 32**	State and local government **42, 44**	Effect of population growth on demographics **49**
6	Landform regions **4–5**	Native Americans of Alabama—contributions **11**	European dominance over Native Americans **15**	Aspects of society **33**	Civil Rights **43–44**	Effect of population growth on natural resources **49**

**The numbers in bold correspond to the current (2001) Alabama Course of Study for the respective grade and subject.*

Grade 4 Science Yearly Plan

Week	Unit I ***Who are we and what is our geography?***	Unit II ***Who were Alabama's early inhabitants?***	Unit III ***Who were the early Europeans?***	Unit IV ***What was Alabama like in the 19th century?***	Unit V ***What was Alabama like in the 20th century?***	Unit VI ***What is Alabama's future?***
1	Change processes **32**	Scientific investigation skills **1–8**	Properties of matter **10**	Earth's rotation **35–37**	Forms of energy **31**	Relationship of science, technology, & society **9**
2	Natural and human changes **34**	Animal structures & function **23**	Changes in matter **12–13**	Moon and tides **35–37, 40**	Gas and electric cars **13–14**	How technology improves products **9, 38**
3	Geologic features of mountains **33**	Impact of weather on animals **28–29**	Force and speed **14**	Earth's relative size **36, 40**	Conductors and nonconductors **19**	Keeping rivers clean **29–30**
4	Geologic features of valleys **33**	Behavior of living things **22, 25**	Distance and force strength **13**	The sun and the Solar System **31, 35, 39–40**	Circuits **17–18, 20**	Animal populations **25, 28**
5	Geologic features of bodies of water **33**	Species' interdependence **28–29**	Introduced animal species in Alabama **22, 24, 28**	Stars, planets, and moons **36, 40**	Sound **21**	Heredity **26–27**
6	Geologic features of landform regions **33**	Alabama plants, animals, tree planting **24–27**	Impact & control of introduced animal species **22, 24, 28**	Celestial movements **37, 39–40**	Light **15–16**	Resource depletion and recycling **30**

**The numbers in bold correspond to the current (2001) Alabama Course of Study for the respective grade and subject.*

Grade 4 Language Arts Yearly Plan

Week	Unit I Who are we and what is our geography?	Unit II Who were Alabama's early inhabitants?	Unit III Who were the early Europeans?	Unit IV What was Alabama like in the 19th century?	Unit V What was Alabama like in the 20th century?	Unit VI What is Alabama's future?
1	Listen to stories about change **1, 3, 5, 12**	Describe an animal's behavior **21–23, 25–30**	Research Spanish settlers **13, 18–19, 31**	Write as a settler deciding where to live **20, 30**	Research efficiency of forms of energy **19, 20–32**	Create a travel brochure of Alabama **19, 20–32**
2	Read stories about storms **1–5, 8, 10**	Listen to stories about Native Americans **1, 3, 5, 12, 15**	Research French settlers **13, 18–19, 31**	Write a poem about the moon **20, 30**	Write about old and new cars **20, 32**	Write about a day in the life of a farmer **19, 20–32**
3	Write a poem about a mountain **21, 23**	Read/watch the weather report for a week **11–13**	Research British settlers **13, 18–19, 31**	Describe life on a plantation **20, 30**	Write a poem about losing a job **20, 32**	Research how to keep rivers clean **19, 33–35**
4	Write a story about valleys **21–23, 25, 30**	Write about Native American culture **15, 21–23, 25, 32**	Role-play conflicts between settlers & Native Americans **33–35**	Write a letter home as a Confederate soldier **20, 30**	Interview a WWII veteran **12, 21**	Research populations and growth in Alabama cities **19**
5	Read poetry about rivers and oceans **1–5, 8, 10**	Plan tree planting project **11, 13, 19**	Photo essay of introduced species **19**	Write about planets **20, 30**	Plan skit about Civil Rights **19**	Write a goodbye letter to a friend **20–32**
6	Write about local landforms **21–23, 25–30**	Write a news article about the tree planting **21–23, 25–30**	Make a commercial about introduced species **19, 31, 33–35**	Draw a mural of the Solar System **19**	Perform skit about Civil Rights **33–35**	Write a poem about no more animals **20–32**

**The numbers in bold correspond to the current (2001) Alabama Course of Study for the respective grade and subject.*

Grade 4 Math Yearly Plan

Week	Unit I Who are we and what is our geography?	Unit II Who were Alabama's early inhabitants?	Unit III Who were the early Europeans?	Unit IV What was Alabama like in the 19th century?	Unit V What was Alabama like in the 20th century?	Unit VI What is Alabama's future?
1	Locate school on city map **48**	Observe and record an animal's behavior **60**	Weigh same size, different property items **40–41, 60**	Calculate passage of time **51–52**	Record electricity used at home each day **10–11, 60**	Calculate benefits of tourism to Alabama **34–37**
2	Locate community on state map **48**	Create geologic timeline **51–52, 60**	Measure temperature of heating water **40, 60–61**	Track moon phases **52, 60**	Compare power of new and old cars **15–16**	Estimate future agriculture production **15–16**
3	Graph heights of mountains in Alabama **40, 48, 60**	Measure and record rainfall, temperature **40–41, 60**	Record motion of ball with various forces **11, 15–16, 60**	Compare Earth to other celestial spheres **15–16**	Test various items for conductivity **15, 60**	Calculate value of goods transported on rivers **34–37**
4	Determine value of local farm land **34–37**	Observe and record an animal's behavior **15–16, 60**	Record strength & direction of magnetic pull **11, 15–16, 60**	Add distances to planets from Earth **10**	Graph casualties by country **60**	Measure miles of interstate highways in Alabama **39–41**
5	Measure length of Alabama rivers **39–40, 48**	Determine carrying capacity of an area **15–16, 60**	Locate origin of introduced species on map **48**	Compare temperatures of stars and planets **10, 60**	Calculate cost and time to produce skit **15–16, 34–37**	Calculate carrying capacity of community **15–16, 60**
6	Calculate area of landform regions **40, 50, 60**	Calculate space a tree needs **15–16, 50**	Estimate cost of control of introduced species **34–37**	Draw constellations using geometric figures **42–44**	Measure shadows at various times of day **39–41**	Calculate savings of recycling **34–37, 60**

**The numbers in bold correspond to the current (2001) Alabama Course of Study for the respective grade and subject.*

Unit I

Who are we and what is our geography?

Teacher's Notes (Use this page to write down your questions and good ideas for this Unit):

Unit I Week 1

Focus is on the school location and how it is a part of the community as a whole. Students should be able to locate the school on a city map and draw a map of their community. Address issues of change and how change can make the school and the community different. In science, discuss change processes and how they can influence the geography of an area in ways such as erosion, flood, and construction.

This Week's Topic

School location

Correlations with Alabama Course of Study:

Social Studies:
School location

Science:
Change processes (32)

Language Arts:
Listen to stories about the ocean (1, 3, 5, 12)

Math:
Locate school on city map (48)

Geography:
Map reading (1)

Thought for the week

Smooth seas do not make skillful sailors.

—*African Proverb*

Community Visitors and Resources

Representative from the U.S. Fish and Game Department to discuss fishing restrictions and food sources from the ocean

Activities and Materials

- *Alabama's Environmental Legacy…Grades 3–5*, "No Salt, Please"
- *Project Learning Tree*, "Soil Stories," "Bursting Buds," "Signs of Fall"
- *Project WILD*, "Shrinking Habitats," "Pond Succession"
- *Water Sourcebook*, "Where Did It Wear?"
- Video: *Discovering Alabama*, "Horse Pens 40"

Unit Checkpoints

Journal time, quiet reading time, writing invitations and thank-you notes, and reading out loud to others.

Unit I Key Question
Who are we and what is our geography?

Unit I Key Experience
Visit an important natural site in Alabama—Cheaha, Little River Canyon, a national forest, etc.—that is associated with Native Americans and/or early settlers.

Unit I Week 2

Focus is on community location and its place within the state. Students should discuss the types of storms their area receives. They should be able to compare and contrast natural and human changes and the effects they have on the geography of a community.

This Week's Topic

Community location

Correlations with Alabama Course of Study:

Social Studies:
Community location

Science:
Natural and human changes **(34)**

Language Arts:
Read stories about storms **(1–5, 8, 10)**

Math:
Locate community on state map **(48)**

Geography:
Map reading **(1)**

Thought for the week

I have seen the sea when it is stormy and wild, when it is quiet and serene, when it is dark and moody. And in all its moods, I see myself.

