A Trail To Every Classroom (TTEC)  
Curriculum Development Tool  

UNIT DESIGN COVER SHEET  

Author contact: Shelley J. Stahlman  

School name, state and town: Ashley Academy, Johnson City, TN  

Title: Appalachian National Scenic Trail: Invasive Plant Species Removal and Goat Adoption  

Abstract/Vignette: The place on Earth where we live has many natural resources, one being Roan Mountain, the tallest mountain in upper east Tennessee. The Appalachian Trail located there offers opportunities for recreation, physical fitness, environmental education, and natural resource protection.  

Grade level(s): Please check all that apply.  

☑ K-2 ☐ 3-5 ☐ 6-8 ☐ 9-12 ☐ College and Lifelong Learning  

Discipline: Please check all that apply.  

☑ Art and Music ☑ Health and PE ☐ Foreign Language  
☑ Literature and Language Arts ☑ Mathematics ☑ Science  
☑ Social Studies and Geography ☐ History ☐ Technology  

Year Developed: 2009  

Period (month, week, year): Year  

Teaching environment:  

☑ In the Classroom (indoors) ☑ On the Trail  
☑ In the Community ☐ Online/Virtual
A Trail to Place-Based Service-Learning Curriculum

Project Name: Appalachian National Scenic Trail: Invasive Plant Species Removal and Goat Adoption

Teacher: Shelley J. Stahlman
Grade Level: Kindergarten
Time Frame: August 2009 - May 2010

Start Here!

Big Idea
What is the main idea you want your students to come away from the unit knowing?

The place on Earth where we live has many natural resources, one being Roan Mountain, the tallest mountain in upper east Tennessee. The Appalachian Trail located there offers opportunities for recreation, physical fitness, and environmental education.

State Standards (Objectives/Anchors/Outcomes)
Which elements of the state framework of standards does this unit address?
Tennessee Kindergarten Grade Level Expectations (GLE 000):

English Language Arts 1.1.2, 1.1.4, 1.2.1, 1.2.2, 1.3.2, 1.3.3, 1.3.4, 1.4.1, 1.4.2, 1.4.3, 1.5.2, 1.6.2, 1.7.1, 1.8.1, 1.8.2, 1.8.4
Health 1.4, 4.2, 10.3, 10.4, 11.1, 14.3, 14.6
Mathematics 6.1.5, 6.1.6, 6.1.7, 6.1.8, 6.2.1, 6.3.5, 6.4.6, 6.4.7
Music .1.1
Physical Education 3.1.1, 3.1.2, 4.1.3, 4.1.4, 4.1.5, 6.1.1
Reading 1.13
Science 7.2.1, 7.2.2, 7.3.1, 7.4.1, 7.5.1, 7.7.1, 7.7.2, 7.8.2, 7.9.1, 7.10.2
Social Studies 3.01, 3.02, 3.03, 4.01, 4.02, 4.03, 5.01, 5.02, 6.01, 6.02
Theatre 2.1, 2.3, 2.4, 2.5, 3.2, 3.3, 4.3, 5.1, 6.1, 6.2
Visual Art 1.1, 1.2

What are the skills and outcomes you are working towards? Specific outcomes have not been delineated. See below.
Essential Questions (Unit Objectives)
What are the essential questions that will help guide students toward understanding the Big Idea?

- What is the “environment”? What is “habitat”?
- What is a “natural resource”? Why is it valuable?
- What is an “invasive species”?
- What and where are the “Appalachian Mountains”?
- What and where is “Appalachia”?
- What and where is “upper East Tennessee”?
- What and where is the “Appalachian Trail”?
- Why are recreation and physical fitness important? How can we become and stay fit?
- Why is it important to protect natural resources, habitat, the environment?
- How can Ashley Academy kindergarten students help protect valuable natural resources?

Student Role (Youth Voice)
How will you guide your students to express ideas, be involved in project decisions, and evaluate outcomes?

Group discussions and/or writing and art activities related to planning, reflecting on, and/or sharing
1. school flora/fauna inventory, goat adoption
2. items needed for trail hikes, plant removal work day, AT hike/picnic, and
3. results of service projects

Skills and Habits of Mind
What are the academic or life skills students will gain from this unit? Think all disciplines.

Skills:
- oral, written, artistic, dramatic, and musical expression
- public speaking
- memorization
- nature observation and identification
- reading symbols and words
- labeling, journaling, “four-square” formats of writing
- comparing and contrasting
- counting
- measuring weight, distance and capacity
- introductory map reading: features, directions, compass
- beginning photography
- teamwork

Habits of mind:
- stewardship of the environment
- conservation of natural resources
- appreciation of place and heritage
- teamwork
- volunteerism
- ability of the individual and groups to effect change for the better

Community Connections
What opportunities or needs exist in your school or community that could be addressed by a student project related to your big idea for learning?

