



2016 HIGHLAND PARK SCIENCE FAIR HANDBOOK

WHO PARTICIPATES?

- 1) **ALL students** are encouraged to enter.
- 2) **ALL 5th graders** are *required* to enter an **EXPERIMENT** (not an Exhibit).
- 3) **All GT identified students** (*in any subject*) are *required* to enter an Experiment OR Exhibit.
- 4) **K-4th graders** are invited to enter **Experiments OR Exhibits**.
- 5) Students in grades K-3 students may work individually *or in pairs* (please note that in order to advance to the Regional science fair, the students must be in the same grade).
- 6) Each homeroom class in grades K-4 will be entering a class project.

IMPORTANT DATES FOR THE HIGHLAND PARK SCIENCE FAIR

- 1) All students K-5 must register online to reserve a spot at the HP Science Fair **before November 30**. By **December 2**, you will receive your *Science Fair Participation Form* and *Project Number* to attach to the display board. You can find the registration at <http://www.hpscotties.org/sciencefair.html> or by clicking one of the embedded grade-specific links below:

[Kinder](#) [First](#) [Second](#) [Third](#) [Fourth](#) [Fifth](#)

- 2) Projects are **DUE** in homeroom by **NOON on Wednesday, December 7**. Complete your project early so you have plenty of time to analyze data, communicate findings, and create your display.
- 3) Judging times: Dec. 7th 5:00-7:00PM & Dec. 8th 7:15AM-3:00PM in the cafeteria & central corridors. Oral Judging for top 4th-5th grade projects by panel of 3-5 teachers/scientists: Dec. 9th 8-11AM
Viewing times: Wednesday, Dec. 7 5:00 PM-7:00 PM
Thursday, Dec. 8 7:15 AM-7:00 PM
Thursday, Dec. 8 6:00 PM-7:00 PM 5th Grade Science Night
Friday, Dec. 9 7:15 AM-12:00 PM
Dec.12 - Dec. 16 Top projects displayed in central corridors

QUICK GUIDE TO MAKING A SUPER SCIENCE FAIR PROJECT

- 4) Investigate something that is interesting to YOU. Perhaps you've always been curious about water and its properties. Or maybe you'd like to know more about crickets, or rockets, or microscopic animals. Books and websites about topics that interest you would be great places to start looking for projects. Here are some places to look for help:
 - a) Science Fair Adventure: <http://www.sciencefairadventure.com/SearchResults.aspx?Term=exhibit>
 - b) Discovery Channel Science Fair Central: <http://school.discoveryeducation.com/sciencefaircentral/>
 - c) Science Buddies: <http://www.sciencebuddies.org/>
 - d) Amer. Chemical Society's Parent's Guide: <https://www.acs.org/content/acs/en/education.html>
- 5) Plan before you start to work. What materials will you need? Do you need adult help? If you are doing an experiment, plan your procedure carefully and think about how you will control variables and manage the data you collect.
- 6) Keep a log or journal of the things you do as you work on your projects. Use a spiral notebook or paper stapled together to record the plans you make, what you actually do & when. This will need to accompany your project (usually placed on the table in front of your display board).
- 7) Review Austin Energy website and Sample Highland Park Science Fair Judging Criteria (in this handbook) to verify that you've included all required elements.

- 8) If you can, use the computer to type the text for your display. If you do not have a computer available, then use your neatest handwriting.
- 9) Take photos as you work for your display. DO NOT copy items from the internet just to fill space.
- 10) Mount pictures and drawings on colored paper before you place them on your display. Make it look good! Use a ruler or paper-cutter to help you trim pictures neatly.
- 11) Display your results on a three-sided board *without* tri-fold toppers (toppers are not allowed).
- 12) Read the text of your display carefully before you bring it to school. Can you pronounce all of the words correctly? Are the conclusions supported by the results and how do they relate to the world around you and scientific principles?
- 13) Have a good time and learn something new!!

