

**CLASS B INVESTIGATING ELECTRICITY (2-3 years in project)**

Entry No.	Blue	Red	White	Pink
1. Any article	2.50	2.25	2.00	1.75
2. Any article				
3. Any article				
4. Any article				

**CLASS C WIRED FOR POWER (4-5 years in project)**

Entry No.	Blue	Red	White	Pink
1. Any article	2.50	2.25	2.00	1.75
2. Any article				
3. Any article				
4. Any article				

**CLASS D ENTERING ELECTRONICS (6 or more years in project)**

Entry No.	Blue	Red	White	Pink
1. Any article	2.50	2.25	2.00	1.75
2. Any article				
3. Any article				
4. Any article				

## JUNIOR MECHANICAL SCIENCES

Department 240

**CLASS A TRACTOR RULES**

1. No more than four entries per exhibitor. One exhibit per entry number.
2. Beginner, intermediate and advanced refers to years in project.

Examples of entries: Repair or maintenance log of work performed, photo story with captions documenting repair, collection of worn or broken parts-explain defects (Tip- zip-tie parts to a painted pegboard for a neat display.)

**CLASS A TRACTOR**

Beginner (1-2 yrs)				Intermediate (3-5 yrs)				Advanced (6 yrs +)			
Blue	Red	White	Pink	Blue	Red	White	Pink	Blue	Red	White	Pink
2.25	2.00	1.75	1.50	2.50	2.25	2.00	1.75	2.75	2.50	2.25	2.00

**Entry No.**

- |                |                |                 |
|----------------|----------------|-----------------|
| 1. Any article | 5. Any article | 9. Any article  |
| 2. Any article | 6. Any article | 10. Any article |
| 3. Any article | 7. Any article | 11. Any article |
| 4. Any article | 8. Any article | 12. Any article |

**One Champion per class (If Judge so desires)****Ribbon Only**

## CLASS B WELDING RULES

1. No more than four entries per exhibitor. One exhibit per entry number.
2. Beginner, intermediate and advanced refers to years in project.

Examples of entries: display of vertical, horizontal, butt, and fill welds, poster about welding safety, garden art made from welded hardware, fabricated machine or tool

### **CLASS B WELDING**

**Beginner (1-2 yrs)**

**Blue Red White Pink**

**2.25 2.00 1.75 1.50**

**Intermediate (3-5 yrs)**

**Blue Red White Pink**

**2.50 2.25 2.00 1.75**

**Advanced (6 yrs +)**

**Blue Red White Pink**

**2.75 2.50 2.25 2.00**

#### **Entry No.**

1. Any article

2. Any article

3. Any article

4. Any article

5. Any article

6. Any article

7. Any article

8. Any article

9. Any article

10. Any article

11. Any article

12. Any article

**One Champion per class (If Judge so desires)**

**Ribbon Only**

## CLASS C SMALL ENGINE RULES

1. No more than four entries per exhibitor. One exhibit per entry number.
2. Beginner, intermediate and advanced refers to years in project.
3. Maximum display board size will be 24" x 30".

Examples of entries: rebuilt engine, poster about lawn mower maintenance, display board showing parts of a carburetor, photo story with captions showing engine repair or maintenance, collection of worn or broken parts-explain defects (Tip- zip-tie parts to a painted piece of 24" X 30" or smaller pegboard for a neat display.)

### **CLASS C SMALL ENGINES**

**Beginner (1-2 yrs)**

**Blue Red White Pink**

**2.25 2.00 1.75 1.50**

**Intermediate (3-5 yrs)**

**Blue Red White Pink**

**2.50 2.25 2.00 1.75**

**Advanced (6 yrs +)**

**Blue Red White Pink**

**2.75 2.50 2.25 2.00**

#### **Entry No.**

1. Any article

2. Any article

3. Any article

4. Any article

5. Any article

6. Any article

7. Any article

8. Any article

9. Any article

10. Any article

11. Any article

12. Any article

**One Champion per class (If Judge so desires)**

**Ribbon Only**

## CLASS D AUTOMOBILE RULES

1. No more than four entries per exhibitor. One exhibit per entry number.
2. Maximum display board size will be 24" x 30".
3. Whole cars or large engines are allowed if the work done is visible to fairgoers, but **MUST** be pre-approved by the department superintendent. Contact fair office at [lexie@waukeshacountyfair.com](mailto:lexie@waukeshacountyfair.com) or ph.262-544-5922 one week before judging.