1. Student interest in plants and animals found on campus and in adjacent city park
2. Partner interest in Appalachian Trail maintenance
3. Partner interest in environmental education programs
4. Parent interest in child’s education
**Service Projects**
What project(s) could your class undertake that would actively engage your students in learning about this theme? What could the final product be?

1. School Flora/Fauna Inventory - Ashley Academy and Metro-Kiwanis Park, Johnson City, TN
2. Invasive Plant Species Removal - Ashley Academy, Johnson City, TN, and Appalachian Trail, Erwin, TN
3. Goat “Adoption,” Roan Mountain Baa-tany Project - Ashley Academy, Johnson City, TN

**Student Assessment**
How will you assess student learning?

Teacher observation and notation

How will you know if they have met the goals for the established outcomes?

checklists of outcomes

**Partnerships & Benefit(s)**
Who are potential community partners that could assist you in this project? What are the potential benefits for your class and your partners of working together?

1. Johnson City, TN, Parks and Recreation Department, Johnson City, TN.
2. Appalachian Trail Conservancy, Asheville, NC.
3. Tennessee Eastman Hiking and Canoeing Club, Kingsport, TN.
4. Southern Appalachian Highlands Conservancy, Johnson City, TN.
5. Friends of Roan Mountain, Roan Mountain, TN.

**Reflection**
How will reflection be built into your curriculum and activity(ies)?

group discussion, journal writing and drawing, class-made book, attitude questionnaires, 4-square format writing, project presentation during school assembly

**Resources**
Describe resources (books, articles, materials, supplies) you will use to support this unit.

School and TTEC permission forms
TTEC notebook, materials and supplies
personal hiking/backpacking gear
supplies for penny collection, plant removal work day and hike/picnic
art, photography and writing supplies
measuring tools
articles, nonfiction and fiction related to service projects, habitats, nature appreciation, and dramatic presentation

**Models & Examples**
How will students understand the expectations for their project? What exemplars of student work will they see?

1. samples of Ashley Academy student publications
2. school fundraising efforts and charity collections

What opportunities will there be for them to critique each other’s work?

1. group sharing and discussion of writing and artistic samples.
Final Celebration
How will you celebrate the success of your unit and share its results with the school and community?

1. Field trip to Barter Theatre, Abingdon, VA, to view Barter Players’ production of “The Three Billy Goats Gruff,” April 2010

2. Class hike and picnic along AT, Carver’s Gap, Roan Mountain, TN, May 2010

3. Publication of project in school newsletter and local newspapers, May 2010

4. Project presentation, including production of “Three Billy Goats Gruff” during school assembly, May 2010

Evaluation of the Unit
How will you evaluate the unit and make note of what worked well and what could be improved? How will you analyze and interpret project outcomes?

written and audio/video recording, student, parent/partner survey/comment forms, teacher reflection, journaling, and discussion
Project Theme
Invasive Plant Removal and Goat Adoption to support the Appalachian National Scenic Trail

Grade Level: Kindergarten, at a private, non-denominational, preK3-8th grade school
Two teachers – Shelley Stahlman, TTEC participant, and Peggy Horton, fellow teacher
Nineteen five and six-year old students in two classes

Big Idea
The place on Earth where we live has many natural resources, one being Roan Mountain, the tallest mountain in upper east Tennessee. The Appalachian Trail located there offers opportunities for recreation, physical fitness, environmental education, and natural resource protection.

State Standards
Tennessee Kindergarten Grade Level Expectations (GLE 000):
English Language Arts
1.1.2 Employ a variety of strategies to decode words and expand vocabulary.
1.1.4 Begin to explore the alphabetic principle.
1.2.1 Develop critical listening skills essential for comprehension, problem solving, and task completion.
1.2.2 Develop critical speaking skills essential for effective communication.
1.3.2 Employ a variety of strategies to generate story ideas.
1.3.3 Compose simple stories with teacher assistance.
1.3.4 Evaluate own and group writing using a simple classroom rubric.
1.4.1 Define and narrow a research question appropriate to grade level and ability.
1.4.2 Select a source necessary to answer a research question.
1.4.3 Deliver an oral report on a research question.
1.5.2 Recognize the relationship of actions and consequences.
1.6.2 Recognize that illustrations support information in the texts.
1.7.1 Explore a variety of media.
1.8.1 Explore and experience various literary genres.
1.8.2 Employ a variety of basic reading comprehension strategies.
1.8.4 Identify basic literary elements.

