

DEPARTMENT 16 NATURAL SCIENCE

Superintendent:

All Other Classes-Mary Foley 608-341-7754
Air Rifle and BB Gun-Don Kreul 608-574-2693
Archery, Shotgun, Muzzleloading, .22-Amy Tibbits 608-574-8798

Rules:

1. At no time should study or display presentation be an interruption to the balance of nature. Collection of plant specimens in short supply; state and federally protected flowers; endangered or protected species of any kind; bird nests, feathers not allowed.
2. Work to be eligible must have been made or participated in since the past fair.
3. Posters and displays should not exceed 14x22".
4. Labels on wildflowers, leaves and trees should state the common name, the Latin name, and where & when found.

PREMIUMS: Blue \$3.00; Red \$2.75; White \$2.50; Yellow \$2.25

Classes:

Birds Grades 3-5

1. Poster featuring 5 birds of the same type (songbirds, waterfowl, or birds of prey). Include names, pictures or drawings, and one fact about each bird.
2. Poster showing pictures or drawings of male and female birds of one species and their diet. Label male/female food type
3. Poster explaining how feathers help birds survive (flying, warmth, camouflage)
4. Poster showing the life cycle of a bird from egg to adult
5. Camera hunt: Minimum of 5 photos of different wildlife, nondomestic species (mammals, birds, fish, reptiles) taken by exhibitor, mounted on poster, scrapbook or other display. Each photo must be labeled with: when and where the photo was taken, name of the species and one interesting fact about this species.

Birds Grades 6-8

1. Poster comparing 2 birds of one type (song, birds of prey, or waterfowl). Compare size, diet, beaks, talons, and habitats
2. Poster of a duck, goose, or swan and explain migration, nesting, and feeding habits
3. Poster or handmade display showing how beaks, wings, or feet are adapted to different environments
4. Create a map tracing the migration route of a selected bird species
5. Camera hunt: Minimum of 5 photos of different wildlife, nondomestic species (mammals, birds, fish, reptiles) taken by exhibitor, mounted on poster, scrapbook or other display. Each photo must be labeled with: when and where the photo was taken, name of the species and one interesting fact about this species.

Birds Grades 9 and older

1. Poster or report on a threatened or protected bird species and present causes, conservation efforts and outcomes
2. Poster or display of a bird of prey and explain hunting behavior, anatomy, and ecological importance
3. Poster or report on one of the following: habitat management, wetland conservation, or population tracking
4. Observe and document on of the following: feeding, nesting, or migration patterns using charts or logs
5. Camera hunt: Minimum of 5 photos of different wildlife, nondomestic species (mammals, birds, fish, reptiles) taken by exhibitor, mounted on poster, scrapbook or other display. Each photo must be labeled with: when and where the photo was taken, name of the species and one interesting fact about this species.

Forestry Grades 3-5

1. Exhibit of 15 or more leaves of native Wisconsin trees (properly labeled)
2. Exhibit of 10 or more mounted specimens of wood cross and longitudinal section showing wood structure and bark (labeled)
3. Collection of 15 or more tree seeds mounted and labeled.
4. Cross section of a tree
5. Types of tree communities
6. Display of different types of trees
7. Display of different types of roots
8. Model of an effective ecosystem
9. Topographic map of the county
10. Exhibit of careers that require knowledge of trees or forests
11. Other forestry exhibit

Forestry Grades 6-8

1. How water moves from roots to canopy
2. Life cycles of a tree
3. US map showing forests in each state
4. Plants that co-exist in a forest
5. Impacts of invasive species on a forest
6. Display of different tree diseases
7. Risks of forest fires
8. Importance of forest densities
9. Measuring volume of standing trees
10. Why people need forests
11. Selecting urban tree planting sites
12. Other forestry exhibit

Forestry Grades 9-older

1. Identifying trees using dichotomous tree key
2. Identifying trees by rubbing the bark
3. Identifying types of tree fruits
4. A map of forests in the county
5. Forest biomes
6. Goods and services provided by forest
7. Pruning a tree branch
8. Improving trees genetically
9. Forestry careers
10. Other forestry exhibit

Entomology

Rules:

- Label on insects must include the common name, order, date, and place of collection
- Insect collections are a continuing project, so insects and butterflies from the previous year MAY be part of the new collection
- If a collection includes insects from previous years, the exhibitor should include a 3x5 card listing new insects added this year
- An exhibitor's entire collection must fit in one display case no larger than 18x24".

