

FORESTRY

PLEASE NOTE: Any changes/updates from the previous year will be *BOLDED and ITALICIZED!* Pay special attention to any projects with *BOLD, ITALICIZED WORDS* because they have changed from last year.

The forestry project will help you to learn how to identify trees, uses of trees, the benefits of trees, and the importance of our woodlands. A knowledge of trees and woodland management leads to a greater enjoyment of the outdoors. An understanding of tree characteristics will allow future landowners to choose the best varieties for urban or rural benefits that include cooling, wildlife habitat, and reducing erosion and other types of pollution.

<i>Completion, exhibition participation, and State Fair information for Forestry</i>			
<i>Division/Level</i>	<i>Grades</i>	<i>Completion Activities Needed*</i>	<i>Maximum State Fair Entries</i>
<i>Level 1</i>	<i>Grades 3-5</i>	<i>Complete 7 Activities*</i>	<i>1 Entry</i>
<i>Level 2</i>	<i>Grades 6-8</i>	<i>Complete 7 Activities*</i>	<i>1 Entry</i>
<i>Level 3</i>	<i>Grades 9-12</i>	<i>Complete 7 Activities*</i>	<i>1 Entry</i>
<i>Independent Study</i>	<i>Grades 9-12</i>		<i>1 Entry</i>

****“Activities” are defined as project manual activities and/or Hendricks County 4-H Workshops related to this topic. Members must be able to prove attendance by getting a signature from 4-H Leader/Project Advisor that conducts the workshop. Activity sheets available in the Extension Office with Forestry Project Manuals. Fair Exhibit requirements are listed below.***

Remember: All posters, notebooks, and display boards **MUST** include a reference list indicating where information was obtained, giving credit to the original author, to complete the 4-H member’s exhibit. This reference list should/might include web site links, people and professionals interviewed, books, magazines, etc. It is recommended this reference list be attached to the back of a poster or display board, be the last page of a notebook, or included as part of the display visible to the public. A judge is not to discredit an exhibit for the manner in which references are listed. Reference Sheets are available at the Extension Office for use. For personal safety, do not include personally identifiable information such as mailing address or phone numbers on posters/displays/exhibits.

RULES:

1. Refer to the Hendricks County 4-H Policies and Entry & Exhibit Requirements.
2. Independent study in Forestry is suggested for high school aged 4-H members who have taken the Forestry project for most of their 4-H tenure. There is an opportunity to mentor to younger 4-H members in this project.
3. Champions and State Fair entries will be awarded in four (4) categories. They will be presented as follows:
 - Forestry 1 - Grades 3-5 One (1) exhibit
 - Forestry 2 - Grades 6-8 One (1) exhibit
 - Forestry 3 - Grades 9-12 One (1) exhibit
 - Independent Study - Grades 9 up One (1) exhibit
4. Be sure to enroll in the project on 4-HOnline and enter exhibit information into FairEntry by designated date.

Create an exhibit that shows the public what you learned in the forestry project this year. Exhibits must be displayed horizontally, sized 22" x 28", mounted on a firm backing (foam-core board or other), and covered in clear plastic or other transparent material. Be sure to include an exhibit tag in the lower right-hand corner. Choose one of the topics listed below, appropriate for your grade in school, and **use that topic for your exhibit title.**

If you are exhibiting leaves, they should be free of any damage. **If you choose to write scientific names, they must be in either italics or underscored.** (Note: scientific names are required for herbariums.) The Genus (first name) must have the first letter capitalized. The species (second name) has no capitalization

EXHIBIT:

Forestry Level 1: Grades 3-5 (Manual BU-8038, Follow the Path)

Exhibit a poster based on one (1) of the following activities - *chose a separate activity each year*

- **Leafing Out**- comparisons (pp 6 & 7). Collect, dry and mount six (6) different species of leaves showing leaf differences: one (1) leaf with opposite arrangement and one (1) with an alternate arrangement, two (2) leaves with different leaf margins, a compound leaf, and simple leaf. Use the 50 Trees of Indiana book (4-H 15-80 or CD-FNR-3) as a reference and identify the leaves and group them under the titles of "arrangement," "leaf margins," and "compound or simple." Draw (or copy the picture) and label the parts of a leaf using the diagram from the manual (Level 1). Title your poster, Leafing Out - Leaf Differences.
- **Leafing Out** - collection (pp 6 & 7). Identify and exhibit leaves from ten (10) different trees that are listed in 50 Trees of Indiana book (4-H 15-80 or CD-FNR-3). List at least two (2) unique characteristics of each tree. Title your poster, Leafing Out - Collection.
- **Hold on Tight**(pp 10 & 11). Dig up a small plant root system and display along with a drawing of the root system with the anchor, lateral, and feeder roots identified and the "Parts of a Tree" diagram (4-H 641B).
- **Down in the Dirt** (pp 20 & 21). Collect roots from three (3) different habitats: woods, near a creek, and in a pasture, or prairie. (Note: do not use the habitats listed in your manual.) Display the roots along with the completed root test chart (copy or recreate) showing the color, size, and shape information. Include any unique features you noted.
- **My Couch is a Tree?** (pp 30 & 31). Use pictures (draw, cut from magazines, print, or take photographs) to show ten (10) things in and around your home that are made from wood.
- **Fun in the Forest** (pp 32 & 33). Visit a state park or forest, take your 50 Trees of Indiana book (4-H 15-80 or CD-FNR-3), diagram the trails you hiked, and list the types of trees you saw. Photographs of you hiking and some of the trees you saw will help tell your story.

