

**DIVISION J - JUNIOR**  
**Department 124 – Mechanical Sciences**  
 Superintendent – Nancy Tisdale

All posters must be 11"x14"

- Only one (1) item per entry in all classes

**CLASS - AEROSPACE - Grades 3-7**

**CLASS - AEROSPACE - Grades 8-13**

**ENTRY**

	<b>Description</b>	<b>Blue</b>	<b>Red</b>	<b>White</b>	<b>Pink</b>
	Balsa-wood flying model airplane	2.00	1.75	1.50	1.25
	Hand-drawn chart showing parts of a model rocket	2.00	1.75	1.50	1.25
	Model airplane with gasoline engine constructed by exhibitor	2.00	1.75	1.50	1.25
	Model glider kit, assembled by exhibitor	2.00	1.75	1.50	1.25
	Model helicopter kit, assembled by exhibitor	2.00	1.75	1.50	1.25
	Model rocket constructed by exhibitor, no kits	2.00	1.75	1.50	1.25
	Model rocket kit, assembled by exhibitor	2.00	1.75	1.50	1.25
	Model space vehicle kit, assembled by exhibitor	2.00	1.75	1.50	1.25
	Plastic model airplane kit, glued together, assembled by exhibitor	2.00	1.75	1.50	1.25
	Plastic model airplane kit, snap together, assembled by exhibitor	2.00	1.75	1.50	1.25
	Poster showing airplane types and uses	2.00	1.75	1.50	1.25
	Scrapbook showing activities participated in	2.00	1.75	1.50	1.25

**CLASS - AUTOMOTIVE**

**ENTRY**

	<b>Description</b>	<b>Blue</b>	<b>Red</b>	<b>White</b>	<b>Pink</b>
	Exhibit of automotive board	2.00	1.75	1.50	1.25
	Exhibit showing cost of owning a car	2.00	1.75	1.50	1.25
	Periodic lubrication and/or maintenance chart of an automobile	2.00	1.75	1.50	1.25
	Poster on automotive safety				

**CLASS - BICYCLE**

**ENTRY**

	<b>Description</b>	<b>Blue</b>	<b>Red</b>	<b>White</b>	<b>Pink</b>
	Journal of a bicycle trip	2.00	1.75	1.50	1.25
	Plan of a bicycle trip with map, distance traveled, stops made, supplies needed, arrangements for meals, etc.	2.00	1.75	1.50	1.25
	Poster on bicycle laws and rules on the road	2.00	1.75	1.50	1.25
	Poster showing bicycle safety	2.00	1.75	1.50	1.25

**CLASS - DIORAMAS - Grades 3-5****CLASS - DIORAMAS - Grades 6-8****CLASS - DIORAMAS - Grades 9-13**

- No more than one entry may be made by one exhibitor in this division.
- Largest scale to be used is 1/12 (1 inch equals 1 foot).
- Each exhibit must be accompanied by a minimum of 3"x5" card with the following information:
  - Diorama Title
  - Difficulty in building the diorama
  - Any help in building it
  - Specify any customized pieces and whether those pieces were purchased or customized by exhibitor
  - Explain the activity in your diorama - may use separate page to explain
- Dioramas will be limited in size to a maximum of 3'x4'

**Definitions:****Scratch Built** - buying or making individual parts and building a scale model**Custom Built** - starting with a kit or a model and completely changing or modifying its appearance**Kit - bashed** - taking two or more kits and combining them into one scale model**ENTRY**

	Description	Blue	Red	White	Pink
	Any other diorama, kit	2.00	1.75	1.50	1.25
	Any other diorama, scratch built, custom built, or kit-bashed	2.00	1.75	1.50	1.25
	Diorama of agricultural items, built from a kit	2.00	1.75	1.50	1.25
	Diorama of agricultural items, scratch built, custom built or kit-bashed	2.00	1.75	1.50	1.25
	Diorama of miniature dwelling(s), (doll houses, etc.) and or furnishings, built from a kit	2.00	1.75	1.50	1.25
	Diorama of miniature dwelling(s), (doll houses, etc.) and or furnishings, scratch built, custom built, or kit bashed	2.00	1.75	1.50	1.25

**CLASS - GEOSPATIAL - Grades 3-7****CLASS - GEOSPATIAL - Grades 8-13****ENTRY**

	Description	Blue	Red	White	Pink
	Poster explaining the coordinate-grid reference system	2.00	1.75	1.50	1.25
	Poster or display on types of geographical tools	2.00	1.75	1.50	1.25
	Themed geocache packaged in watertight container	2.00	1.75	1.50	1.25

**CLASS - HANDYMAN - Grades 3-13****All projects must include an attached statement describing work done and method used****ENTRY**

	Description	Blue	Red	White	Pink
	Booklet showing work done to improve or repair a structure, room, vehicle	2.00	1.75	1.50	1.25
	Poster on how to fix a leaky faucet	2.00	1.75	1.50	1.25
	Repaired, refinished, or constructed article for sport or recreation purpose	2.00	1.75	1.50	1.25
	Repaired, refinished, or constructed article for use in the workshop	2.00	1.75	1.50	1.25
	Repaired, refinished, or constructed article for use outdoors	2.00	1.75	1.50	1.25