Classes:

Entomology Grades 3-5

1. Display of at least 25 kinds of insects from 6 orders, properly identified and dated (must contain at least 10 new insects)
2. Display of insect body parts
3. Pitfall insect trap
4. Insect observation records
5. Model of an insect's eye
6. Display on types of insect control in the home
7. Display on animals and plants that eat insects
8. Other entomology exhibit

Entomology Grades 6-8

1. Display of at least 50 kinds of insects from 9 orders, properly identified and dated (must contain at least 15 new insects)
2. Poster on how insects use color for defense
3. Insect observation records
4. Insect trap
5. Poster on proper insect pinning techniques
6. Report on an insect experiment
7. Poster on insect metamorphosis
8. Display of insect leg parts
9. Display of various types of insect legs
10. Insect extractor
11. Insect separator
12. Display on entomology careers
13. Poster on understanding insect pesticide labels
14. Other entomology exhibit

Entomology Grades 9-older

1. Display of at least 75 kinds of insects from 11 orders, properly identified and dated (must contain at least 20 new insects)
2. Insect observation records
3. Report on an insect experiment
4. Butterfly garden plans
5. Display of insect mouth parts
6. Display of insect wing parts
7. Mosquito rearing/observation chamber
8. Spider web display
9. Insect journal
10. Insect key
11. Other entomology exhibit

Wildflowers

1. A photographic collection of local wildflowers and identify each specie
2. A display of a homemade plant press and explanation of how it is used
3. Nine properly mounted and displayed Wisconsin wildflowers
4. A display of Wisconsin endangered and/or threatened flower species (drawing and photos only)
5. Display of at least three interviews with professionals who work with flowers

6. Exhibit of plant related careers
7. Plant collage using plant parts (minimum of at least 4 different plants)

8. Display of art work from wildflower seeds with seeds identified (minimum of 4 varieties)
9. Other wildflower exhibit

Fishing Grades 3-5

1. Display showing the parts of a fish-identify the fish, body parts, what they eat and temperature requirements
2. Display showing proper tackle maintenance
3. Display showing the types of fish in your area
4. Display showing different types of bait
5. Display showing types of fishing knots
6. A tackle box inventory checklist
7. Poster or display showing how to cast accurately

8. Display showing how to tie a fishing knot
9. A map of your favorite fishing spot
10. Display showing the difference between bobber and bottom fishing
11. Poster or display showing how to care for your catch
12. A scrapbook of photos of this year's fish catch-specify the variety, where they were caught and what bait was used
13. Other fishing exhibit

Fishing Grades 6-8

1. Poster or display on selecting the right fishing knot
2. Poster or display showing how to use a spinning rod and reel
3. Poster or display showing how to cast a fly
4. Poster or display showing how to cast a bait
5. Decorated lure or jig
6. Fly wallet
7. Artificial fly

8. Poster or display of Wisconsin fishing laws
9. Poster or display showing fish adaptations
10. Poster or display showing fish senses
11. Mesh net
12. Poster or display of cooking a fish
13. A watershed study
14. Other fishing exhibit

Fishing Grades 9-older

1. Poster or display showing parts of a fishing reel
2. Poster or display showing fishing reel maintenance
3. Poster or display showing how to make artificial lures and flies
4. Poster or display showing how to debarb and sharpen hooks
5. Cedar wood lure
6. Customized tackle
7. Poster or display showing types of insects that fish

- like
8. Fishing-related game
9. Fishing field journal
10. Fishing trip plans or report
11. Boat safety checklist
12. Angling ethics
13. Display of career opportunities in the fishing industry
14. Sportfishing skillathon
15. Other fishing exhibit

Backpacking, Hiking, Trails, etc

1. Trail map
2. Essentials for a hiking trip
3. Camping trip diary
4. Foods list for a hiking trip
5. First aid kit
6. CPR/First aid steps
7. Hiking adventures
8. Treasure hunt using a compass
9. Build your own compass
10. Weather safety program
11. Camping tips
12. How to purify water
13. Regional animals and footprints
14. Winter survival plan
15. Other backpacking exhibit
16. How to compost
17. Sources of pollution

