

Department 16 - Natural Sciences

Superintendents:

Entry & Judging Day – Tuesday of the fair

Entry & Judging Time – 1 p.m. - 8 p.m., Face to face judging only

Location – Exhibit Building

Check Out – Exhibits will be released between 4:30 p.m. to 6 p.m. on Sunday of the fair



ADDITIONAL RULES OF ENTRY

- Youth eligible to exhibit in this department are those enrolled in a 4H, FFA, or other approved youth group carrying a similar supervised program in Astronomy, Birds, Conservation, Entomology (Insects), Maple Syrup, Outdoor Recreation, Shooting Sports, Wildflowers, Wildlife & Habitat or Self-Determined - Environmental/Outdoor Education project areas. Project enrollment requirements are listed under each class.
- All exhibits must be the result of this year's project by the exhibitor.
- Only one exhibit may be entered under each lot number.
- All entries not entered correctly will be judged and placed in the pink ribbon group.

<u>PREMIUMS:</u>	<u>1st</u>	<u>2nd</u>	<u>3rd</u>	<u>4th</u>
	3.00	2.75	2.50	2.25

REQUIREMENTS:

- **Collection Exhibits:**
 - Collections must be mounted on 14" x 22" sized stiff backing material such as cardboard, tag board, plywood, hardboard, and others
 - Collection must be titled and dated
 - Specimens in collection should be labeled with name, location collected, date of collection and name of collector. This includes collections of photographs.
 - Collection of specimens of the following are not allowed:
 - State or federally protected or endangered plant species
 - Bird nests
- **Posters, scrapbooks and display exhibits:** Exhibitors must follow all requirements located in 'General Rules for Junior Division Exhibitors'
- **Electronic media exhibits:** Exhibitors must follow all requirements located in 'General Rules for Junior Division Exhibitors'

CLASS A – EXPLORING YOUR ENVIRONMENT

Open to all exhibitors enrolled in an Astronomy, Birds, Conservation, Entomology (Insects), Maple Syrup, Outdoor Recreation, Shooting Sports, Wildflowers, or Wildlife & Habitat project area.

Lot Numbers:

Beginner Explorer - Grades 3-5 as of January 1st

1. Bean seed experiment notebook
2. Poster or display on life in a sidewalk crack
3. Poster or display of Ecosystem
4. Poster or display of a food chain or food web
5. Poster or display about cycles found in nature
6. Poster, display or scrapbook on how to compost
7. Poster or display on sources of pollution

8. Poster or display on types of animal camouflage
9. Sketch of an ideal wildlife habitat
10. Poster or display on habitats of various animals and plants
11. Poster or display on how pollination works
12. Plaster mold collection of (3) different animal tracks
13. Poster or display on the water cycle
14. Poster or display on parts of a flower
15. Poster or display on methods of seed dispersal
16. Poster or scrapbook of solar prints you made using plant materials
17. Scrapbook or journal of observations and reflections from my special natural spot
18. Any other ecological exhibit, not listed

Intermediate Explorer - Grades 6-8 as of January 1st

19. Weather log
20. Poster or display about weather measurement
21. Poster or display on environmental impacts of oil spills
22. Poster or display about mammal parts and characteristics
23. Poster or display about predator strategies and devices
24. Plaster mold collection of (4) different animal tracks
25. Sketch of an ideal wildlife habitat
26. Poster or display on habitats of various animals and plants
27. Berlese funnel to collect insect decomposers
28. Poster or display on major biomes of the world
29. Poster or display on wetland characteristics
30. Poster or display of soil profiles
31. Poster or display on methods to control soil erosion
32. Poster or display on how to reduce or prevent pollution
33. Poster or display on the life cycle of a product or food
34. Poster or display on water quality testing equipment and what information they can provide
35. Poster or display on the effects of acid rain on plants
36. Poster or display on how to reduce, reuse and recycle solid waste materials
37. Poster or display on the pyramid of energy
38. Scrapbook or journal of observations and reflections from my special natural spot
39. Any other ecological exhibit, not listed

