

DEPARTMENT 24 – MECHANICAL SCIENCE

Judging: Monday 1:00 – 7:00 PM

RULES:

1. For poster regulations, see Rules & Regulations Junior Division.

Division A – Tractor

Premiums: Blue \$2.50 Red \$2.25 White \$2.00 Pink \$1.75

Class No.	Description
101.	Tractor record book; One or more pictures of tractor and member (book must have up-to-date project records)
102.	Panel of worn parts caused by poor tractor maintenance, collected by member (explain cause and prevention)
103.	Poster or model, telling story of tractor or machinery safety
104.	Tractor maintenance; pictures of tractor and member (book must have up-to-date project records)
105.	Poster exhibiting tractor service and cost records
106.	Exhibit board showing different kinds of nuts, bolts, screws, washers and other fasteners used on farm machinery, properly labeled
107.	Educational game teaching facts about tractor or machinery safety
108.	Any other exhibit related to tractors

Division B – Automotive

Premiums: Blue \$2.50 Red \$2.25 White \$2.00 Pink \$1.75

Class No.	Description
101.	Panel of working parts (worn) collected by the member from his own car or other sources. Each part shall be labeled with the cause
102.	A miniature scale model showing stopping distance required for different road conditions at different mile-per-hour ranges
103.	Exhibit on automotive safety
104.	Any other exhibit related to automotive

Division C – Small Engines

Premiums: Blue \$2.50 Red \$2.25 White \$2.00 Pink \$1.75

Class No.	Description
101.	Exhibit; small engine parts with identification of parts
102.	Poster illustrating parts in a small engine service job
103.	Poster showing correct steps in preparing a small engine for off season storage
104.	Exhibit on Small engine safety
105.	Exhibit on history of engines
106.	Exhibit on small engine tools and their uses
107.	Exhibit on proper disposal of discarded oil
108.	Exhibit on reasons for air filters

109.	Exhibit showing diagram of ignition system or fuel system (actual parts may be used)
110.	Panel showing worn or faulty engine parts with statement as to the cause and prevention
111.	Poster showing the events in a four-cycle engine with a brief explanation
112.	Rebuilt/ reconditioned lawn mower, chain saw, etc.
113.	Exhibit of Small Engine Classifications
114.	Grades of gasoline or oil
115.	Carburetor operation
116.	Rules and etiquette for ATV's and snowmobiles
117.	Exhibit of events in a two-cycle engine (with a brief explanation)
118.	Poster listing preventative maintenance recommended for two-cycle engines
119.	Safety poster on: Chain Saw Use, Outboard Motors, Motorcycles or Motorbikes
120.	Impact of small engine on environment
121.	Any other exhibit related to small engines



Division D – Bicycle

Premiums: Blue \$2.00 Red \$1.75 White \$1.50 Pink \$1.25

Class No.	Description
101.	Make and label a chart of traffic control signals
102.	Exhibit of bicycle parts
103.	Exhibit on bicycle care and maintenance
104.	Exhibit on types of bicycles, past or present
105.	Educational game or poster that teaches bicycle rules and safety
106.	Any other exhibit related to bicycles

Division E – Aerospace and Model Airplanes



RULES:

1. All model airplanes and rockets are to be assembled by exhibitor.
2. Non-kit models can be made from any material.

Premiums: Blue \$2.00 Red \$1.75 White \$1.50 Pink \$1.25

Class No.	Description
101.	Airplane model (not kit, not made to fly)
102.	Airplane model (not kit, made to fly)
103.	Airplane model (kit, not made to fly)
104.	Airplane model (kit, made to fly)
105.	Educational poster on basic parts of airplane
106.	Panorama exhibit, include airplane in authentic 3-D setting
107.	Model airplane safety exhibit
108.	Basic parts of model airplane exhibit
109.	Rocket, structure own exhibit
110.	Single stage rocket (2 or 4 fin model)
111.	Multi-stage rocket (2 or 3 fin model)
112.	Exotic design rocket
113.	Exhibit of basic parts of a rocket
114.	Rocket that has been fired – Include photo of launch, and report of distance, launch success, failure, accuracy
115.	Panorama exhibit, include rocket in authentic 3-D setting
116.	Exhibit on rocket safety
117.	Exhibit on history of flight
118.	Exhibit on principles of flight
119.	Exhibit on aircraft propulsion
120.	Exhibit on structure and instruments of aircraft
121.	Exhibit on navigation and weather
122.	Exhibit on air safety
123.	Exhibit on personal experience with flying
124.	Any other exhibit related to aerospace and model airplanes

**Division F – Models - - Cars, Boats, etc.
No Airplanes or Rockets**

RULES:

1. All models are to be assembled by exhibitor.
2. Non-kit models can be made from any material.

Premiums: Blue \$2.00 Red \$1.75 White \$1.50 Pink \$1.25

Class No.	Description
101.	Single basic level model
102.	Single intermediate level model
103.	Single advanced level model
104.	Panorama exhibit; include model in authentic 3-D setting
105.	Scratch built or modified kit model
106.	Any other exhibit related to models

Division G – Legos

Premiums: Blue \$2.00 Red \$1.75 White \$1.50 Pink \$1.25

Class No.	Description
101.	Lego vehicle from kit (car, plane, boat, etc.)
102.	Lego structure from kit (house, bridge, etc.)
103.	Lego robot from kit
104.	Lego animal from kit
105.	Lego vehicle
106.	Lego structure
107.	Lego robot
108.	Lego animal
109.	Any other Lego project from kit
110.	Any other Lego project (Not from a kit)
111.	Poster exhibiting Lego project from start to finish



Division H – Robotics

Rules: Robotics can be made from any material, but must move using a programmable device.

Premiums: Blue \$2.00 Red \$1.75 White \$1.50 Pink \$1.25

Class No.	Description
101.	Robotic vehicle from kit (car, plane, boat, etc)
102.	Robotic structure from kit (house, bridge, etc)
103.	Robotic figure (person or robot) from kit
104.	Robotic animal from kit
105.	Robotic vehicle
106.	Robotic structure
107.	Robotic figure (person or robot)
108.	Robotic animal
109.	Any other Robotic project from kit
110.	Any other Robotic project
111.	Poster exhibiting Robotic project from start to finish