

2018 Malta Elementary Science Fair



February 20th & 21st

Partners in Education (P.I.E.) and the Malta Elementary School Staff invite you to participate in the Annual Science Fair open to all elementary students. Please take the time to review this packet and encourage your children to participate!

Students (except kindergarten) will explain their project to 3 judges. They will be judged on their knowledge of their project and the appearance of their boards. Students are encouraged to use computers. It is a good idea, to have the student practice their presentation to an adult or older student. Remember to ask a few questions about the project, as that is what our judges will do. Students are encouraged, but not required, to use a standard science fair board. These will be available starting Feb. 1st from Mrs. Reintjes in her 4th grade classroom. The cost is as follows:

Regular corrugated board \$4.00 / corrugated header \$1.00 (\$5.00 for set)
Foam board \$8.00 / Foam header \$2.00 (\$10.00 for set)
These boards can often be reused and make nice displays.

KINDERGARTEN students are encouraged to bring a collection or other science project of interest (with or without a board). They will not be judged, but can show and tell their project to one person. They will receive a participation ribbon.

GRADES 1-3 need to make a neat display that has the below headings and your project information on the display board. Look at the example science fair board for grades 1-3 at the bottom of the Science Fair Rules page for how to set your board up.

1. Title 2. Question or Idea 3. Steps I Did 4. What Happened 5. What I Learned

GRADES 4-6 must have the following headings and information neatly displayed on their boards.

1. Title 2. Purpose 3. Hypothesis 4. Procedure 5. Results 6. Conclusion

Grades 5-6 MUST have report lying at the table by their boards. Projects that have graphs, charts and pictures do better at the next level of competition if so desired. Look at the bottom of the Science Fair Rules page for an example of how to set up grades 4-6 science fair boards.

Have fun!!

If you have any questions or need help –
call MES at 654-2320

6 – Week Timetable

Date of Science Fair: February 20th & 21st, 2018

Date to begin working on the project: **NOW**

Week 1 January 1-7

- Choose a topic or problem to investigate
- Check resources in school or community library
- Check the Science Fair Project Ideas provided in this packet
- Contact experts in the field
- Gather all the written material you can find on the topic

Week 2 January 8-14

- Begin putting your project notebook together
- Start collections or experiment
- Begin designing display unit

Week 3 January 15-21

- Begin building display unit
- Design all visual aids
- Take the photographs you need
- Complete your research
- Consult with experts (scientist, college professors, teachers, parents.)

Week 4 January 22-28

- Continue collecting items for display
- Continue your experiments
- Set up your apparatus and test it
- Purchase a board from Mrs. Luloff

Week 5 January 29-February 4

- Construct background for display
- Design and assemble graphs or charts
- Complete lettering for display unit and mount it
- Double check your written data
- Complete experiment and record data

Week 6/7 February 5-19

- **Grades 5-6** ... write & type a report (see packet for help on how to write a report)
- Set up display unit at home and practice project orally
- **Entry forms due to your teacher – Feb. 13th by 3:15 pm.**

Feb. 20th – Bring project to school and set up in gym from 7:15-8:15 am.

- Judging will take place sometime today

Feb. 21st – Public Viewing from 8am – 1:30pm

- Awards 1:30pm
- Take your project home after awards



Schedule of Events

****Our Judges have asked that students do NOT put their names on their display boards****

Feb. 1st

Students can purchase display boards from Ms. Reintjes before or after school, when she is available.

Display boards available in various colors

Feb. 13th

Entry forms are due to your teacher on or before Feb. 13th. **Entry forms will NOT be accepted after 3:15pm on the 13th.** Please do not wait until the last moment to get these in. If your entry is late, you can display your project at the Science Fair, but it will not be able to qualify for a medal.

Don't forget to hand your entry form in!!

Feb. 20th, Tuesday

7:30am – beginning of school: Grades 1-6 bring projects to the MES Gym

Kindergarten only – Bring projects in the morning to the gym

Judging will take place this day only. Someone will come to your classroom and get you when it is your time to be judged.

This day (Feb.20th) is NOI open to the public.

*Hope you learn something fun
and new with your project!!*

Feb. 21st, Wednesday

8:15 am – 1pm: Student viewing with your classroom

8am – 1:30pm: Public Viewing

1:30pm – Awards Assembly at the MES Gym

After assembly - please take your project home

Thank you for participating!