Examples of entries: Display about proper tire tread, Automobile maintenance checklist, Poster explaining torque, photo story with captions depicting engine overhaul.

### **CLASS D AUTOMOBILES**

**Beginner** (1-2 yrs)

**Blue Red White Pink**

**2.25 2.00 1.75 1.50**

**Intermediate** (3-5 yrs)

**Blue Red White Pink**

**2.50 2.25 2.00 1.75**

**Advanced** (6 yrs +)

**Blue Red White Pink**

**2.75 2.50 2.25 2.00**

**Entry No.**

1. Any article

2. Any article

3. Any article

4. Any article

5. Any article

6. Any article

7. Any article

8. Any article

9. Any article

10. Any article

11. Any article

12. Any article

**One Champion per class (If Judge so desires)**

**Ribbon Only**

## CLASS E BICYCLE RULES

1. Limit four entries. One exhibit per entry number.

Examples of entries: Poster about Bike safety, display board labeling and explaining all parts of a bike's braking system, photo story about bike tricks (use safety equipment!)

### **CLASS E BICYCLES**

**Entry No.**

1. Any article

2. Any article

3. Any article

4. Any article

5. County Fair Bicycle Rodeo (13 yrs. and under)

6. County Fair Bicycle Rodeo (14 yrs. and over)

**Blue**

**2.25**

**Red**

**2.00**

**White**

**1.75**

**Pink**

**1.50**

**One Champion per class (If Judge so desires)**

**Ribbon Only**

## **RULES FOR CLASS F**

1. No more than four entries per class. One exhibit per entry number.
2. A model constructed of Legos, Construx, Erector or similar toys, or any pre-finished kits shall be disqualified.
3. First year members only may use a snap together kit in all classes, but kits must be fully glued, painted or covered.
4. No partially or totally pre-finished kits.
5. All visible non-moving areas must be completely painted or finished with paint, metal foil, stain, or similar material. Finish must be applied by the member. Factory-applied finishes are not acceptable. Clear areas such as windows, canopies, lights and view ports may be left clear.
6. The use of decals or aircraft nose art must accurately reflect the art on the original being replicated. If the art work is determined to be inappropriate for the Fair by Fair Management, the article will be judged but not displayed.
7. Third year and over are required to have:
  - Planes- full rigging on biplanes, tri-planes and obvious external rigging and wiring on monoplanes
  - Ships- full rigging on all ships
  - Detailing- significant detailing on all models
8. Dioramas must be no larger than 24" long by 24" wide by 24" high. To qualify for State Fair, dioramas must be no larger than 24" long by 24" wide by 18" high.
9. Displays/dioramas must be one unit. Be sure model and all other objects are securely fastened.
10. Models made of paper/card, etc. should be firmly attached to a foam board or cardboard base except for birds which may be displayed as if in flight. Models such as aircraft or a ship must be free standing.

### **Notes:**

1. Model airplanes, rockets, kites, and balloons built and judged for flight are entered in CLASS H 4-H Rocket Launch or Class I Aerospace Science.
2. Posters, displays, log books, etc. about aviation theory, flight experience, astronomy, space theory are entered in CLASS I.

### **CLASS F SCALE MODELS AND MINATURES**

<b>Entry No.</b>	<b>Blue</b>	<b>Red</b>	<b>White</b>	<b>Pink</b>
1. Any article	<b>2.25</b>	<b>2.00</b>	<b>1.75</b>	<b>1.50</b>
2. Any article				
3. Any article				
4. Poster, display, or photo story with captions relating to scale models.				

**One Champion per class (If Judge so desires)      Ribbon Only**

### **CLASS G MODEL RAILROAD RULES**

1. No more than four entries per class. One exhibit per entry number.
2. Individual modules must be planned and created by exhibitors.

