



## THE WILLARD PTO STUDENT SCIENCE FAIR

**THURSDAY, MARCH 15th 5:30-6:15pm**

### **SCIENCE FAIR PROJECT GUIDELINES**

Congratulations on your decision to participate in the Willard PTO Science Fair! The following packet should help answer questions you may have about the process. We look forward to seeing your project.

**SIGN UP:** All students who participate in the PTO science fair MUST sign up on the PTO Web Store (click here to sign up). 4th graders are **NOT** automatically entered into the PTO science fair. Make sure you enter your project title as at the PTO webstore as soon as you know it. Also, feel free to sign up for the fun interactive science festival portion, chock-full of hands on science activities and (new this year) an amazing science show in the auditorium, which goes until 8PM. Please click here to register for the Festival on the PTO Web Store.

**SET UP:** Have your child bring his/her project to school on Thursday March 15<sup>th</sup>. Students will set up their projects in the Gym after school at **3:10 pm on Thursday March 15<sup>th</sup>. Please don't wait for your child in the carpool lane while they're setting up.** Students should then **return to Willard at 5:30 pm** for their Science Fair Presentations. Families are welcome and encouraged to attend the student's presentations and stay for the fun & educational Science Festival after the fair.

### **What Kind of Experiment Should I Choose?**

Choose any science topic that your child is interested in (for example: sports, computers, music, art, space, etc.) and has sufficient time to carry out. Although the final product is required to come from the student, parents may help their child as much as necessary depending on the child's level. Science fair project ideas can come from:

- Teachers, friends/relatives in science professions, or librarians—The Library Learning Center or the public library have some science fair books.
- Science Fair Project workbooks—available in bookstores or libraries.
- Websites: Just type the key words "science fair projects" into any search engine. Some of our favorites include:
  - <http://www.sciencebuddies.org/>
  - <http://www.education.com/science-fair/elementary-school/>
  - <http://www.sciencekids.co.nz/experiments.html>

## REQUIREMENTS AND GUIDELINES

### I. CHOOSE A PROJECT TYPE:

After students select a topic choose one of the 4 project types (see A thru D) for your entry into the Science Fair:

- A. **PERFORM A SCIENTIFIC INVESTIGATION OR EXPERIMENT** in order to find out something, by creating your own procedure (i.e., what soap makes the most bubbles?);
- B. **DEMONSTRATE A SCIENTIFIC PRINCIPLE** following a procedure found in a Science Experiment book to recreate the principle (i.e., surface tension, density, air pressure, etc.);
- C. **CONSTRUCT A SCIENTIFIC MODEL** (i.e., the human eye, the water cycle, solar and lunar eclipses, etc.); or
- D. **PUT TOGETHER A SCIENTIFIC COLLECTION** of related items either man-made or naturally occurring in the environment (i.e., rocks, minerals, insects, etc.).

### II. DISPLAY REQUIREMENTS FOR EACH TYPE OF PROJECT:

#### PROJECT TYPE A: **INVESTIGATIONS/EXPERIMENTS**

1. Title: of the project.
2. Purpose: "To find out..."
3. Hypothesis or Prediction: "If... Then... Because..." This is your best guess as to what you think will happen. For example, "if a golf ball and a ping pong ball are dropped from the same height, then the golf ball will hit the ground first because the golf ball weighs more."
4. Procedure: Outline the steps that you followed to do your investigation. If you are unable to display your demonstration set-up, be sure to include drawings or photos of it in the procedure section.
5. Results: of your demonstration. You can show your results using charts, graphs, drawings, and/or photographs.
6. Conclusion: Tell what your experiment taught you (even if your prediction was incorrect). If possible, describe practical applications of your demonstration to everyday life.
7. Resources: must be cited.

## **PROJECT TYPE B: DEMONSTRATION OF A SCIENTIFIC PRINCIPLE**

1. Title: of the project.
2. Scientific principle: of your project demonstrates
3. Purpose:
  - i. “To show how...”
  - ii. “To show that...”
  - iii. “To show why...”
4. Procedure: Outline the steps that you followed to do your investigation. If you are unable to display your demonstration set-up, be sure to include drawings or photos of it in the procedure section.
5. Results: of your demonstration. You can show your results using charts, graphs, drawings, or photos.
6. Conclusion: Tell what was learned from your demonstration. If possible, describe practical applications of your demonstration to everyday life.
7. Resources: must be cited.