SCIENCE FAIR RULES

A team project is to consist of no more than two (2) participants.

STUDENTS ARE ASKED NOT TO PUT NAMES ON THEIR PROJECTS, THEY WILL BE IDENTIFIED BY A NUMBER GIVEN AT THE TIME THEY LEAVE THEIR BOARDS FOR JUDGING.

Because of the **fire and burn hazard**, there must be no open flame, torch or burner in the display area.

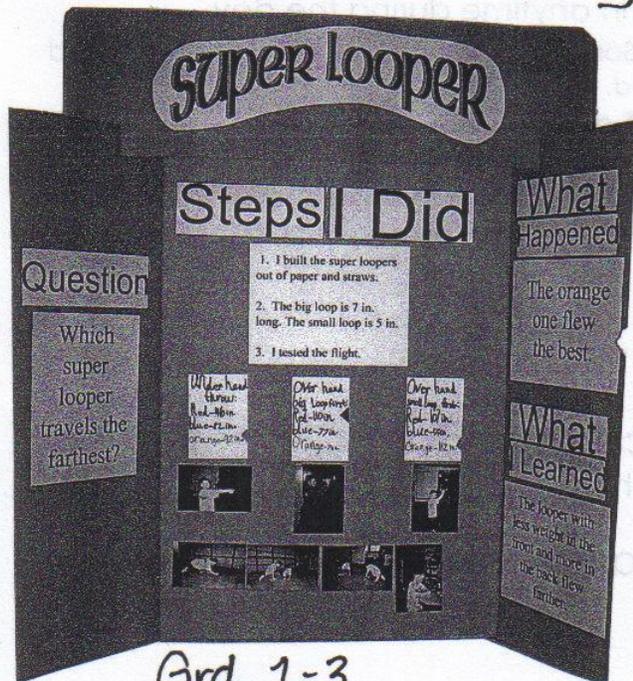
All exhibits that require an external source of electricity for operation must be designed for a standard 110-125 volt AC supply. **The need for electricity must be noted on the entry form.**

Anything that could be hazardous is prohibited, including but not limited to the following:

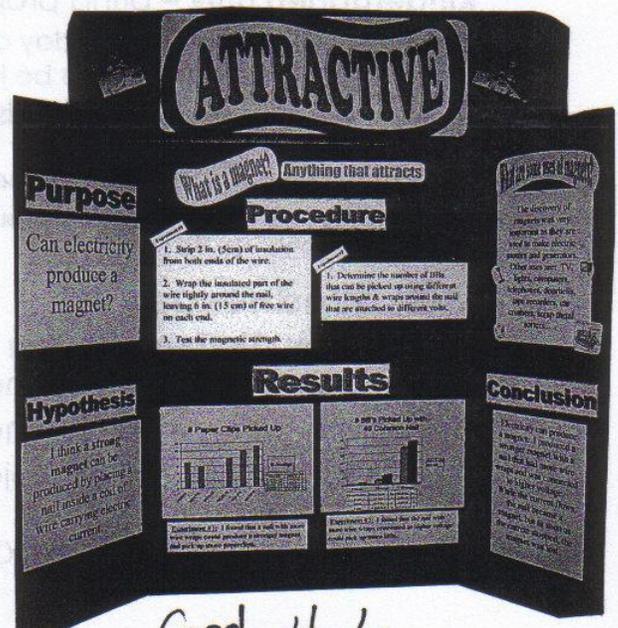
- poisonous plants;
- pathogenic microbial agents, e.g. viruses, bacteria, fungi;
- hypodermic needles, syringes, razor blades, and other sharp items;
- display of all chemical substances except water and saline.
- instruments containing mercury, e.g. thermometers;
- glass bottles and lab ware, either empty or containing any substance, are prohibited and must be replaced by break-resistant containers or placed in secondary containers;
- drugs, over-the-counter medications, antibiotics, and vitamins may not be displayed.

Live animals must be in secure cages with proper ventilation and food and water. They must be removed after the first day and returned the next day for student and public viewing, unless adequate care is provided at all times.