—*Martin Buxbaum*

Community Visitors and Resources

Senior citizen to speak about the importance of a community and what it means to them

Activities and Materials

- *Alabama's Environmental Legacy…Grades 3–5*, "Mining"
- *Project Learning Tree*, "Forest of the Trees"
- *Project WILD*, "To Dam or Not to Dam," "Stormy Weather"
- *Water Sourcebook*, "At a Snail's Pace," "Wonderful, Waterful Wetlands"
- *Ranger Rick's NatureScope—Geology:* "The Active Earth (the Earth, Inside and Out)"
- Video: *Discovering Alabama*, "Guntersville State Park"

Unit I Week 3

Focus is on mountains as geological features and specifically, mountains and Alabama. Students should study the creation of mountains through geological forces and graph heights of mountains and Alabama. They should write poems about a mountain and what it would be like to live there.

This Week's Topic

Mountains

Correlations with Alabama Course of Study:

Social Studies:
Mountains **(4–5)**

Science:
Geologic features of mountains **(33)**

Language Arts:
Write a poem about a mountain **(21, 23)**

Math:
Graph heights of mountains in Alabama **(40, 48, 60)**

Geography:
Map reading **(1)**

Thought for the week

There is no silence like that of the mountains.

—*Guy Butler*

Community Visitors and Resources

Hiker to speak on the beauty and dangers of nature; geologist to explain the origin of mountains and plate tectonics

Activities and Materials

- *Project WILD*, "Who Lives Here?" "Drawing on Nature"
- *Project WILD Aquatic*, "Watershed"
- *Alabama's Environmental Legacy…Grades 3–5*, "Boning Up on Biomes"
- *Project Learning Tree*, "Tale of the Sun"
- Video: *Discovering Alabama*, "Cheaha Mountain/Talladega National Forest"
- *Water Sourcebook*, "Checks and Balances," "Down in the Ocean Dumps!"

Unit I Week 4

Focus is on valleys as geological features. Students should identify valleys in their area (if any exist) or locate them in Alabama and the geological forces that created them. Students should determine the value of local farmland based on crops produced per acre. Students should write a story about valleys.

This Week's Topic

Valleys

Correlations with Alabama Course of Study:

Social Studies:
Valleys **(4–5)**

Science:
Geologic features of valleys **(33)**

Language Arts:
Write a story about valleys **(21–23, 25, 30)**

Math:
Determine value of local farm land **(34–37)**

Geography:
Map reading **(1)**

Thought for the week

When one tugs at a single thing in nature, he finds it attached to the rest of the world.

—*John Muir*

Community Visitors and Resources

Fish biologist to discuss habitats within salt water communities

Activities and Materials

- *Alabama's Environmental Legacy…Grades 3–5*, "Home Sweet Home," "Gardening with Natives for Natives," "Crystalizing the Problem"
- *Project Learning Tree*, "Watch on Wetlands," "Looking at Leaves"
- *Project CATE*, "Ribbit's Big Splash: Brackish Water Fact"
- *Project WET*, "Salt Marsh Players"
- Video: *Discovering Alabama*, "Oak Mountain State Park"
- *Water Sourcebook*, "By the Sea," "Wetland in a Bottle," "The Inside on Red Tide," "Estuary Water"

Unit I Week 5

Focus is on bodies of water as geological features. Students should locate the major rivers of Alabama and measure their lengths on a map. They should locate major lakes in Alabama and calculate their size. Students should read poetry about rivers, oceans, ponds, or any bodies of water with which they are familiar. Relate the health of bodies of water to the effect on people, animals, and plants.

This Week's Topic

Bodies of water

Correlations with Alabama Course of Study:

Social Studies:
Bodies of water **(4–5)**

Science:
Geologic features of bodies of water **(33)**

Language Arts:
Read poetry about rivers and oceans **(1–5, 8, 10)**

Math:
Measure the length of Alabama rivers **(39–40, 48)**

Geography:
Map reading

Thought for the week

The work of an unknown good man is like a vein of water flowing hidden underground, secretly making the ground greener.

—*Thomas Carlyle*

Community Visitors and Resources

Hydrologist to discuss the importance of water

Activities and Materials

- *Water Sourcebook*, "You Must Have Been a Beautiful Bay-Bee," "Stop That Sediment," "Living in Water," "A Salt Water-y World," "By the Sea"
- *Alabama's Environmental Legacy...Grades 3–5*, "Swim Suitable"
- *Project CATE*, "Ribbit's Big Splash: Hydrologic Cycle Fact"
- *Project Learning Tree*, "Every Drop Counts," "Water Wonders," "Waste Watchers"
- *Project WET*, "The Incredible Journey," "Adventures in Density," "H_2Olympics"
- Video: *Discovering Alabama*, "Sipsey River Swamp"

Unit I Week 6

Focus is on landform regions such as hills, plains, shorelines, swamps, marshes, and other features in the students' community. They should calculate the area of these regions by using a local or state map. They should write passages describing local landforms with which they are familiar.

This Week's Topic

Landform regions

Correlations with Alabama Course of Study:

Social Studies:
Landform regions **(4–5)**

Science:
Geologic features of landform regions **(33)**

Language Arts:
Write about local landforms **(21–23, 25–30)**

Math:
Calculate area of landform regions **(40, 50, 60)**

Geography:
Map reading

Thought for the week

I am sure it is a great mistake always to know enough to go in when it rains. One may keep snug and dry by such knowledge, but one misses a world of loveliness.

—*Adeline Knapp*

Community Visitors and Resources

Geologist to speak on the changes in landforms over time

Activities and Materials

- *Alabama's Environmental Legacy…Grades 3–5*, "Over and Over Again," "Home Sweet Home"
- *Project Learning Tree*, "Field, Forest, and Stream," "Soil Stories"
- *Water Sourcebook*, "Aquifer Adventure"
- Video: *Discovering Alabama*, "Dugger Mountain Wilderness"

Unit II

Who were Alabama's early inhabitants?

Teacher's Notes (Use this page to write down your questions and good ideas for this Unit):

Unit II Week 1

Focus is on Alabama's early inhabitants beginning with gathering prehistoric and historic data. In science, students should demonstrate scientific investigation skills. They should use these skills to observe, record, and describe an animal's behavior.

This Week's Topic

Gathering prehistoric and historic data

Correlations with Alabama Course of Study:

Social Studies:
Gathering prehistoric and historical data **(6)**

Science:
Scientific investigation skills **(1–8)**

Language Arts:
Describe an animal's behavior **(21–23, 25–30)**

Math:
Observe and record an animal's behavior **(60)**

Geography:
Map reading **(1)**

Thought for the week

I like trees because they seem more resigned to the way they have to live than other things are.

—*Willa Cather*

Community Visitors and Resources

Paleontologist to discuss how data is gathered; veterinarian to explain differences in animal behavior

Activities and Materials

- *Project Learning Tree*, "The Closer You Look"
- *Project WILD*, "WILD Words... A Journal-Making Activity," "Learning to Look, Looking to See"
- Video: *Discovering Alabama*, "Caves of Alabama"

Unit Checkpoints

Journal time, quiet reading time, writing invitations and thank-you notes, and reading out loud to others.

Unit II Key Question
Who were Alabama's early inhabitants?

Unit II Key Experience
Organize a field trip to a Native American archaeological or historic site, festival, reservation or powwow. (Moundville (Tuscaloosa), Fort Toulouse (Wetumpka), Burritt Museum (Huntsville), and Anniston Museum all have festivals.)

Unit II Week 2

Focus is on prehistoric Native Americans and where they lived in Alabama. Students should create a geological timeline they will continue to add to throughout the year. They should listen to stories about Native Americans and be able to explain their lifestyles. In science, students should relate animal structures—beaks, legs, fur, color—and their functions, and how they help animals survive. Relate specific animal structures and functions to structures of Native Americans, such as darker skin, eyes, and hair.

This Week's Topic

Prehistoric Native Americans

Correlations with Alabama Course of Study:

Social Studies:
Prehistoric Native Americans **(7)**

Science:
Animal structures and functions **(23)**

Language Arts:
Listen to stories about Native Americans **(1, 3, 5, 12, 15)**

Math:
Create geologic timeline **(51–52, 60)**

Geography:
Map reading

Thought for the week

The soil in return for her service
keeps the tree tied to her, the sky
asks nothing and leaves it free.