Health
1.4 Identify personal goals and standards for healthy living.
4.2 Identify physical activities used in daily life that promote healthy living.
10.3 Discuss the importance of safety rules.
10.4 Demonstrate the appropriate choices related to reducing unintentional injuries.
11.1 Report when someone is injured or ill to a responsible caregiver.
14.3 Identify ways the environment affects a person’s emotional, social and physical health.
14.4 Identify resources and facilities in the community that promote healthy living.
Mathematics
6.1.5  Recognize a calendar as a way of measuring time.
6.1.6  Name and identify coins and their values.
6.1.7  Use words to describe temperature (e.g., hot, warm, cool, cold).
6.1.8  Recognize a thermometer as a way of measuring temperature.
6.2.1  Count objects to 25 using one-to-one correspondence and identify the quantity in the counted group.
6.3.5  Describe change in attributes according to qualitative criteria such as longer/shorter, colder/warmer, heavier/lighter.
6.4.6  Identify positions using models, illustrations, and stories.
6.4.7  Make direct and indirect comparisons between objects (recognize shorter/longer/taller, lighter/heavier, or holds more).

Music
1.1  Develop skill in singing simple songs.

Physical Education
3.1.1  Discuss appropriate physical activities outside the school.
3.1.2  Participate in a variety of locomotor, non-locomotor and manipulative activities.
4.1.3  Recognize that physical activity contributes to personal well-being.
4.1.4  Identify activities associated with health-related fitness and the benefits associated with these activities.
4.1.5  Look forward to participation in fitness activities.
6.1.1  Participate willingly in physical activity.

Reading
1.13  Experience various literary genres.

Science
7.2.1  Recognize that some things are living and some are not.
7.2.2  Know that people interact with their environment through their senses.
7.3.1  Recognize that living things require water, food and air.
7.4.1  Observe how plants and animals change as they grow.
7.5.1  Compare the basic features of plants and animals.
7.7.1  Identify non-living materials found on the surface of the earth.
7.7.2  Recognize that some objects are man-made and that some occur naturally.
7.8.2  Collect daily weather data at different times of the year.
7.9.1  Describe an object by its observable properties.
7.10.2  Investigate the effect of the sun on a variety of materials.

Social Studies
3.01  Understand how to use maps, globes, and other geographic representations, tools and technologies to acquire, process and report information from a special perspective. (See Kindergarten Accomplishments (“KA”) a., b., c.)
3.02 Recognize the interactions between human and physical systems around the world. (KA b., c.)

3.03 Demonstrate how to identify and locate major physical and political features on globes and maps. (KA a., b., c.)

4.01 Discuss the structure and purposes of governance. (KA a., b.)

4.02 Describe the Constitution of the United States and the Tennessee State Constitution in principle and practice. (KA b., c.)

4.03 Understand the rights, responsibilities, and privileges of citizens living in a democratic republic. (KA a., b.)

5.01 Identify major events, people, and patterns in Tennessee, United States, and world history. (KA a., b.)

5.02 Understand the place of historical events in the context of past, present, and future. (KA a., b.)

6.01 Recognize the impact of individual and group decisions on citizens and communities. (KA e.)

6.02 Understand how groups can impact change at the local, state, national, and world levels. (KA a., b., c., d.)

Theatre
2.1 Experiment with sensory and emotional experiences to create a character.

2.3 Practice improvisational skills to create characters.

2.4 Develop awareness of movement as a means of expression.

2.5 Develop awareness of the voice as a means of expression.

3.2 Develop awareness of design elements needed for dramatic activities.

3.3 Practice safe use of costumes, properties and scenery for dramatic activities.

4.3 Recognize the role of the audience and demonstrate appropriate audience etiquette.

5.1 Experience creative drama, formal theatre, film and/or television.

6.1 Explore similarities and differences between real life and theatre, television and multimedia.

6.2 Develop an awareness of real life experiences and fantasy through guided dramatic play.

Visual Art
1.1 Use selected tools and materials in a safe manner to create a work of art.

1.2 Apply a variety of techniques and processes to produce original works of art that reflect personal experiences, imagination, and observations.

The grade-specific Tennessee Kindergarten Performance Indicators and Accomplishments for the above Grade Level Expectations have not been included in this document. Accomplishments are to be listed on the assessment checklists referred to below and provided in the Project Final Report.