Senior Explorer - Grade 9 or older as of January 1st

40. Line transect survey map of an outdoor area
41. Map of a watershed
42. Model of a watershed
43. Poster or display on plant galls
44. Poster or display on environmental impacts of different transportation choices
45. Poster or display on a home energy survey
46. Poster or scrapbook of drawings of plants native to your area
47. Poster or scrapbook of wildflowers that are native to your area and are protected by State law
48. Poster or display on major biomes of the world
49. Poster or display on interactions in an ecosystem
50. Plaster mold collection of (5) different animal tracks
51. Air pollution collector
52. Poster or display on wetland characteristics
53. Poster or display of soil profiles
54. Poster or display on methods to control soil erosion
55. Poster or display on water quality testing equipment and what information they can provide
56. Poster or display on the effects of acid rain on plants
57. Poster, display or scrapbook on pest control methods pros and cons
58. Poster or display on global climate change

- 59. Scrapbook or journal of observations and reflections from my special natural spot
- 60. Scrapbook or journaled record of bird's sightings and migration patterns
- 61. Any other ecological exhibit, not listed

CLASS B – WILDFLOWERS

Open to all exhibitors enrolled in a Conservation, Wildflowers or Wildlife & Habitat project area.

REQUIREMENTS:

- **For Lot Numbers 1-3:** Exhibitors must follow all 'Collection Exhibits' requirements listed at the beginning of this document, in addition to the following requirements specific to this class:
 - Wildflower collections may be continuing collections; at least 50% of the specimens should be from the current year
 - Wildflower specimens should always be properly pressed, mounted and labeled with one specimen per page. Roots should be included only if they are needed to identify the flowers
 - Wildflowers should be identified by scientific name, if possible
 - Purple loosestrife is a serious threat to Wisconsin's wetlands and waterways. It may not be exhibited as part of a wildflower collection

Lot Numbers:

1. 1st year collection, 15 different wildflowers, pressed, mounted, and properly labeled
2. 2nd year collection, add 15 more species of wildflowers to your collection
3. 3rd year and above, add 15 more species of wildflowers to your collection each year
4. Homemade plant press
5. Scrapbook with photographs of at least 10 wildflowers labeled with common and scientific names
6. Scrapbook with photographs of at least 15 or more wildflowers, labeled with common and scientific names
7. Poster, display or scrapbook showcasing your collection of seeds of 15 different wildflowers, mounted and properly labeled
8. Poster, display or scrapbook of a poisonous plant identification key
9. Poster, display or scrapbook of a wild edible plant identification key
10. Poster, display or scrapbook of a wildflower plant identification key
11. Scrapbook on your wildflower project activities
12. Any other item not listed above

CLASS C – BIRDS

Open to all exhibitors enrolled in a Birds, Conservation or Wildlife & Habitat project area.

Lot Numbers:

1. A bird feeder you have assembled from a recycled item, such as from a milk carton, plastic bottle, log, etc., include a 3" x 5" index card that describes types of feed used and birds it will attract
2. A bird house of your own construction, include a 3" x 5" index card that describes what kind of birds will use it and where the house will be located
3. A bird nest you built yourself, include a 3" x 5" index card that describes what type of bird would use it and why
4. Scrapbook on 10 species of birds of Wisconsin, include pictures, habitat, foods and life cycle
5. Collection of twig, leaf, and fruit specimens from trees or shrubs that provide food for birds, must be mounted and properly labeled
6. Poster or display on bird characteristics
7. Scrapbook or other recorded log of birds sightings and migration patterns
8. Scrapbook on your bird study project activities
9. Any other item not listed above

CLASS D – FORESTRY

Open to all exhibitors enrolled in a Conservation or Wildlife & Habitat project area.

