

- ◆ The Scientific Method – Use the scientific method to complete one of the problems listed in Activity 3. Describe what you did to complete the five scientific method steps and include your data and drawings or pictures of your experiment.
- ◆ Transecting for Insects – Compare three habitats using the scientific method to determine which one has the most terrestrial insect activity. Display your transect data sheet for each habitat and answer the “Talk It Over” questions.
- ◆ Please Drop In – Create your own hypothesis and collect insects in five pitfall traps to prove or disprove your hypothesis, as described in Activity 7. Display how you completed your experiment (including each step in the scientific method) and your data for each habitat.
- ◆ Aliens Among Us – Complete the “Natives vs Non-natives Survey Data Sheet” by checking two boxes (Native or non-native and damage or no damage) for five native and five non-native insects as shown in Activity 9. Answer the “Talk It Over” questions.
- ◆ IMP – Learning and Teaching – Make an informational flier and use it to teach younger 4-H members about five insect pests that might be found in a home or school in your county. Exhibit your flier, lesson plan, and photograph of you teaching. Answer the “Talk It Over” questions.
- ◆ Meal from a Worm – Use the scientific method to study how mealworm larvae grow. Include your hypothesis, date charts, and conclusions. Answer the “Talk It Over” questions.

Independent Study (Grades 9-12):

- ◆ Advanced Topic – Learn all you can about a topic of your choice and present it on a poster or in an entomology box. Include a short manuscript, pictures, graphs, and list the works cited to describe what you did and what you learned. Title your poster “Advanced Entomology- 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 to your life. Photographs and other documentation are encouraged. Title your poster, “Advanced Entomology – Mentor.”



Floriculture

Judging - Thursday, July 2, at 6pm at the Fairgrounds; Shrine Building.

Each county may enter one (1) flower and plant exhibit per category, per level and one (1) poster or notebook exhibit per level, and one (1) demonstration per exhibitor.

****Please also refer to the Policies and Procedures beginning on page 2 and the General Project Rules on page 20.***

Total entries allowed per county:

Level A, three(3) flower and plant exhibits and one(1) poster/notebook; Level B, three(3) flower and plant exhibits and one(1) poster/notebook; Level C, six (6) flower and plant exhibits and one (1) poster/notebook; and Level D, six (6) flower and plant exhibits and one(1) poster/notebook.

Note to youth exhibitors:

Each Level (A, B, C, D) of the Floriculture project serves more than one grade. You should do a DIFFERENT activity and exhibit each year that you are in the project. For example, if in 3rd grade you display a simple bud vase (category 1), in 4th grade you should choose a poster/notebook option or flower/plant exhibit from categories 2, 3, or 4. You should pay special attention to size guidelines for Flower and Plant exhibits. Instruction for exhibits and related activities can be found in the 4-H floriculture student manuals: 4-H 966, 967, 968, 969.

Notebook Guidelines:

- ◆ Needs to be a sturdy 3-ring binder (with stiff covers) or a bound type notebook (with stiff covers). No report covers or similar styles.
- ◆ Make sure the notebook accurately meets the guidelines and objectives of the activities in the manual.
- ◆ Information printed directly off the web will not be accepted.
- ◆ Materials included in the notebook need to be educational, both for the youth and the audience, and should demonstrate that the youth was able to take what he/she learned from their research (experiment, on the web, library, etc.) and/or activities to create the notebook.
- ◆ Work should include references where appropriate.
- ◆ Pictures, graphics, and artwork are encouraged.

Level A- Grades 3 and 4

Flower and Plant Exhibit Categories

- 1) Create flower arrangement in a simple bud vase; provide your own vase, from cut flowers you grew in your garden. Vase must be no more than 9" tall by 3" wide, neck opening of vase not to exceed 1.5" and be clear or white only. Include **1-3 stems** of a main flower, along with appropriate amount of filler flower and greenery.
- 2) Create flower arrangement in a simple bud vase; provide your own vase, from fresh flowers you purchased. Vase must be no more than 9" tall by 3" wide, neck opening of vase not to exceed 1.5" and be clear or white only. Include **1-3 stems** of a main flower, along with appropriate amount of filler flower and greenery. Flowers should be in their natural state, and not wired for display.
- 3) Create a simple round arrangement (small, compact round cluster of flowers) with fresh flowers you purchased. Including the vase or container, it must be no larger than 12" x 12".
- 4) Create a simple round arrangement (small, compact round cluster of flowers) with fresh flowers you grew. Including the vase or container, it must be no larger than 12" x 12".

