



2019 HIGHLAND PARK SCIENCE FAIR HANDBOOK

WHO PARTICIPATES?

- 1) **ALL students** are encouraged to participate.
- 2) **ALL 5th grade** and **GT-identified students** (*any subject*) are **required** to enter.
- 3) **K-5th graders** may enter an **Experiment** or **Exhibit**, but **HP will only advance top 3rd-5th grade projects in the Experiment category to the Austin Energy Regional Science Festival.**
- 4) Students in grades **K-4** may work individually *or in pairs* (please note that HP students must be in the same grade to advance to the Austin Energy Regional Science Festival).
- 5) Each homeroom class in grades **K-4** will enter a class project.
- 6) Fourteen top scorers in grades **3-5** in the **Experiment category** will be selected to represent HP at the **Austin Energy Regional Science Festival Feb 21-22, 2020**. In the event any of the initial 14 honorees are unable to attend, alternates will represent HP, so please hold onto winning 3rd-5th Grade experiments until at least Feb 22, 2020.

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 25**. By **December 6**, 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 at drop-off **on Monday, December 9**. Complete your project early so you have plenty of time to analyze data, communicate findings, and create your display.
- 3) **Judging times:** Dec. 9th 3:30-7:00PM & Dec. 10th 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. 12th 8-11AM
Viewing times:

Mon, Dec. 09	3:30 PM-7:00 PM	
Tues, Dec. 10	7:15 AM-6:30 PM	
Tues, Dec. 10	5:30 PM-6:30 PM	5th Grade Science Night
Wed, Dec. 11	7:15AM-12:00PM	
Thurs, Dec.12	7:30 AM-3:00 PM	Top projects displayed in halls
- 4) The **HP Science Fair Celebration and Awards Ceremony** will be held **Friday, Dec. 13 from 7:15-7:45 AM** for all participants. Grade level winners and those advancing to Austin Energy Regional Science Festival will be announced.
- 5) In addition to **volunteer judges** needed **12/9-12/10**, we also need help with **setting up Mon 12/09 12-3p** and **Wed 12/11 12-3p**, monitoring select **classroom lunches 12/10 and 12/11** (upon request only, must be APIE screened), assisting with collecting top students for **oral judging Thurs 12/12 7:45-10:45a**, helping arrange breakfast spread for our **Science Fair Celebration Fri 12/13 7:15-7:45a**, and project **take-down volunteers Fri, 12/13 8-10a**.

QUICK GUIDE TO MAKING A SUPER SCIENCE FAIR PROJECT

- 1) Have a good time and learn something interesting to YOU. Great places to get ideas for projects are books/websites about topics of interest or science sites like:
 - 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) DOGO News is an inspirational site I stumbled across for multi-discipline approaches to combatting world problems: <https://www.dogonews.com/>
 - e) Amer. Chemical Society's Parent's Guide: <https://www.acs.org/content/acs/en/education.html>
- *Note: special prizes are awarded for certain categories at Austin Energy Regional Science Festival, so carefully select your experiment if you want your top-scoring 3-5th grade project to be eligible.
- 2) Think before you work. What materials will you need? Do you need adult help to plan experiments carefully, control variables, or manage collected data? For exhibits, use outlines for a well-presented topic and select figures important to understand your report.
- 3) Keep a log or journal of the things you do as you work on your projects. Record plans you make, what you actually do & when, and how you might modify your experimental design to get meaningful data. This will need to accompany your project (usually placed on the table in front of your display board).
- 4) Review [Austin Energy website](#) and Sample Highland Park Science Fair Judging Criteria (in this handbook) to verify you've included all required parts and nothing disqualifies your project.
- 5) Display your results on a three-sided board (toppers are not allowed). Take photos as you work for your display, but DO NOT include faces (displays are to remain anonymous except required entry form on back). DO NOT add barely relevant info just to fill space. Credit all info; plagiarism is not permitted.
- 6) Make it look good! 5th grade must use computers to make and submit project (use appropriate text size/font); Grades K-4 may type or handwrite (neatest handwriting). Use a ruler to neatly trim pictures or text and properly space on display. Add your style by using cool backgrounds, trim, or other details.
- 7) Read the text of your display carefully. Do you have all of the judged elements? Does it sound like you wrote it? Can you pronounce the words and do you know their meanings? Are conclusions supported by your results? Have you related the project to a real-world topic of interest or to other studies?

RULES FOR SCIENCE FAIR PROJECT AND DISPLAY (for details, see Austin Energy's rules at <http://www.sciencefest.org/elementary/elementary-parents-students>; disallowed projects will not be judged)

- 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 canisters of any kind; or any procedures harmful to animals, students, or the environment.** Unsure about your project? **ASK!**
- 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 without identifying people doing experiment. Students must ask permission before photographing others.
 - 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, display, 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.

