

# ~ Plant & Soil Science ~

**Project Requirements:** Complete at least four activities each year from the project manual and record them in your self provided journal.

**Size Limitations:** Table-top displays should be limited to approximately 2' wide x 15" deep and recommended poster size is 22" x 30". Tri-fold display boards are acceptable.

## J0701 Plants & Soils I: It's More Than Just Dirt ☺

**Exhibit Requirements:**

- Prepare a display or poster that illustrates an activity from the project manual.
- The display should demonstrate an understanding of environmental and internal factors that affect plant growth.
- Include your project journal that documents activity recordkeeping requirements, answers activity questions, and details personal thoughts and ideas.



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## J0702 Plants & Soils II: Stems and Stamens ☺

**Exhibit Requirements:**

- Prepare a display or poster that illustrates an activity from the project manual.
- The display should demonstrate an understanding of the composition of plants, the functions of individual plant parts, plant life cycles, and the many ways plants reproduce.
- Include your project journal that documents activity recordkeeping requirements, answers activity questions, and details personal thoughts and ideas.

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## J0703 Plants & Soils III: Sprouting Out and Growing Up ☺

**Exhibit Requirements:**

- Prepare a display or poster that illustrates an activity from the project manual.
- The display should demonstrate an understanding of environmental and internal factors that affect plant growth.
- Include your project journal that documents activity recordkeeping requirements, answers activity questions, and details personal thoughts and ideas.

# ~ Robotics ~

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**Project Requirements:** Complete at least three activities in the project manual each year.

**General Guidelines:**

- Exhibitor must supply all Lego robots & equipment needed to demonstrate his/her pre-programmed robot. If youth does not have access to a Lego robotics kit they should choose the second option.
- Extension will NOT supply Lego robotics kit for exhibition.
- Robots have to be assembled and pre-programmed prior to the judging and ready to demonstrate.

## G4000A Robotics Explorer, Chapter 1 ☺

**Exhibit Requirements:**

- Create a computer slide show or science board display describing 3-5 examples of robots and their uses in the real world. Label and describe what makes each robot more than a machine or computer.
- Bring the completed manual to the fair to show project requirements have been met for the current year.

## **Robotics Continued...**

### **G4000B     Robotics Explorer, Chapter 2 ☺**

#### **Exhibit Requirements:**

- Exhibit one of the following:
    - Bring your robot pre-programmed to travel a square track.
    - Create a display that uses the programming language (icons) to visually represent what commands would be used to program your robot to travel a square track.
  - Provide a narrative describing your experience designing & troubleshooting this program (for both options).
  - **Bring the completed manual to the fair to show project requirements have been met for the current year.**
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### **G4000C     Robotics Explorer, Chapter 3 ☺**

#### **Exhibit Requirements:**

- Exhibit one of the following options:
    - Bring your robot pre-programmed to demonstrate a line tracking program you wrote that uses input from a sensor (light, touch, etc)
    - Create a display that uses the programming language (icons) to visually represent what commands would be used to program your robot to follow a line tracking program that you wrote that uses input from a sensor (light, touch, etc).
  - Provide a narrative that describes your experience designing and troubleshooting this program (for both options).
  - **Bring the completed manual to the fair to show project requirements have been met for the current year.**
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### **G4000D     Robotics Explorer, Chapter 4 ☺**

#### **Exhibit Requirements:**

- Exhibit one of the following options:
    - Bring your robot pre-programmed to demonstrate a line tracking program you wrote that combines input from two sensors.
    - Create a display that uses the programming language (icons) to visually represent/explain what commands would be used to program your robot to follow a line tracking program that you wrote that combines input from two sensors.
  - Provide a narrative that describes your experience designing and troubleshooting this program (for both options).
  - **Bring the completed manual to the fair to show project requirements have been met for the current year.**
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### **G4010A     Robotics Probe, Chapter 1 ☺**