Essential Questions (Unit Objectives)
What is the “environment?” What is “habitat?”
What is a “natural resource?” Why is it valuable?
What is an “invasive species?”
What and where are the “Appalachian Mountains?”
What and where is “Appalachia?”
What and where is “upper East Tennessee?”
What and where is the “Appalachian Trail?”
Why are recreation and physical fitness important? How can we become and stay fit?
Why is it important to protect natural resources, habitats, the environment?
How can Ashley Academy kindergartners help protect natural resources?

**Student Voice**
Students will be encouraged to participate in group discussion and create lists, drawings, paintings, experience charts, murals, habitat webs, maps, journal entries, photographs, three-dimension representations, and other hands-on activities related to planning, carrying out, reflecting on, and documenting aspects of the curriculum and service-learning projects:
1) a school/park flora/fauna inventory
2) nature hikes and AT “miles”
3) plant removal work day
4) penny collection for goat “adoption”
5) celebration AT hike
6) “Three Billy Goats Gruff” class play and
7) finale presentation to student body, faculty, parents and community/partner members

**Community Connections**
1. The kindergartners and other students are interested in learning about insects and other animals they discover around campus. A project to develop a notebook and/or page on the school website dedicated to information about flora and fauna on campus and in the adjoining city park would assist with this learning about natural resources of our habitat.

2. Volunteers are needed to help maintain the Appalachian Trail, a valuable regional resource. A project(s) to assist in trail maintenance would support this regional asset.

3. Various community partners have a strong interest in promoting environmental education. Interaction with our kindergarten classes would provide partner members the opportunity to achieve this goal.

4. Parents are interested in participating in various school activities, including field trips that enrich their students’ knowledge base and understanding of the natural world.

**Skills and Habits of Mind**
Students will continue to develop skills in:
oral, written, artistic, dramatic, and musical expression
public speaking
memorization
nature observation and identification
reading symbols and words
labeling, journaling, thank you notes, and “four-square” formats of writing
comparing and contrasting
Students will continue to develop habits of mind such as:
- stewardship of the environment
- conservation of resource
- appreciation of place and heritage
- teamwork
- volunteerism
- ability of individual and group to effect change for better

**Service Projects**

1. **School Flora/Fauna Inventory:**
   Students will assist in developing an inventory highlighting flora and fauna they observe and identify on campus, including any invasive plant species, in a notebook and/or web page on our school website. Students will assist with photographing and locating internet photos and information about relevant species and organizing the inventory, with assistance from our fifth-grade student “reading buddies” and other middle-school students when feasible. The final product would be the inventory notebook available for all students through the school library and/or online, to be supplemented from year to year by subsequent kindergarten classes as new species are observed and identified. August 2009 and ongoing

2. **Invasive Plant Species Removal**
   With assistance from classroom teachers, students will remove much of the English Ivy, an invasive plant species overtaking a school garden plot, preparatory to our field trip/work day in Erwin. The final product would be a garden plot at least partially cleared of English Ivy. The garden may then be enhanced with students’ planting of more appropriate plant species donated by families or purchased through school funds. January – May 2010

With assistance from parents and several community partner members, students will remove by hand Japanese Stiltgrass, an invasive plant species, from a section of the Appalachian Trail near Erwin, TN. The final product would be a modest section of the Appalachian Trail along which this invasive plant would be cleared before it has gone to seed. May 2010

3. **Goat “Adoption,” Roan Mountain Baa-tany Project**
   Students will raise $50 per classroom to support a goat during the third summer season of field research, entitled the “Baa-tany Project” and sponsored by the Friends of Roan Mountain, thereby supporting its continuation. This project is designed to evaluate the long-term efficacy of utilizing angora goats to control by grazing the growth of Canada Blackberry, an invasive plant species
overtaking the balds of Roan Mountain. Each class will receive a certificate of “adoption,” a photograph of a goat and the opportunity to “name” it, and a lock of its hair. Nov 2009 – May 2010

**Partnerships & Benefit(s)**

1. **City of Johnson City, Tennessee, Department of Parks and Recreation**, Johnson City, TN. Plans are for a park naturalist to lead students on a nature trail hike at Winged Deer Park, a city park, and to lead or arrange for another guide to lead a nature hike in Buffalo Mountain Park, another city park, to acquaint students with mountain hiking, to explore flora and fauna of the local temperate forest habitat and strengthen muscles and cardiovascular capacity in preparation for our AT hike. This partnership supports JCP&R goals to promote youth and community outdoor recreation activities. March – May 2010
   
   **Contact:** Brad Jones, Park Naturalist/Special Events Coordinator  
   **Phone:** 423-283-5821  
   **Email:** cbjwdp2@johncitytn.org

