2018 HIGHLAND PARK SCIENCE FAIR HANDBOOK

WHO PARTICIPATES?

1) **ALL students** are encouraged to enter.
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.

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 26.** By **December 7**, 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 Monday, December 10**. Complete your project early so you have plenty of time to analyze data, communicate findings, and create your display.
3) Judging times: Dec. 10th 5:00-7:00PM & Dec. 11th 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. 13th 8-11AM
   Viewing times: Mon, Dec. 10 5:00 PM-7:00 PM

Tues, Dec. 11	7:15 AM-6:30 PM	
Tues, Dec. 11	5:30 PM-6:30 PM	5th Grade Science Night
Wed, Dec. 12	7:15AM-12:00PM	
Dec.12 - Dec.14	2:30 PM-2:30 PM	Top projects displayed in central corridors

*Our Science Fair Celebration will be held Friday, Dec. 14 from 7:15-7:45 AM for all participants. Grade level winners and those advancing to Austin Energy Regional Science Festival will be announced. Breakfast treats will be provided by PTA select PIE partners.

QUICK GUIDE TO MAKING A SUPER SCIENCE FAIR PROJECT

1) Have a good time and learn something interesting to YOU. Perhaps you've always been curious about water and its properties. Or maybe you'd like to know more about crickets, rockets, or the environment. 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) Amer. Chemical Society's Parent's Guide: https://www.acs.org/content/acs/en/education.html
2) 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.
3) 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).
4) Review Austin Energy website and Sample Highland Park Science Fair Judging Criteria (in this handbook) to verify that you've included all required elements.
5) Display your results on a three-sided board *without* tri-fold toppers (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 copy items from the internet just to fill space.

6) Make it look good! It is best to use a computer to type the text in an easy-to-read font, or if one is not available, use your neatest handwriting. Other pointers are to use a ruler/paper-cutter to trim pictures and text neatly or to try mounting text or pictures on colored paper before placing them on the display.
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?

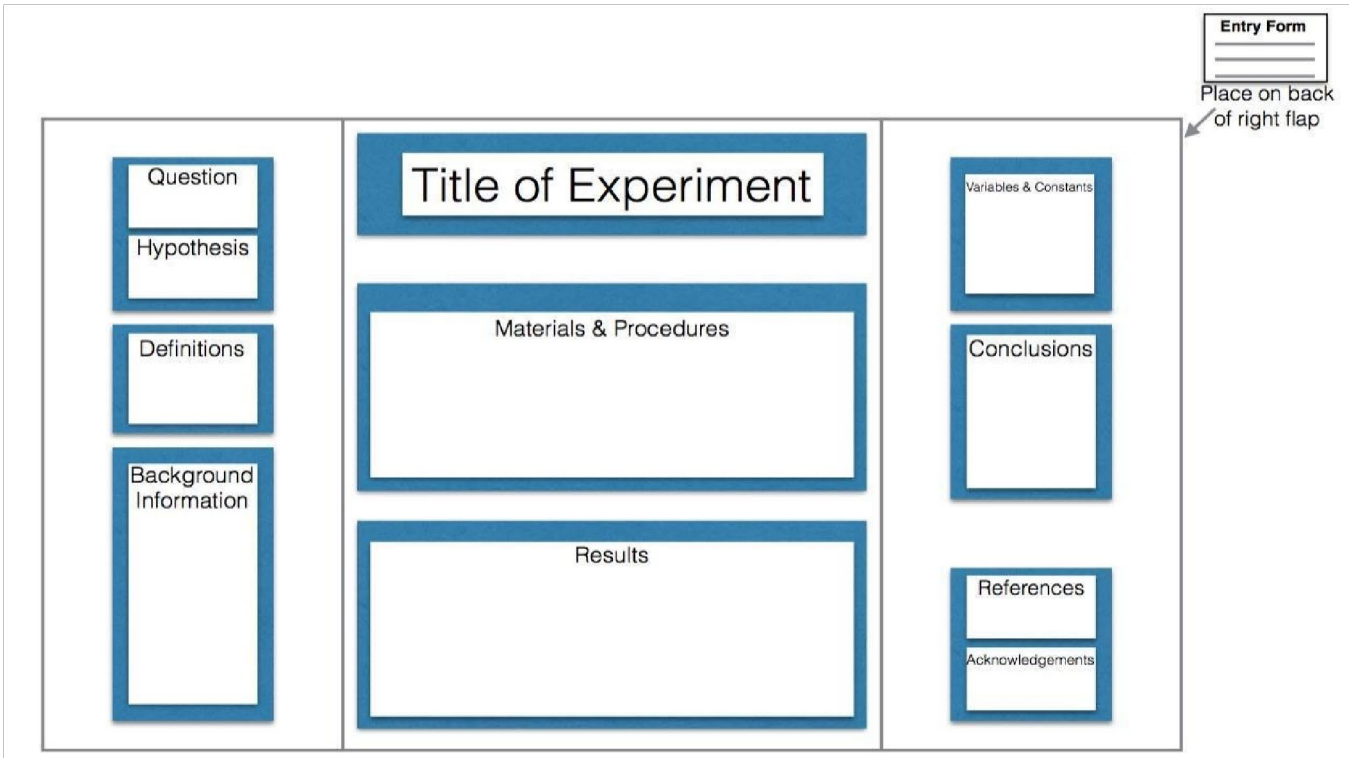
RULES FOR SCIENCE FAIR PROJECT AND DISPLAY (for details, see Austin Energy's rules at http://www.sciencefest.org/elementary/elementary-parents-students; disallowed projects will not be judged)

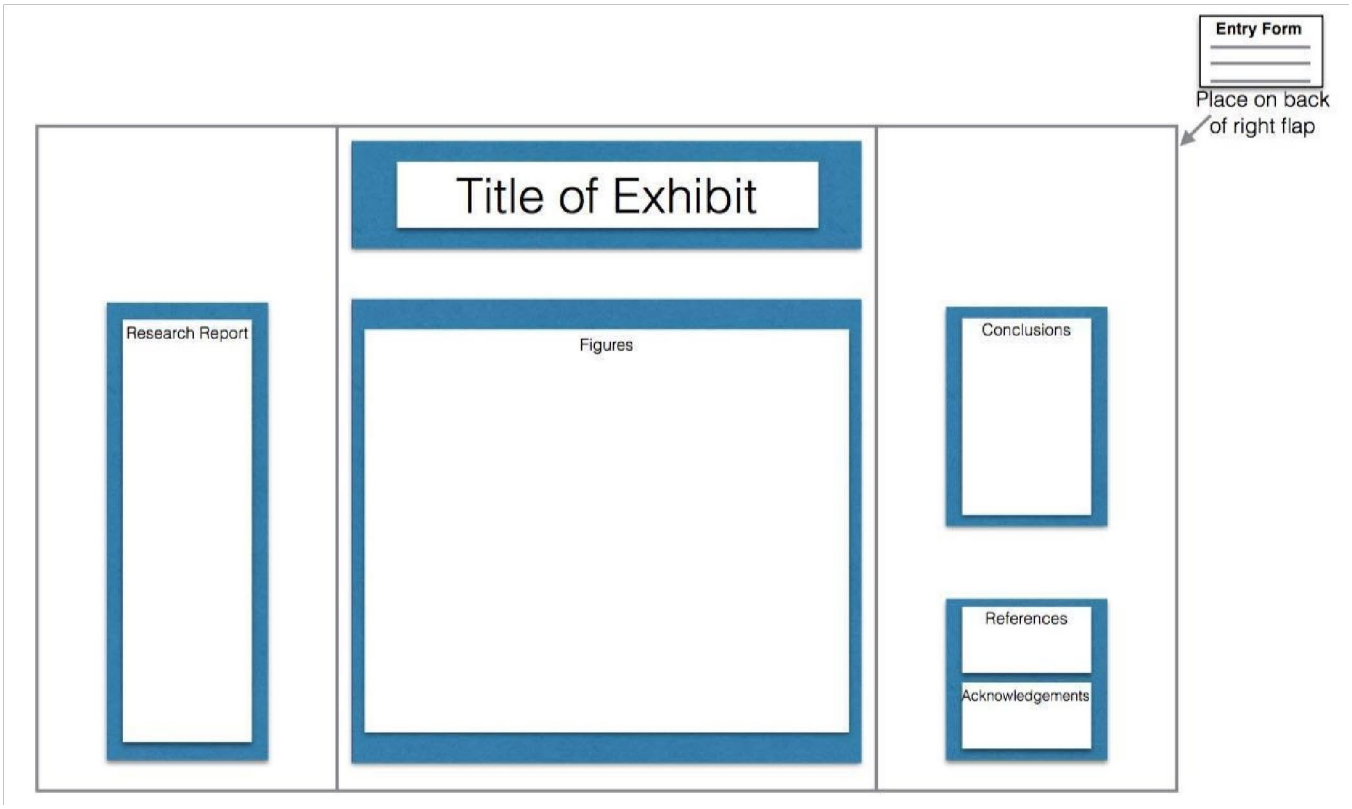
1) Project Display
   a) Use sturdy tri-fold board available at local craft and office supply stores
   b) **DO NOT USE tri-fold toppers**. They will be removed if present.
   c) Securely attach written material, drawings, and pictures to the display board.
   d) Size of display area may not exceed 15" 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.

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 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 20-23, 2019.
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 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. Exhibits and Experiments require different elements and are judged slightly differently. Exceptional projects include:

EXPERIMENT

- A thought-provoking and interesting title
- A testable and carefully considered question
- Well defined terms used correctly throughout
- A clearly stated and reasonable hypothesis with a rationale
- Use of appropriate and well-defined variables and controls
- Well researched, well presented and relevant background information
- Clearly listed and carefully chosen materials
- A logical and carefully described procedure that allows the hypothesis to be tested and that, if followed, would allow the experiment to be repeated
- Data clearly displayed in appropriate and engaging figures, 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
- Visually appealing and free from errors
- Student led
- Obvious effort from the student to select a topic of interest to them

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

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 2018-19 Science Fair Hub on LT with Group Code 14357406D7, so make sure to join if your child is participating).
3. Special thanks to our *amazing volunteers* of all our past fairs! Want to join our committee or volunteer this year? Sign up at https://www.signupgenius.com/go/5080548AFAE2BA7F85-science 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!!!

2018 Highland Park Science Fair Quick Guide

WHO?

ALL students are encouraged to participate! **5th graders** and **all GT identified students** are *required* to enter an Experiment OR Exhibit. Grades **K-4** *may* enter **Experiments OR Exhibits** and *may* work individually *or in pairs within same grade*. *Fourteen HP students advancing to Regional Science Festival will be selected among the top scorers in grades 3-5 in the Experiment category. Advancing students must commit to attending the Regional Science Fair.

IMPORTANT DATES

November 26	Last day for all students K-5 to register online for HP Science Fair
December 7	Students to receive email with Entry Form and Project Number to put on board
December 10	Projects are DUE in homeroom by NOON
December 10	Science Fair Setup (*volunteers needed 1pm-5pm)
December 10-11	Judging 12/10 5-7pm and 12/11 7:15am-3pm (*volunteers needed)
December 10-12	General Viewing 12/10 5-7pm, 12/11 7:15am-6:30pm, and 12/12 7:15am-12pm
December 11	5th Grade Science Night 5:30-6:30pm
December 12	Take-down 12-3pm (*volunteers needed)
December 12-14	Winning Projects on Display in Hallways
December 13	Oral Judging 8-11am for top 4th-5th grade projects by 3-5 teachers/scientists
December 14	Science Fair Celebration 7:15-7:45am; projects go home at end of day
Feb 20-23, 2019	Austin Energy Regional Science Festival