Visual idea of what boards may look like from past fairs



Grd. 1-3



Grd. 4-6

REPORT (research paper)
Only applicable to 5th & 6th grade science projects

The written report is a capsule summary of everything the student did to investigate the selected topic. It contains all the information the student collected or learned during the weeks leading up to the actual science fair. It will be necessary to record observations and information in written form. This research paper provides observers with vital data on the scope of the project as well as its effect on a student's understanding of the topic.

Usually 5 to 30 pages in length, the paper provides observers with a blow-by-blow account of everything the student did throughout the length and breadth of the project. It is meant to provide readers with a succinct, detailed accounting of the chosen project – including its impact on the student. Above all, it provides students with an opportunity to think about all the dimensions of their projects and to share their ideas with others.

Research papers should be neatly bound in an attractive folder or binder. Any research paper for a science fair project should include:

1. Title Page and Table of Contents:

The title page and table of contents allows a reader to follow the organizations of the paper quickly. The title page should include the title of the project as well as the name and grade of the student. The table of contents should list the different parts of the project and the page number on which each section can be found.

2. Introduction:

The introduction sets the scene for your report. The introduction includes your hypothesis or engineering goals, and explanation of what prompted your research, and what you hoped to achieve. Remember a hypothesis is only an educated guess about what the student thinks will occur as a result from conducting the selected experiment.

3. Procedure (method):

Describe in detail the methodology you used to collect data, make observations, design apparatus, etc. Your report should be detailed enough so that someone would be able to repeat the experiment from the information in your paper. Include detailed photographs or drawings of self-designed equipment.

4. Results (discussion):

The discussion is the essence of your paper. The results and conclusions should flow smoothly and logically from your data. Be thorough. Allow your readers to see your train of thought, letting them know exactly what you did. Compare your results with theoretical values, published data, commonly held beliefs, and/or expected results. Include a discussion of possible errors. How did the data vary between repeated observations of similar events? How were your results affected by uncontrolled events? What would you do differently if you repeated this project? What other experiments should be conducted?

5. Conclusion:

Briefly summarize your results. Be specific, do not generalize. Never introduce anything in the conclusion that has not already been discussed.

6. Acknowledgments:

You should always credit those who assisted you, including individuals, businesses, and educational or research institutions.

References/Bibliography:

Your reference list should include any documentation that is not your own (i.e. books, journal articles). Remember to alphabetize.

Sample abstract:

The problem is, “Will the number of paper clips on the nose of a paper airplane affect the distance that it can fly?”

It is hypothesized that five paper clips on the nose of a paper airplane will make the plane fly farther than with non, one, or three paper clips on the plane nose.

A brief procedure of the experiment is as follows: One plane was made according to the directions given in the Procedure of Investigation. The same plane was flight tested in the same breezeless hallway; using the same amount of thrust and the same angle of release to fly the plane. The flight distances for each test was measured in meters. All tests were repeated for a total of three trials. That is, three tests for each of the following: non paper clip, one paper clip, three paper clips and five paper clips. Data were taken and recorded. The results do support the hypothesis.

Tips on writing an abstract:

- ❖ Emphasize these aspects: purpose (hypothesis), method (procedure used) data summary or analysis, and conclusions.
- ❖ Focus only on the current year’s research
- ❖ Omit details and discussions
- ❖ Use the past tense when describing what was done. However, where appropriate use active verbs rather than passive verbs.
- ❖ Use short sentences, but vary sentence structure
- ❖ Use complete sentences. Don’t abbreviate by omitting articles or other small words in order to save space.
- ❖ Avoid jargon and use appropriate scientific language
- ❖ Use concise syntax, correct spelling, grammar and punctuation.
- ❖ Focus on what you did
- ❖ Be sure to emphasize the current year’s research. A continuation project should only make a brief mention of previous year’s research (no more than a sentence or two).

All students are encouraged to check out a Montana Power Company booklet from the school library. It explains the process of completing a science fair project in more detail and it explains how to properly prepare a report. There are also books in the library with project ideas and some teachers may have books for you to browse through. If you have access to the internet try looking for Science Fair Project ideas there too. If you have pictures on your board please include the following statements and place on the display board:

I, _____ give permission to _____ to use my picture on their science fair board.
Signature _____ Date _____
(You Need one of these for each different person in a picture)

Pictures on this display board were taken by:

