

combining old orders or making new ones. To be sure of the correct current order names for the insects in the collection, check with the Extension office or go to the website at: <http://oregon.4h.oregonstate.edu/natural-science> for the updated "Insect Orders, Meanings, Common Names"

**Recommended reference for Entomology orders** for identification of specimens, *Borror and Delong's Introduction to the Study of Insects 7th Edition* written by Charles A. Triplehorn and Norman F. Johnson. In the event of a discrepancy this reference will be considered the correct information source.

### Honeybee

#### WHO MAY EXHIBIT

Open to all 4-H members regardless of project enrollment.

#### Honeybee Educational Display

Note: Each exhibit piece must be labeled with the member's name, county and class number. Club exhibits are to be entered under the club name but must include the names of all members and leaders. This may be on a separate paper securely attached to the back of the exhibit. Club exhibits will receive one ribbon per exhibit.

**821 200 00\_\_ Honeybee Educational Display**, an educational exhibit relating to honeybees.

**Fill in the blank in the class number (\_\_) with the corresponding number for Junior, Intermediate, Senior or Club.**

- 1 Junior
- 2 Intermediate
- 3 Senior
- 4 Club

**Exhibit:** An educational exhibit relating to honeybees, honeybee keeping, honeybee products or honeybee information. I may not exceed 30" in width, 24" deep (front to back) and 36" high. **It may not include live bees.** Include an explanation to the judge as outlined under Education Display in the fair book.

**Judging criteria** are outlined on the 4-H Educational Poster/Display Score Sheet (40-463) available at the county Extension office or on the state 4-H website at <http://oregon.4h.oregonstate.edu/fair-exhibit-and-contest-materials>

### Outdoor Science

Each exhibit piece must be labeled with the member's name, county and class number.

A project exhibit relating to the out-of-doors. May not exceed 30" in width, 24" deep (front to back), and 36" high. Include an explanation of such things as: how to use exhibit, how made, where found, identify parts, etc., if appropriate to exhibit. Example: A birdhouse exhibit could include plans for making it, where it would be used, for what birds, an actual picture of where it will be used, etc.

- 451 200 011** Outdoors Science, Junior First Year  
**451 200 021** Outdoors Science, Junior Second and Third Year  
**451 200 012** Outdoors Science, Intermediate First Year  
**451 200 022** Outdoors Science, Intermediate Second and Third Year  
**451 200 013** Outdoors Science, Senior First Year

**451 200 023** Outdoors Science, Senior Second and Third Year

**451 200 024** Outdoors Science, Club

Judging criteria are outlined on 4-H Educational Display Check Sheet (40-463), available at the county Extension Office or on the state 4-H website, <http://oregon.4h.oregonstate.edu/fair-exhibit-and-contest-materials>

### AQUATIC ECOLOGY & ANGLER EDUCATION

**See website:** <http://oregon.4h.oregonstate.edu/contest-materials-natural-science>

#### Aquatic Macro-Invertebrates Specimens

Macro-invertebrates, regardless of developmental stage, serve as an energy source in fresh water (lakes, ponds, streams, rivers) fisheries. They include but are not limited to: eggs, larvae, nymphs, scuds, leeches, stoneflies, caddis flies, mosquitos, dragonflies, hellgrammites, etc. Specimen photos or drawing of specimens may be displayed in a three ring binder. Photos and drawings must be the original work of the exhibitor. Preserved specimens are to be displayed in specimen jars in display boxes. Each specimen, including photos or drawings, requires a label be affixed to the display box or page for easy reading. Labels (3/4"x1-1/2") on preserved specimens, photos or drawings are to include the name of the collector, date collected/photographed/drawn, order name, common name, name of body of water from which specimen was found, county, and state.

Label example:

Collector/Date: J. Smith 01/01/01

Order Name: Ephemeroptera

Common Name/Stage: Mayfly Adult or Nymph

Body of Water: Lost Lake

County/State: Hood River, OR

Phases are based on the number of specimens exhibited. Each collection is progressive. Exhibitors are expected to add 5 new preserved specimens, photographs, or drawings to their exhibit each year in addition to those exhibited the previous year. Exhibitors are not able to combine preserved specimens, photographs, or drawings as a single exhibit.

The entries must be accompanied by a 4-H Aquatic Ecology & Angler Education Explanation card (451-07, revised 2014) available on the state 4-H website at <http://oregon.4h.oregonstate.edu/contest-materials-natural-science>

#### Phase 1 Members display 10 to 20 specimens

**451 100 181** Preserved specimens displayed in specimen jars in display boxes

**451 200 181** Photographs of specimens displayed in a notebook

**451 300 181** Original Drawings of specimens displayed in a notebook

#### Phase 2 Members display 21 to 35 specimens

**451 100 182** Preserved specimens displayed in jars in display boxes

**451 200 182** Photographs of specimens displayed in a notebook

**451 300 182** Original Drawings of specimens

#### Phase 3 Members display 36 to 50 specimens

**451 100 183** Preserved specimens displayed in jars in display boxes

**451 200 183** Photographs of specimens displayed in a notebook

**451 300 183** Original Drawings of specimens

Judging criterias are outlined on an Aquatic Macro-invertebrates Score Sheet (451-01, revised 2014), available at the county Extension office or on the state 4-H website at <http://oregon.4h.oregonstate.edu/contest-materials-natural-science>

#### Common Knots

Knots are defined as those needed to secure line from a reel to terminal tackle. They are limited to Arbor Knot, Blood Knot, Dropper Loop, Cinch or Improved Cinch Knot, Nail Knot, Palomar Knot, Perfection Loop, Rapala Knot, Shell Knot, Double Surgeon's Loop, Trilene Knot, Uni-Knot. Each knot must be represented in two mediums. One (large scale) knot must be tied using white cordage no smaller than 1/8" and no larger than 1/4" in diameter. The (normal scale) second knot is to be tied to a barbless hook using the appropriate material as it would be used in fishing (monofilament, Dacron backing, fly line, etc.). Knots must be labeled with name and displayed on an 8.5"x11" matte board. The entries must be accompanied by a 4-H Aquatic Ecology & Angler Education Explanation Card (451-07, revised 2014) available on the state 4-H website at <http://oregon.4h.oregonstate.edu/contest-materials-natural-science>

**451 200 151 Common knots.** Junior, any 5 knots (each knot represented in large and normal scale).

**451 200 152 Common knots.** Intermediate, any 7 knots (each knot represented in large and normal scale).

**451 200 153 Common knots.** Senior, any 9 knots (each knot represented in large and normal scale) Judging criterias are outlined on a Common Knots Score Sheet (451-02, revised 2014), available at the county Extension office or on the state 4-H website at <http://oregon.4h.oregonstate.edu/contest-materials-natural-science>

#### Fish Prints

Prints can be made using real fish or fish models. Prints can be made using, but not limited to water color, tempura, acrylic, oil, and ink. Prints can be on fabric or paper or in combination and mounted on or in a frame not to exceed 22"x28". One print must be labeled with the common name, scientific name, and anatomy. Labels may be permanent or removable. Exhibitors are to make fish prints using real or model fish. Non-fish images are not acceptable. The entries must be accompanied by a 4-H Aquatic Ecology & Angler Education Explanation Card (451-07, revised 2014) available on the state 4-H website at <http://oregon.4h.oregonstate.edu/contest-materials-natural-science>

**451 200 161 Fish Prints.** Junior, 1 print

**451 200 162 Fish Prints.** Intermediate, 2 prints

**451 200 163 Fish Prints.** Senior, 3 prints

Judging criteria are outlined on Fish Prints Score Sheet (451-03, revised 2014) available at the county Extension office or on the State 4-H website at <http://oregon.4h.oregonstate.edu/contest-materials-natural-science>

#### Flies

Flies are defined as wet and dry. Dry flies are patterns used above the water line or in the surface film (e.g. adult insects, terrestrial insects, dry attractors, poppers, mouse, etc.). Wet flies are patterns used below the water line (e.g. nymphs, larvae, streamers, wet attractors, emergers, etc.) Materials (recipes) used may include but are not limited to hackle, lead wire, dubbing, hook,