18. My bird nest
19. Map of a watershed
20. Model of a watershed
21. Soil profile
22. Parts of a flower
23. How pollination works
24. Water cycle
25. Home energy survey
26. Pyramid of energy
27. Global climate change
28. Changes over time in my community or neighborhood
29. Journal of observations and reflections from my special nature spot
30. Insect body parts and their uses
31. Different types of wetlands and their benefits
32. Wetland characteristics

Geology

Rules:

1. All specimens must be collected in the state of Wisconsin since the previous county fair (except class 6).
2. Specimens in class 1 should be glued to a piece of very heavy (at least 14 ply) white poster board or foam core board. The display board should be no larger than 22x32". It may be smaller. It needs to be large enough to hold specimens but small enough to be easily handled.
3. The exhibitor is to identify each display by placing an identification label bearing name, county, and number of specimens in the upper left-hand corner and by attaching a label with this information on the back of the display board.
4. Appropriate identifying information should be written about each specimen on a small sheet of white paper or white note card and glued underneath the appropriate specimen.
5. Class 2-5 are to consist of displays of rocks, minerals, and fossils found by the youth in the state of Wisconsin. Collections should be exhibited in covered display boxes. Exhibitors are encouraged to work towards using wooden boxes 18" wide by 24" long and 3 1/2" deep, with sliding plexiglass top.
6. Each specimen exhibit should be labeled with the following information: name of youth, group organization, class and number of specimens.
7. The specimens should be grouped and labeled as rocks, minerals, or fossils.
8. Specimens are to be mounted on cards, with the following information: unique specimen number, date collected, location collected (county), and name of specimen
9. Fossils must be identified at least by phylum, and more specifically if possible.
10. Judging based 35% on identification, 15% on the condition of the specimen, 20% on labels, 15% on meeting class requirements, and 15% on showmanship (variety, neatness, balance).
11. For classes 3-6, the type of rock (igneous, metamorphic, or sedimentary) should be indicated.

Classes:

1. Beginning geology-exhibitors in this class cannot exhibit in any other class, except class 6-7. Display at least 15 specimens. At least one specimen must be fossil or one must be a rock or mineral. Youth need not have equal number in each category. Group and label the specimens according to two categories: 1. Fossils and 2. Rocks/minerals
2. 2nd year geology-minimum of 15 specimens, to have been collected in Wisconsin since the previous fair. At least one each of rocks, minerals, and fossils.
3. 3rd year geology-minimum 30 specimens, at least 15 from the current year, including at least one new rock, mineral, and fossil.
4. 4th year geology-minimum of 45 specimens, at least 15 from the current year, including at least one new rock, mineral, and fossil
5. 5th year geology-minimum of 60 specimens, at least 15 from the current year, including at least one new rock, mineral, and fossil
6. Outside WI-an exhibit of geology from outside Wisconsin, should be collected during the current year and labeled as in classes 2-5
7. Original poster related to the study of geology
8. Exhibit showing the differences between an aquifer and an aquitard
9. Exhibit illustrating the geological history and development of a rock, mineral or fossil
10. Exhibit showing typical Iowa County geology

Shooting Sports Educational Exhibits

1. Poster or exhibit showing the proper care, maintenance and handling of the shooting equipment
 - a. Air Rifle / BB gun
 - b. Archery
 - c. .22 Rifle or Pistol
 - d. Shotgun
 - e. Muzzle loader
2. Poster or exhibit identifying the parts of the weapon and their purpose
 - a. Air Rifle / BB gun
 - b. Archery
 - c. .22 Rifle or Pistol
 - d. Shotgun
 - e. Muzzle loader
3. Poster or exhibit illustrating the different types of sites and/or how to align a sight
 - a. Air Rifle / BB gun
 - b. Archery
 - c. .22 Rifle or Pistol
 - d. Shotgun
 - e. Muzzle loader
4. Poster or exhibit showing proper shooting positions/stances/shot sequence
 - a. Air Rifle / BB gun
 - b. Archery
 - c. .22 Rifle or Pistol
 - d. Shotgun

