

# Forest Trail Elementary's



# **SCIENCE FAIR**

2018 - 2019

## Timeline for FTE Science Fair 2018-2019

- November 26, 2018 - Science Fair sign-up goes live on FTE website along with Science Fair documents
- December 21, 2018 - All interested participants **MUST** be entered on the Google Form
- January 29, 2019 - All projects must be brought to FTE Library between 2:00 - 4:00 p.m. **NO EXCEPTIONS.**
- January 30, 2019 - Judging takes place at Forest Trail
- January 31, 2019 - Classes visit Science Fair
- January 31, 2019 - Top 3 projects receive awards and notification of steps for Regional Festival
- January 31, 2019 - Open House - Students pick up projects to take home
- February 6, 2019 - FTE Top 3 projects for 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> grade must submit forms to Michael Buthe if opting to move forward to the Regional Science Festival
- February 22, 2019 - FTE Top 3 projects for 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> grade are checked in at Palmer Events Center
- February 23, 2019 - Elementary Projects judged at the Palmer Events Center



## **Projects That Are Not Allowed**

No student in the Elementary Division will be allowed to design or conduct any science project that involves:

- Firearms, explosives or discharge air pressure canister devices (i.e. potato guns)
- Projects where the student has grown **mold** or **bacteria** of any kind (no moldy food studies, etc.)
- Causing pain, suffering, sickness or death of an animal
- Any activity or substance that presents a danger to the student or the environment, including hazardous chemicals or radioactive materials
- **NO HUMAN OR ANIMAL FOOD IS ALLOWED ON THE PROJECT BOARD OR IN THE PROJECT DISPLAY AREA** (not even in sealed bags or containers) - Photos are allowed

## **Display and Safety Guidelines**

All student projects must follow the guidelines listed below to be allowed to display in the festival exhibit hall.

### **Items Not Allowed:**

**Project display must not exceed 48 in. wide x 16 in. deep.**

- **No organisms; living, dead or preserved** (no plants or animals)
- **No chemicals, crystals, liquids (including water)**
- No human/animal parts or body fluids (for example, blood, urine)
- No human or animal food
- No poisons, drugs, controlled or hazardous substances
- No sharp items (for example: syringes, needles, pipettes, knives, tacks, nails)
- No glass or glass objects unless encased or an integral and necessary part of a commercial product (ex: a computer screen)
- No pressurized tanks or containers
- No batteries with open top cells (so that battery acid can be seen)

- No dirt, soil, gravel, rocks, sand, waste products, etc.
- No project, device, activity or substance that may be deemed hazardous to student health or safety
- No photographs or pictures of animals or people in surgical techniques, dissections or necropsies.

### **Discouraged Items**

- Expensive, breakable or fragile items.

### **Allowed and Encouraged Items**

- Photographs, drawings, stuffed animals/artificial plants or imitation (play) food should be used to depict the prohibited or discouraged items.
- Students should always plan on taking photographs of their project steps as a visual explanation of their effort. Students must ask permission before photographing any other individuals for display on project.
- Be sure to properly credit/acknowledge all sources of graphics and photographers on the display board (Photograph taken by . . . ).
- Students may use a computer to print written parts of the project.
- Electrical projects may use batteries as sources of electricity.

### **Display Board**

Project display should be on sturdy tri-fold board available at local craft and office supply stores. Written material, drawings and pictures should be securely attached to the display board.

Projects will be displayed on tables that are 36 inches high. Size of display area may not exceed the following measurements: 15" deep, 48" wide, and 72" high. Due to space limitations, displays that exceed these measurements cannot be accepted.

## **Electricity for Your Display**

- Electrical projects may use batteries as sources of electricity.
- If a project requires electricity, indicate this need when registering the project online.

## **Project Organization at Austin Energy Regional Science Festival**

Grade Level: Each project is categorized by grade level or equivalent

Project Categories: While there are 2 types of projects that students may display at school (Exhibit/Model or Experiment), the Regional Science Fair's criteria are geared more towards an Experiment.

Note: Many students have difficulty discerning the difference between Exhibit and Experiment projects. Remember, an Experiment follows the steps of the scientific method. It clearly asks a question to which you do not already know the answer without testing. An Exhibit is an explanation of how or why something works. It reveals details about the topic. An Exhibit is an explanation, not a question.