REQUIREMENTS:

- Forestry specimens should always be properly pressed, mounted and labeled with one specimen per page
- Specimens should be identified by scientific name, if possible, and labeled with date of collection, location, name of collector

Lot Numbers:

1. Poster or scrapbook with leaves of 10 or more native trees, dried and pressed
2. Poster showing 10 or more different native trees
3. Poster or display showing the annual life cycle of a deciduous tree
4. Poster or display of a tree with parts labeled
5. Poster or display of the cross section of a tree trunk with the parts labeled
6. Poster or display using photos of 10 trees and listing of uses for each individual tree
7. Collection of lumber samples from 10 important Wisconsin forest trees
8. Scrapbook of leaf prints from 15 species of Wisconsin trees, labeled
9. Collection of seeds of 15 species of Wisconsin forest trees, labeled
10. Poster or display of types of tree communities
11. Poster or display of an effective ecosystem
12. Poster or display on examples of good/bad soil
13. Poster or display showing the process of photosynthesis
14. Poster or display on jobs that require knowledge of trees and/or forests
15. Poster or display on life cycles of a tree
16. Poster or display on impacts of invasive species on a forest
17. Poster or display on different tree diseases
18. Poster or display on how to measure volume of standing trees
19. Poster or display on how to identify trees using dichotomous tree key
20. Poster or display on how to identify trees by rubbing the bark
21. Poster or display on how to identify different types of tree fruits
22. Map of forests in your county
23. Poster or display on forest biomes
24. Poster or display on how to identify on how to prune a tree branch
25. Scrapbook on your forestry study project activities
26. Any other item, not listed above

CLASS E - MAPLE SYRUP

Open to all exhibitors enrolled in a Maple Syrup project area.

Lot Numbers:

1. Poster or display describing the procedure for tapping trees
2. Poster or display of tools or equipment needed for tapping trees or processing maple syrup. Explain the use of each item
3. Plate of 5 pieces of maple sugar candy made by exhibitor
4. One pint of light maple syrup produced in your project. Must be in a glass mason jar, capped and with ring. Product may be opened and tested
5. One pint of dark maple syrup produced in your project. Must be in a glass mason jar, capped and with ring. Product may be opened and tested
6. Poster or scrapbook with photos telling a story about "syrup making in our woods"
7. Scrapbook on your maple syrup project activities

CLASS F - OUTDOOR RECREATION

Open to all exhibitors enrolled in an Outdoor Recreation project area.

Lot Numbers:

Outdoor Adventures:

1. Poster, display or scrapbook on safety for an outdoor adventure activity
2. Poster on selecting basic equipment for an outdoor adventure activity
3. Poster or display on care and maintenance of outdoor adventure equipment
4. Poster showing parts of adventure equipment with proper labels
5. Poster or display on proper clothing and equipment for an outdoor adventure activity

Backpacking, Hiking and Camping:

6. Self-created trail map
7. Poster or display on essentials for a hiking trip
8. Camping trip journal
9. Camping First aid Kit – must attach a 3" x 5" index card that identifies each item and its use
10. Poster or display about CPR
11. Poster or display about what foods to bring for a hiking trip
12. Poster, display or scrapbook about a hiking adventure you went on
13. Poster or display about treasure hunting using a compass
14. Build your own compass
15. Poster or display on camping tips
16. Poster or display on how to purify water
17. Poster or display about a winter survival plan
18. Poster, display or scrapbook about Dutch oven or cast-iron cooking
19. Campfire recipe book, must contain a minimum of 10 recipes
20. Poster, display or scrapbook about knot tying
21. Poster or display on campfire designs
22. Poster or display on lighting a safe fire
23. Poster or display on micro-organisms in non-purified water and the effect they have on a human body
24. Member-created topographic, road or street map
25. Poster, display or scrapbook of a backpacking trip plan
26. Tent repair kit – must attach a 3" x 5" index card that identifies each item and its use
27. Poster or display of a camp layout

Bicycling:

28. Poster or display on types of bicycles, past and present
29. Poster or display on bicycle parts
30. Poster or display on steps in care and maintenance of bicycle
31. Poster or display on bicycling safety
32. Poster or display on bicycling equipment or attire

Fishing:

- **Tips of hooks on an exhibit must be covered with styrofoam, putty, a drop of glue, etc., for safety**
33. Poster or display identifying 6 types of live bait, list fish most likely to be attracted to each bait
 34. Poster or display identifying 6 types of artificial bait or lure, list fish most likely to be attracted to each bait
 35. Poster or display identifying 6 different species of Wisconsin game fish
 36. Poster or display safety tips for fishing and boating
 37. Poster or display illustrating four different types of reels
 38. Poster or display illustrating different equipment used for ice fishing
 39. Poster or display identifying parts of a fishhook

40. Poster or display identifying and displaying by size, 10 different fishhooks
41. Homemade ice fishing tip-up
42. Homemade ice fishing jig-pole
43. Homemade worm box
44. Fish print with ink
45. Plaster cast of fish
46. Poster, display or scrapbook telling a story of a fishing experience this year. Photos should be included
47. Poster of external fish anatomy
48. Homemade fish scaler
49. Poster or display identifying and displaying 8 homemade tied flies, explain materials used for each
50. Poster or display identifying parts of a rowboat
51. Scrapbook on your outdoor recreation study project activities
52. Any other item, not listed above

CLASS G - ENTOMOLOGY (Insects)

Open to all exhibitors enrolled in an Entomology project area.

REQUIREMENTS:

- **For Lot Numbers 1-3:** Exhibitors must follow all 'Collection Exhibits' requirements listed at the beginning of this document, in addition to the following requirements specific to this class:
 - Insects may be a continuing collection. However, at least 50% of the collection should be from this project year
 - Insects must be properly killed, mounted, labeled, and identified at least to scientific order

Lot Numbers:

Insects:

1. 1st year collection, 15 species of insects
2. 2nd year collection, add 15 more species of insects to your collection
3. 3rd year and above, add 15 more species of insects to your collection each year
4. Poster or display of insect body parts
5. Poster or display on a pitfall or other insect trap
6. Scrapbook or journal about your insect observations or insect collection records
7. Poster or display of an insect's eye
8. Poster or display of on types of insect control in the home
9. Poster or display of on how insects use color for defense
10. Poster or display on entomology careers
11. Poster or display on proper insect pinning techniques
12. Scrapbook or journal on an insect experiment you conducted
13. Poster or display on insect metamorphosis
14. Poster or display of insect leg parts
15. Poster or display of insect mouth parts
16. Poster or display of insect wing parts
17. Insect extractor
18. Insect separator
19. Poster or display on understanding insect pesticide labels
20. Poster, display or scrapbook of an insect identification key
21. Poster or display of a butterfly garden plan
22. Mosquito rearing/observation chamber
23. Poster or display of a spider web
24. Scrapbook on your outdoor recreation project activities
25. Any other item not listed above

Honey (Bees):

26. Poster or display about bee hives
27. Poster or display of tools or equipment needed to tend to bee hives or to extract honey from the comb. Explain the use of each item
28. Poster or scrapbook with photos telling a story about how honey is made
29. Plate of 5 pieces of honey candy made by exhibitor
30. One pint of honey produced in your project. Must be in a glass mason jar, capped and with ring. Jar must be labeled with variety of honey (clover, alfalfa, etc.). Product may be opened and tested
31. Sample of comb honey in a 4" x 4" container
32. Poster or scrapbook with photos telling a story about how honey is made
33. Scrapbook on your honey project activities

CLASS H – BASIC ARCHERY**CLASS I – BASIC PISTOL****CLASS J – BASIC RIFLE (includes Air Rifle)****CLASS K – BASIC HUNTING****CLASS L – BASIC SHOTGUN****CLASS M – BASIC MUZZLELOADING****CLASS N – WILDLIFE & HABITAT**

Open to all exhibitors enrolled in a Shooting Sports or Wildlife & Habitat project area.