Forestry Level 2: Grades 6-8 (BU-8039, Reach for the Canopy)

Exhibit a poster based on one (1) of the following activities - *choose a different activity each year*

Display a poster based on one (1) of the following activities:

- **The Leaf Machine**(pp 8 & 9). Copy, draw, or find a picture of a cross-section of a leaf. Label the seven (7) parts. Give the chemical reaction for photosynthesis, defining the chemicals: CO₂, H₂O, O₂, and C₆H₁₂O₆. Be sure to balance your equation! There should be the same number of Carbon, Oxygen, and Hydrogen molecules on each side of the equal sign. You may need to ask an older (high school) 4-H member or science teacher for help. Draw the tree canopy, trunk, and roots (or use the tree diagram, 4-H 641B) and identify the crown, trunk (with the parts; heartwood, sapwood, cambium, and bark listed on the right), feeder roots, and anchor roots.
- **My State's Forests** (pp 14 & 15). Use a map, draw, or find a picture of Indiana on the Internet (e.g., www.igjc.org). Show where your home, your school, and your fairgrounds are located. Choose one (1) of the following options to complete your poster.
 - Show where Indiana's state forests are located. List a few facts about each. Visit a state forest and have someone take your picture by the sign, if possible.
 - Show where some state parks and state forests are located (5-15). List some facts about each one. Visit a state park or forest and have someone take your picture by the sign, if possible.
- **Someone Call a (Tree) Doctor and Stop Bugging Me** (pp 22-25). Collect ten (10) samples of tree leaves, twigs, stems, or roots damaged by insects or disease and the fruiting body or disease that caused the damage. List information about the insect or disease and the species of tree that was affected.
- **Fire in the Forest** (pp 26 & 27). Explain the Fire Triangle and describe what happened during and after a famous forest fire. Drawings or pictures will help tell the tale.

- **Growing Every Day** (pp 30 & 31). Complete the table to calculate the volume of five (5) large trees that you can find and measure in your county. Research to find out how to make and use a Tree Measuring Stick (FNR-4) and use that to calculate the volume of each tree. Explain why you think your results varied with the two (2) methods of determining tree volume (the one in your 4-H manual or using a tree measuring stick).
- **Tree Planting** Plant 1-3 shade trees. Include information about the tree(s) you planted, why you chose the species you did, what are the benefits of this tree, and how tall this tree(s) will be when mature. Explain why you chose the planting site that you did, where you found your planting information, what steps you followed, the hole size, care of your tree (watering and weed control), and any other information you can give. Include a picture of your tree (photo or a drawing). Reference: FNR-FAQ-18-W

Forestry Level 3: Grades 9-12 (BU-8040, Explore the Deep Woods)

Exhibit a poster based on one (1) of the following activities - choose a separate activity each year

Display a poster based on one (1) of the following activities:

- **World of Forests** (pp 16 & 17). Indicate the three (3) major forest biomes on a copy, drawing, or picture of the world. Complete the table given in the activity.
- **City Trees** (pp 20 & 21). Complete the questions about Tree City (page 20). Show (draw or use pictures) some trees that are often used in city plantings and explain the benefits of these trees.
- **Trim the Trees** (pp 26 & 27). Explain the five (5) different kinds of tree pruning for urban trees. List some do's and don'ts of proper pruning.
- **My Boss is a Tree** (pp 34 & 35). List five (5) jobs that require a knowledge of trees and forestry. Explain the training and education that is needed and what types of things you might be doing if you had this job.
- **Tree Planting** - Present a tree planting plan for at least 100 trees. Include the type of trees you planted, pictures, cost, method of planting, weeding, pruning your trees, and any additional information. Your exhibit must have a title, labels, backing, and plastic covering as required in the manual. Reference: FNR-FAQ-18-W
- **Herbarium Collection – Trees** Collect 25 terminal twigs and at least two leaves, if space allows (only one compound leaf is required), from native forest trees. Mount the specimens on 11 ½" x 16 ½" paper. One (1) leaf on the twig must be mounted to show the back side of the leaf. Label each sheet with the following: common name, scientific name, where collected, county where collected, date collected, name of collector, and specimen number. **Cover each specimen.** There are no specific references given for these exhibits. Youth are encouraged to use Extension publications, the Internet, books, and forest specialists to develop these items.
- **Herbarium Collection – Shrubs** Collect 25 terminal twigs, with leaves attached, from native shrubs. Mount the specimens on 11 ½" x 16 ½" paper. One (1) leaf on the twig must be mounted to show the back side of the leaf. Label each sheet with the following: common name, scientific name, where collected, county where collected, date collected, name of collector, and specimen number. **Cover each specimen.** There are no specific references given for these exhibits. Youth are encouraged to use Extension publications, the Internet, books, and forest specialists to develop these items.

Note: Your herbarium collection must be accessible to the judges. Do not cover it under the plastic that covers your poster. You may want to attach a folder or other holder over your poster to hold the mounted, covered specimens. ****Notebook with additional information may be displayed with poster.***

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Forestry Independent Study: Grades 9-12

Exhibit

Advanced topic - Learn all you can about an Indiana or Eastern Deciduous forestry topic of your choice and present it on a poster. Include a short manuscript, pictures, graphs, and list the works cited to describe what you did and what you learned. Title your poster, "Advanced Forestry - Independent Study."

Mentoring - Exhibit a poster that shows how you mentored a younger 4-H member. Include your planning, the time you spent, the challenges and advantages of mentoring, and how the experience might be useful in your life. Photographs and other documentation are encouraged. Title your poster, "Advanced Forestry - Mentor."

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