

4-H Youth Development State Initiatives and Trends 2016-2020

Core Curriculum: Natural Resource

Major Initiative: Practicing stewardship in natural resources.

Specific issue description:

People, animals and plants are dependent on our Earth's natural resources. Everything from the air we breathe, to the water we drink, to the soil we use for food production – these resources are vital to our existence. Therefore, it's important that we care for and respect these resources. Understanding how our daily choices affect our environment, we can conserve natural resources and protect our environment for present and future generations.

Long Term goals/outcomes:

- Youth will use scientific techniques, responsible practices and innovative technologies that will positively sustain the natural resources in the home, community and world.
- Youth will engage in community projects related to natural resource conservation.

Intermediate goals/outcomes:

- Youth will make decisions in their daily lives that positively impact natural resources.
- Youth will adopt practices to conserve and protect the environment in their home and community.
- Youth will use problem solving and logical reasoning skill and apply them to environmental issues.

Short-term goals/outcomes:

- Youth will develop an interest in environmental sciences and sustainable practices and technologies
- Youth will gain knowledge of the interrelationship and interdependencies with an ecosystem.
- Youth will identify the natural resources that are used within their home and community.

Indicators:

- Number of youth who use their skills to conserve natural resources.
- Number of youth who can identify the natural resources in their community.
- Number of youth who have gained an understanding of the ecosystems in nature.
- Number of youth who have engaged in a community project related to natural resource conservation.

Role of 4-H Youth Development Program-Inputs-

New efforts on the horizon planned for next Four Year Plan of Work

- Develop Natural Resource Teen Board
- Participation in the National Youth Science Day (NYSD) related to environment and sustainability
- NR In-service: The Dirt on Soil: Soils Education (2015-16)
- SERIES: Environmental Education workshop (2015)

Existing resources from Core Curriculum :

Entomology:

State Contact: Blake Newton

Teaming with Insects, Level 1

Introduces the world of insects. Activities focus on how they look and move and provide some background for studying important entomology topics. (44 pages) Intended user: youth in grades 3-5

Source: National 4-H Supply Service
N4-HSS 08440 \$5.50

Teaming with Insects, Level 2

Shows you how to make insect collection tools and expands on the basic concepts of biodiversity, invasive species, integrated pest management, and forensic entomology. (56 pages) Intended user: youth in grades 6-8

Source: National 4-H Supply Service
N4-HSS 08441 \$5.95

Teaming with Insects, Level 3

Delves even deeper into the basic concepts and encourages you to take control of your learning by doing your own research using the scientific method and reference materials. (36 pages) Intended user: youth in grades 9-12

Source: National 4-H Supply Service
N4-HSS 08443 \$5.50

Teaming with Insects Facilitators Guide

Welcome to the 4-H Entomology project! As a project facilitator you will work with youth interested in learning about insects. The Facilitator's Guide provides helpful information on exploring insect study, the contribution of insects to biodiversity, how to manage pests, invasive species, and forensic entomology. The activities are designed so youth have an opportunity to "learn by doing" with your help and guidance.

Intended user: volunteer working with group of youth

N4-HSS 08443 \$5.95

Entomology Curriculum Guide for 4-H in the Classroom

This information is helpful to classroom teachers. KERA goals have been identified for a variety of learning activities related to entomology. The specific learning activities listed as part of the KY 4-H Core Curriculum are outlined in the following publications so purchase or access to the these publications is necessary:

Creepy Crawlies; Project WILD; The Web of Insects; Dragons, House, and Other Flies; Project WILD Aquatic; KY Water Watch Biological Assessment; The Pillbug Project; Berlese Funnel Sampling; Sweep Net Sampling; Termite Trails; What's Bugging You?; Insect Sampling Comparison; Insect Observation Among Habitats.

Intended user: classroom teacher or volunteer leading a group of youth in a classroom setting

Source: Kentucky Cooperative Extension Service;

<http://www.uky.edu/Agriculture/CritterFiles/casefile/4Hent/4Hcurriculum.pdf>. See website for how to acquire the publications listed here.

Website

Download

4-H Entomology Resources: State Fair

Kentucky 4-H Entomologists, Extension Agents, and adult leaders should visit the 4-H Entomology Resources page for information about Entomology Kentucky State Fair project books and the Kentucky 4-H Entomology Curriculum. (www2.ca.uky.edu/entomology/dept/youth.asp) This document compiles and supplements the insect collection guidelines that previously appeared in *4-H Entomology Project: Unit 1* (Pub. 4DC-01PA) and *4-H Entomology Project: Unit 2* (Pub. 4DC-02PA).

Entomology website

Download at: [4-H Entomology Resources](#)

Project Butterfly WINGS Youth Guide: (Grades 4-8)

Youth explore butterfly habitats, learn how to identify common butterflies, become a citizen scientist and contribute data as they enter their findings on the website. Youth create investigations to answer questions or solve problems and share their findings with others. Intended user: youth in grades 4-8

Source: National 4-H Supply Service

N4-HSS 08392 \$7.95

Project Butterfly WINGS – Facilitator’s Guide

Provides supplemental information and tips for facilitating the Youth Project activities, including in-depth answers to questions. Engaging group activities are provided for each chapter and can be adapted to 4-H project groups, clubs, after-school programs, camps or other youth groups. Intended user: volunteer working with group of youth

Source: National 4-H Supply Service

NA-HSS 08393 \$7.95

Set of 2 08394 \$14.95

College of Agriculture, Food and Environment

Horticulture website K-12 Teach Resources (www.uky.edu/hort/)

Environment:

Exploring Your Environment (grades 6-8)

This environmental science curriculum focuses on water conservation, energy use, climate change, recycling, natural resources stewardship and air quality.

Exploring Your Environment: Ecosystems Services

Youth will have the opportunity to engage in hands-on activities that focus on how living and non-living organisms interact within the ecosystem and provide benefits for humans and other living beings. (56 pages)

Intended user: youth in grades 6-8

Source: National 4-H Supply Service

N4-HSS 08410 \$6.95

Exploring Your Environment: Earth’s Capacity

Focusing on environmental stewardship, youth will learn scientific research techniques, responsible practices and innovative technologies that positively address environmental issues such as air and water quality, land use, carrying capacity, product life cycle, and ecological sustainability. (64 pages) Intended user: youth in grades 6-8

Source: National 4-H Supply Service

N4-HSS 08411 \$6.95

Exploring Your Environment: Facilitator’s Guide

The Facilitator’s Guide will provide training, supplemental activities and resources to ensure the high quality delivery of the curriculum to individual youth and groups of young people. (68 pages) Intended user: adults working with group of youth in grades 6-8

Source: National 4-H Supply Service

N4-HSS 08412 \$6.95

SET of 308413 \$19.95

Project Food, Land & People Resources

This instructor’s guide is a collection of 55 lesson plans for use in non-formal and formal education settings. FLP promotes approaches to learning which help people better understand the interrelationships among agriculture, the environment, and people of the world. The second edition includes resources not found in the original edition. (950 pages) Intended user: volunteers working with a group of youth in grades K-12
Source: KY Department of Agriculture. To obtain the FLP materials, one can attend a 6 hour workshop. For information, call 502-564-4696.

KY Dept of Ag FLP About \$30 at wksp

Forestry:

State Contact: Dr. Terry Conners

Introducing Yourself to Trees

In this project, youth will learn about forests and their importance, the parts of a tree, types of trees, and leaves. Youth will be involved in several hands-on activities such as making a leaf collection, making leaf prints and designing an educational display. In some counties, these products may be entered in the fair. (12 pages)

Intended user: youth ages 9-18

Source: KY Cooperative Extension; Download at <http://www.ca.uky.edu/agc/pubs/4df/4df01pb/4df01pb.pdf>
(Link)

KY CES 4DF-01PB Download*

Kentucky's Useful Forests

Youth learn about the logging industry in Kentucky. The project book outlines 33 hands-on activities for youth to complete. (26 pages) Intended user: youth in grades 4-12

Source: KY Cooperative Extension; Download at <http://www.ca.uky.edu/agc/pubs/4df/4df02pa/4df02pa.pdf>
(Link)

KY CES 4DF-02PA Download*

Kentucky 4-H Forestry Project Planting Trees

In this 4-H tree-planting project you can learn: • the kinds of trees to plant in Kentucky, • the types of soils various trees prefer, • when to plant trees, • how to plant trees, • how to care for planted trees.

