

## DIVISION P - MECHANICAL SCIENCES

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### Division Rules & Regulations:

- Only 4-H Members may exhibit in this division. Exhibitors may only enter 1 exhibit per class.

Pre-entry is required. **YOU MUST USE THE INTERNET ENTRY SYSTEMS FOUND AT [www.marylandstatefair.com](http://www.marylandstatefair.com)** Internet entries are due **July 31<sup>st</sup>** Exhibitors without internet access should contact their County Extension Educator for assistance. All release forms are due to your County Extension Educator by July 31<sup>st</sup>. All exhibitors must complete and submit a release form.

- Exhibitors and exhibits must comply with the "General State Fair Rules & Regulations", "General 4-H and FFA Rules & Regulations", these "Division Rules & Regulations" and the applicable "Section Rules & Regulations".
- All exhibits must be clean and free of labels and tags, unless otherwise specified in the section rules or class description.
- Judging:** All exhibits will be judged on their own merit and receive a rating of Excellent, Very Good or Good. The Judges will then at their own discretion give placings up to 10<sup>th</sup> Place in each class. Unless otherwise noted in section, exhibits will be judged in one of the 4-H Age Divisions: Junior (ages 8-10 as of 1/1/17); Intermediate (ages 11-13 as of 1/1/17); Senior (ages 14-18 as of 1/1/17). Entries not conforming to class description and/or division/section rules & regulations will be disqualified.
- Awards:** Ribbons will be awarded to the 1<sup>st</sup> – 10<sup>th</sup> Place exhibits in each class. Premiums: 1<sup>st</sup> (\$7), 2<sup>nd</sup>-10<sup>th</sup> (\$5). Rosettes will be awarded to the Junior, Intermediate and Senior and Reserve Champions in each section, if there are sufficient entries as determined by the Superintendent.
- Entries for this division will be received Wednesday, August 23<sup>rd</sup> from 2pm to 8pm in the 4-H/FFA Home Arts Building and released Tuesday, September 5<sup>th</sup> from 9am to 7pm. An early-bird release period will be made available on Monday, September 4<sup>th</sup> from 8pm to 10pm AFTER the Building is closed to the public.
- Rules not followed may result in disqualification.

## SECTION I – WOODWORKING AND METALWORKING

### Section Rules & Regulations:

- A plan, blueprint, working drawing or sketch used in construction, must accompany each exhibit, along with a statement of intended use. Enclose all documentation in an envelope printed with the Exhibitor's name, age, phone #, 4-H County/City and class. Attach envelope to exhibit with string or tape. Notes: Birdhouse plans must state the species of bird for whom the house is designed. A "before" photograph along with a statement of intended use, must accompany each exhibit in the "refinishing" class.
- The maximum size is 3' x 6' x 5'. Where indicated in class description, LD is "largest dimension" and SD is "smallest dimension".
- All restoration entries must be entered in those respective classes. All kits should be entered in the kits classes in the crafts and hobbies department. Kits are defined as an exhibit assembled or made from pre-cut pieces whether it is a commercially purchased kit or the exhibits are pre-cut for a workshop and then assembled by 4-H member. All exhibits in the other classes must be made of worked wood (cut, shaped, etc.).
- Special note regarding Birdhouses: Birdhouses with perches attract unwanted, non-native birds such as House Sparrows and European Starlings, that are more aggressive than our native birds such as the Bluebird. Currently, these non-native birds are primarily responsible for the decline of many of our native cavity-nesting species. This note does not apply to decorative birdhouse classes.
- Judging Criteria: Design and Plan; Workmanship; Choice of Wood; Suitability and Quality of Finish; Usefulness.

### CLASSES

Junior	Inter.	Senior	Class Description	Junior	Inter.	Senior	Class Description
P1001	P2001	P3001	Decorative Bird House	P1013	P2013	P3013	Kitchen Article
P1002	P2002	P3002	Bird or other Wild Animal Feeder	P1014	P2014	P3014	Wooden Article for farm or shop use
P1003	P2003	P3003	Birdhouse (without a perch - see note above)	P1015	P2015	P3015	Small Refinished Article (LD less than 22")
P1004	P2004	P3004	Small Outdoor Furniture (LD less than 22")	P1016	P2016	P3016	Large Refinished Article (SD 22" or more)
P1005	P2005	P3005	Large Outdoor Furniture (SD 22" or more)	P1017	P2017	P3017	Outdoor Article (may not be in another class)
P1006	P2006	P3006	Small Indoor Furniture (LD less than 22")	P1018	P2018	P3018	Planter
P1007	P2007	P3007	Large Indoor Furniture (SD 22" or more)	P1019	P2019	P3019	Bookshelf, bookends, rack or key holder
P1008	P2008	P3008	Lathed Turnings	P1020	P2020	P3020	Wall Clock
P1009	P2009	P3009	Small chest/storage box (LD less than 22")	P1021	P2021	P3021	Table, Mantle or Floor Clock
P1010	P2010	P3010	Large chest or storage box (SD 22" or more)	P1022	P2022	P3022	Wooden Jewelry Article
P1011	P2011	P3011	Wooden Toy	P1023	P2023	P3023	Other-a wooden article that does not fit in one of the above classes
				P1024	P2024	P3024	Constructed (non-welded) metal item

## SECTION II—ELECTRICAL

### Section Rules & Regulations:

1. A wiring diagram and statement of intended use must accompany each exhibit. Enclose all documentation in an envelope printed with the Exhibitor's name, age, phone #, 4-H County/City and class. Attach envelope to exhibit with string or tape.
2. Used exhibits must be in a clean/presentable condition. Exhibits not meeting safety requirements (i.e. improperly wired) will be disqualified.
3. Judging Criteria: Design; Workmanship; Approved Materials; Practicality; Originality; Safety (must meet Code); Performance

### **CLASSES**

Junior	Inter.	Senior	Class Description	Junior	Inter.	Senior	Class Description
P1030	P2030	P3030	Practical Electrical Appliances	P1034	P2034	P3034	Electrical Demonstration and Quiz
P1031	P2031	P3031	Reading Lamp	P1035	P2035	P3035	Extension Cord or Drop Light
P1032	P2032	P3032	General Purpose Lamp	P1036	P2036	P3036	Electrical Motor Educational Display
P1033	P2033	P3033	Electrical Game	P1037	P2037	P3037	Electronics Article
				P1038	P2038	P3038	Robotics Educational Display

## SECTION III – BICYCLE & ATV SAFETY POSTER

### Section Rules & Regulations:

1. The poster must contain at least one of the following: a safe-riding rule, proper use of safety equipment, illustration of a safe riding practice or promotion of general bicycle or ATV safety. Posters may be either horizontal or vertical but must be designed on or affixed to standard poster board. Exhibitors may use any med.: water color, ink, crayon, marker, acrylic, charcoal, oils or collage. Posters must not be three-dimensional.
2. Cartoon figures, such as Snoopy, Barney, Sponge Bob etc., cannot be used because they are copyrighted.
3. The following information must be printed on the upper left-hand corner of the back of the poster: Exhibitor's Name, Age, Phone #, 4-H County/City and Descriptive Statement. Posters must include the "AA Statement" on the front side of the poster (see General 4-H/FFA Rules & Regulations).
4. Judging Criteria: Theme; Originality; Lettering; Composition; Use of Color; Construction/Durability; Safety Information Expressed.

### **CLASSES**

P1045 Bicycle Safety Poster - Junior  
P2045 Bicycle Safety Poster - Intermediate  
P3045 Bicycle Safety Poster – Senior  
P1046 ATV Safety Poster – Junior  
P2046 ATV Safety Poster – Intermediate  
P3046 ATV Safety Poster - Senior

## SECTION IV - AEROSPACE CRAFTSMANSHIP

### Section Rules & Regulations:

1. This section is open to all model rockets except those made from kits that are entirely made of pre-formed plastic parts. Plastic nosecone and payload section may be used. However, plastic fins are not allowed.
2. Judging Criteria: (a) Properly shaped and sized fins; (b) strength and smoothness of joints; (c) smoothness and attractiveness of painting; (d) overall beauty of the finished model.

### **CLASSES**

P1052 Aerospace Craftsmanship - Junior  
P2052 Aerospace Craftsmanship - Intermediate  
P3052 Aerospace Craftsmanship - Senior

## SECTION V - WELDING CRAFTSMANSHIP

### Section Rules & Regulations:

1. Articles exhibited in this section must have been fabricated by the exhibitor in the current 4H/FFA year.
2. The majority of the joints in the article must be welded electrically (MIG, SMAW, TIG) or with an oxy-fuel process.
3. Welds shall not be ground or filed to improve their appearance.
4. Articles may or may not be painted to show them at their best advantage.
5. Used articles must be clean. Dirt will be cause for disqualification.
6. Judging criteria shall include: workmanship (including weld quality, squareness and fit of joints and finish), overall design, originality and usefulness.
7. A limit of one entry per class will be enforced.

### **CLASSES**

NOTE : Very large pieces may need to be displayed outside if space is limited. Please contact superintendents for any items over the size limit of 6'x6'.

P2060 Welding Craftsmanship Intermediate – Any article made from 4-H project series "Arcs and Sparks"  
P2061 Welding Craftsmanship Intermediate – Any other small article.  
P2065 Award Class (Fair Use Only) – Intermediate Champion  
P3060 Welding Craftsmanship Senior – Any article made from 4-H project series "Arcs and Sparks".  
P3061 Welding Craftsmanship Senior – Any other small article.  
P3065 Award Class (Fair Use Only) – Senior Champion \*Champion Senior Exhibitor in the Welding department may be eligible for the Nation 4-H Welding contest. Contact Dwayne Murphy for more information. [Dmurphy2@umd.edu](mailto:Dmurphy2@umd.edu)