—*Rabindranath Tagore*

Community Visitors and Resources

Paleontologist to explain the history of your area; Native American to share stories passed down from his/her ancestors

Activities and Materials

- *Alabama's Environmental Legacy…Grades 3–5*, "Adaptations Can Stop Limitations"
- *Project WILD*, "Tracks," "Grasshopper Gravity," "What Bear Goes There?," "Owl Pellets"
- *Project Learning Tree*, "Can It be Read?" "Birds and Worms"
- *Project WILD Aquatic*, "Turtle Hurdles"
- *Project WET*, "Water Messages in Stone"
- Video: *Discovering Alabama*, "Geological History of Alabama"

Unit II Week 3

Focus is on the impact of European settlers in Alabama and their contributions to the culture. In science, students should identify the impact of weather on animals in Alabama. They should read or watch the weather report for week. Set up a rain gauge so students can measure and record rainfall. They should measure the temperature over a period of time.

This Week's Topic

Impact of European contact

Correlations with Alabama Course of Study:

Social Studies:
Impact of European contact **(8)**

Science:
Impact of weather on animals **(28–29)**

Language Arts:
Read and watch the weather report for a week **(11–13)**

Math:
Measure and record rainfall and temperature **(40–41, 60)**

Geography:
Map reading **(1)**

Thought for the week

The way I see it, if you want the rainbow, you gotta put up with the rain.

—*Dolly Parton*

Community Visitors and Resources

Meteorologist to explain how weather predictions are made

Activities and Materials

- *Project WILD*, "Environmental Barometer," "Polar Bears in Phoenix," "Habitat Lap Sit," "Beautiful Basics," " Everybody Needs a Home," "Habitracts," "My Kingdom for a Shelter"
- *Mailbox* (Apr./May 1994), "Earth Science"
- *Project CATE*, "Ribbit's Big Splash: Jubilee Fact"
- Video: *Discovering Alabama*, "Black Warrior River"

Unit II Week 4

Focus is on Native Americans of Alabama and their culture. Students should write about Native American culture and how it has affected areas and other ethnic groups in Alabama. In science, students should observe and record an animal's behavior over a period of time. They should discuss the behavior of living things and how they affect the environment. Relate the behavior of different animals in various situations to the behavior of different people in their various environments.

This Week's Topic

Native Americans of Alabama—culture

Correlations with Alabama Course of Study:

Social Studies:
Native Americans of Alabama—culture **(9–10)**

Science:
Behavior of living things
(22, 25)

Language Arts:
Write about Native American culture **(15, 21–23, 25, 32)**

Math:
Observe and record an animal's behavior **(15–16, 60)**

Geography:
Map reading **(1)**

Thought for the week

If you want others to be happy, practice compassion. If you want to be happy, practice compassion.

—*Dalai Lama*

Community Visitors and Resources

Native American to speak on the cultures of his/her tribe

Activities and Materials

- *Alabama's Environmental Legacy…Grades 3–5*, "A Legacy"
- *Project Learning Tree*, "Tale of the Sun," "Tepee Talk"
- *Project CATE*, "Ribbit's Big Splash: Gulf"
- *Project WET*, "A-maze-ing Water," "Water Messages in Stone"
- *Project WILD*, "The Beautiful Basics," "What's for Dinner," "Museum Search for Wildlife," "Let's Go Fly a Kite," "The Hunter"
- *Water Sourcebook*, "Water-Wise Landscaping"

Unit II Week 5

Focus is on Native Americans in Alabama—their government and economy. Students should relate species interdependence to the relationship of Native Americans of Alabama to other groups of individuals. Students should determine the carrying capacity of an area in relation to plants and animals. They should plan a tree-planting project.

This Week's Topic

Native Americans of Alabama—government and economy

Correlations with Alabama Course of Study:

Social Studies:
Native Americans of Alabama—government and economy **(9)**

Science:
Species interdependence **(28–29)**

Language Arts:
Plan tree-planting project **(11, 13, 19)**

Math:
Determine carrying capacity of an area **(15–16, 60)**

Geography:
Map reading **(1)**

Thought for the week

He that plants trees loves others besides himself."

—*English Proverb*

Community Visitors and Resources

Environmentalist to speak to the class on the importance of conserving natural resources

Activities and Materials

- *Alabama's Environmental Legacy…Grades 3–5*, "In the Know"
- *Project WET*, "Life in the Fast Lane"
- *Project Learning Tree*, "Poet Tree," "Adopt a Tree," "Web of Life"
- *Water Sourcebook*, "Living in Water"
- Video: *Discovering Alabama*, "Moundville"

Unit II Week 6

Focus is on Native Americans of Alabama and their contributions to the state. Students should carry out their tree-planting plan after calculating how much space a tree needs to grow. Students should describe the advantages trees provide for animals.

This Week's Topic

Native Americans of Alabama—contributions

Correlations with Alabama Course of Study:

Social Studies:
Native Americans of Alabama—contributions **(11)**

Science:
Alabama plants, animals, tree planting **(24–27)**

Language Arts:
Write a news article about the tree planting **(21–23, 25–30)**

Math:
Calculate space a tree needs **(15–16, 50)**

Geography:
Map reading **(1)**

Thought for the week

A man has made at least a start on discovering the meaning of human life when he plants shade trees under which he knows full well he will never sit."

—*D. Elton Trueblood*

Community Visitors and Resources

Principal to participate in the tree planting and speak on the importance of beauty on the school's campus; forest ranger to explain the contributions of trees to our environment

Activities and Materials

- *Project Learning Tree*, "A Look at Lifestyles," "The Native Way," "Tepee Talk," "Forest for the Trees," "Plant a Tree"
- Video: *Discovering Alabama*, "Red-cockaded Woodpecker"
- *Alabama's Environmental Legacy...Grades 3–5*, "Going to Bat for an Endangered Alabama"
- *Project CATE*, "Ribbit's Big Splash: River"
- *Project WET*, "A-maze-ing Water"
- *Project WILD*, "Make a Coat"

Unit III

Who were the early Europeans?

Teacher's Notes (Use this page to write down your questions and good ideas for this Unit):

Unit III Week 1

Focus is on the early Europeans who came to Alabama. Students should research Spanish settlers, where they came from in Spain, and where they settled in Alabama. In science, student should be able to describe the properties of matter. They should experiment with items that are the same size but contain a different amount of matter such as a Ping Pong ball and a golf ball.

This Week's Topic

The Spanish

Correlations with Alabama Course of Study:

Social Studies:
The Spanish **(12)**

Science:
Properties of matter **(10)**

Language Arts:
Research Spanish settlers **(13, 18–19, 31)**

Math:
Weigh same size, different property items **(40–41, 60)**

Geography:
Map reading **(20)**

Thought for the week

Example is not the main thing in influencing others. It is the only thing.

—*Albert Schweitzer*

Community Visitors and Resources

Historian to explain the impact the Spanish had on your community

Activities and Materials

- *Project WET*, "Adventures in Density," "H_2Olympics," "Hangin' Together," "Water Match"
- Video: *Discovering Alabama*, "Mobile-Tensaw Delta"

Unit Checkpoints

Journal time, quiet reading time, writing invitations and thank-you notes, and reading out loud to others.

Unit III Key Question
Who were the early Europeons?

Unit III Key Experience
Take a field trip to Fort Conde (Mobile), Moundville, Fort Toulouse, Burritt Museum, or some other early Alabama historic site.

Unit III Week 2

Focus is on early French settlers who came to Alabama. Students should research where they came from in France and where they settled in Alabama. Students should be able to identify changes in matter and conduct simple experiments to demonstrate these changes. They should measure the temperature of heating water and record the amount of time it takes to boil.

This Week's Topic

The French

Correlations with Alabama Course of Study:

Social Studies:
The French **(12)**

Science:
Changes in matter **(12–13)**

Language Arts:
Research French settlers **(13, 18–19, 31)**

Math:
Measure temperature of heating water **(40, 60–61)**

Geography:
Map reading **(1)**

Thought for the week

One thought driven home is better than three left on base.