## **Parental Help**

Some students are fortunate to have parents who have time to help them. However, parents who do the thinking or build the project for students do not really help them. Parents are encouraged to help their children in these ways:

- Read and discuss the "Rules for Participation"
- Select projects which are appropriate for the child's age and grade
- Plan and manage project work, documentation, and clean-up times
- Take your child to the public library or other places for research
- Help draw straight lines for a young child
- Listen to your child's oral explanation of the project
- Ensure the child's safety

*Students must list any parental help in the References and Acknowledgements section of the project.*

# Judging Criteria

Projects are evaluated by how well the project demonstrates each criterion. For each project submitted, students will be interviewed by our judges by another set of criteria below.

## PROJECTS CRITERIA

### A. EXHIBIT: Demonstration, Model, or Display

An exhibit can be a demonstration, a model or a display. A demonstration or model describes how or why something works. A display reveals details about the topic.

#### DISPLAY BOARD ELEMENTS

- **TITLE** of Demonstration, Model or Display
- **RESEARCH REPORT** gives background information about exhibit (may include diagrams and pictures)
- **EXPLANATION** of what the exhibit shows
- **CONCLUSIONS**
- **REFERENCES and ACKNOWLEDGEMENTS**

#### CRITERIA FOR JUDGING

##### Exhibit: Demonstration, Model, or Display

Title
Written research/background information
Conclusions - what was learned
References and Acknowledgements

#### EXAMPLES

##### Demonstration

You might want to demonstrate how light reflects off different objects. For instance, you might arrange a set of Lucite mirrors (no glass) or even pieces of foil to show how a beam of light from a flashlight bounces from one reflective surface to another. Your report could explain that light travels in straight lines. Many demonstrations are found in books like "Mr. Wizard," which are available from the library.

##### Model

You might like to make a model of a bridge out of wood or sticks. Diagrams could show the parts, and your report could explain how a bridge is constructed.

##### Display

You might design a display about monkeys, showing pictures of different types of monkeys. Your report could explain where the monkeys live, what they eat, and describe some interesting habits.

*Students should always plan on taking photographs of their project steps as a visual explanation of their effort.*



## B. EXPERIMENT

An experiment is a test of a question to which you do not already know the answer. To test your question, you must follow the steps of the scientific method. The display board elements below list these steps.

### DISPLAY BOARD ELEMENTS

- **TITLE** of experiment
- **PROBLEM:** What question are you trying to answer OR what problem are you trying to solve?
- **DEFINITIONS:** Explain the meanings of any special words stated in the "Problem."
- **HYPOTHESIS or DESIGN GOAL:** What do you think will happen OR What is your design goal?
- **BACKGROUND INFORMATION:** What do books, articles, and the Internet say about your topic?
- **EXPERIMENTAL MATERIALS:** What items do you need to do the project?
- **EXPERIMENTAL PROCEDURE:** These are the steps you follow to do the project.
- **RESULTS:** What happened? (Use tables of data or graphs plus descriptions.)
- **CONCLUSION:** What is the answer to the question in your "Problem?" How do you explain your results?
- **REFERENCES and ACKNOWLEDGEMENTS:** Books, people, articles (include the title and author) or specific Web sites (include the date the site was accessed). Neither search engines, such as Google and Yahoo, nor Wikipedia are scientific sources.

### CRITERIA FOR JUDGING

Title
Problem - Student asks a testable question or states problem
Definitions - Student knows the meaning of the words in the problem
Hypothesis/Goal - Student predicts results or states goal
Background Information - Student provides written research information
Experimental Procedure - Student describes steps of test
Experimental Materials - Student lists items needed for test or construction
Results - Student describes what happened (tables and graphs can display data)
Conclusion - Student answers the question posed in the problem

### EXAMPLES

Do ants like diet soda? Do batteries of the same brand last the same amount of time?  
Does warm water freeze faster than cold water?

**Remember to check the list of prohibited/discouraged/allowed items in the "Elementary Division Rules for Participation".**

*Students should always plan on taking photographs of their project steps as a visual explanation of their effort.*

## INTERVIEW CRITERIA

### A. CRITERIA FOR JUDGING

Purpose - Student explains idea behind demonstration or variables and conclusion(s) of experiment
Independence - Level of understanding demonstrated by student and evidence of student involvement in the process
Project Organization - Student can explain all steps/stages of the project
Presentation of Data/Information - Important sections are labeled and in a logical order
Conclusion - Student explains lessons learned and connections/applications to real world