Poster or Notebook Exhibits – choose any one (1) of the following topics:

- 1) Chronicle your work in your flower garden (planning, planting, care, harvest, arrangements made with your flowers).
- 2) Describe how you planned or designed your garden, including how you chose the kinds of flowers.
- 3) Explain how you harvested your flowers, cared for them, and used them in an arrangement.
- 4) Explore and explain: pollination – what it is, why it is important, different ways it occurs OR transplanting – what, how, things to watch out for; OR role of insects with flowers (good, bad or both).
- 5) Explore and explain seed germination OR how to care for a 'sick' plant.
- 6) Report on an interview with a professional (what do they do, types of jobs, type of training, hours worked, etc.)
- 7) Describe an experiment you did and the results.
- 8) Describe a community service project you did related to your flowers project.

Demonstration

Participate in an action demo at state fair or demonstration contest related to topics for this grade level, or any of those listed above.

Level B -Grades 5 and 6

Flower and Plant Exhibit Categories

- 1) Display a mixed planter that may include herbs with foliage plants and/or flowering plants. The planter should include 3 or more kinds of plants and have been planted at least two months before the fair. The container exhibit space must not exceed 18" x 18" (height will be variable). Make an item with dried herbs or dried flowers that you grew yourself. Examples of items to exhibit are, but not limited to a dried flower product, or a simple dried arrangement in a container.

- 2) Display one house plant (foliage and/or flowering) in a container not to exceed 10" in diameter. There must be only one specimen plant per pot. A flowering plant may be of any color with single or double flowers. Must include 4-H 967c "Level B Plant Record" chronicling the care of your plant.

Poster or Notebook Exhibits – choose any one (1) of the following topics:

- 1) Report how you harvested your flowers and/or herbs, cared for them, dried them, and used them.
- 2) Explore and explain: insects and your flowers and/or herbs
- 3) Explore and explain: starting seeds indoors – the process and pros and cons
- 4) Explore and explain: perennials – what are they, how are they used, benefits or drawbacks.
- 5) Investigate and describe: a butterfly garden – what types of plants, benefits to insects and butterflies, etc.
- 6) Describe how you planned or designed your garden, including how you chose the kinds of plants, any problems, or successes.
- 7) Describe your houseplant – how you cared for, transplanted to larger pot, any problems, or successes.
- 8) Explore and explain: plant biology – form and function, growth, photosynthesis, etc.
- 9) Explore and explain: how to grow plants indoors – things to consider, common problems and solutions.
- 10) Explore and explain: environmental effects related to plants (such as light, water, soil, or temperature).
- 11) Describe an experiment you did and the results.
- 12) Explore and explain topics from "Imagine That" – plants around the world, information about different cultural uses of plants, different ways you used your plants/herbs/flowers.

Demonstration

Participate in an action demo at state fair or demonstration contest related to topics for this grade level, or any of those listed above.

Level C - Grades 7, 8 & 9

Flower and Plant Exhibit Categories

- 1) Display a terrarium: Size of the terrarium should be appropriate for use on a table at home, and no larger than 12" deep, 18" long and 16" high. Must have a cover while on exhibit. See activity information for design.
- 2) Combination or European planter: Exhibit a container of plants (3 or more kinds of plants) that you have planted and cared for a minimum of 2 months. See activity for information on plants and design. The container should not exceed exhibit space of 18" x 18" (height will be variable).
- 3) Create one (1) corsage or two (2) boutonnieres made from only fresh flowers. Corsages should contain 3 or more blooms. NO artificial flowers or greenery should be used in this category. Bows and decorative items are okay.
- 4) Create one (1) corsage or two (2) boutonnieres made from silk or other artificial flowers and greenery. Can be created with mixed fresh and artificial materials, or all artificial. Bows and decorative items are okay.
- 5) A dried arrangement in a container or specialty item (such as, but not limited to, a wreath or swag) made with dried flowers and dried plant materials. NO artificial flowers/plant materials should be included. Bows and decorative items are okay. Maximum size is 24" x 24", height will be variable.
- 6) Create a flower arrangement using either roses or lilies as the primary component of the arrangement. Arrangement should be made with all fresh materials (NO artificial flowers/plant material). Bows and decorative items are okay.

Poster or Notebook Exhibits – choose any one (1) of the following topics:

- 1) Explore and explain: vegetative propagation – how to, different types, problems and solutions, different uses of
- 2) Explore and explain: plant nutrients – what are they, why does the plant need them, what happens if the plant has too much or too little, planters or containers vs. garden.
- 3) Investigate the design of multiple plant containers – how to, things to consider, selecting plant materials, uses of
- 4) Describe how you created your corsage or boutonnieres; or dried arrangement. Be sure to include appropriate information on design principles and how they are used to create your arrangement.