2. **Appalachian Trail Conservancy**, Asheville, NC. Plans are for ATC staff to help plan and provide knowledge and assistance for our invasive species plant removal work day along the AT near Erwin, TN. The work day promotes ATC goals of AT maintenance and TTEC project support. May 2010
   
   **Contact:** Julie Judkins, Resource Program Manager  
   **Phone:** 828-254-3708  
   **Email:** jjudkins@appalachiantrail.org

3. **Tennessee Eastman Hiking and Canoeing Club**, Kingsport, TN. Plans are being discussed with TEHCC contact for member(s) to participate in our plant removal work day, thereby supporting TTEC and TEHCC goals of AT maintenance and community service. May 2010
   
   **Contact:** Joe DeLoach  
   **Email:** joedelo@eastman.com

4. **Southern Appalachian Highlands Conservancy**, Johnson City, TN. Plans are for SAHC staff to serve as naturalist/interpreter for our AT celebration hike at Carver’s Gap on Roan Mountain. Her input will help students learn about the flora and fauna of the balds habitat, and support the SAHC “No Child Left Inside” project that she is conducting in upper East TN. May 2010
   
   **Contact:** Nora Shubert, Seasonal Ecologist/Contract Biologist  
   **Email:** nora_shubert1@hotmail.com

5. **Friends of Roan Mountain**, Roan Mountain, TN. Plans are for a member(s) of Friend of Roan Mountain (FoRM) to accompany students and parents on our AT hike for support and interpretive assistance. Along with the SAHC staffer, the FoRM member(s) can discuss the FoRM Baa-tany project for which students are raising goat “adoption” funds. May 2010
   
   **Contact:** Gary Barrigar  
   **Email:** barrigargn@embarqmail.com
Resources
Materials and Supplies
Ashley Academy field trip permission forms
notebook and all literature and maps provided by TTEC to display at Ashley Academy Fall Open House
personal hiking/backpacking gear, including Leiki hiking poles provided by TTEC, to discuss with students and display at Fall Open House, and use on AT hike (poles and some gear)
personal Baa-tany goat adoption certificate, photo and lock of hair of adopted goat to share with students
one Leave No Trace plastic note card per student/family
*one Appalachian Trail Conservancy hiking bandana per student (20 total)
*one pair cotton work gloves per student (20 total)
*fabric paints to decorate gloves
maps of World, United States of America, Tennessee, Appalachian Trail (Official Map: TN-VA Maps 1 and 2), and ATC Trail map on 2009 membership brochure, Johnson City, Ashley Academy, and kindergarten classroom
class emergency backpack with first aid kit and family contact information
notebook with photo sleeves for school flora/fauna inventory
penny collection container with photo of angora goat attached
poster boards, drawing paper
trash bags
binoculars
compass
rulers, scale
student journals, pencils, crayons, markers
digital camera(s) with memory card(s)
(* TTEC Grant-funded items)

Publications
Non-fiction:
“Baa-tany Goats Target Invasive Plants on Roan Mountain,” The Tennessee Conservationist,
Invasive Weeds of the Appalachian Region, PB1785, The University of Tennessee Institute of Agriculture, 9.
_____. Success Skills Through Service Learning and Service Learning – Additional Information.
Children’s Fiction and Nonfiction:
Hall, Francie. *Scottish Highland Games*. Overmountain Press,
Houston, Gloria. *The Year of the Perfect Christmas Tree*. Puffin, 1996. (Christmas)
Rylant, Cynthia. Christmas in the Country. Scholastic, 2005. (Christmas)
Rylant, Cynthia. Silver Packages. Scholastic, 1997. (Christmas)

The Three Billy Goats Gruff.

Models & Examples
1. Flora/Fauna Inventory – Students will listen to readings of such books presenting flora and fauna as Appalachian ABCs, and samples of Ashley Academy first through eighth-grade student books published over the years and maintained in the school library.

2. Goat Adoption – Students have an understanding of fund-raising from other annual school-sponsored community service fundraising efforts such as “Holiday Mitten Tree” and “Hearts for Ronald McDonald House” collections.

3. Students will be encouraged to share writing and art samples related to project reflection, and receive supportive feedback from other students.

Reflection
Students will have ongoing opportunities to share thoughts and feelings about activities through group discussion, journal writing and drawing, class-made book, attitude questionnaires, 4-square format writing, and project presentation during school assembly.
**Student Assessment**

Teachers will assess students’ level of participation in planning, carrying out and documenting aspects of the projects by observing and noting students’ behavior and oral, written, artistic and dramatic expression. Teachers will develop checklists of student behaviors, skills and products that indicate achievement of outcomes/accomplishments.

