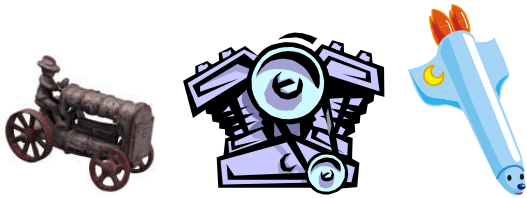


DEPARTMENT J-24 MECHANICAL PROJECTS



Superintendents
Gerod Gonske – 234-2707
Kori Richter – 736-1504

**All entries will be conference judged on
 Tuesday of Fair Week from 1-6 pm in
 the Youth Expo Building**

DIVISION A: TRACTOR MAINTENANCE

CLASS NUMBER

1. Nuts and Bolts exhibit with description attached, must be mounted on 12"x14" board.
2. Poster 12"x14", illustrating tractor safety.
3. Basic Tool Kit (with a description attached telling what you have and how you use it personally)
4. Display of one piece of toy farm machinery exhibit, custom built, 12"x14" board.
5. Display of one piece of toy farm machinery (explanation of significance of this toy farm machinery exhibit) 12"x14" board.
6. Display of a minimum of 5 implement or tractor manuals mounted on a plywood board (Size to be 2' x 4'.)
7. Scrapbook detecting the steps used to restore a tractor/implement. (must include photos, articles, and journal entries)

TRACTOR OPERATOR'S CONTEST

- Open to youth between the ages of 11 and 18 years, as of January 1, who are enrolled in the Tractor Maintenance Project.
- The contest shall consist of the following: written examination, safety inspection, two-wheel and four-wheel driving events.
- Contestants shall also be scored on safety throughout the contest.

CLASS NUMBER

8. Tractor Driving Contest – Age 11-12 as of 1/1/10
9. Tractor Driving Contest – Age 13-14 as of 1/1/10
10. Tractor Driving Contest - Age 15-16 as of 1/1/10
11. Tractor Driving Contest – Age 17-18 as of 1/1/10
12. Lawn & Garden Tractor Driving Contest Age 11-12 as of 1/1/10
13. Lawn & Garden Tractor Driving Contest Age 13-14 as of 1/1/10.

14. Lawn & Garden Tractor Driving Contest Age 15-16 as of 1/1/10
15. Lawn & Garden Tractor Driving Contest Age 17-18 as of 1/1/10

PREMIUMS FOR ABOVE
Blue \$2.50; Red: \$2.25; White: \$2.00; Pink: \$1.75

DIVISION B: SMALL ENGINES

Open to all members enrolled in Small Engines Project or other youth groups doing equivalent work.

**All entries will be conference judged on
 Tuesday of Fair Week in the Youth Expo Building
 from 1-6 pm.**

CLASS NUMBER

1. Poster, 14"x22", showing diagrammed illustration of recoil starter
2. Panel exhibit of small engine parts, with identification of parts (on a 4'x4' plywood piece)
3. Poster, 14"x22" illustrating steps in a small engine service job.
4. Poster, showing correct steps in preparing a small engine for off-season storage
5. Small engine safety poster, 14"x22"
6. A small engine that has been under the members' personal care and maintenance for a minimum of three months. A log record must be attached, showing the maintenance jobs performed and what dates. Engine may be mounted on equipment it is used for. Example: lawn mower.
7. A display giving a 3-D view of a small engine, with side panel removed and parts identified
8. Panel exhibit showing diagram of: ignition system, fuel system or lubrication system (actual parts may be used)
9. Panel showing worn or faulty parts with a statement as to cause and prevention.
10. Poster showing the events in a four-cycle engine, with a brief explanation, 14" x 22"
11. A homemade piece of equipment utilizing a small engine
12. Poster, 14"x22" showing events in a two-cycle engine, with a brief explanation.
13. Panel exhibit of carburetor parts with explanation of function of parts, float type or diagram type.
14. Exhibit made at 4-H Adventure Days.
15. Exhibit made from a kit at 4-H Adventure Days

DIVISION C: AEROSPACE ROCKETRY UNIT 1 – GRADES 3-5

DIVISION E: AEROSPACE ROCKETRY
Unit 3 – Grades 9-13

All entries will be conference judged on Tuesday of Fair Week from 1-6 pm in the Youth Expo Building

CLASS NUMBER

1. A straw rocket.
2. Exhibit to include a write-up giving information involved with the building and launching of the rocket.
3. Paper airplane
4. Homemade map
5. Photos of types of aircraft with description
6. Display on how weather affects flying
7. Homemade diamond kite
8. Hot air balloon model with parts identified
9. Homemade paper helicopter
10. A balsa-wood flying model airplane
11. Parts of an airplane displayed and identified
12. Exhibit illustrating and explaining possible careers in aerospace
13. Flying any kit rocket/airplane in a contest(s) according to Academy of Model Aeronautic Rules (either in free flight, radio control, or u-control.)

DIVISION D: AEROSPACE ROCKETRY
Unit 2 – Grades 6-8

CLASS NUMBER

1. Straw and balloon rocket
2. Flight simulator
3. Feather wing glider
4. Controllable glider
5. "Shuttle on a string"
6. Balloon shuttle
7. Nagasaki Hata Fighter Kite
8. Match parts and functions of a remote control
9. Display of helicopter parts and their function
10. Homemade hang glider
11. Model rocket, assembled from a kit by member
12. Exhibit to include a write-up giving information involved with the building and launching of the rocket.
13. Model rocket, designed, built and flown by exhibitor. Exhibitor to include a write-up giving information involved with the building and launching of the rocket.
14. A balsa-wood flying model airplane.
15. Exhibit illustrating and explaining possible careers in aerospace.
16. Flying any self-designed or kit rocket/airplane in a contest(s) according to Academy of Model Aeronautic Rules (either in free flight, radio control, or u-control.)

CLASS NUMBER

1. Model Rocket, designed, built and flown by exhibitor. Exhibit to include write-up giving information involved with the building and launching of the rocket.
2. Altitude tracker
3. Evaluation of navigation systems
4. A balsa-wood flying model airplane
5. A rocket, assembled from a kit by member (exhibit to include a write-up giving information involved with the building and launching of the rocket).
6. Homemade flat-style box kite
7. Exhibit illustrating and explaining possible careers in aerospace
8. Poster (11x14") on how to earn a pilot's certificate
9. Flying any self-designed or kit rocket/airplane in a contest(s) according to Academy of Model Aeronautic Rules (either in free flight, radio-control, or u-control.)

PREMIUMS FOR AEROSPACE/ROCKETRY:
Blue \$2.00; Red \$1.75; White \$1.50; Pink \$1.25

DIVISION F: HANDYMAN
Members in project the first year

All entries will be conference judged on Tuesday of Fair Week from 1-6 pm in the Youth Expo Building

NOTE: Contact the Fair Manager to make arrangements if tractor or other large article needs to be delivered to grounds prior to Judging Day.

CLASS NUMBER

1. Repaired, refinished or constructed article for use in the workshop (attach a statement of work done and method used)
2. Repaired, refinished or constructed article for sport or recreational purposes (attach a statement of work done and method used)
3. Repaired, refinished or constructed article for use in the home (attach a statement of work done and method used)
4. Repaired, refinished or constructed article for use out-of-doors (attach a statement of work done and method used.)

PREMIUMS FOR ABOVE:
Blue \$2.00; Red \$1.75; White \$1.50; Pink \$1.25

DIVISION G: HANDYMAN
For members with two or more years in the project

CLASS NUMBER

1. Repaired, refinished or constructed article for use in the workshop (attach a statement of work done and method used)
2. Repaired, refinished or constructed article for sport or recreational purposes (attach a statement of work done and method used)
3. Repaired, refinished or constructed article for use in the home (attach a statement of work done and method used)
4. Repaired, refinished or constructed article for out-of-doors (attach a statement of work done and method used)
5. Repaired, refinished or constructed article for use in another project (attach a statement of work done and method used)

PREMIUMS FOR ABOVE
Blue \$2.00; Red \$1.75; White \$1.50; Pink \$1.25

MODELS

Gerrod Gonske – 234-2707
Kori Richter – 736-1504
Superintendents

All entries will be conference judged on Tuesday of Fair Week from 1-6 pm in the Youth Expo Building

Limited To 3 Entries In Different Lot Numbers.