3. Each module must be judged prior to being assembled in with other modules.
4. Exhibitors in entries 4 and 5 must pre-register with their project leaders for space on the line.
5. All items must be securely attached to the diorama.
6. All railroad dioramas must include at least 1 of the following elements:
  - a. At least two buildings
  - b. A lake, shoreline, river, stream, pond or other water feature.
  - c. A bridge, trestle or other elevated structure over which track runs.
  - d. A hill, mountain, tunnel, culvert or other elevated or below ground-level natural feature.
  - e. A switch, turn-out, roundhouse or other mechanical device to alter direction of travel.
  - f. Artificial lighting or any other electrical powered item.
  - g. A quarry, factory, mining, construction site, manufacturing complex, city, town, village, fairgrounds, farm, resort, or any other scenery theme.
  - h. Dioramas must have at least two railroad cars in place, which may be removed after judging.
7. All railroad dioramas must include landscaping including grass where applicable and at least two trees.
8. Individual railroad cars/engines, etc must be shown on a length of track firmly attached to base of wood, foam board, plastic, or rigid cardboard.
9. Computer programs written to control and operate trains must be prepared to demonstrate the working program.
10. HO Scale Modules must be no larger than 24" long X 24" wide X 18" high. A Double Module of 24 X 48 X 18 is available to individual entrants with permission of the project leader.
11. Lionel, O Gauge, S Gauge must be 30" X 30" and no taller than 30".
12. No section may weigh more than 30 lbs.

### **CLASS G MODEL RAILROAD**

<b>Entry No.</b>	<b>Blue</b>	<b>Red</b>	<b>White</b>	<b>Pink</b>
1. Any article	<b>2.25</b>	<b>2.00</b>	<b>1.75</b>	<b>1.50</b>
2. Any article				
3. Any article				
4. HO Scale diorama module for Iron Beaver Line				
5. Lionel diorama module for Silver Fox Line.				
6. Poster, display, or photo story with captions relating to model railroad.				

**One Champion per class (If Judge so desires)      Ribbon Only**

### **CLASS H 4-H ROCKET LAUNCH RULES**

1. **One rocket and one aircraft per exhibitor will be judged at Rocket Launch, all other launched rockets and flown aircraft must be entered in CLASS I for judging.**

2. In the event of bad weather on the day of the 4-H Rocket Launch, Class H Rocket Launch will be flown independently and judged under Class I.
3. All entries are judged on the flight, operation, and overall appearance of the rocket. Appearance is judged on the basis of structure, paint and finish. Appearance counts for 33% of the final award given.
4. All entries must meet appropriate safety codes of NAR (National Association of Rocketry) and the AMA (Academy of Model Aeronautics).
5. All participants in Rocket Launch will be required to demonstrate knowledge of safe operation before launch of model rockets.
6. Rockets containing a payload may only contain a USDA large uncooked egg. No living creatures may be launched.
7. **Scratch Built or Kit Built:**
8. Cloverbuds and Juniors (age 13 and younger) may only build rockets from kits.
9. Senior youth (14 years and older,) may build rockets from scratch or kits.
10. **Engine type/size:**
  - a. Exhibitors who **have not** flown in two county Rocket Launches within the past three years, (regardless of age,) **must** use a single stage rocket with ballistic, streamer or parachute recovery.
  - b. Exhibitors who **have flown** in two County Fair Rocket Launches within the last three years may use any rocket built from a **kit** with engine **limited to E or smaller**, as listed in instructions in the kit.
  - c. Exhibitors entered in entry #6, **and** having flown in four fair launches within last five years, may fly any scratch built or kit built rocket, with engine **limited to E or smaller** as listed in instructions.
11. Scratch built models must meet NAR safety specifications for scratch built rockets. Entrant must present a logbook with all design drawings and calculations at the time of a swing test **prior to fair Launch**, at a time agreed upon between the entrant and one of the rocket launch coordinates.
12. Entrant will not be penalized for loss of a rocket or aircraft during County event flight.
13. Flying model rockets and aircraft will be sent home with the entrant after rocket launch/aircraft flight for cleanup and repair, with the exception of lost or damaged beyond repair rockets/aircraft. Members whose rocket/aircraft was lost or severely damaged may bring a substitute to the fair for display. Launched rockets **must be** displayed at fair.
14. **Any** rocket engines, fuel, batteries, and other power sources except rubber bands, **must be removed** before models are brought for display at fair.
15. The rocket or aircraft flown in Class H, 4-H Rocket Launch, cannot be used for any other fair entry.