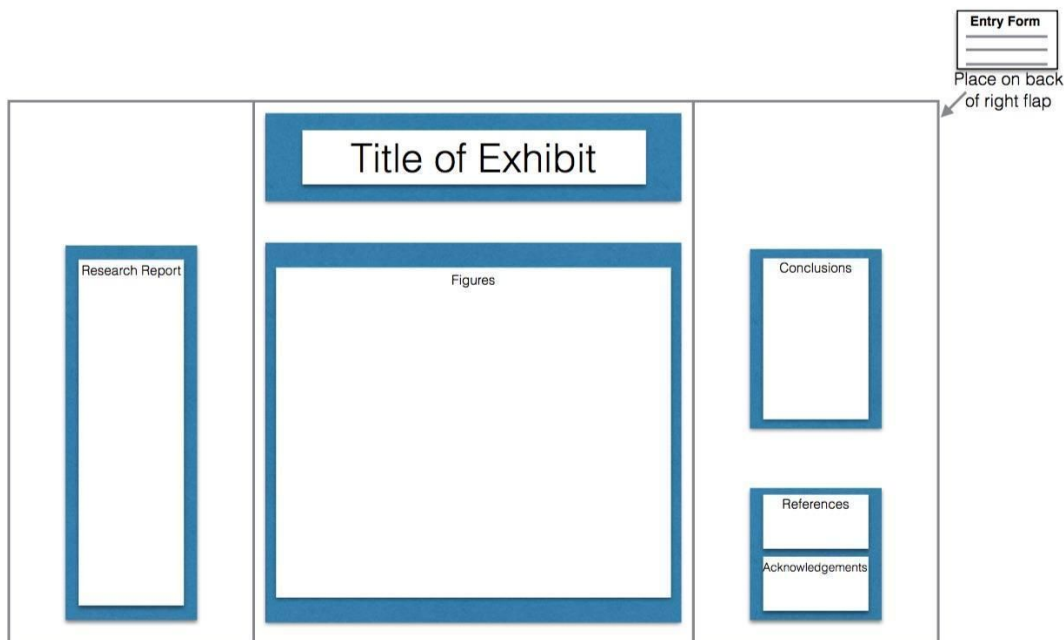
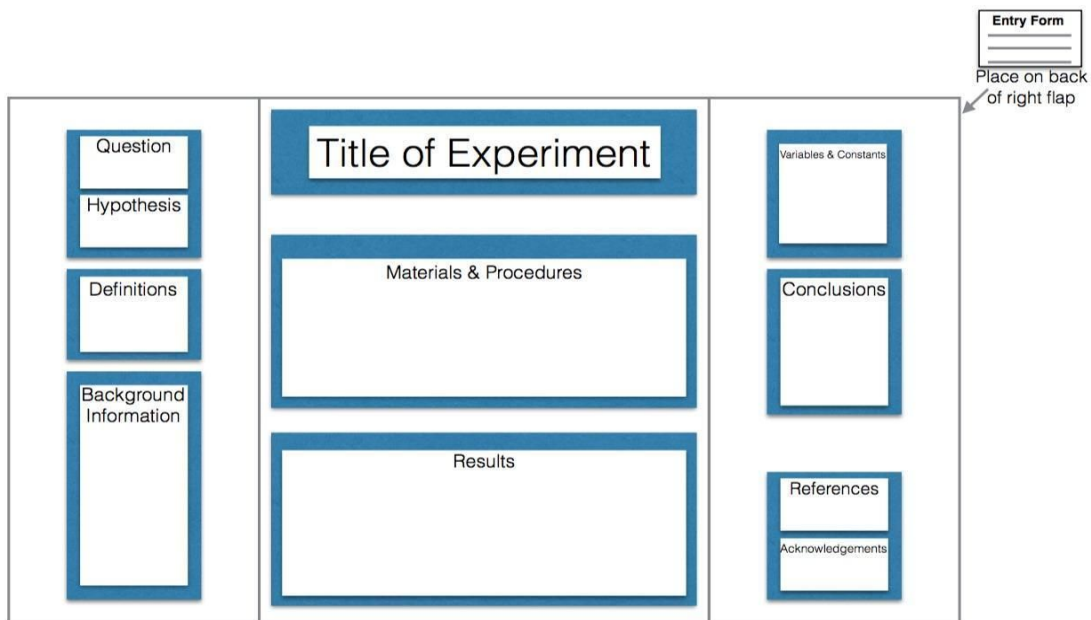
RULES FOR SCIENCE FAIR PROJECT AND DISPLAY