DIVISION H: Grades 3-4
DIVISION I: Grade 5-6 (0-1 yr experience)
DIVISION J: Grade 5-6 (2-4 yrs experience)
DIVISION K: Grades 7-8 (0-1 yr experience)
DIVISION L: Grades 7-8 (2-4 yrs experience)
DIVISION M: Grades 7-8 (5-7 yrs experience)
DIVISION N: Grades 9-10 (0-1 yr experience)
DIVISION O: Grades 9-10 (2-4 yrs experience)
DIVISION P: Grades 9-10 (5-7 yrs experience)
DIVISION Q: Grades 11-13 (0-1 yr experience)
DIVISION R: Grades 11-13 (2-4 yrs experience)
DIVISION S: Grades 11-13 (5-7 yrs experience)

CLASS NUMBER

1. Models made from building blocks (Lego) (Non-Kit)
2. Models made from Tyex blocks (Non-Kit)
3. Model made from a kit (pre-painted) plastic
4. Model made from a kit (pre-painted) steel
5. Model made from a kit (self painted)

6. Customized model*
*Made from parts from kits of other models.
Example: Model A Ford Kit, with parts from a Pinto or other car to customize the kit or stock car from model kit.

PREMIUMS FOR ABOVE:
Blue \$2.00; Red \$1.75; White \$1.50; Pink \$1.25

DIORAMAS

1. **Each exhibit must be accompanied by a 3x5 card with the following information:**

- Difficulty in making the model
- Manufacturer of kit (box name, kit number, etc.)
- Type of paint used and how applied
- Finishing procedures after built (decals, sealers, etc.)

2. **Must be enrolled in Scale Model project.**

- Dioramas will be limited to 3x4
- 3 foot side must be front of display
- Building materials may include legos, toy animals, matchbook size equipment
- No more than 2 entries made by one exhibitor in this class
- First year modelers can build Snap-Tite kits, but must follow **next** rule
- All models must be painted, except models built from Legos or K'Nex

DEFINITIONS

- **Built from Kit – Exactly as kit specifies**
- **Scratch Built – Buying or making individual parts & building a scale model or diorama**
- **Combination – Using kit and scratch items to complete diorama**
- **Kit-Based- Taking two or more kits and combining them into one scale model**

DIVISION T: GRADES 3-5
DIVISION U: GRADES 6-8
DIVISION V: GRADES 9-13

(Agricultural Dioramas may include home and building, farmyard, farm equipment, animals, cropland, forests, any bodies of water, windbreaks, utilities, etc.)

CLASS NUMBER

1. Ag diorama, with a landscape theme, built from a kit
2. Ag diorama, with a landscape theme, scratch built

3. Ag diorama, with a landscape theme, combination
4. Ag diorama, with a landscape theme, kit based
5. Ag diorama, demonstrating land conservation or an environmental theme, built from a kit.
6. Ag diorama, demonstrating land conservation or an environmental theme, scratch built
7. Ag diorama, demonstrating land conservation or an environmental theme, combination
8. Ag diorama, demonstrating land conservation or an environmental theme, kit based
9. Non Ag Diorama may demonstrate home and yard improvement built from a kit
10. Non Ag Diorama may demonstrate home and yard improvement scratch built
11. Non Ag Diorama may demonstrate home and yard improvement, combination
12. Non Ag Diorama may demonstrate home and yard improvement, kit based
13. Non Ag Diorama demonstrating the neighborhood, from a kit
14. Non Ag diorama demonstrating the neighborhood, scratch built
15. Non Ag diorama demonstrating the neighborhood, combination
16. Non Ag diorama demonstrating the neighborhood, kit based
17. Military items, from a kit
18. Military items, scratch built
19. Military items, combination
20. Military items, kit based
6. **Open to Division Y Only:** A display of 3 welds (t-joint, butt weld and lap weld) using oxyacetylene, arc, and wire welder. Joints may be no more than 3" long.
7. Item generated from an automatic plasma cutting device.
8. Item hand cut using a plasma cutter

Premiums for Welding Exhibits
Blue \$2.00 Red \$1.75 White \$1.50 Pink \$1.25

Premiums for Above
Blue \$2.00 Red \$1.75 White \$1.50 Pink \$1.25

WELDING

- Welds will be judged on quality and appearance.
- Exhibitor should include the type of weld - (wire, rod, stick) on a 4"x6" card
- Describe application used – (Example: tig, oxyacetylene, mig or arc welding)

DIVISION W: Grades 3-5
DIVISION X: Grades 6-8
DIVISION Y: Grades 9-13

Open to Divisions W, X & Y

CLASS NUMBER

1. Poster 11"x14" showing the different types of welding.
2. Poster 14"x22" showing different equipment used for welding.
3. Repaired item
4. Manufactured item
5. Any other welding project