**CLASS - K'NEX - Grades 3-5    CLASS - K'NEX - Grades 6-8    CLASS - K'NEX - Grades 9-13**

- Small K'nex **MUST BE in a box or on a lid or cookie sheet** that is proportional to the project for ease in handling and displaying.
- No larger than 2'x3' board please. In cases where a larger board is needed, contact the fair office prior to entry day

**ENTRY**

	<b>Description</b>	<b>Blue</b>	<b>Red</b>	<b>White</b>	<b>Pink</b>
	Freestyle - Aerospace (airplane, rocket, etc.)	2.00	1.75	1.50	1.25
	Freestyle - Animal	2.00	1.75	1.50	1.25
	Freestyle - Any other, not listed	2.00	1.75	1.50	1.25
	Freestyle - Aquatic (boat, submarine, etc.)	2.00	1.75	1.50	1.25
	Freestyle - Building (doll house, firehouse, etc.)	2.00	1.75	1.50	1.25
	Freestyle - Dinosaurs	2.00	1.75	1.50	1.25
	Freestyle - Motorized	2.00	1.75	1.50	1.25
	Freestyle - Robotics	2.00	1.75	1.50	1.25
	Freestyle - Trains	2.00	1.75	1.50	1.25
	Freestyle - Vehicle (car, truck, etc.)	2.00	1.75	1.50	1.25
	Kits - Aerospace (airplane, rocket, etc.)	2.00	1.75	1.50	1.25
	Kits - Animal	2.00	1.75	1.50	1.25
	Kits - Any other, not listed	2.00	1.75	1.50	1.25
	Kits - Aquatic (boat, submarine, etc.)	2.00	1.75	1.50	1.25
	Kits - Building (doll house, firehouse, etc.)	2.00	1.75	1.50	1.25
	Kits - Dinosaurs	2.00	1.75	1.50	1.25
	Kits - Motorized	2.00	1.75	1.50	1.25
	Kits - Robotics	2.00	1.75	1.50	1.25
	Kits - Trains	2.00	1.75	1.50	1.25
	Kits - Vehicle (car, truck, etc.)	2.00	1.75	1.50	1.25

**CLASS - LEGOS- Grades 3-5    CLASS - LEGOS - Grades 6-8    CLASS - LEGOS - Grades 9-13**

- Small LEGOS **MUST BE in a box or on a lid or cookie sheet** that is proportional to the project for ease in handling and displaying.
- No larger than 2'x3' board please. In cases where a larger board is needed, contact the fair office prior to entry day.

**ENTRY**

	<b>Description</b>	<b>Blue</b>	<b>Red</b>	<b>White</b>	<b>Pink</b>
	Freestyle - Aerospace (airplane, rocket, etc.)	2.00	1.75	1.50	1.25
	Freestyle - Animal	2.00	1.75	1.50	1.25
	Freestyle - Any other, not listed	2.00	1.75	1.50	1.25
	Freestyle - Aquatic (boat, submarine, etc.)	2.00	1.75	1.50	1.25
	Freestyle - Building (doll house, firehouse, etc.)	2.00	1.75	1.50	1.25
	Freestyle - Dinosaurs	2.00	1.75	1.50	1.25
	Freestyle - Motorized	2.00	1.75	1.50	1.25
	Freestyle - Robotics	2.00	1.75	1.50	1.25
	Freestyle - Trains	2.00	1.75	1.50	1.25
	Freestyle - Vehicle (car, truck, etc.)	2.00	1.75	1.50	1.25
	Kits - Aerospace (airplane, rocket, etc.)	2.00	1.75	1.50	1.25
	Kits - Animal	2.00	1.75	1.50	1.25
	Kits - Any other, not listed	2.00	1.75	1.50	1.25

	Kits - Aquatic (boat, submarine, etc.)	2.00	1.75	1.50	1.25
	Kits - Building (doll house, firehouse, etc.)	2.00	1.75	1.50	1.25
	Kits - Dinosaurs	2.00	1.75	1.50	1.25
	Kits - Motorized	2.00	1.75	1.50	1.25
	Kits - Robotics	2.00	1.75	1.50	1.25
	Kits - Trains	2.00	1.75	1.50	1.25
	Kits - Vehicle (car, truck, etc.)	2.00	1.75	1.50	1.25

**CLASS - MODELS- Grades 3-7**

**CLASS - MODELS - Grades 8-13**

**ENTRY**

	Description	Blue	Red	White	Pink
	Any other metal model	2.00	1.75	1.50	1.25
	Any other model, not plastic or metal	2.00	1.75	1.50	1.25
	Any other plastic model, from a kit	2.00	1.75	1.50	1.25
	Any other plastic model	2.00	1.75	1.50	1.25
	Model car, metal, glued together	2.00	1.75	1.50	1.25
	Model car, metal, most pieces snap together	2.00	1.75	1.50	1.25
	Model car, original design, not plastic	2.00	1.75	1.50	1.25
	Model care, original design, plastic	2.00	1.75	1.50	1.25
	Model car, plastic, most pieces snap together	2.00	1.75	1.50	1.25
	Model car, plastic, pieces glued together	2.00	1.75	1.50	1.25
	Model motorcycle, from a kit	2.00	1.75	1.50	1.25
	Model ship, from a kit	2.00	1.75	1.50	1.25
	Model submarine or tank, from a kit	2.00	1.75	1.50	1.25
	Model truck, from a kit	2.00	1.75	1.50	1.25

