

## Walnut Acres STEM and Science Fair Thursday, February 10th, 2022

Dear Walnut Acres Families,

Get ready for the **2022 STEM and Science Fair!** Walnut Acres students, grades K-5, are encouraged to think like young scientists and submit a project in any science-related or engineering field. Projects can be as varied as their interests: sports, music, art, rocketry, animals, psychology, food, computers, the environment or whatever intrigues them. Through their projects, students discover the exciting world of science and learn the basics of scientific exploration.

PROJECTS ARE DIVIDED INTO TWO TYPES:

- **Science Experiment:** This is an experimental type of Science Inquiry project. It uses elements of Science and Engineering Practices, to carry out an experiment and test an idea.
- **Engineering Design:** The use of scientific principles and the demonstration of creativity and ingenuity to overcome a real-world problem or show a better way of doing something.

Parents, please note that all children in Grades 4 and 5 will be involved in group projects coordinated by their respective science teachers. Students can also submit individual projects for the STEM and Science Fair for which they will have to fill in a separate entry form.

RESOURCES:

There are many sources of information for choosing and planning a project. Consider books in the Walnut Acres or science-related websites such as:

<https://www.mdusd.org/elementaryscience>

<https://www.sciencebuddies.org/science-fair-projects/science-fair/steps-of-the-scientific-method>

RECOGNITION PROCESS:

All students submitting a project will receive a participation ribbon. 1<sup>st</sup>-3<sup>rd</sup> place winners will be chosen from 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> grades. Honorable Mention awards may also be given in these grades. First place winners from 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> grades will represent our school at the Mount Diablo Unified School District Elementary STEM Showcase Fair.

### Science Fair 2020 Schedule

<b>Friday, January 14<sup>th</sup></b>	Entry forms due! Send your form to <a href="mailto:sciencefair@walnutacrespfc.net">sciencefair@walnutacrespfc.net</a> and/or drop it in the Science Fair box in the office
<b>Wednesday, February 9<sup>th</sup></b>	Deliver and set-up projects in the MUR (11:30am -1:30pm & 6:30-7:30pm)
<b>Thursday, February 10<sup>th</sup></b>	<b>STEM and SCIENCE FAIR DAY</b> <ul style="list-style-type: none"> <li>• Judges talk with each student and assess projects (8:00am -12:00 noon)</li> <li>• FAMILY OPEN HOUSE (6:30-8:00pm)(TBD)</li> </ul>
<b>Friday, February 11<sup>th</sup></b>	Classes view projects (8:00am-2:30 pm) Projects must be taken home (2:30-5:30 pm)
<b>Saturday, TBD</b>	Annual MDUSD Elementary STEM Fair (9:00-11:00am)

Questions? Please visit <http://www.walnutacrespfc.net/activities/science-fair> or e-mail Ashley Etchells [sciencefair@walnutacrespfc.net](mailto:sciencefair@walnutacrespfc.net)

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## Thursday, February 10th, 2022

### Project Guidelines

#### Project Guidelines

1. Projects must be entered by an individual, small group (up to four), or by entire classes as class projects.
2. **Entry forms are due by Friday, January 14, 2022.** Send your form to [sciencefair@walnutacrespfc.net](mailto:sciencefair@walnutacrespfc.net) and/or drop it in the Science Fair box in the office. There are printed forms in the office.
3. ALL WORK MUST BE DONE BY THE STUDENT. Select projects that are within the student's ability.
4. Projects for 3rd and 4th grade students may be an experiment (scientific method), invention, or model.
5. Projects for 5<sup>th</sup> grade students should be an experiment using the scientific method and, in accordance with MDUSD's Career Integrated Academics, should have a connection to real life.
6. Any grade can utilize the engineering design process to overcome or show a better way to handle a real-world problem OR developed invention.
7. Display:
  - **Student's name, grade and teacher** must be displayed in the upper right-hand corner on the back of the display board. The project must have a title that can be viewed from a distance. This information must also appear on any other separate parts of your project.
  - Displays must be free-standing and have a backboard. Students may use the boards available to purchase or another board of their choice. Space is limited to 15 inches deep and 30 inches across.
  - If project requires an electrical outlet, student must supply a UL-approved extension cord with their name on it. Students must indicate their need for an outlet on the entry form.
  - Dangerous chemicals, open flames and explosives are not permitted.
  - Expensive or fragile items are displayed AT YOUR OWN RISK.
  - NO LIVE ANIMALS of any kind can be used in your project. Models, stuffed animals and pictures/photos must be used instead. Human body parts must not be displayed except for teeth, hair and nails.

**Walnut Acres STEM and Science Fair**  
**Thursday, February 10th, 2022**  
**Judges Standards**

**Judges' Standards**

**Grades K-2**

1. Students can clearly explain their project and what they have learned.
2. Exhibit is clearly titled.
3. Exhibit is understandable.

**Grades 3-5**

1) Process/Content (choose one)

- **For Experiments: (Scientific Method – recommended for 4<sup>th</sup>/5<sup>th</sup> grade)**
  1. Identify the problem or the question - state specifically what they are hoping to discover.
  2. Hypothesis - consider what they know about problem and propose a solution or answer to the problem.
  3. Procedure - record the series of steps in the experiment that are done to answer the question/prove that the hypothesis is correct. Include materials used.
  4. Results - present data to allow one to easily see relative effects of one or more variables.
  5. Conclusion - state what they discovered, evaluate hypothesis (was it correct or not).
- **For Engineering Design: (Alternative approach for 4<sup>th</sup>/5<sup>th</sup> grade or any other grade with age appropriate design or invention)**
  1. Use a problem-solving process to design and improve technologies or anything made by humans to solve a problem.
  2. Utilize engineering design process of: Ask – Imagine – Plan – Create -Improve
  3. Demonstrate creativity and ingenuity.
  4. Explain why you chose the project, how you went about planning it, and what you learned.
- **For Inventions:**
  1. Identify the invention's purpose.
  2. Identify the materials used and how it was built.
  3. Explain how the invention works and the scientific principles involved.
  4. Explain the real-world application of invention.
- **For Models and Demonstrations:**
  1. Identify materials and methods.
  2. Explain conclusions and scientific concept.

2) Creativity – the topic and methods are original and have a connection to real life.

3) Display – the display is neat, organized, well written. It uses pictures, graphs, tables or display items well.

4) Oral Presentation – project is clearly and enthusiastically explained to judges.