## **PROJECT TYPE C: CONSTRUCTING A MODEL**

In addition to the model (including its labeled parts), the display should include:

1. Title and Type: of the project.
2. Purpose:
  - i. “To show ....”
  - ii. “To construct a model of...”
3. Procedure: What you did in making your model. You may include steps, an outline, sketches, or photos.
4. List of materials and resources: used for constructing your model.
5. List of labeled parts: and a description of their characteristics or functions.
6. Resources: must be cited.

## **PROJECT TYPE D: PUTTING TOGETHER A SCIENTIFIC COLLECTION**

Every item in your collection should have a label that describes what it is, where you found it, and the date it was found. Place items with similar characteristics in groups, and title of each group. In addition to the items in the collection, your display should include:

1. Title and Type: of the project.
2. Purpose: (“To put together a collection of...”)
3. Classification: Describe how your collection was organized. Be sure to list your groups.
4. Statement about what you learned from assembling your collection.
5. Background Information: about your topic. (Ex; how rocks were formed, scientific names).
6. Resources: must be cited.

**LABELS:** ALL PROJECTS MUST BE LABELED on the upper Left-hand corner of the display materials, as follows:

- Project Type (Category A, B, C or D above)
- Title
- Student’s Name
- Grade Level
- Teacher

**MATERIALS:** Please use a sturdy, durable material to display your work. Display boards or foam boards are suggested, which are readily available at office supply stores or re-purpose cardboard boxes, etc.

**SIZE:** Your display may be no larger than 4 feet wide, 4 feet deep (front to back) and 4 feet tall (4’ X 4’ X 4’).

**HANDLING:** We will assume that you will not want your project handled by others. If, however, viewers may touch and experience your project, then please invite them to do so with a sign.

**RESOURCES:** Provide a list of all resources you have used, including information taken from books, reference materials, web sites, etc. Keep track of resources to reference them on the display board.

### III. SAFETY RULES:

- *Project displays cannot include nuts or nut products of any type.*
- Anything which may be toxic, dangerous, flammable or hazardous is strictly prohibited. We will not allow any open flames or burners, unshielded light bulbs, dangerous chemicals, poisons, etc. Additionally, you may not distribute food to observers.
- You must supply your own electrical or power source if needed. No outlets or extension cords will be permitted or provided.
- No live animals may be used.
- Cultures of molds and bacteria must be completely contained and sealed.

**IV. ORAL PRESENTATION:** All participants will present their project to a friendly Science Mentor and/or to other science fair guests on Thursday, March 15<sup>th</sup> sometime between 5:30 pm and 6:15 pm. The Science Mentors will be teachers or former science fair judges. Mentors will use criteria outlined below. To foster the love of learning science, we are encouraging participants to share their presentations with their peers.

### V. MENTOR RUBRIC

#### PROJECT

- ❑ Purpose is well defined.
- ❑ Adequate time and effort were invested.
- ❑ Project is within the student's ability.
- ❑ Project relates to the purpose and demonstrates good scientific principles.
- ❑ Project meets the criteria set forth for its type:  
**INVESTIGATION/EXPERIMENT,**  
**DEMONSTRATION,**  
**MODEL, OR**  
**COLLECTION.**

#### DISPLAY

- ❑ Content: All parts are present, with complete details as they relate to topic.
- ❑ Visual presentation: Neat, well-organized, clear explanations, correct spelling, and creativity.

#### ORAL PRESENTATION

- ❑ Content: Able to explain why project was chosen. Able to summarize project.
- ❑ Presenter speaks enthusiastically and in a loud, clear voice.
- ❑ Adequate length: one to five minutes.
- ❑ Able to answer evaluator's questions about the project.

**VI. QUESTIONS:** For any further information, please feel free to contact:

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