—*James Liter*

Community Visitors and Resources

Representative from the health department to explain the effect an increase in temperature can have on certain foods

Activities and Materials

- *Alabama's Environmental Legacy…Grades 3–5*, "Down It Goes–Where It Stops, Nobody Knows," "It's a Gas," "Roll Out the Barrels"
- *Project CATE*, "Ribbit's Big Splash: Pond"
- *Project WET*, "What's the Solution?," "Hangin' Together," "Imagine!," "Cold Cash in the Icebox"
- Video: *Discovering Alabama*, "Dauphin Island"

Unit III Week 3

Focus is on early British settlers who came to Alabama. Students should research where they came from in Great Britain and where they settled in Alabama. Students should explore force and speed by recording motions of various objects and the effects of various forces on those objects.

This Week's Topic

The British

Correlations with Alabama Course of Study:

Social Studies:
The British **(12)**

Science:
Force and speed **(14)**

Language Arts:
Research British settlers **(13, 18–19, 31)**

Math:
Record motion of ball with various forces **(11, 15–16, 60)**

Geography:
Map reading **(1)**

Thought for the week

An apology is the superglue of life. It can repair just about anything.

—*Lynn Johnston*

Community Visitors and Resources

Local historian to explain the impact British settlers have had on your local community and their culture

Activities and Materials

- *Mailbox* (Dec./Jan. 1997), "The Revolutionary War"
- Video: *Discovering Alabama*, "Southeast Alabama/Wiregrass Region"
- *Water Sourcebook*, "Shedding Light on Watersheds"

Unit III Week 4

Focus is on conflict between settlers and Native Americans and how it affected people in Alabama. Students should create skits and role-play these conflicts and investigate why they happened and what were the reasons/causes. Students should explore distance and force strength with investigations using magnets.

This Week's Topic

Conflict with Native Americans

Correlations with Alabama Course of Study:

Social Studies:
Conflict with Native Americans **(13)**

Science:
Distance and force strength **(13)**

Language Arts:
Role-play conflicts between settlers and Native Americans **(33–35)**

Math:
Record strength and direction of magnetic pull **(11, 15–16, 60)**

Geography:
Map reading **(1)**

Thought for the week

Storms make trees take deeper roots.

—*Claude McDonald*

Community Visitors and Resources

Native American to speak about the conflicts with the settlers

Activities and Materials

- Video: *Discovering Alabama*, "Fort Toulouse/Jackson"
- *Ft. Toulouse/Jackson Educational Activity #2*, "The Brignacs Go Traveling"

Unit III Week 5

Focus is specifically on the conflict with Native Americans during the Creek Wars. Students should locate site of wars on a map of Alabama. In science, students should identify introduced animal species into Alabama. They should locate the origin of the introduced species on a map and create a photo essay of these species. Students should be able to explain the effect of introduced animal species on native species in Alabama. Relate the effects of introduced animal species in Alabama to the early Europeans—introduced humans—in Alabama.

This Week's Topic

Creek Wars

Correlations with Alabama Course of Study:

Social Studies:
Creek Wars **(14)**

Science:
Introduced animal species in Alabama **(22, 24, 28)**

Language Arts:
Photo essay of introduced species **(19)**

Math:
Locate origin of introduced species on map **(48)**

Geography:
Map reading **(1)**

Thought for the week

To every thing there is a season, and a time to every purpose under heaven. A time to be born, and a time to die, a time to plant, and a time to pluck up that which is planted.

—*Ecclesiastes 3:1–2*

Community Visitors and Resources

U.S. Fish & Game Wildlife representative to discuss introduced species in Alabama

Activities and Materials

- *Project WILD*, "Who Lives Here?," "Planting Animals"
- *Alabama's Environmental Legacy...Grades 3–5*, "The Chain Gang"
- Video: *Discovering Alabama*, "Wildlife History"
- *Project WILD Aquatic*, "Aquatic Roots"

Unit III Week 6

Focus is on European dominance over Native Americans, how it occurred, and the effects. Students should research the impact and control of introduced animal species and estimate the cost to the environment of these species. Students should make a commercial or a public service announcement about introduced species.

This Week's Topic

European dominance over Native Americans

Correlations with Alabama Course of Study:

Social Studies:
European dominance over Native Americans **(15)**

Science:
Impact and control of introduced animal species **(22, 24, 28)**

Language Arts:
Make a commercial about introduced species **(19, 31, 33–35)**

Math:
Estimate cost of control of introduced species **(34–37)**

Geography:
Map reading **(1)**

Thought for the week

I expect to pass through this world but once; any good thing therefore that I can do, or any kindness that I can show to any fellow creature, let me do it now, let me not defer or neglect it, for I shall not pass this way again.

—*Anonymous*

Community Visitors and Resources

Biologist to explain the impact of introduced species

Activities and Materials

- *Project Learning Tree*, "Nothing Succeeds like Succession"
- *Project WILD*, "Microtrek Scavenger Hunt," "Make a Coat!," "Pond Succession"
- Video: *Discovering Alabama*, "Alabama Trees"

Unit IV

What was Alabama like in the 19th century?

Teacher's Notes (Use this page to write down your questions and good ideas for this Unit):

Unit IV Week 1

Focus is on what Alabama was like in the 19th century beginning with geography and settlements. Students should write a letter to an imaginary settler explaining the advantages and disadvantages of settling in different areas in Alabama. Students should be able to explain the Earth's rotation, its effects, as well as calculate and record the passage of time from one season to another.

This Week's Topic

Geography and settlements

Correlations with Alabama Course of Study:

Social Studies:
Geography and settlements **(17–18)**

Science:
Earth rotation **(35–37)**

Language Arts:
Write as a settler deciding where to live **(20, 30)**

Math:
Calculate passage of time **(51–52)**

Geography:
Map reading **(1)**

Thought for the week

All sunshine makes a desert.

—*Arabic Proverb*

Community Visitors and Resources

Historian to discuss early settlements

Activities and Materials

- *Alabama's Environmental Legacy…Grades 3–5*, "Habits of Habitats," "Adaptations Help Stop Limitations," "Necessary Changes"
- *Project Learning Tree*, "Planet of Plenty," "Field, Forest, and Stream"
- *Ranger Rick's NatureScope, Astronomy Adventures*, "What's Up?"
- Video: *Discovering Alabama*, "Fort Morgan"

Unit Checkpoints

Journal time, quiet reading time, writing invitations and thank-you notes, and reading out loud to others.

Unit IV Key Question
What was Alabama like in the 19th Century?

Unit IV Key Experience
Take a field trip to an Alabama 19th-century historic site—Alabama Constitution Village (Huntsville), Old Alabama Town (Montgomery), Old Cahawba Archaeological State Park (Selma), Sloss Furnaces (Birmingham), or one of the coastal forts.

Unit IV Week 2

Focus is on Alabama statehood and the steps taken by different individuals to make this a reality. Students should be able to explain the effect the moon has on tides and to track its phases. They should write a poem about the moon and how it affects various things on Earth including people, wildlife, and tides.

This Week's Topic

Statehood

Correlations with Alabama Course of Study:

Social Studies:
Statehood **(19–21)**

Science:
Moon and tides **(35–37, 40)**

Language Arts:
Write a poem about the moon **(20, 30)**

Math:
Track moon phases **(52, 60)**

Geography:
Map reading **(1)**

Thought for the week

Happiness is a thing to be practiced, like the violin.

—*John Lubbock*

Community Visitors and Resources

Local representative to speak on the importance of living in Alabama; contact NASA for pictures and additional resources on the moon

Activities and Materials

- *Project CATE*, "Ribbit's Big Splash: Jubilee"
- *Project WET*, "A-maze-ing Water"
- *Ranger Rick's NatureScope, Astronomy Adventures*, "Moon Madness," "Crazy about Craters"

Unit IV Week 3

Focus is on plantation life: who lived there, what they did, and what life was like in the 19th century. Students should be able to describe life on a plantation after reading and listening to stories. In science, students should compare the size of the Earth with other celestial spheres.

This Week's Topic

Plantation life

Correlations with Alabama Course of Study:

Social Studies:
Plantation life **(22–23)**

Science:
Earth's relative size **(36, 40)**

Language Arts:
Describe life on a plantation **(20, 30)**

Math:
Compare Earth to other celestial spheres **(15–16)**

Geography:
Map reading **(1)**

Thought for the week

The sun, with all those planets revolving around it and dependent on it, can still ripen a bunch of grapes as if it had nothing else in the universe to do.