- e. Muzzle loader
- 5. Poster or exhibit showing the different types of equipment, ammunition or accessories
 - a. Air Rifle / BB gun
 - b. Archery
 - c. .22 Rifle or Pistol
 - d. Shotgun
 - e. Muzzle loader
- 6. Scrapbook or journal showing growth & development of individual's shooting, or a competitive experience outside of your youth organization. Must include shooting score-cards, and discussion of things learned and or changed. (Competitions must have been held since last year's fair)
 - a. Air Rifle / BB gun
 - b. Archery
 - c. .22 Rifle or Pistol
 - d. Shotgun
 - e. Muzzle loader
- 7. Homemade target or back-stop
 - a. Air Rifle / BB gun
 - b. Archery
 - c. .22 Rifle or Pistol
 - d. Shotgun
 - e. Muzzle loader
- 8. Homemade accessory used in the shooting discipline (e.g. arm guards, finger tabs, quivers, arrows, cases, shell holders, slings, weapon holder or stand, etc...)
 - a. Air Rifle / BB gun
 - b. Archery
 - c. .22 Rifle or Pistol
 - d. Shotgun
 - e. Muzzle loader
- 9. Other exhibit relating to shooting sports
 - a. Air Rifle / BB gun
 - b. Archery
 - c. .22 Rifle or Pistol

Basic Hunting / Wildlife Educational Exhibits

- 1. Poster or exhibit showing identification characteristics of an animal species
- 2. Plaster cast of a wild animal's track
- 3. Homemade decoy (duck, goose, turkey, etc.)
- 4. Audio tape of you performing a wild game call
- 5. Homemade article used for hunting
- 6. Essay (at least 250 words) on hunting ethics
- 7. Any other item

Shooting Sports Contest

Rules:

- 1. County fair shoots must be overseen by qualified youth organization staff or volunteers, who are knowledgeable about the specific shooting sports discipline.
- 2. County fair shoots must be overseen by at least 2 adult leaders of their youth organization.
- 3. The fair will display either the original score card or the original target with a total score written on it. Whichever is being used must also have the shoot date, the shooter's name (written legibly), and grade completed. For Air rifle/pistol include position (prone, standing, kneeling, resting on bench, one-hand, two-hand, etc.). For .22 rifle or pistol include sight type (iron or optical). For archery include class (bare bow, bowhunter or freestyle). Shoot coordinators are responsible for getting the targets or scorecards to the fair office or the superintendent at least one week prior to the fair. If there are more than 20 participants in a shoot, an electronic spreadsheet must accompany the score sheets or targets.
- 4. Exhibitors need to sign up on FairEntry in the correct department, class and lot number to earn County Fair premiums. No late entries accepted. Only one entry per lot is permitted.
- 5. Standard National Rifle Association (NRA) and National Field Archery Association (NFAA) rules and definitions apply unless superseded by rules below.
- 6. Discrepancies will be decided by the county fair shooting sports superintendent for the applicable category of shooting sport.

Air Rifle & BB Gun Target Shooting

Rules:

- a) All shooters and any other persons on or in the immediate vicinity of the firing line must wear adequate eye protection.
- b) Ten Pellets or BB's must be counted out before each scoring position is shot.
- c) All rifles and BB guns must be loaded and shot in a single-shot capacity only.
- d) Legal kneeling rolls are allowed in the kneeling position.
- e) Slings are not allowed in the standing position.
- f) Ties will be broken with the greatest number of "tens" then best score in standing position. Then the greatest number of "tens", the

greatest number of "eights", etc.

g) **BB Gun Rules**

- a. NRA AR – 4/10 Targets shot at 5 meters; Paper or Electronic scoring
- b. BB Gun open and Aperture sights maximum FPS of 300 (no magnified or telescopic lenses allowed) Daisy Model 499B fits these parameters.
- c. The timer limit is 10 minutes for bench rested, bench unrested, kneeling and 15 minutes for standing. A 5-minute change over and sighting periods will be allowed before shooting the next position.
- d. A BB gun is any type .177 caliber pneumatic or spring air and will not exceed 300fps. Guns with trigger pull less than 1.5 pounds will not be permitted.
- e. No shooting jackets, shooting gloves, or other shooting aids attached to the gun or shooter, except slings as noted above, are allowed.
- f. When shooting from the bench position the shooter is allowed to sit on a chair or stool g. We will follow published NRA BB Gun Rules
- h. 30 total scored shots. 10 scored shots on each of the 3 targets in the following positions:
 - Grade 3 positions – Rested bench, unrested bench, and rested prone
 - Grade 4 positions – Rested prone, sling prone, and sling kneel
 - Grade 5-6 positions – Sling prone, sling kneel, and unsupported standing