Source: KY Cooperative Extension; Download at <http://www.ca.uky.edu/agc/pubs/4df/4df02pa/4df02pa.pdf>
(Link)

KY CES 4DF-03PC Download*

Project Learning Tree Environmental Education Activity Guide

Project Learning Tree (PLT) is an award-winning, nationally known, broad-based environmental education curriculum for Pre-K through grade 12 aged youth. PLT is an activity guide that helps youth learn HOW to think, rather than WHAT to think about the environment. The activities cover topics ranging from forests, wildlife, and water to community planning, waste management, and energy. (402 pages) Additional issue-specific high school booklets are available. Intended user: volunteers working with youth in grades K-12

Source: Kentucky Association for Environmental Education, <http://kaee.org/>. For more information about PLT in Kentucky, please contact Ashley Hoffman at director@kaee.org. To use the PLT materials, one must attend a 6 hour workshop.

College of Agriculture, Food and Environment

Youth Opportunities in Forestry Education: www2.ca.uky.edu/forestryextension/publications_youthed.php

Geology:

Geology Project

Youth learn about rocks, minerals, and fossils. They perform tests to identify rocks. Youth collect rocks to make a rock collection. (28 pages) Intended user: youth ages 9-18

Source: KY Cooperative Extension; Download at <http://www.ca.uky.edu/agc/pubs/4db/4db01po/4db01po.pdf>

KY CES 4DB-01PO Download*

Soils:

State Contact: Dr. David Ditsch

Soils Curriculum Guide for 4-H in the Classroom

This information is helpful to classroom teachers. KERA goals have been identified for a variety of learning activities related to soils. The specific learning activities listed as part of the KY 4-H Core Curriculum are outlined in the following publications so purchase or access to these publications will be necessary: Project Food, Land and People; Project Learning Tree; WOW! The Wonders of Wetlands; and Dig-In! Hands-On Soil Investigations. Intended user: classroom teacher or volunteer leading a group of youth in a classroom setting

4-H Land Judging in Kentucky

Source: KY Cooperative Extension; Download at [PDF/Adobe Acrobat: 930 kb](#)
KY CES 4BA-08MH Download

Land Judging Score Card

Source: KY Cooperative Extension; Download at [PDF/Adobe Acrobat: 149 kb](#)
KY CES 4BA-09SE Download

Water:

Contact: Ashley Osborne

Healthy Water, Healthy People Water Quality Educator's Guide

The Healthy Water, Healthy People Program offers innovative, easy-to-use materials designed to make complex water quality concepts understandable and relevant for youth and those teaching youth. The HWHP Educator's Guide contains 25 activities covering diverse water quality topics. (200 pages). Intended users: volunteers working with groups of youth in grades 6-12

Source: www.healthywater.org; order on-line at this address.

Web HPWP-1 \$25.00

Healthy Water, Healthy People Field Monitoring Guide

This technical reference manual yields information about ten water quality parameters. The parameters include pH, dissolved oxygen, bacteria, hardness, temperature, etc. This manual is the layman's tool for determining the "whys, hows, and interpreting the results" of testing water. This guide breaks down the technical information so that volunteers can conduct water testing with youth and help them understand the reasons and results of why water is tested. (100 pages). Intended users: volunteers working with groups of youth in grades 6-12

Source: www.healthywater.org; order on-line at this address.

Web HPWP-2 \$7.95

Project WET Curriculum and Activity Guide 2.0

Project WET (Water Education for Teachers) is a nationally and internationally used environmental education curriculum with activities that are interdisciplinary, hands-on, easy to use, and fun. The activities are designed to provide volunteers with ways to engage learners in many aspects of water in our environment. (616 pages) Intended users: volunteers working with a group of youth in grades K-12

Source: Kentucky Division of Water. To obtain the Project WET guide, one must attend a 6 hour workshop.

To register for the workshop, contact Michelle Shane, contact information can be found at

<http://water.ky.gov/ProjectWet/Pages/default.aspx>. .