—*Galileo Galilei*

Community Visitors and Resources

Local curator/historian to share what life was like on a plantation

Activities and Materials

- *Alabama's Environmental Legacy…Grades 3–5*, "Seeing is Believing"
- *Ranger Rick's NatureScope, Astronomy Adventures*, "Astro Match"
- Video: *Discovering Alabama*, "Locust Fork River"

Unit IV Week 4

Focus is on the Civil War and the Reconstruction that followed it. Students should pretend they are a Confederate soldier and write a letter home to their family. In science, students should identify the sun and all planets in the Solar System. They should be able to add the distances to the planets from Earth and calculate the total size of the Solar System.

This Week's Topic

Civil War and Reconstruction

Correlations with Alabama Course of Study:

Social Studies:
Civil War and Reconstruction **(24–28)**

Science:
Sun and the Solar System **(31, 35, 39–40)**

Language Arts:
Write a letter home as a Civil War soldier **(20, 30)**

Math:
Add distances to planets from Earth **(10)**

Geography:
Map reading **(1)**

Thought for the week

To define the universe would be to contain it, and that would be to limit existence."

—*David Beresford*

Community Visitors and Resources

Member of a Civil War historical group to speak to your students about the reasons for the Civil War and their personal heritage

Activities and Materials

- *Alabama's Environmental Legacy…Grades 3–5*, "Some Like It Hot"
- *Ranger Rick's NatureScope, Astronomy Adventures*, "Blast Off!," "Astro Match"
- Video: *Discovering Alabama*, "Little River Canyon"
- *Water Sourcebook*, "A Salt-Water-y World"

Unit IV Week 5

Focus is on industry, trade, and education during the 19th century. Students should trace the development of each through the century and explain if each had positive or negative effects on the environment. In science, student should be able to compare and contrast the temperatures of stars and planets. They should expand their study of the solar system to the moons of other planets. They should write stories about planets and what life would be like on each.

This Week's Topic

Industry, trade, and education

Correlations with Alabama Course of Study:

Social Studies:
Industry, trade, and education **(29–30, 32)**

Science:
Stars, planets, and moons **(36, 40)**

Language Arts:
Write about planets **(20, 30)**

Math:
Compare temperatures of stars and planets **(10, 60)**

Geography:
Map reading **(1)**

Thought for the week

Words are vehicles that can transport us from the drab sands to the dazzling stars.

—*M. Robert Syme*

Community Visitors and Resources

Astronomer to discuss viewing the stars and planets using a telescope and the best time for viewing planets without a telescope

Activities and Materials

- *Alabama's Environmental Legacy…Grades 3–5*, "Energy from Water—Free for the Taking"
- *Ranger Rick's NatureScope, Astronomy Adventures*, "Stories in the Stars," "A Cosmic Vacation"
- Video: *Discovering Alabama*, "Tannehill Historical State Park"
- *Water Sourcebook*, "Settling the Wastewater Problem," "Cleaning Up"

Unit IV Week 6

Focus is on overall aspects of society and what it was like to live in Alabama in the 19th century. Students should research what people did for fun, careers, recreation, and so forth. They should describe what the environment was like. In science, students should explore celestial movements and their effects on seasons and the environment. They should draw major constellations using geometric figures.

This Week's Topic

Aspects of society

Correlations with Alabama Course of Study:

Social Studies:
Aspects of society **(33)**

Science:
Celestial movements **(37, 39–40)**

Language Arts:
Draw a mural of the Solar System **(19)**

Math:
Draw constellations using geometric figures **(42-44)**

Geography:
Map reading **(1)**

Thought for the week

Be glad of life because it gives you the chance to love and to work and to play and to look up at the stars.

—*Henry Van Dyke*

Community Visitors and Resources

Astronomer to identify constellations; senior citizen to discuss different changes in society during her/his lifetime

Activities and Materials

- *Ranger Rick's NatureScope, Astronomy Adventures*, "Whirling and Twirling"
- Video: *Discovering Alabama*, "Sipsey Wilderness"

Unit V

What was Alabama like in the 20th century?

Teacher's Notes (Use this page to write down your questions and good ideas for this Unit):

Unit V Week 1

Focus is on what Alabama was like in the 20th century beginning with voting rights and famous Alabamians. Students should research famous Alabamians and their contributions to the state. In science, students should study forms of and research the efficiency of energy, e.g., solar, wind, geothermal, hydroelectric, and nuclear. Students should keep a record of electricity used at home each day by reading their electric meter for a week.

This Week's Topic

Voting rights and famous Alabamians

Correlations with Alabama Course of Study:

Social Studies:
Voting rights and famous Alabamians **(34, 36, 45)**

Science:
Forms of energy **(31)**

Language Arts:
Research efficiency of forms of energy **(19, 20–32)**

Math:
Record electricity used at home each day **(10–11, 60)**

Geography:
Map reading **(1)**

Thought for the week

Keep your face to the sunshine and you cannot see the shadows.

—*Helen Keller*

Community Visitors and Resources

Local campaign manager to explain important voting issues and strategies

Activities and Materials

- *Project WET*, "Is There Water on Zork?"
- *Project WILD*, "Flip the Switch for Wildlife"
- Video: *Discovering Alabama*, "Mobile River Basin"

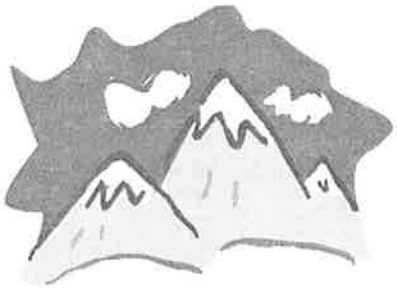
Unit Checkpoints

Journal time, quiet reading time, writing invitations and thank-you notes, and reading out loud to others.

Unit V Key Question
What was Alabama like in the 20th century?

Unit V Key Experience
Survey newspapers, local historians, and grandparents/great grandparents for stories/reflections about 20th-century history.

Unit V Week 2



Focus is on the technological advances and economic conditions of the 20th century in Alabama. Students should compare gas and electric cars in terms of power, cost, and their effects on the environment. Students should write stories about old and new cars and how they have changed over time. They should research the requirements for obtaining an antique vehicle license plate in Alabama.

This Week's Topic

Technological advances and economic conditions

Correlations with Alabama Course of Study:

Social Studies:
Technological advances and economic conditions **(35, 37)**

Science:
Gas and electric cars **(13–14)**

Language Arts:
Write about old and new cars **(20, 32)**

Math:
Compare power of new and old cars **(15–16)**

Geography:
Map reading **(1)**

Thought for the week

Good thoughts bear good fruit, bad thoughts bear bad fruit—and man is his own gardener.

—*James Allen*

Community Visitors and Resources

Historian to explain what life was like without electricity; Alabama Power representative to discuss how electricity is made

Activities and Materials

- *Alabama's Environmental Legacy…Grades 3–5*, "Let's Sock Car Exhaust," "Smoke Gets in More than Your Eyes," "The Dirty Half Dozen"
- Video: *Discovering Alabama*, "Cahaba River Watershed"
- *Project Learning Tree*, "Then and Now," "Air to Drive," "On the Move"

Unit V Week 3

Focus is on World War I and the Great Depression and the effects each one had on Alabama and its citizens. Students should write a poem about what it would be like to lose a job. In science, students should explore conductors and nonconductors by performing tests on various items for conductivity.

This Week's Topic

WWI and the Great Depression

Correlations with Alabama Course of Study:

Social Studies:
WWI and the Great Depression **(38–39)**

Science:
Conductors and nonconductors **(19)**

Language Arts:
Write a poem about losing a job **(20, 32)**

Math:
Test various items for conductivity **(15, 60)**

Geography:
Map reading **(1)**

Thought for the week

Measure wealth not by the things you have, but by the things you have for which you would not take money.

—ANONYMOUS

Community Visitors and Resources

Historian/senior citizen to explain how things were during WWI and the Great Depression

Activities and Materials

- Video: *Discovering Alabama*, "A Walk in the Woods"
- *Project Learning Tree*, "How Big is Your Tree?" (Part 1)

Unit V Week 4

Focus is on World War II and the effects it had on Alabama and its citizens. Students should research the causes of World War II and graph the number of casualties each country suffered. They should interview a World War II veteran, if possible, and ask questions about what it was like to be in that war. Students should continue their study of conductors and nonconductors by creating simple circuits.

This Week's Topic

WWII

Correlations with Alabama Course of Study:

Social Studies:
WWII **(40)**

Science:
Circuits **(17–18, 20)**

Language Arts:
Interview a WWII soldier **(12, 21)**

Math:
Graph casualties by country **(60)**

Geography:
Map reading **(1)**

Thought for the week

The business of America is not business. Neither is it war. The business of America is justice and securing the blessings of liberty.

—*George F. Will*

Community Visitors and Resources

Veteran to discuss America's involvement in WWII and what it means to be a U.S. veteran

Activities and Materials

- *Project WILD*, "Here Today, Gone Tomorrow"
- Video: *Discovering Alabama*, "Arboretums"
- *Project Learning Tree*, "How Big is Your Tree?" (Part 2)

Unit V Week 5

Focus is on the state and local government in Alabama in the 20th century. Students should research laws and legislation related to environmental issues. Students should research sound, specifically, noise pollution in the environment and its effects on humans and wildlife. Students should begin to plan a skit on civil rights for the next week. They should calculate costs and time required to produce a skit.

This Week's Topic

State and local government

Correlations with Alabama Course of Study:

Social Studies:
State and local government **(42, 44)**

Science:
Sound **(21)**

Language Arts:
Plan a skit on civil rights **(19)**

Math:
Calculate cost and time to produce skit **(15–16, 34–37)**

Geography:
Map reading **(1)**

Thought for the week

Being American is not a matter of birth. We must practice it every day, lest we become something else.

—*Malcom Wallop*

Community Visitors and Resources

Mayor to speak on current issues; civil rights activist to discuss changes during the last forty years

Activities and Materials

- *Project Learning Tree*, "There Ought to be a Law," "Pollution Search," "Sounds Around"
- *Project WILD*, "Noisy Neighbors," "Bird Song Survey"
- Video: *Discovering Alabama*, "Alabama Adventure"
- *Water Sourcebook*, "Pollution Pete Patrol"

Unit V Week 6

Focus is on the Civil Rights Movement in Alabama in the 20th century. Students should perform the skit they planned in the previous week about civil rights. In science, students should study light and measure shadows at various times during a day. They should calculate the light needed if the skit is performed on a stage.

This Week's Topic

Civil rights

Correlations with Alabama Course of Study:

Social Studies:
Civil rights **(43–44)**

Science:
Light **(15–16)**

Language Arts:
Perform skit about civil rights **(33–35)**

Math:
Measure shadows at various times of day **(39–41)**

Geography:
Map reading **(1)**

Thought for the week

America is not like a blanket—one piece of unbroken cloth. America is more like a quilt—many patches, many pieces, many colors, many sizes, all woven together by a common thread.

—*Rev. Jesse L. Jackson*

Community Visitors and Resources

Lawyer or judge to discuss current civil right issues

Activities and Materials

- *Project Learning Tree*, "How Plants Grow"
- Video: *Discovering Alabama*, "Alabama Forests"
- *Project WILD*, "Water's Going On?!"

Unit VI

What is Alabama's future?

Teacher's Notes (Use this page to write down your questions and good ideas for this Unit):

Unit VI Week 1

Focus is on Alabama's future in a variety of areas related to technology and tourism beginning with the economy. Students should calculate the benefits of tourism to Alabama and choose specific regions in the state to research—parks, cities, attractions. They should create a travel brochure about Alabama. Introduce the relationship of science, technology, and society, and the advantages and disadvantages brought about by increased technology. The concept of interdependence should run through the entire unit.

This Week's Topic

Economy—technology and tourism

Correlations with Alabama Course of Study:

Social Studies:
Economy—technology and tourism **(46)**

Science:
Relationship of science, technology, and society **(9)**

Language Arts:
Create a travel brochure of Alabama **(19, 20–32)**

Math:
Calculate benefits of tourism to Alabama **(34–37)**

Geography:
Map reading **(1)**

Thought for the week

The world is a book, and those who do not travel read only one page.

—*St. Augustine*

Community Visitors and Resources

Member from the Chamber of Commerce to speak about local attractions

Activities and Materials

- Videos: *Discovering Alabama*, "Guntersville State Park," "Alabama Adventure," "Native American Festival"
- *Water Sourcebook*, "Posted! No Fishing, No Swimming"

Unit Checkpoints

Journal time, quiet reading time, writing invitations and thank-you notes, and reading out loud to others.

Unit VI Key Question
What is Alabama's future?

Unit VI Key Experience
Take a field trip to a modern farm; the U.S. Space and Rocket Center (Huntsville), or one of the big science museums in Mobile, Birmingham, or Huntsville; invite a "futurist" to speak to the class.

Unit VI Week 2

Focus is on the economic future of Alabama's agriculture. Students should research the major crops currently grown in Alabama. Students should be able to explain how technology improves agricultural products and production. They should estimate future agricultural production of various crops throughout the state given current trends in the environment. They should write a story about a day in the life of a farmer.

This Week's Topic

Economy—agriculture

Correlations with Alabama Course of Study:

Social Studies:
Economy—agriculture **(46)**

Science:
How technology improves products **(9, 38)**

Language Arts:
Write a day in the life of a farmer **(19, 20–32)**

Math:
Estimate future agriculture production **(15–16)**

Geography:
Map reading **(1)**

Thought for the week

Conservation is a state of harmony between men and land.

—*Aldo Leopold*

Community Visitors and Resources

Farmer to discuss techniques for improving agriculture

Activities and Materials

- *Alabama's Environmental Legacy...Grades 3–5*, "Start Shredding the News," "How are You Gonna Keep It Down on the Farm?," "Mining"
- *Project Learning Tree*, "Tree Treasures," "Renewable or Not?," "Resource-Go-Round," "Forest for the Trees," "Paper Civilizations"
- *Project WET*, "Cold Cash in the Icebox"
- *Water Sourcebook*, "Water, Water Everywhere!," "For Sale: Used Water," "Stop that Sediment," "Porosity & Permeability: Down and Dirty," "Goin' with the Flow"

Unit VI Week 3

Focus is on the economic future of Alabama's river systems and their importance to the state. Students should calculate the value of goods transported on major Alabama rivers. In science, students should research how to keep rivers clean and what they can do in their community to keep the water that runs into rivers clean, even if they are not located near a river.

This Week's Topic

Economy—river systems

Correlations with Alabama Course of Study:

Social Studies:
Economy—river systems **(47)**

Science:
Keeping rivers clean **(29–30)**

Language Arts:
Research how to keep rivers clean **(19, 33–35)**

Math:
Calculate value of goods transported on rivers **(34–37)**

Geography:
Map reading **(1)**

Thought for the week

The activist is not the man who says the river is dirty. The activist is the man who cleans up the river.

—*Ross Perot*

Community Visitors and Resources

Hydrologist to explain the importance of rivers as a natural resource

Activities and Materials

- *Alabama's Environmental Legacy...Grades 3–5*, "Fetch a Pail of Water," "Filtration Sensation"
- *Project CATE*, "Ribbit's Big Splash: Projects"
- *Project WET*, "A-maze-ing Water," "Stream Sense"
- Video: *Discovering Alabama*, "Cahaba River"
- *Water Sourcebook*, "Will that Hold Water?," "The Invisible Water Source," "Working Together to Prevent Pollution"

Unit VI Week 4

Focus is on the effect of population growth on cities and roads. Students should research populations and growth rates in major Alabama cities, noting increases or decreases over time. Students should measure the number of miles of interstate highways in Alabama. In science, students should relate increased animal populations in an area to the effect of increased human populations. They should speculate on the effect of human population growth on habitat destruction and its effects on animals.

This Week's Topic

Effect of population growth on cities and roads

Correlations with Alabama Course of Study:

Social Studies:
Effect of population growth on cities and roads **(49)**

Science:
Animal populations **(25, 28)**

Language Arts:
Research populations and growth in Alabama cities **(19)**

Math:
Measure miles of interstate highways in Alabama **(39–41)**

Geography:
Map reading **(1)**

Thought for the week

When we do the best that we can, we never know what miracle is wrought in our life or in the life of another.