h) **Air Rifle Rules**

- a. Official 10 meter Air Rifle, (AR5/10) targets shot at a distance of 10 meters. Paper or Electronic scoring.
- b. Open or Aperture sights, maximum 700 fps and new purchase value of \$650 (no magnified or telescopic lenses allowed) Daisy Avanti, Crossman Challenger fit these parameters.
- c. The timer is 10 minutes for prone and kneeling and 15 minutes for standing. A 5-minute changeover and sight in period will be allowed before the next position is shot.
- d. All rifles will be .177 caliber pneumatic, spring air, compressed air, or CO2 powered.
- e. Any rifles must have a trigger pull weight of at least 1.5 pounds.
- f. Shooting gloves and slings are allowed. g. No shooting jackets or other shooting aids attached to the rifle or shooter, except slings and gloves, are allowed.
- h. We will follow published National Standard Three-Position Air Rifle Rules
- i. 30 total scored shots. 10 scored shots on each of the 3 targets in the following positions:
 - Grade 6-8 positions – Sling prone, sling kneel, and unsupported standing
 - Grade 9 & up positions – sling prone, sling kneel, and unsupported standing

Air Rifle

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| 1. Target shooting contest, grades 3-5 | 4. Silhouettes shooting contest, grades 3-5 |
| 2. Target shooting contest, grades 6-8 | 5. Silhouettes shooting contest, grades 6-8 |
| 3. Target shooting contest, grades 9-older | 6. Silhouettes shooting contest, grades 9-older |

BB Gun

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|--|---|
| 1. Target shooting contest, grades 3-5 | 4. Silhouettes shooting contest, grades 3-5 |
| 2. Target shooting contest, grades 6-8 | 5. Silhouettes shooting contest, grades 6-8 |
| 3. Target shooting contest, grades 9-older | 6. Silhouettes shooting contest, grades 9-older |

Archery Contest:

Rules:

- A) Arrows: Maximum shaft diameter 27 mm. Only target or field points. No broad heads.
- B) Bows– Max draw weight of 60 pounds. No crossbows. No laser sights.
- C) Each event has 2 practice rounds that aren't scored. Archers do not have to shoot the practice arrows.
- D) Age – must be 8 by Jan 1st. Choose the grade you will have finished before the fair.
- E) Shooting Distances: Grades 3-6 = 10 yards. Grades 7 & up = 20 yards
- F) Classes: Youth may enter only one class per type of competition.
 - o Bare Bow – No peep, sights, releases or stabilizers allowed and shot with fingers. (Eg. County Genesis bows)
 - o Bowhunter – Fixed unmagnified sight. No adjustments to equipment are allowed during shooting unless equipment is malfunctioning. Max 12" stabilizer. No rear stabilizers. Mechanical release permitted.
 - o Freestyle – any archery equipment allowed other than laser sights. Unlimited adjustments allowed during shooting.

Classes:

NFAA Indoor 5 spot Competition– blue and white target. Participants shoot 6 rounds of 5 arrows each for a total of 30 scoring arrows and a total of 150 possible points (Note: this is only half of a typical round shot on this target face.)

1. 5 spot, bare bow, grades 3-5
2. 5 spot, bare bow, grades 6-8
3. 5 spot, bare bow, grades 9-older
4. 5 spot, bowhunter, grades 3-5
5. 5 spot, bowhunter, grades 6-8
6. 5 spot, bowhunter, grades 9-older
7. 5 spot, freestyle, grades 3-5
8. 5 spot, freestyle, grades 6-8
9. 5 spot, freestyle, grades 9-older

NFAA Vegas Competition– colored target – participants shoot 10 rounds of 3 arrows each for a total of 30 scoring arrows and a total of 300 possible points (Note: this is a full round on this face).