(see Austin Energy's rules at <http://www.sciencefest.org/elementary/elementary-parents-students> for details)

- 1) Project Display
 - a) Use sturdy tri-fold board available at local craft and office supply stores
 - b) **DO NOT USE tri-fold toppers.** They will be removed if present.
 - c) Securely attach written material, drawings, and pictures to the display board.
 - d) Size of display area may not exceed 15" deep, 48" wide, and 72" high. Due to space limitations, displays that exceed these measurements CANNOT be accepted.
 - e) Projects will be displayed on tables that are 36 inches high.
 - f) We can accommodate projects that need to be plugged in, but let your teacher know about it.
- 2) Regional Science Fair Rules indicate students **MAY NOT DEPICT or PERFORM experiments using mold or bacteria; firearms, explosives, or discharge air pressure canister devices of any kind; or any procedures harmful to animals, students, or the environment.**
- 3) Your **display may NOT include** (banned items listed will be confiscated):
 - a) Organisms (living, dead, or preserved)
 - b) Food, liquids, or crystals of any kind
 - c) Unsafe/hazardous chemicals or radioactive materials
 - d) Human/animal parts or body fluids (for example: blood, urine)
 - e) Poisons, drugs, controlled or hazardous substances
 - f) Sharp items (for example: syringes, needles, pipettes, knives, tacks, nails)
 - g) Glass or glass objects unless encased or an integral and necessary part of a commercial product (for example: a computer screen)
 - h) Pressurized tanks or containers
 - i) Batteries with open top cells (so that battery acid can be seen)
 - j) Dirt, soil, gravel, rocks, sand, waste products, etc.
 - k) Project, device, activity, or substance that may be hazardous to student health or safety.
 - l) Photographs or pictures of animals or people in surgical techniques, dissections, necropsies, or anything causing pain, suffering, sickness, or death of an animal.
 - m) Expensive, fragile, or breakable items.
- 4) You **MAY** display the following (and are encouraged to do so):
 - a) Photographs, drawings, stuffed animals/artificial plants or imitation (play) food should be used to depict the prohibited or discouraged items.
 - i) It is recommended that students take photographs of their project steps and successive trials as a visual explanation of methods or to communicate data. Students must ask permission before photographing others displayed on a project.
 - ii) Properly credit/acknowledge all sources of graphics on the display board (i.e. photograph taken by _____, or list reference for any web- or parent-designed graphic).

- iii) Students may use a computer and printer for written parts of the project.
 - iv) Electrical projects may use batteries as sources of electricity.
- 5) Complete and attach the **Highland Park Science Fair Entry Form** to the back of the flap on the right side of the display board (see figure in this handout for placement).
- a) **K-4th grade:** Be sure to indicate on the entry form whether your project is an **Exhibit** (model or demonstration with a written report) or an **Experiment**. *What's the difference between an Exhibit and an Experiment? 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 and reveals details about the topic, often presented as a demonstration or model. Collections are not permitted.
 - b) Parents may participate in this learning experience with their child; however, students may enter the fair with or without parental assistance. On the Entry Form, please clearly describe work performed by student alone or with outside assistance from acknowledged individuals.

EXAMPLE PROJECT BOARD LAYOUT AND ENTRY FORM PLACEMENT



PROJECT AWARDS

1. Participation ribbons are awarded to all projects entered.
2. 1st -, 2nd-, & 3rd-place and honorable mention ribbons are awarded to select projects in each grade.
3. The highest scoring projects in grades 3-5 will advance to the Austin Energy Regional Science Festival at the Palmer Events Center to represent Highland Park on February 17-18, 2017.
4. Special recognition ribbons will be awarded in the following categories:
 - a) Biological Science: *Botany, Zoology, Anatomy, Evolution, Genetics*;
 - b) Chemical Science: *Chemicals, Acids/Bases*;
 - c) Consumer Science: *Product Testing*;
 - d) Earth and Space Science: *Outer Space, Volcanoes, Rocks, Weather*;
 - e) Environmental Science: *Ecology, Green Solutions*;
 - f) Physical Science: *Electricity, Gravity, Force, Light*;
 - g) Psychology: *Memory, Illusions, Training*;
 - h) Statistics and Computer Science

PROJECT JUDGING AT THE HP SCIENCE FAIR

To better identify projects that will best represent Highland Park, we have elected to follow the rules of the regional festival and apply a judging rubric inclusive of elements of Elementary and Junior/Senior Divisions.