—*Helen Keller*

Community Visitors and Resources

Urban planner to discuss proposed developments

Activities and Materials

- *Project Learning Tree*, "The Forest of S.T. Shrew"
- *Project WILD*, "Bearly Born," "Ants on a Twig," "Interview a Spider," "Animal Poetry," "Urban Nature Search," "Good Buddies," "Muskox Maneuvers," "Migration Barriers"
- *Water Sourcebook*, "Coastal Conservation Scavenger Hunt"
- Video: *Discovering Alabama*, "Alabama's Natural Diversity"

Unit VI, Week 5

Focus is on the effect of population growth on the demographics of people. Students should research various races and ethnic groups, and their increases or decreases in Alabama. Population growth is related to the mobility of individuals. Students should write a goodbye letter to a friend. In science, students should study the characteristics of heredity and how people in different races and ethnic groups have different characteristics. They should calculate the carrying capacity of a community in terms of goods, services, and available land.

This Week's Topic

Effect of population growth on demographics

Correlations with Alabama Course of Study:

Social Studies:
Effect of population of growth on demographics **(49)**

Science:
Heredity **(26, 27)**

Language Arts:
Write a goodbye letter to a friend **(20–32)**

Math:
Calculate carrying capacity of community **(15–16, 60)**

Geography:
Map reading **(1)**

Thought for the week

Progress might have been all right once, but it's gone on too long."

—*Ogden Nash*

Community Visitors and Resources

Representative from the Department of Transportation to discuss road design and management, as well as safety

Activities and Materials

- *Alabama's Environmental Legacy...Grades 3–5*, "Let's Sock Car Exhaust," "What a Waste," "To Transpire or Perspire...That is the Question"
- *Project CATE*, "Ribbit's Big Splash: H_2O in Your Body Fact"
- *Project Learning Tree*, "We Can Work It Out," "Improve Your Place," "Sunlight and Shades of Green," "Air Plants," "Tree Cookies"
- *Project WET*, "Aqua Bodies," "Aqua Notes"
- *Project WILD*, "Shrinking Habitat"
- Video: *Discovering Alabama*, "Village Creek"
- *Water Sourcebook*, "Planning Land Use," "A Tale of Ooze"

Unit VI Week 6

Focus is on the effect of population growth on natural resources. Students should research the quantity of goods, services, water, electricity, etc., required for individuals to survive in their community. Students should relate resource-depletion to over-consumption and be able to identify the role that recycling can play in preserving natural resources. Students should write a poem or a story about the effects of cutting down forests and destroying habitat on animals.

This Week's Topic

Effect of population growth on natural resources

Correlations with Alabama Course of Study:

Social Studies:
Effect of population growth on natural resources **(49)**

Science:
Resource-depletion and recycling **(30)**

Language Arts:
Write a poem about no more animals **(20–32)**

Math:
Calculate savings of recycling **(34–37, 60)**

Geography:
Map reading **(1)**

Thought for the week

You can tell all you need to about a society from how it treat animals and beaches.

—*Frank DeFord*

Community Visitors and Resources

Representative from the local waste management department to discuss landfills and the importance of recycling

Activities and Materials

- *Alabama's Environmental Legacy…Grades 3–5*, "What Goes Around Comes Around," "Playing with Rubbish," "The Value of Water"
- *Project Learning Tree*, "Improve Your Place," "Reduce, Reuse, Recycle," "A Look at Aluminum," "Make Your Own Paper," "Talking Trash, Not!", "Resource-Go-Round"
- *Project WET*, "A-maze-ing Water," "The Long Haul"
- *Project WILD*, "Planning for People and Wildlife"
- Video: *Discovering Alabama*, "Coastal Alabama, Part II: Environmental Issues"
- *Water Sourcebook*, "Whose Water Is It?," "What Can You Do?"

Appendix: Resources

Part I. Primary Activity Resources

Being a flexible program, DOH can accommodate a variety of activity resources. However, teachers are strongly encouraged to make sure that all primary resources are consistent with recognized standards for quality and effectiveness. If you have primary resources in mind other than those listed below, contact: Wayne Strickland c/o AWF or Dr. Doug Phillips c/o AMNH for assistance in determining their consistency with national standards.

The following resources are incorporated as primary materials for DOH because:

- these materials are widely accepted and highly rated by master teachers and environmental educators,
- these materials are consistent with nationally recommended guidelines for accuracy, balance, and effectiveness in helping teachers include environmental education as a regular component of instruction,
- these materials have been specifically correlated with academic requirements of the Alabama Course of Study, and
- parent organizations of these materials have worked closely in the development of DOH and are committed to effective environmental education in support of overall educational improvement and student success—personally, civically, and academically.

Alabama's Environmental Legacy: A Series of Classroom Activities, Guide, and Resource Directory for Grades K–2 **and** *3–5.* Legacy, Inc., 1997.
Legacy, Partners in Environmental Education, Inc.
P.O. Box 3813
Montgomery AL 36109
(800) 240–5115

Aquatic Project WILD, see *Project WILD Aquatic Education Activity Guide.*

Discovering Alabama, a public television series hosted and produced by Dr. Doug Phillips for Alabama Public Television and the Alabama Museum of Natural History; over 40 titles with Teacher's Guides. AMNH, 1985–.
Discovering Alabama
Alabama Museum of Natural History
University of Alabama
Box 870340
Tuscaloosa AL 35487–0340
(205) 348–2039

Project Learning Tree: Environmental Education Pre K–8 Activity Guide. 3d edition. American Forest Foundation, 1995.
Project Learning Tree
Alabama Forestry Association
555 Alabama Street
Montgomery AL 36104

Project WET: Curriculum and Activity Guide. The Watercourse; Western Regional Environmental Education Council, 1995.
Project WILD
Alabama Department of Conservation & Natural Resources
64 N. Union Street
Montgomery AL 36130
(334) 242–3623

Project WILD Activity Guide. 2d edition. Western Regional Environmental Education Council, 1992.
Project WILD
Alabama Department of Conservation & Natural Resources
64 N. Union Street
Montgomery AL 36130
(334) 242–3623

Project WILD Aquatic Education Activity Guide. 2d edition. Western Regional Environmental Education Council, 1992.
Project WILD
Alabama Department of Conservation & Natural Resources
64 N. Union Street
Montgomery AL 36130
(334) 242–3623

Water Sourcebook: A Series of Classroom Activities for Grades K–2 and *3–5*. Legacy, Inc., 1994.
Legacy, Partners in Environmental Education, Inc.
P.O. Box 3813
Montgomery AL 36109
(800) 240–5115

Part II. Supplemental Resources

The following is a partial listing of resources considered supplemental because they have been recommended by DOH teachers as potential sources of information and activities. Many of these materials are not environmentally-based and most have not been officially evaluated for consistency with national environmental education standards. Likewise, these materials have not been formally correlated to requirements of the Alabama Course of Study.

In keeping with DOH policy, teachers are encouraged to take care in choosing supplemental materials that are consistent with recognized standards for quality, accuracy, and balance. Of course, materials that do not meet such standards are sometimes helpful in developing critical thinking skills and students' abilities to analyze biases or inaccuracies that might apply. Here again, assistance can be obtained by contacting Wayne Strickland or Dr. Phillips.

Agriculture in the Classroom: Alabama Treasures by Jacquelyn Autrey et al. Agriculture in the Classroom Foundation, Inc., 1987
Alabama Department of Agriculture & Industries
P.O. Box 336
Montgomery AL 36109–0336

Acorn Naturalists. Resources for the trail and classroom; free catalogue.
17300 East 17th Street, #J–236
Tustin CA 92680
(800) 422–8886

Alabama Forest Resources Center
660 Adams Avenue
Montgomery AL 36130

Alabama Geographic Alliance
Department of Geography
Jacksonville State University
Jacksonville AL 36265
(800) 346–5444

Alabama Heritage Magazine
Box 870342
The University of Alabama
Tuscaloosa AL 35487-0342
(205) 348–7467

Alabama Museum of Natural History
Box 870340
Smith Hall
The University of Alabama
Tuscaloosa AL 35487–0340
(205) 348–7550

Alabama Natural Heritage Program
Alabama Department of Conservation and Natural Resources
64 N. Union Street
Montgomery AL 36130

Alabama PALS Litter Education Activity Guide
340 North Hull
Montgomery Al 36104
(334) 263-7737

America's Private Land: A Geography of Hope. U.S.D.A., 1996
U.S.D.A.
Natural Resource Conservation Service
Washington DC 20250
(800) 245–6340

Anniston Museum of Natural History
P.O. Box 1587
Anniston AL 36202–1587
(256) 237–6766

APT Classroom. A complete listing of APT programs suitable for classroom use is available.
Alabama Public Television
2112 11th Avenue South, Suite 400
Birmingham AL 35205–2884
(800) 239–5233