## CLASS H 4-H ROCKET LAUNCH

### Entry No.

### Participation Ribbon 1.00

1. Flying Model aircraft - Cloverbuds
2. Flying Model launched rocket - Cloverbuds

Entry No.	Blue	Red	White	Pink
	2.00	1.75	1.50	1.25

### Flying Model Aircraft

3. Junior (age 13 and younder)
4. Senior (age 14 and older)

### Flying Model Launched Rocket

5. Junior (age 13 yrs. and under)
6. Senior (age 14 yrs and older)

One 4-H member in Junior and Senior Classes of Launched Rockets will be selected to represent Waukesha County 4-H at the State 4-H Rocket Launch.

## CLASS I AEROSPACE SCIENCE RULES

1. No more than four entries per exhibitor. One exhibit per entry number.
2. Aerospace Science articles deal with the science of flight.
3. Entries may include actual flown rockets or aircraft, with flight history, or posters, displays, and photos.
4. **None of the articles in this class have been exhibited at 4-H Rocket Launch.**
5. Rockets or aircraft models are judged on flight history, operation knowledge, and sound aerospace construction of the model.
6. All entries must meet appropriate safety codes of NAR, National Association of Rocketry, and of the AMA, Academy of Model Aeronautics.
7. Rocket engines, fuel, batteries and other power sources, except rubber bands, **must be removed** before models are brought for judging and display.
8. Rockets or aircraft **have been flown** this current year, but not at a 4-H Rocket Launch.
9. In the event of bad weather at 4-H Rocket Launch, those rockets or aircraft will be flown independently and judged under class I aerospace.
10. All flown model entries must include:  
8 ½" X 11" cardstock with the flight information, including date, time, location, conditions of the flight, flight history, and one picture of flight.
11. Additional notes and photographs of the flight may be included.
12. The actual model flown must be presented to the judge, put on display at the fair and cannot be used for any other entry.

## CLASS I AEROSPACE

Entry No.	Blue	Red	White	Pink
	2.25	2.00	1.75	1.50

1. Flown model (not flown at Rocket Launch)
2. Poster explaining some principle of aerospace
3. Poster explaining a real life experience of aerospace
4. Poster, display or photo story of aerospace science
5. Skycam photos taken any time except 4-H Rocket Launch

**One Champion per class (If Judge so desires) Ribbon Only**

## CLASS J RC CAR RULES

1. No more than three entries per exhibitor per class. One exhibit per entry number.

- Remote controls should be brought to judging, with working batteries. Remotes will be brought home after judging, the car will remain on display.

### **CLASS J RC CARS**

<b>Entry No.</b>	<b>Blue</b>	<b>Red</b>	<b>White</b>	<b>Pink</b>
1. Any Entry	<b>2.25</b>	<b>2.00</b>	<b>1.75</b>	<b>1.50</b>
2. Any Entry				
3. Any Entry				
4. Poster, display, or photo story with captions about RC Cars				

**One Champion per class (If Judge so desires) Ribbon Only**

### **CLASS K FIRST LEGO LEAGUE ROBOTICS RULES**

- Entries must use current year's FIRST LEGO League challenge.
- Exhibitors that are not part of a 4-H FLL team may participate in entries either individually or with other 4-H members. Exhibitors can only present their individual work. In the case where the work cannot be shown individually, exhibitors must provide details to the judges clearly describing their own work.
- No more than four entries and only one entry per entry type (project, design, programming, or robot performance). You may not sign up for both team and individual entry for a given entry type (ie. Project presentation etc).

### **CLASS K First Lego League Robotics**

<b>Entry No.</b>	<b>Blue</b>	<b>Red</b>	<b>White</b>	<b>Pink</b>
1. Individual Project presentation	<b>2.25</b>	<b>2.00</b>	<b>1.75</b>	<b>1.50</b>
2. Individual Robot design interview				
3. Individual Programming interview				
4. Individual Robot performance				

<b>Entry No.</b>	<b>Blue</b>	<b>Red</b>	<b>White</b>	<b>Pink</b>
1. Team Project presentation	<b>2.25</b>	<b>2.00</b>	<b>1.75</b>	<b>1.50</b>
2. Team Robot design interview				
3. Team Programming interview				
4. Team Robot performance				

**One Champion per class (If Judge so desires) Ribbon Only**

## **JUNIOR FOODS AND NUTRITION**

### **Department 250**

### **RULES**

- Each entry must be displayed on a tray in a plastic bag furnished by the Fair (no foods may be left in the pan).
- NO FROSTING on cakes or cookies.