KDOW PW-1 \$ Price dependent on workshop fee

There's No New Water! Grades 9-12

This water conservation and water quality curriculum is grounded in a simple yet powerful concept that water is a finite natural resource whose quantity and quality must be responsibly preserved, protected, used, and reused. The curriculum includes six sequential learning modules and is intended for delivery in

out-of-school group settings to be facilitated by an adult. (155 pages) Intended user: agents, volunteers.
Source: National 4-H Supply Service. <http://www.4-h.org/resource-library/curriculum/4-h-theres-no-new-water/>

N4-HSS 08420 \$16.00

4-H H2O Ambassador Curricula

The Southern Region 4-H2O Ambassador Program addresses key concepts related to watershed education. The program is part of an ongoing effort to educate and empower youth to conserve and protect water resources. This project is funded by the Southern Region Water Education Network USDA-NIFA 406 grant. The curriculum was originally developed for ages 9-13, but it can be adapted for any age level. To become a 4-H2O Ambassador youth must complete Units 1-4, which includes developing and implementing a community based service project. However, lessons in the curriculum can be used individually in classroom settings, clubs, environmental camps, etc. to educate youth in water. Contact Ashley Osborne at Ashley.osborne@uky.edu for additional information. Intended user: youth ages 9-13.

Source: KY Cooperative Extension; Download at: <http://dept.ca.uky.edu/enri/4H2O.htm>

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| KCES | 4DE-01po—Unit 1 What is a Watershed? | Download at no charge |
| KCES | 4DE-02po—Unit 2 What is Water Quality | Download at no charge |
| KCES | 4DE-03po—Unit 3 What Impacts the Water Quality in My Watershed | Download at no charge |
| KCES | 4DE-04po—Unit 4 Improving My Water Quality | Download at no charge |

Kentucky Water Awareness Month (celebrated in May)

The program promotes overall water awareness for the citizens of Kentucky. Resources from 2000 to present can be found online at <http://www.ca.uky.edu/enri/kwam.php>. Individual county staffs are encouraged to tailor the program to fit their county's needs, and use the materials to enhance their program efforts. Contact Ashley Osborne, ashley.osborne@uky.edu.

Wind Energy:

Are you looking for something to spark engineering and science interest among middle school kids? The activities in The Power of the Wind curriculum involve young people in the engineering design process as they learn about the wind and its uses. Youth work with members of a team to design, create, build, and test a wind powered device. The device must solve a problem and requires the designers to balance options and constraints. Participants are guided to make adjustments and retest until the vehicle or machine solves the original problem. Grades 6-8.

The Power of Wind – Facilitator Guide

This is the Facilitator Guide for the National 4-H Wind Energy Curriculum. Additional youth notebooks are available for purchase separately, for use with a group. Each youth should have his or her own engineering notebook. May be adapted for younger and older youth

Source: National 4-H Supply Service

NA-HSS 08384 \$5.50

The Power of the Wind Youth Guide

Source: National 4-H Supply Service

NA-HSS 08383 \$5.50

The Power of the Wind Set of 2

This is a Set of 2 (one youth notebook, one facilitator guide) for the National 4-H Wind Energy Curriculum. Each youth in a group should have his or her own notebook.

Set of 2 08385 \$9.65

Wildlife:

Project WILD K-12 Curriculum and Activity Guide

Project WILD is a nationally known environmental education curriculum that emphasizes developing awareness, knowledge, skills, and commitment toward making informed decisions, responsible behavior, and constructive actions concerning wildlife and the environment. The guide is a collection of activities that focus on the study of wildlife. (526 pages). Intended users: volunteers working with youth in grades K-12
Source: KY Dept. of Fish and Wildlife Resources. One must attend a 6 hour workshop to obtain the guide. To register for a workshop, contact Jay Webb at 1-800-858-1549.

KDFW WILD Available at workshop

Wildlife Curriculum Guide for 4-H in the Classroom

This information is helpful to classroom teachers. KERA goals have been identified for a variety of learning activities related to wildlife. The specific learning activities listed as part of the KY 4-H Core Curriculum are outlined in the following publications so purchase or access to the these publications is necessary: Project WILD, Project Learning Tree, Project WILD Aquatic, and Hands-On Herpetology, and Schoolyard Habitat Guide. Intended user: classroom teacher or volunteer leading a group of youth in a classroom setting

Evaluation measures/Impact indicators:

- Number of youth reporting an interest in natural resource camps
- Number of youth reporting participation in community service related to environment and sustainable projects
- Number of youth showing an interest in participating on a Natural Resource Teen Board
- Number of entries for 4-H YD in Natural Resources projects that increased at State Fair

Specialist: Jann Burks, 4-H Natural Resource program

5/11/15