- 5) Explore and explain: floral tools and materials (how to use, what they are, care of tools, different uses of a tool or material).
- 6) Explore and explain: preserving cut flowers – how, problems, uses of and/or diseases related to cut flowers.
- 7) Illustrate, explore and explain how you dry flowers or other plant materials and/or describe different methods and/or how, why use them.
- 8) Explore and explain: medicinal uses and toxicity of fresh and dried flowers and plants.
- 9) Describe an experiment you did and the results.
- 10) Describe a career exploration activity you did, such a job shadow, interview with a professional.
- 11) Describe a community service activity you did related to your flowers project – what you did, why, results, etc.

Demonstration

Participate in an action demo at state fair or demonstration contest related to topics for this grade level, or any of those listed above.

Level D - Grades 10, 11, 12

Flower and Plant Exhibit Categories

- 1) Create a seasonal arrangement from only fresh flower and/or plant materials. Flowers and plant materials specific to a season or holiday should be used. For example, fall mums or spring tulips. Maximum size 24"x24"x36". This category could include a traditional floral arrangement, but also items such as wreaths. Bows and decorative accessories are okay.
- 2) Create a seasonal arrangement that can include fresh and/or artificial flower/plant materials. Flowers and plant materials specific to a season or holiday should be used. Maximum size 24"x24"x36". This category could include a traditional floral arrangement, but also items such as wreaths. Bows and decorative accessories are okay.
- 3) Create a modern or contemporary style arrangement using fresh flower and plant materials. See manual for suggestions. Maximum size 18" x 18" x 18". Include a label that states what type of design you have created (botanical, pave, parallel, free-form, abstract, etc.)
- 4) Create a bridal bouquet. Proper display of the bouquet should be considered, but only the bouquet will be judged. Bouquet should include **only** fresh plant materials. Bows and decorative accessories are okay.
- 5) Create a centerpiece for an event, such as a banquet, party, wedding, funeral, or church. Arrangement should be no larger than 24' x 24" x 36" and be made from EITHER fresh flower and/or plant materials or artificial or silk flower and/or plant materials. Bows and decorative accessories are okay.
- 6) Display a plant that you propagated (and grew and cared for) by tissue culture or other vegetative propagation methods, or flowering bulbs that you forced. Maximum pot size should not exceed 10" diameter. Must include 4-H 969c Level D Plant Record chronicling the care of your plant.

Poster or Notebook Exhibits – choose any one (1) of the following topics:

- 1) Describe how you created your arrangement; include information on the design principles utilized.
- 2) Explore and explain how you utilize different flowers to make a similar style arrangement for different seasons (tulips in spring, mums in fall, etc.) or how to utilize similar flowers to make different styles of arrangements.
- 3) Explore and explain: the cost of arrangement and/or a cost comparison with flowers (different types flowers, different time year, etc.)
- 4) Explore and explain: forcing flowers (bulbs, branches, etc.)
- 5) Explore and explain: marketing in the floral industry (large or small business) and/or a market survey and results, and how they can benefit the floral industry.
- 6) Explore and explain: how to start a business related to the floral industry and may include a business plan.
- 7) Explore and explain the origins of flowers and/or the floriculture industry around the world.
- 8) Explore and explain: tissue culture, biotechnology, or traditional breeding of new flower types – what are they, how are they used, pros and cons.
- 9) Explore and explain: be a plant detective – what kinds of problems might you have in growing and caring for flowers, and how to solve

10) Describe an experiment you did and the results.

11) Describe a community service activity you did related to your flowers project: how, why results.

Demonstration

Participate in an action demo at state fair or demonstration contest related to topics for this grade level, or any of those listed above.



Forestry

Judging - Thursday, July 2, at 3pm at the Fairgrounds; Home and Family Arts Building.
Champion from each level to State Fair.

****Please also refer to the Policies and Procedures beginning on page 2 and the General Project Rules on page 20.***

If you are exhibiting leaves they should be free of any damage. Also, if you choose to include the scientific names note that they must be in either italics or under-scored. (Note: scientific names are required for herbariums). The Genus (first name) must have the first letter capitalized. The species (second name) has no capitalization.

Level: Forestry 1: Grades 3-5

Display a poster based on one of the following activities from the manual:

- **Leafing Out – comparisons** (pp 6 & 7). Collect, dry and mount 6 different species of leaves showing leaf differences: one leaf with opposite arrangement and one with an alternate arrangement, two 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 10 different trees that are listed in 50 Trees of Indiana book (4-H 15-80 or CD-FNR-3). List at least two 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 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 (drawn, cut from magazines, print, or take photographs) to show 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.

Level 2: Forestry 2: Grades 6-8

Display a poster based on one of the following activities from the manual:

- **The Leaf Machine** (pp 8 & 9), copy, draw, or find a picture of a cross-section of a leaf. Label the 7 parts. Give the chemical reaction for photosynthesis, defining the chemicals: CO_2 , H_2O , O_2 , and $\text{C}_6\text{H}_{12}\text{O}_6$. 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,