**Final Celebration**

1. **“The Three Billy Goats Gruff” Play**

   Plans are for a kindergarten field trip to Barter Theatre in Abingdon, VA, to view the scheduled April 2010 production of the Barter Players of “The Three Billy Goats Gruff.” Given that one goal is the collection of pennies to adopt a goat from the Roan Mountain “Baa-tany” herd, this is an wonderful cross-curriculum addition to the project.

2. **Class Hike/Picnic on Roan Mountain**

   Plans are for class/family celebration hike and picnic on the Appalachian Trail at Carver’s Gap at Roan Mountain, TN, in mid-May 2010. Plans are to hike approximately one mile north on the AT through the balsam grove to the point where one steps out onto the open balds at a trail landmark locally called “Hamburger Rock.” Plans are to have a picnic at this site with any partner members who join our hike. If students and parents are willing to hike a bit farther north, we can enjoy the picnic in the area of Round Bald.

3. **Media Releases**

   Partners will be asked to include a reference to and photo of this project in their membership newsletter. Mention of our service projects and finale hike will be included in a May issue of our school newsletter, *Ashley Academy Wednesday Weekly*. Two local newspapers, *News and Neighbor* and *The Johnson City Press*, will be provided with similar information and photos for publication following the hike.

4. **School Assembly Presentation**

   Plans are to include a student-led oral and visual presentation of the service projects in a school-wide assembly during the final week of school in May 2010. The presentation will include a display of the large AT map provided by TTEC and student-made documentation of the projects. If time permits, a student production of “The Three Billy Goats Gruff” will be included in this presentation. If time does not permit, arrangements will be made for the production to be presented at another assembly.

**Evaluation of the Unit**

Teachers will request verbal and written feedback from students, parents and partner participants, taking notes of verbal responses. Teachers will request students, parents and partner participants to complete survey/comment forms with numerical ranking scale regarding various components of the project in which they are involved, and evaluate the data received. Teachers will reflect, maintain a journal and review same, and provide one another feedback in verbal and/or written form.
Planned Teaching/Learning Sessions

1. Exploration: Teachers provide students opportunities to explore insects on school playground, to capture small, non-stinging insects for closer inspection, and raise possibility of identification for unknown species. Class lists insects found and teachers ask middle-school science teacher if older students can assist kindergartners to identify an insect (American Dagger Moth) via Internet resources. Sept 2009

2. Identification: Several insects are collected and identified via Internet. Teachers print out photos and descriptions. Teachers ask students if they would like to create a notebook of plant and animal species discovered on campus. Teachers share examples of inventories such as Appalachian ABCs. Students agree. Sept 2009

3. Flora/Fauna Inventory: Students begin ongoing inventory of plants and animals found on campus, using Internet research and library identification books. Students are responsible for comparing and contrasting, identifying species, printing photos and descriptions, adding sheets to the notebook. Sept 2009 – May 2010

4. Plant Unit: Teachers present unit of study on plants, introducing and/or reinforcing such concepts as basic parts of plants, cycle of seed/plant growth and decay, basic needs for plant growth, uses of plants. Sept 2009

5. Habitat: Teachers introduce the concept of “habitat” through the kindergarten reading program and science lessons, and review and supplement same throughout the year. Sept 2009 – May 2010

6. Map Skills: Teachers begin lessons to develop map skills and introduce relevant geographic features and concepts such as continents, oceans, rivers, lakes, Appalachian Mountains, Tennessee, upper East Tennessee, and its natural resources. Sept 2009 – May 2010

5. Fall Walk in City Park: Teachers lead classes on fall walks to explore plants and animals in adjacent city park. Students collect individual samples of leaves, nuts and seeds. Students color leaf outlines on leaf identification work sheet by observing colors in collected leaves and coloring outlines accordingly. Oct 2009

6. Introduction to AT: Teachers discuss Roan Mountain as the home address of TTEC teacher, the presence of Appalachian Trail (AT) crossing the top of Roan Mountain, and the AT as a long hiking trail following the length of the Appalachian Mountains. Teachers discuss use of symbols and signs, and introduce the symbol for the AT. Oct 2009

7. October Reading Challenge: Teachers promote the school-wide October reading challenge with the theme of “Reading Around the World,” and commit classes to “hike” the AT during the challenge. Teachers encourage students to count pages read, with each page equaling one mile hiked on the AT. Oct 2009
8. Recreational Hiking: TTEC teacher shares interest in hiking AT with students, while displaying various personal items used for backpacking and hiking. Teachers ask students if they would like to hike on the AT, and suggest this could be a spring field trip. Students enthusiastically agree. Oct 2009