Sample HP Science Fair Judging Rubric

	Grading Scale					
	0	1	2	3	4	5
1a. For Experiments						
Title of Experiment	Not stated		Title stated		Thoughtful title clearly stated	
Question	Problem not evident		Problem not completely clear or untestable		Testable, clear problem	
Definitions	Student incorrectly user doesn't explain complicated terms		Partially defined		Student knows/defines vocabulary	
Hypothesis	No hypothesis		Hypothesis poorly stated/unsupported		Hypothesis clear and predicts results	
Background Information	No background		Background partially researched		Background provides well-researched info	
Materials	No materials listed		Materials not thoroughly/clearly listed		All materials clearly listed	
Procedure	No clear plan		Lacks organization		Logical approach clearly stated	
Results	No written results or figures of data		Unclear figures or written results		Student describes and shows data in figures	
Variables/Constants	No independent or dependent variables or constants stated		Independent and dependent variables and constants partially clear or poorly selected		All variables/constants appropriately listed and used	
Conclusion	Unclear or inadequately answers question posed		Weakly stated or unsupported		Clearly stated and well-supported	
References and Acknowledgements	Nothing credited		Some sources credited		Student credits all sources properly	
1b. For Exhibits						
Project Title	Not stated		Title stated		Thoughtful title clearly stated	
Research Report	No report		Report not thoroughly researched		Background provides well-researched information	
Figures	No visual representation of model/demonstration		Unclear visual representation		Sell-Described and -presented visual model/demonstration	
Conclusion	Unclear or inadequately answers question		Weakly stated or unsupported		Clearly stated and well-supported	
References and Acknowledgements	Nothing credited		Some sources credited		Student credits all sources properly	
2. Skill and Creativity						
Science	Simple project done poorly		Simple project done well		Difficult project done well	
Presentation	Sloppy display with spelling and grammar errors		Well-presented with errors or poorly presented without errors		Well-presented without errors	
Project Idea and Approach	No independent thought		Developed with moderate assistance		Originated/designed by student	
Future Directions	None indicated		Future directions indicated without basis		Future work evaluated vs published data	

FOR MORE INFORMATION

1. Austin Energy Regional Science Festival information can be found at <http://www.sciencefest.org/elementary/elementary-parents-students>.
2. For additional assistance, email sciencefair@hppta.org or contact our Science Fair group on Living Tree (access to frequent posts by parents and committee about Science Fair are available in our Science Fair Forum on LT with Group Code 16AB0EFB0F).
3. Special thanks to our *amazing volunteers* of all our past fairs! Want to join our committee or volunteer this year? Sign up at www.SignUpGenius.com/go/20F0D45A5A62FA5FB6-science1 and stay informed about ways you can help the Science Fair committee by joining the Science Fair group on Living Tree or answering our calls for volunteers as we near the fair. Thank you!!!

2016 Highland Park Science Fair Quick Guide

WHO?

ALL students are encouraged to participate! **5th graders** are *required* to enter an **EXPERIMENT** (not Exhibit). **All GT identified students** are *required* to enter an Experiment OR Exhibit. Grades **K-4** may enter **Experiments OR Exhibits**. K-3 students may work individually *or in pairs within same grade*.

IMPORTANT DATES

November 30	Last day for all students K-5 to register online for HP Science Fair at
December 2	Students to receive email with Entry Form and Project Number to put on board
December 7	Projects are DUE in homeroom by NOON
December 7	Science Fair Setup (*volunteers needed 1pm-5pm)
December 7-8	Judging 12/7 5-7pm and 12/8 7:15am-3pm (*volunteers needed)
December 7-9	General Viewing 12/7 5-7pm, 12/8 7:15am-7pm, and 12/9 7:15am-12pm
December 8	5th Grade Science Night 6-7pm
December 9	Oral Judging 8-11am for top 4th-5th grade projects by 3-5 teachers/scientists
December 9	Take-down 12-3pm (*volunteers needed)
December 12-16	Winning Projects on Display in Hallways
February 17-18	Austin Energy Regional Science Festival