1. Vegas, bare bow, grades 3-5
1. Vegas, bare bow, grades 6-8
2. Vegas, bare bow, grades 9-older
3. Vegas, bowhunter, grades 3-5
4. Vegas, bowhunter, grades 6-8
5. Vegas, bowhunter, grades 9-older
6. Vegas, freestyle, grades 3-5
7. Vegas, freestyle, grades 6-8
8. Vegas, freestyle, grades 9-older

.22 Rifle Target Shooting**Rules:**

- a) NRAA-17 Targets shot at 50 ft. Paper or Electronic Scoring.
- b) Participants must be 12 years old and have hunter education safety certificate.
- c) Slings are allowed in prone and kneeling positions.
- d) No hyper-velocity ammunition will be allowed.
- e) Target grade loads.
- f) Ties will be broken with the most number of “tents”, most number of “nines”, most number of “eights”, etc.
- g) 30 total scored shots. 10 scored shots on each of the 3 targets in the following positions:
 - a. Grade 6-8 positions: sling prone, sling kneel, and unsupported standing
 - b. Grade 9 & up positions: sling prone, sling kneel, and unsupported standing

Classes:

1. .22 Rifle, iron sights, grades 6-8
2. .22 Rifle, iron sights, grades 9-older
3. .22 Rifle, scope sights, grades 6-8
4. .22 Rifle, scope sights, grades 9-older

.22 Pistol Target Shooting**Rules:**

- a) NRA A-17 Targets shot at 50 ft. Paper or Electronic Scoring.
- b) Participants must be 12 years old and have a hunter education safety certificate.
- c) Slings are allowed in prone and kneeling positions.
- d) Barrel Length cannot exceed 12 inches, overall length of hand gun cannot exceed 14 inches.
- e) Ties will be broke with the most number of “tens”, most number of “nines”, most number of “eights”, etc.
- f) 30 total scored shots. 10 scored shots on each of the 3 targets in the following positions:
 - a. Grade 6-8 positions: sling prone, sling kneel, and unsupported standing
 - b. Grade 9 & up positions: sling prone, sling kneeling, and unsupported standing

Classes:

1. .22 Pistol, iron sights, grades 6-8
2. .22 Pistol, iron sights, grades 9-older
3. .22 Pistol, scope sights, grades 6-8
4. .22 Pistol, scope sights, grades 9-older

Shotgun Target Shooting

Rules:

- a) Participants must be 12 years old and have a hunter education safety certification.
- b) Score sheet must include the hits and misses in order; a hit is indicated with a 1, slash or x while a miss is indicated with a 0.
- c) Shooters will fire from the 16-yard line.
- d) Everyone will shoot two consecutive rounds of 25 clays, one round from each house. NO practice rounds will be thrown. No shells longer than 2 $\frac{3}{4}$ " except .410 gauge.
- e) Trap loads only, magnum, or baby magnum loads, are not permitted.
- f) Shot sizes 7 $\frac{1}{2}$ to 9 only.
- g) In the event of ties, awards shall be decided on the basis of the longest run of hits in the total event beginning with the first target hit. Amateur Trap Shooters Association rules govern, except for the rules noted above.

Classes:

1. Shotgun score sheet, grades 6-8
2. Shotgun score sheet, grades 9-older

Muzzleloading Target Shooting

Rules:

- a) All shooting shall be done unsupported standing, no slings, rests, aids or shooting coats.
- b) Only weather appropriate clothing, shoes or boots
- c) No clothing designed to aid in shooting stability.
- d) Shooters will wear appropriate safety glasses and hearing protection.
- e) All target shall be shot from a distance of 25 yards
- f) Shooter may use a Patched round ball or full bore conical. No sabots.
- g) A max of 60 grains of black powder or black powder substitute may be loaded.
- h) Loading must take place at the loading bench separated in from the firing position by 4 ft. minimum.
- i) Shooters must only cap/charge pan at the shooting position with the muzzle down range.
- j) Targets National Muzzleloading Rifle Association targets shall be used.
- k) 17 rounds for score – 1 shot shall be fired at each of 5 animals on the Hafner Combination Target TG0901. 2 shots fired at each of the 6 bottles on the TG2427 bottle target.
- l) Loading blocks are permissible, all powder will remain closed unless actively measuring a charge.

Classes:

1. Muzzleloading Target, grades 6-8
2. Muzzleloading Target, grades 9-older