10. Invasive Plants: Teachers introduce concept of “invasive” species, using examples of European starlings and English ivy observable on campus. Teachers discuss problem of invasive plant species disrupting the “balds” habitat on Roan Mountain and other places along the AT. Nov 2009

11. Goat Adoption/Penny Collection: Teachers remind students of “Baa-tany” goat herd being used on Roan Mountain to study their ability to control an invasive plant species (Canada Blackberry), and the opportunity of citizens to “adopt” a goat in support of the study. TTEC teacher shares personal certificate of “adoption,” photo, given name and lock of hair of goat adopted, and asks class if they would like to adopt a goat to help the AT as one of their school community service projects this year. Teachers explain how much money is needed, and ask students to bring in pennies only, to promote the collection as the students’ project. Students agree to the adoption project and share way they could earn pennies at home. The collection begins and students count pennies as they are brought to class, and add to, write and display the current total amount. When the goal is reached, teachers will guide students through the process of “naming” a goat and donating funds to “Friends of Roan Mountain” to accomplish its “adoption.” Nov 2009 – Apr 2010

12. Invasive Plant Species Removal on Campus: Teachers point out to students the English ivy plants overtaking the school garden located between the two classrooms, as an example of an invasive plant species. Students help to thin out the ivy in the school garden. Teachers explain that this is also a problem with other species throughout our habitat, including in parks and along the AT. Teachers ask if students would like to help remove a particular invasive plant species along the AT as a service project. Jan 2010

13. Physical Education Classes: The P. E. teacher reviews the importance of physical fitness and recreation for overall health, introduces the goal of students becoming stronger in order to hike on the AT in May, and begins walking program to that end. TTEC teacher provides a map of the AT to record students’ progress in “hiking” along the AT during physical education classes. Jan – May 2010

14. Winter Walk in City Park: Teachers lead classes on a walk through the park to compare and contrast their observations of nature during the fall park walk. Students share their ideas through discussion and journal entries. Feb 2010

15. Leave No Trace: TTEC teacher introduces term, “leave no trace,” and relevant rules of natural resource conservation and, teachers guide students through one activity adapted from the Leave No Trace 101 handbook to reinforce each rule. Feb 2010
16. Work Glove Decoration: Students use fabric paints to decorate their individual pairs of work gloves in preparation for the invasive plant removal work day. Mar – Apr 2010

17. Earth/Rock/Solar System Unit: Teachers present unit of study, introducing and/or reinforcing such concepts as solar system, stars, planets, Earth’s physical features and transformations, rocks, mountains, etc. Unit includes field trip to East Tennessee State University Planetarium, Johnson City, Tennessee. Mar 2010

18. Spring Walk in City Park: Teachers lead classes on a walk through the park to compare and contrast their observations of nature during the fall and winter park walks. Students share their ideas through discussion and journal entries. Apr 2010

19. Barter Theatre Field Trip: Teachers and parent chaperones accompany students to Barter Theatre Players production of “The Three Billy Goats Gruff.” Teachers prepare students prior to field trip with lessons and activities related to goat biology/behavior and readings of the fairy tale and adaptations. Teachers encourage students to share impressions of the play, and compare/contrast the Barter production with versions introduced in class and their class production. Apr 2010

20. Invasive Plant Species Work Day: Teachers encourage students to plan supplies and equipment needed for field trip and ways to document the work day, and to alert local media to planned event. Teachers, parent chaperones and partner members accompany students on field trip to Erwin, TN, for service-learning work day to remove invasive Japanese Stiltgrass along AT. Teachers encourage partner members to share information regarding volunteer AT maintenance and habitat ecology. Teachers encourage students to share impressions of this experience upon return and to write thank you notes to partner members. Apr 2010

21. School Presentation: Teachers guide students to plan and prepare presentation of year’s TTEC projects at a school assembly in May, including invitations to partner members, student production of “The Three Billy Goats Gruff,” artwork, photographs, writings, video recordings, and school flora/fauna inventory, and to share project accomplishments with local newspaper reporters. If possible, arrangements are made for the goat adoption certificate, etc., to be presented to students at the assembly by appropriate partner member. Apr – May 2010