#### **Exhibit Requirements:**

- Exhibit one of the following options:
  - Bring your robot pre-programmed to demonstrate a line tracking program you wrote that uses a rotational sensor to determine distance traveled or to control turns.
  - Create a display that uses the programming language to visually represent/explain how you programmed your robot to use a rotational sensor to determine distance traveled or to control turns.
- Provide a narrative that describes your experience designing and troubleshooting this program (for both options).
- **Bring the completed manual to the fair to show project requirements have been met for the current year.**

## **Robotics Continued...**

### **G4010B     Robotics Probe, Chapter 2 ☺**

#### **Exhibit Requirements:**

- Exhibit one of the following options:
    - Bring your robot pre-programmed to demonstrate an experiment you created to test the travel distance and speed of a robot designed using different gears. Provide a picture of the robot you designed with all gear types, pulleys and belts labeled. Provide a narrative that analyzes the results of your experiment.
    - Create a display that uses the programming language to visually represent/explain an experiment you created to test the travel distance and speed of a robot designed using different gears. Provide a picture of the robot you designed with all gear types, pulleys and belts labeled. Provide a narrative that analyzes the results of your experiment.
  - **Bring the completed manual to the fair to show project requirements have been met for the current year.**
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### **G4010C     Robotics Probe, Chapter 3 ☺**

#### **Exhibit Requirements:**

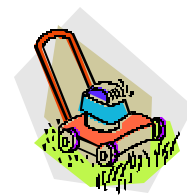
- Exhibit one of the following options:
  - Bring your robot pre-programmed to demonstrate a line tracking program that you wrote that uses advanced programming strategies, such as containers, loops and subroutines and using combined sensors. Provide a narrative that describes your experience designing and troubleshooting this program.
  - Create a display that uses programming language to visually represent/explain a line tracking program that you wrote that uses advanced programming strategies, such as containers, loops and subroutines and using combined sensors. Provide a narrative that describes your experience designing and troubleshooting this program.
- **Bring the completed manual to the fair to show project requirements have been met for the current year**

## **~ Small Engines ~**

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**Project Requirements:** Operate and maintain one engine. Complete at least four activities in the project manual each year.

**Small engine displays must be no larger than 4'x4' display board.**



### **G0601     Small Engines Display ☺**

#### **Exhibit Requirements:**

- Exhibit a display, selecting one of the following options:
  - A display identifying different engine or lawn and garden equipment parts
  - A display identifying and explaining the function(s) of different specialty tools needed for small engine work
  - A display illustrating and providing the results of any one of the experiments that are included in the project books.
- **Bring the completed manual to the fair to show project requirements have been met for the current year.**
- **All exhibits should involve engines smaller than 20 horsepower. No complete engines are permitted for display!**

## Small Engines Continued...

### **G0602 Small Engines – Maintenance ☺**

#### **Exhibit Requirements:**

- Demonstrate one of the following on an engine(no more than 20HP):
  - Perform routine maintenance on an engine or piece of lawn and garden equipment
  - Diagnose and troubleshoot specific problems with an engine, short of a complete overhaul. The exhibitor should be prepared to discuss the reasons for the specified maintenance or how they approached the diagnosis of the engine.
- **Bring the completed manual to the fair to show project requirements have been met for the current year.**
- **All exhibits should involve engines smaller than 20 horsepower. No complete engines are permitted for display!**

## ~ Small Pets ~

### **A1301 Small Pets ☺** - Please indicate what kind of animal on your fair entry form.

**Project Requirements:** Feed and care for one bird, animal, or fish. Complete at least 4 activities from the project manual each year.

#### **Exhibit Requirements:**

- Exhibit a poster (at least 14"x22" but no larger than 22"x28") or display (no larger than 2' wide x 15" deep) related to an activity completed in the project. Posters will remain on exhibit for the entire fair.
- Include a photograph of the pet.
- In addition, all small pets (no fish) should be brought to judging ONLY. All pets must be taken home after judging is completed.
- All items in the display should be affixed to the display board. NO additional items should be included.
- **Bring the completed manual to the fair to show project requirements have been met for the current year.**

## ~ Tractor ~

**Size Limitations:** Table-top displays should be limited to approximately 2' wide x 15" deep and recommended poster size is 22" x 30". Tri-fold display boards are acceptable.

### **G0810 Tractor I: Starting Up ☺**

#### **Exhibit Requirements:**

- Exhibit a display or poster that illustrates one of the following topics:
  - Tractor safety;
  - Care and Maintenance
  - The tractor as a valuable farm machine;
  - Or an activity listed in the project manual.



## Tractor Continued...

### **G0820 Tractor II: Tractor Operation ☺**

#### **Exhibit Requirements:**

- Exhibit a display or poster that illustrates one of the following topics:
  - Cause and prevention of rollovers
  - Diagram how an air cleaner works
  - Diagram & identify an engine cooling system
  - Regulations for battery & oil disposal
  - Or another activity listed in the project manual.

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### **G0830 Tractor III: Moving Out ☺**

#### **Exhibit Requirements:**

- Exhibit a display or poster that illustrates one of the following topics:
  - Wagon & bin hazards
  - Diagram & identify open and closed hydrologic systems
  - Mower types and safety features
  - Conveyor types and safety features
  - Or another activity listed in the project manual

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### **G0840 Tractor IV: Learning More ☺**

#### **Exhibit Requirements:**

- Exhibit a display or poster that illustrates one of the following topics:
  - Method of winterizing a tractor
  - Chemical uses and required safety equipment
  - Parts and process of internal combustion engine
  - Procedure for cleaning and flushing tractor radiator
  - Or another activity listed in the project manual



## **~ Veterinary Science ~**

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### **A1501 Vet Science I: The Normal Animal ☺**

### **A1510 Vet Science II: Animal Disease ☺**

### **A1521 Vet Science III: Animal Health & Our World ☺**

**Project Requirements:** Own or obtain an animal for observation. Complete the activities in the project manual.

#### **Exhibit Requirements:**

- Prepare a poster (at least 14" x 22" but no larger than 22" x 28") or display (no larger than 2' wide x 15" deep) that depicts something studied in the project, the basic anatomy of one animal, or the basic diseases of an animal.
- All items in the display should be affixed to the display board. NO additional items should be included.
- Be prepared to discuss the activity and any results.
- Live animals are **NOT** permitted as exhibits in this area. For safety reasons, exhibits should **NOT** include syringes with needles.

## Veterinary Science Continued...

### Livestock Posters

All members enrolled in an animal project may choose to exhibit a poster/display **instead of a live animal**. Ownership of the animal is not necessary. These will be judged at the same time as Veterinary Science. The following are options for exhibits. Choose one option each year. As the member continues in the project, progress needs to be shown. The exhibit is expected to be relevant to the member's age and years of experience in this project.

A display (no larger than 2' wide x 15" deep) or poster (no larger than 22" x 28"), related to the specific animal project you are enrolled in, will be prepared explaining one of the following:

- ✓ body parts identification
- ✓ handling the animal
- ✓ grooming the animal
- ✓ identification of breeds
- ✓ equipment needed for care
- ✓ diseases/treatments
- ✓ careers related to this animal field
- ✓ animal nutrition
- ✓ gestation/breeding
- ✓ parasites and treatment
- ✓ veterinarian visits
- ✓ vaccinations
- ✓ showmanship

\*\*The Dog Care class is now a poster class. Those wishing to enter in this should use the class numbers listed below for Dogs I, II or III. **DO NOT** bring your dog to the fair.

A0105P Beef I poster  
A0110P Beef II poster  
A0120P Beef III poster

A0960P Poultry I poster  
A0965P Poultry II poster  
A0970P Poultry III poster

A0540P Meat Goat I poster  
A0550P Meat Goat II poster  
A0560P Meat Goat III poster