Audubon Society Field Guide series

Big Book of Everything: Social Studies, edited by Rosemary Alexander. Educational Instructor Publications, 1986

Creative Science Experiences for the Young Child by Imogene Foret and Joy MacKenzie. Incentive Publications, Inc., 1973

Environmental Education
American Forest Foundation
1111 19th Street, NW
Washington DC 20036

Ft. Toulouse/Jackson Educational Activities
Ft. Toulouse/Ft. Jackson Historic Site
2521 West Ft. Toulouse Road
Wetumpka, AL 36093

Geological Survey of Alabama
P.O. Box 869999
The University of Alabama
Tuscaloosa AL 35486–9999
(205) 349–2852

Geological Society of America
P.O. Box 9140
Boulder CO 80301-9140
(303) 447–2020; (800) 472–1988
www.geosociety.org

Global Learning and Observation to Benefit the Environment (*The Globe*), a series of activities and investigations about the earth and global environmental systems for teachers and students.
The Globe Program
744 Jackson Place NW
Washington DC 20503
(800) 858–9947

Golden Press and Western Publishing Company field guide series (now Golden Books)

Instant Kids Books: Martin Luther King
111 W Blanche St.
Mansfield OH 44903
www.InstantKidsBooks.com

The Kingfisher Young Discoverers Encyclopedia of Facts and Experiments, available from Barnes & Noble, Borders, *www.amazon.com* or *www.booksense.com*

Learning about Communities. Prepared by the Educational Research Council of America. Allyn and Bacon, 1982

Magic School Bus, series. Scholastic Inc.

The Mailbox and *The Maibox Superbook*, series. One book each for Preschool through Grade 5. Greensboro, NC: Education Center, 1998.
www.themailbox.com

Multiple Intelligences: Teaching for Success. The New City School, Inc., 1997.

Nature Conservancy of Alabama
Pepper Place
2821C 2nd Avenue S.
Birmingham AL 35233

Nature Link, Wildlife Education Series
Alabama Wildlife Federation
P.O. Box 1109
Montgomery AL 36102
(800) 822-WILD

Nature's Way series
Center for Environmental Research & Service
Troy State University
Troy AL 36082

Outdoor Classrooms on School Sites. U.S. Department of Agriculture, Soil Conservation Service, 1980.

Peterson Field Guide series, Houghton Mifflin Co.

Pollution Prevention: A Common Sense Solution to a Complex Problem—video.
Discovering Alabama
Alabama Museum of Natural History
University of Alabama
Box 870340
Tuscaloosa AL 35487–0340
(205) 348–2039

Project CATE, Conservation Action Through Education, a series of CD–ROMs.
Project CATE
P.O. Box 123
Mobile AL 36601
(334) 694–6247

Public Broadcasting Service, Inc. Various series, e.g., *The American Experience* and the Dallas County (TX) Community College American History series, as well as other educational programs.
PBS Videos
1320 Braddock Place
Alexandria VA 22314
(800) 344–3337

Ranger Rick's NatureScope, series. National Wildlife Federation, 1985–.
National Wildlife Federation
1400 16th Street NW
Washington DC 20036–2266

School Yard Habitat Information Kit, item #79948
Alabama Wildlife Federation
P.O. Box 1109
Montgomery AL 36102
(800) 822–WILD

Simon & Schuster's Field Guide series

Teacher's Manual for Outdoor Classrooms—How to Plan, Develop, and Use Them. U.S. Department of Agriculture, Soil Conservation Service, 1979.

Teaching about the Environment: A Resource Guide for Getting Started in Environmental Education. Alabama Wildlife Federation, 1997.
Alabama Wildlife Federation
P.O. Box 1109
Montgomery AL 36102
(800) 822-WILD

Thematic Units Collections, Carson Dellosa Publishing Company

Time-Life Videos
P.O. Box 85060
Richmond VA 23285-5060
www.timelife.com

U.S. Department of the Interior
Fish and Wildlife Service
Division of Ecological Services
P.O. Drawer 1190
Daphne AL 36526

U.S. Geological Survey
Dept. P
601 National Center
Reston VA 22092
(703) 648–7440

Waste—A Hidden Resource...Activity Guide, published by the Tennessee Valley Association

What a Web Site! United States Department of Agriculture, Center for Nutrition Policy and Promotion. *www.usda.gov/fcs/cnpp*

WOW! The Wonders of Wetlands, an Educator's Guide. Environmental Concern, Inc. and The Watercourse, 1995.
Acorn Naturalists
17300 East 17th Street, #J–236
Tustin CA 92680
(800) 422–8886

Part III. Additional Materials for General Consideration

The following materials represent a sampling of suggested readings for teachers who might wish to explore various perspectives from different areas—the environment, history, science, society, educational philosophy, teaching methodology—pertinent to adopting and implementing DOH. These materials typically do not include instructional resources or activities. They are intended mainly for the teachers' personal enrichment/development.

The first book on the list, *A Sand County Almanac,* is considered the "bible" of conservation philosophy among outdoor enthusiasts. The **conservation ethic** espoused by author Aldo Leopold is central to the DOH aim of imbuing students with an ethic of environmental stewardship. The other materials—listed in alphabetical order—are a potpourri of suggestions from DOH staff and teachers. You are invited to add your own suggestions to this list.

Leopold, Aldo. *A Sand County Almanac*. Oxford University Press, 1949.

Abrams Planetarium. *Sky Calendar*. Michigan State University.

Alabama Atlas & Gazetteer. DeLorme Publishing, 1998.

Bartram, William. *Travels*. Francis Harper (Ed.), naturalist's edition. University of Georgia Press, 1998.

Borland, Hal. *A History of American Wildlife*. National Wildlife Federation, 1975.

Brown, Lester, Christopher Flavin, and Hilary French (Eds.). *State of the World 1999: A Worldwatch Institute Report on Progress Toward a Sustainable Society*. W.W. Norton & Co., 1999.

Duncan, Dayton and Ken Burns. *Lewis & Clark: The Journey of the Corps of Discovery, An Illustrated History*. Alfred A. Knopf, 1998.

Field, William. *Make a Movie that Tells a Story: Using a Home Camcorder...and Other Stuff You Already Own*. William Field, 2000. (P.O. Drawer 1549, Tuscaloosa AL 35403)

Glasser, William. *The Quality School: Managing Students without Coercion*. 2d ed. HarperCollins, 1992.

Goldfarb, Theodore D. *Taking Sides: Clashing Views on Controversial Environmental Issues*. 6th ed. Duskin Publishing Group, Inc., 1995.

Harker, Donald F. and Elizabeth Ungar Natter. *Where We Live: A Citizen's Guide to Conducting a Community Environmental Inventory*. Island Press, 1995.

Hawken, Paul. *The Ecology of Commerce: A Declaration of Sustainability*. Harper, 1994.

Hirsch Jr., E.D. (Ed.). *What your [Kindergarten through Sixth] Grader Needs to Know: Fundamentals of a Good [K–6th] Grade Education*. Core Knowledge Series; separate book for each grade. Delta Books, 1993.

Hudson, Charles M. *Knights of Spain, Warriors of the Sun: Hernando de Soto and the South's Ancient Chiefdoms*. University of Georgia Press, 1997.

Hudson, Charles M. *The Southeastern Indians*. University of Tennessee Press, 1976.

Hyams, Edward. *Soil & Civilization*. Harper Colophon Books, 1976.

Kellert, Stephen R. *The Value of Life: Biological Diversity and Human Society*. Island Press, 1996.

McQuillan, Alan G. and Ashley L. Preston (Eds.). *Globally and Locally: Seeking a Middle Path to Sustainable Development*. University Press of America, 1998.

Owsley, Frank. *Struggle for the Gulf Borderlands: The Creek War and the Battle of New Orleans, 1812–1815*. University of Alabama Press, 2000.

Pierson, George Wilson. *Tocqueville in America*. Johns Hopkins University Press, 1938; paperback edition, 1996.

Read, William A. *Indian Place Names in Alabama*. University of Alabama Press, 1984.

Rogers, William W., Richard D. Ward, Leah Rawls Atkins, and J. Wayne Flynt. *Alabama: The History of a Deep South State*. University of Alabama Press, 1994.

Schlichter, Carol L. and W. Ross Palmer (Eds.). *Thinking Smart: A Primer of the Talents Unlimited Model*. Creative Learning Press, Inc., 1993.

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