22. Celebration AT Hike at Roan Mountain: Teachers guide students to plan supplies and equipment needed for field trip and ways to document hike. Teachers, parent chaperones and partner members accompany students on field trip to Carver’s Gap, Roan Mountain, TN, for hike and picnic one mile north on AT, at vicinity of “Hamburger Rock.” Teachers encourage partner members to share information regarding volunteer AT maintenance and bald habitat ecology. Teachers invite parents and partners to provide feedback about the project. Teachers encourage students to share impressions of this experience upon return and to write thank you notes to partner members. May 2010

**TTEC Project Funding**

Approved funding for the above project in the amount of $200.00 will allow teachers to purchase student work gloves, fabric paint for glove decorating activity, and an official ATC bandana for each student to wear on the work day, AT hike, and presentation at the school assembly. Please see the attached TTEC Grant Application for further information.
1. **Cover Page**

**Project Title:** Appalachian National Scenic Trail: Invasive Plant Species Removal and Goat Adoption Projects

**Contact Name:** Shelley J. Stahlman

**School Name:** Ashley Academy

**Address:** 1502 Knob Creek Road, Johnson City, Tennessee 37687

**Phone No.:** 423-929-7888

**Email Address:** stahlman@ashleyacademy.com

**Grade Level:** Kindergarten

**Subject Areas:** Language Arts, Math, Music, Physical Education, Science, Social Studies, Visual Arts

**Support:** A letter of support by Ashley Academy principal, Mrs. Jackie Maggard, was submitted with my initial TTEC application.
2. **Project Description**

The purposes in implementing the above project with Ashley Academy kindergarten students are to:

a. engender a beginning awareness of and appreciation for aspects of nature in northeast Tennessee, and, in particular, the Appalachian Trail as a resource for recreational, educational, and physical activity,

b. provide an avenue to participate in Trail support through developmentally appropriate service work, and

c. provide an opportunity to develop an interest in outdoor activities, in particular, walking, hiking, and nature lore.

The goals of this project are to:

a. introduce the name, purposes and location of the AT,

b. introduce the concepts of volunteering and service work. After all, Tennessee is the “Volunteer State!”

c. introduce the concepts of habitat and native species, concerns about invasive/exotic species, flora and fauna, scientific method, self reflection, Appalachian region, and relevant geographic terms,

d. plan a service project to remove a specific invasive plant species along the Trail in the vicinity of Erwin, Tennessee,

e. plan a service project to raise funds to “adopt” a goat during the 2010 summer “Baa-tany” research project on Roan Mountain designed to research the efficacy of Angora goats on suppression of blackberry as an invasive species, and

f. enlist the experience and assistance of local conservation(s) organizations to promote adult support for youth service work.

The objectives of this project for the **benefit of 20 kindergarten students and their parents during the August 2009 through May 2010 year** are to:

a. show students and parents the YouTube video of goats on Roan Mountain in 2009 and display/discuss hiking gear and TTEC materials during Fall 2009 Open House, Oct 1st,

b. use virtual hiking the AT as grade-level goal for Fall Book Fair reading challenge, where one page read equals one mile on the AT (students with their parents read/hiked over 9,000 pages/miles during the September challenge, over four lengths of the Trail),

c. develop a school website page dedicated to photographs and descriptions of flora and fauna on site, with the assistance of middle school students,

d. enlist assistance of physical education instructor to include a virtual hike of the AT in the year’s curriculum,

e. take periodic walks in adjacent Metro-Kiwanis city park to explore flora and fauna, take nature hikes in Winged Deer city park with park ranger, and Buffalo Mountain city park,

f. travel to Erwin, TN, one day in spring 2010, to remove Japanese stiltgrass from AT,

g. plan and carry out student-designed fund-raising activity to collect $25.00 to adopt one goat in the Baa-tany Project herd, and

h. hike one mile north along the AT with students and parents at Carver’s Gap, Roan Mountain, TN, in May, 2010, in celebration of accomplishing our objectives.
3. **Budget**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Equipment:</strong> 20 pairs of youth-sized plain cotton <strong>Work Gloves</strong></td>
<td>$100.00</td>
</tr>
<tr>
<td>for students to use during removal of invasive plant species</td>
<td></td>
</tr>
<tr>
<td><strong>Fabric Markers and/or Paint</strong> for student to decorate their individual</td>
<td>25.00</td>
</tr>
<tr>
<td>pair of gloves</td>
<td></td>
</tr>
<tr>
<td>20 cotton <strong>Bandanas</strong> for students to wear on hike and during invasive</td>
<td>30.00</td>
</tr>
<tr>
<td>plant removal project as a means of fostering group identity and enthusiasm,</td>
<td></td>
</tr>
<tr>
<td>providing their “first” item of hiking equipment</td>
<td></td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td>$155.00</td>
</tr>
</tbody>
</table>