REQUIREMENTS:

- All entries must be specific to the weapon type by Class which they are entered under (if applicable)
- No live ammunition, gunpowder, primers, bows or firearms allowed

Lot Numbers:

1. Poster or display on general gun or firearm safety
2. Poster or display on various types of gun or firearm ammunition
3. Poster or display on the proper care and maintenance of a gun
4. Poster or display on the parts of a gun
5. Poster or display on the various types of guns or firearms
6. Homemade shell bag
7. Homemade shooting vest
8. Display of five (5) different empty shell casings, labeled
9. Poster or display on the parts of a bow and arrow equipment
10. Poster or display on bow and arrow equipment
11. Poster or display on bow and arrow safety
12. Homemade arrow
13. Homemade quiver
14. Poster or display showing proper shooting stance
15. Three (3) targets shot by exhibitor, must include dates and weapon used
16. Scrapbook or display using photos to show growth and development in your project area. Include shooting score cards or targets to show progress
17. Poster or display relating to Wisconsin hunting laws
18. Poster or display on the principles of game management
19. Poster or display on proper attire to wear for different hunting seasons
20. Homemade decoy
21. Homemade animal silhouette target
22. Audio recording of you performing a wild game call
23. Poster with four (4) photos of wildlife taken with a game or trail camera
24. Poster with four (4) photos of wildlife taken with a handheld camera
25. Homemade article used for hunting
26. Scrapbook on your shooting sport project activities
27. Any other item not listed above

CLASS O - RECYCLE

Open to all exhibitors enrolled in an Astronomy, Conservation or Wildlife & Habitat project area.

Lot Numbers:

1. Poster or display about nature's recyclers
2. Poster or display on renewable and non-renewable resources
3. Poster or display about daily, weekly, or annual amount of waste generated by an individual
4. Poster or display on recycling of products
5. Poster or display showing how to recycle or the importance of recycling
6. Poster or display on how to compost food waste
7. Poster, scrapbook or display documenting your recycling, waste reduction, or recycling education efforts
8. Any other Recycling related project not listed above

CLASS P - WATER

Open to all exhibitors enrolled in an Astronomy, Conservation or Wildlife & Habitat project area.

Lot Numbers:

1. Poster, display, or scrapbook on identifying water conservation and pollution issues in your community, such as, parks, playgrounds, community centers and waterways
2. Poster, display, or scrapbook on identifying water conservation and pollution issues on farms, such as, home wells, livestock waste, soil conservation and stream bank management
3. Poster, display, or scrapbook on identifying water conservation and pollution issues in homes, such as, lawn and garden maintenance, water usage and conservation and hazardous waste disposal
4. Poster, display, or scrapbook on identifying water conservation and pollution issues in schools, such as, water usage and conservation
5. Any other Water related project not listed above

CLASS Q – SELF-DETERMINED - NATURAL SCIENCES

Open to all exhibitors enrolled in an Astronomy, Birds, Conservation, Entomology (Insects), Maple Syrup, Outdoor Recreation, Shooting Sports, Wildflowers, Wildlife & Habitat project or Self-Determined Environmental/Outdoor Education project area.

Self-determined project exhibits are records of projects not listed in the premium list or an expansion of a traditional project beyond limits of the project or in greater depth than the project outlines.

REQUIREMENTS: Posters, scrapbooks and displays must conform to all requirements listed in 'General Rules for Junior Division Exhibitors'

Lot Numbers:

1. A poster promoting your self-determined project
2. An article made during current year with a 3" x 5" index card attached identifying resources. The article should be of reasonable size to exhibit in the Expo building
3. A collection made during current year with a 3" x 5" index card identifying work done
4. A scrapbook with story or essay, drawings, and photos of project work done during the current enrollment year
5. Any other self-determined project not listed above