**CLASS - ROBOTICS - Grades 3-7**

**ENTRY**

	Description	Blue	Red	White	Pink
	Basic Tankbot, from scratch	2.00	1.75	1.50	1.25
	Basic Tankbot, kit	2.00	1.75	1.50	1.25
	Tankbot navigates a maze	2.00	1.75	1.50	1.25
	Tankbot stops, using a touch sensor	2.00	1.75	1.50	1.25
	Tankbot stops, using both touch and light sensor	2.00	1.75	1.50	1.25
	Tankbot stops, using light sensor	2.00	1.75	1.50	1.25
	Tankbot that vibrates	2.00	1.75	1.50	1.25

**CLASS - ROBOTICS - Grades 8-13**

**ENTRY**

	Description	Blue	Red	White	Pink
	Robot follows a line, using loops	2.00	1.75	1.50	1.25
	Robot goes forward and backward	2.00	1.75	1.50	1.25
	Robot grips soda can and returns to starting point	2.00	1.75	1.50	1.25
	Robot, kit	2.00	1.75	1.50	1.25
	Robot, from scratch	2.00	1.75	1.50	1.25
	Robotic gripper that exhibitor built	2.00	1.75	1.50	1.25
	Types of gears	2.00	1.75	1.50	1.25

### CLASS - SMALL ENGINES

#### ENTRY

	<b>Description</b>	<b>Blue</b>	<b>Red</b>	<b>White</b>	<b>Pink</b>
	Exhibit of small engine with a minimum of 15 parts identified as to function	2.00	1.75	1.50	1.25
	Panel showing diagram of ignition system, or fuel system, or lubrication system (actual parts may be used)	2.00	1.75	1.50	1.25
	Panel showing worn or faulty engine parts with a statement as to cause and prevention	2.00	1.75	1.50	1.25
	Poster illustrating correct steps in preparing a small engine for off-season	2.00	1.75	1.50	1.25
	Poster illustrating steps in a small engine service job	2.00	1.75	1.50	1.25
	Poster showing the events in a four-cycle engine with a brief explanation	2.00	1.75	1.50	1.25
	Small engine safety poster	2.00	1.75	1.50	1.25

### CLASS - SNOWMOBILES & OFF HIGHWAY VEHICLES

#### ENTRY

	<b>Description</b>	<b>Blue</b>	<b>Red</b>	<b>White</b>	<b>Pink</b>
	Poster on parts of a snowmobile	2.00	1.75	1.50	1.25
	Poster on parts of an off highway vehicle	2.00	1.75	1.50	1.25
	Poster or chart on safe snowmobiling	2.00	1.75	1.50	1.25
	Poster or chart on safety rules of riding an off highway vehicle	2.00	1.75	1.50	1.25
	Poster or chart on snowmobile care and maintenance	2.00	1.75	1.50	1.25

### CLASS - TRACTOR

#### ENTRY

	<b>Description</b>	<b>Blue</b>	<b>Red</b>	<b>White</b>	<b>Pink</b>
	Any other display related to tractor safety	2.00	1.75	1.50	1.25
	Panel of 6 or more worn parts collected from a tractor or machine	2.00	1.75	1.50	1.25
	Poster stressing tractor or machine safety	2.00	1.75	1.50	1.25

### CLASS - WELDING - Grades 3-7

- All entries **must have** a statement describing application used.
- Example: tig, oxyacetylene, mig wire, or art welding

#### ENTRY

	<b>Description</b>	<b>Blue</b>	<b>Red</b>	<b>White</b>	<b>Pink</b>
	Any other welding project	2.00	1.75	1.50	1.25
	Manufactured item	2.00	1.75	1.50	1.25
	Poster showing different equipment used for welding	2.00	1.75	1.50	1.25
	Poster showing the different types of welding	2.00	1.75	1.50	1.25
	Repaired item	2.00	1.75	1.50	1.25

### CLASS - WELDING - Grades 8-13

- All entries **must have** a statement describing application used.
- Example: tig, oxyacetylene, mig wire, or art welding

#### ENTRY

	<b>Description</b>	<b>Blue</b>	<b>Red</b>	<b>White</b>	<b>Pink</b>
	A display of 3 welds (T-joint, butt weld, and lap weld) using oxyacetylene arc and wire welder. Joints may be no longer than 3" long. Maximum display size 16"x24"	2.00	1.75	1.50	1.25
	Any other welding project	2.00	1.75	1.50	1.25
	Manufactured item	2.00	1.75	1.50	1.25
	Poster showing the different equipment used for welding	2.00	1.75	1.50	1.25
	Repaired item	2.00	1.75	1.50	1.25