A0210P Cat I poster  
A0220P Cat II poster  
A0230P Cat III poster

A1020P Rabbit I poster  
A1030P Rabbit II poster  
A1040P Rabbit III poster

A0340P Dairy I poster  
A0350P Dairy II poster  
A0360P Dairy III poster

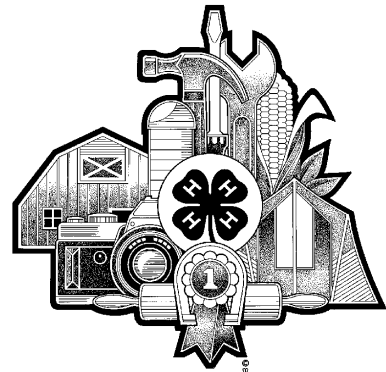
A1105P Sheep I poster  
A1110P Sheep II poster  
A1120P Sheep III poster

A0440P Dog I poster  
A0450P Dog II poster  
A0460P Dog III poster

A1430P Swine I poster  
A1440P Swine II poster  
A1450P Swine III poster

A0510P Goat I poster  
A0520P Goat II poster  
A0530P Goat III poster

A0680P Horse I poster  
A0690P Horse II poster  
A0695P Horse III poster  
A0696P Horse IV poster  
A0697P Horse V poster



# ~ Woodworking ~

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## General Guidelines:

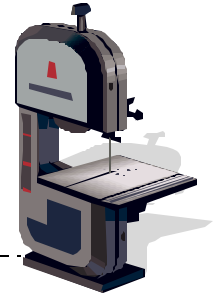
- Exhibitors should be aware of limited exhibit space for woodworking exhibits.
- Exhibits must be portable
- Exhibit should be no wider than 6 feet.

## G0905 Woodworking I: Measuring Up ☺ (suggested ages 8-10) – Beginner

**Project Requirements:** Make three articles. Complete at least seven activities in the project manual each year. The manual is not required for fair at this time.

### Exhibit Requirements:

- Exhibit an item made of wood (constructed or refinished) by the member.
- Pre-cut kits assembled by the member are not acceptable and should be entered in the Woodworking – Pre-cut kits class.



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## G0906 Woodworking II: Making the Cut ☺ (sugg. ages 11-12) Intermediate

**Project Requirements:** Make, repair, or refinish three articles. Complete at least seven activities in the project manual each year. The manual is not required for fair at this time.

### Exhibit Requirements:

- Exhibit an item made of wood (constructed or refinished) by the member.
- Pre-cut kits assembled by the member are not acceptable and should be entered in the Woodworking – Pre-cut kits class.

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## G0907 Woodworking III: Nailing it Together ☺ (suggested ages 13 & over) Advanced

**Project Requirements:** Make three small articles or one large article. Complete at least seven activities in the project manual each year. The manual is not required for fair at this time.

### Exhibit Requirements:

- Exhibit an item made of wood (constructed or refinished) by the member.
- Pre-cut kits assembled by the member are not acceptable and should be entered in the Woodworking – Pre-cut kits class.

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## G0908 Woodworking IV: Finishing it Up ☺ (suggested ages 13 & over) Advanced

**Project Requirements:** Make four small articles or one large article. Complete at least seven activities in the project manual each year. The manual is not required for fair at this time.

### Exhibit Requirements:

- Exhibit an item made of wood (constructed or refinished) by the member.
- Pre-cut kits assembled by the member are not acceptable and should be entered in the Woodworking – Pre-cut kits class.

## **Woodworking Continued...**

### **G0909 Woodworking – Pre-cut Kits (Small)**

**Project Requirements:** Make three articles. Complete at least seven activities in the project manual each year. The manual is not required for fair at this time.

**Exhibit Requirements:**

- Exhibit any item made of wood from a pre-cut kit that was assembled by the member.
  - Items in this class should be no larger than 2 ½' x 2 ½'.
  - **This class is NOT eligible for State Fair.**
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### **G0910 Woodworking – Pre-cut Kits (Large)**

**Project Requirements:** Make three articles. Complete at least seven activities in the project manual each year. The manual is not required for fair at this time.

**Exhibit Requirements:**

- Exhibit any item made of wood from a pre-cut kit that was assembled by the member.
- Items in this class should be larger than 2 ½' x 2 ½'.
- **This class is NOT eligible for State Fair.**