PROJECT JUDGING AT THE HP SCIENCE FAIR — Makes a Great Checklist!

Exhibits and Experiments have different elements & are judged differently. It is our goal to teach participants how scientists communicate data and to find the best projects to represent HP. Exceptional projects include:

EXPERIMENT

- Descriptive, possibly clever title
- Testable and carefully considered question
- Well-defined terms used correctly throughout
- Well-stated, researched, & reasonable hypothesis
- Appropriate and well-defined variables and controls
- Well-researched, well-presented, and relevant background information
- Clearly listed and carefully chosen materials
- Logical and carefully described procedure that allows the hypothesis to be tested and would allow the experiment to be repeated
- Data clearly displayed in appropriate, well-described figures (images), charts, +/- or tables
- A well-stated and well-supported conclusion that relates to the question and hypothesis
- Careful and thorough acknowledgement of all sources and assistance
- Clearly stated and relevant future directions, possible ways to improve approach, and/or real-world benefits of research
- Visually appealing and free from errors
- Student-led
- Obvious student effort to select a topic of interest

EXHIBIT

- A thought-provoking and interesting title
- Well defined terms used correctly throughout
- Well researched and well presented background information that is relevant to the topic
- Well researched and well written report that is organized, interesting and relevant
- Well chosen figures that relate clearly to the topic, are well explained and are presented in a manner that supports the research paper OR
- A visual model that efficiently and elegantly displays that information contained in the report
- An engaging, well stated and well supported conclusion that is an excellent summary of the information presented
- Careful and thorough acknowledgement of all sources and assistance
- Clearly stated and relevant future directions
- Visually appealing and free from errors
- Student led
- Obvious effort from the student to select a topic of interest to them

PROJECT AWARDS

1. Participation ribbons are awarded to all projects entered at HPSF.
2. 1st -, 2nd-, & 3rd-place and honorable mention ribbons are awarded to select projects in each grade.
3. The highest scoring Experiments in grades 3-5 will advance to the Austin Energy Regional Science Festival at the Palmer Events Center to represent Highland Park on February 21-22, 2020. *Note: special prizes are awarded for certain categories at Austin Energy Regional Science Festival, so carefully select your experiment if you want your top-scoring 3-5th grade project to be eligible.
4. Special recognition ribbons will be awarded in the following categories at HPSF:
 - 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

EXAMPLE PROJECT BOARD LAYOUT AND ENTRY FORM PLACEMENT

Entry Form
Place on back of right flap

Question
Hypothesis
Definitions
Background Information

Title of Experiment

Materials & Procedures

Results

Variables & Constants
Conclusions
References
Acknowledgements

Entry Form
Place on back of right flap

Research Report

Title of Exhibit

Figures

Conclusions
References
Acknowledgements

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 Science Fair on Living Tree (access to frequent posts by parents and committee about Science Fair are available in our 2019-20 Science Fair Hub on LT with Group Code 5E81402DC8, so make sure to join if your child is participating).
3. Want to join our committee or volunteer this year? Sign up at <https://www.signupgenius.com/go/5080548AFAE2BA7F85-science1> & stay informed about ways you can help by joining our LivingTree Group (Code 5E81402DC8) or answering calls for volunteers as we near the fair. Many thanks!!

2019 Highland Park Science Fair Important Dates

November 25	Last day for all students K-5 to register online for HP Science Fair
December 06	Students to receive email with Entry Form and Project Number to put on board
December 09	Projects are DUE in homeroom by NOON
December 09	Science Fair Setup (*volunteers needed 12pm-3pm)
December 9-10	Judging 12/10 3:30-7pm and 12/11 7:15am-7pm (*volunteers needed)
December 9-11	General Viewing 12/09 4-7pm, 12/10 7:15am-6:30pm, and 12/11 7:15am-12pm
December 10	5th Grade Science Night 5:30-6:30pm
December 11	Take-down 12-3pm (*volunteers needed)
December 12	Winning Projects on Display in Hallways
December 12	Oral Judging 8-11am for top 4th-5th grade projects by 3-5 teachers/scientists
December 13	Science Fair Celebration 7:15-7:45am; projects go home afterwards or at 3pm
Feb 21-22, 2020	Austin Energy Regional Science Festival Elementary Division ***Top projects will be invited to advance to Regionals. If invited students are unable to attend, alternates will be invited to represent HP in their place. It is thus advisable that all 3rd-5th grade HP place winners safely hold onto their boards until after Feb 22, 2020.