

SCIENCE FAIR

MANITOWOC LUTHERAN HIGH SCHOOL ACADEMIC FAIR

January 4, 2017

Dear Fellow Workers in the Lord's Kingdom:

The handout attached to this letter provides information your students will need as they prepare their science fair projects. Please note the following:

- 1) The science project may be an exhibit (i.e., an informational display), or it may be an actual experiment that indicates the scientific process was used to answer a question.
- 2) Whichever type of project the student chooses, it should be limited to one of the following areas: biology, physics, chemistry, or earth science.

The rules governing science entrees remain the same as is years past. They are printed below.

- 1) A given LES may send entries equaling 100% of its fifth-eighth grade enrollment. Principals are, nonetheless, encouraged to make wise decisions of those projects sent to MLHS. Perhaps preliminary judging could be accomplished with a grade school science fair.
- 2) All projects brought to the high school will be judged and receive a ribbon. The places will be as follows: Best of show, first, second, third, and fourth.

The general timetable that will be followed for setting up and displaying the projects is given below.

Thursday, March 30, 2017

4:00 p.m. – 8:00 p.m. – setup of projects in the MLHS gymnasium (**Please do not bring projects any earlier; we will still be setting up tables.**)

Saturday, April 1, 2017

8:30 a.m. – 2:30 p.m. – public viewing of the projects

3:00 p.m. – removal of the projects (following the awards presentation in the gym)

Note: Principals should designate someone to remove unclaimed projects. Any projects left after the fair will be kept till the following Saturday and then will be discarded.

The guidance and support that you provide your students is deeply appreciated. The MLHS faculty looks forward to your school's participation in this annual event.

Yours in Christ,

Wayne Foelske

Wayne Foelske
Science Competition Coordinator

Additional Details on Science Projects

Exhibits

These would include the following types of projects:

1. Displays of collections or models
2. Demonstration and explanation of a scientific concept or principle
3. Observations of natural phenomena

The project should be displayed on a project display board. This may be purchased or be homemade out of cardboard, foam board, plywood, etc. The addition of props and graphics is encouraged. A typed report should accompany the display. The report should contain detailed information on the topic, show understanding of the scientific principles and concepts, and follow the accepted rules of English grammar, spelling, and punctuation. The report should include a bibliography or list of references used. Students should consult an upper grade English textbook for the proper way to list entries. Please see the evaluation/judging form that will be used.

Experiments

These types of projects *must* show that an actual scientific experiment was conducted. The experiment must show the use of a control and test a single variable. The display should show the following:

1. The problem that the student wanted to solve or the question that he wished to answer
2. The student's hypothesis, i.e., his educated guess of the answer to the problem statement
3. A detailed explanation of the experiment that the student designed and conducted to test his hypothesis
4. Any and all data that were collected and any observations that were made
5. The student's conclusions (Was his hypothesis proved or disproved? If the hypothesis was disproved by the experimental results, how could the hypothesis be modified?)

A report should accompany the display. In addition to the information listed above, the report should include background information on the topic (gathered from reference sources, the Internet, people, etc.) and a bibliography or list of references. The report should be typed and follow the accepted rules of English grammar, spelling, and punctuation. An upper grade English textbook can be consulted for the proper way to list bibliographical entries.

Also, please see the evaluation/judging forms that will be used, and be sure that you have entered the correct category (experiment or exhibit). Originality and creativity will be rewarded. Please note: the judges have traditionally shown a bias toward experiments (as opposed to exhibits) when determining the "Best of Fair" award.

Questions can be directed to Mr. Wayne Foelske (682-0215, ext. 308)

wfoelske@mlhslancers.org



Science Experiment

Name _____



Rating Scale

- 0 = no evidence
- 1 = unsatisfactory
- 2 = below average
- 3 = average
- 4 = above average
- 5 = superior

Originality and Creativity

- 1. Idea, approach, and method show originality and creative thinking. _____

Scientific Thought

- 2. Scientific method evident: problem statement, hypothesis, procedural steps/method, observations, analysis, and conclusions. _____
- 3. Student maintains experimental controls and manipulates one variable. _____

Thoroughness

- 4. Background research clearly shows student is well versed on the subject. _____
- 5. Data are recorded and displayed with care and accuracy. (includes conducting multiple trials to obtain an average) _____
- 6. Results are clearly and correctly displayed _____

The Display

- 7. Project has a free-standing display. _____
- 8. Spelling, grammar, and mechanics are accurate. _____
- 9. Overall attractiveness and organization of displayed materials. _____
- 10. Display clearly demonstrates the scientific method applied in problem solving. (this includes using clear headings) _____

Total = _____

**Collections, Models, Demonstrations of Scientific Principles,
or Observations of Phenomena**

Name _____

**Collection
Model
Demonstration
Observation**

Rating Scale

- 0 = no evidence
- 1 = unsatisfactory
- 2 = below average
- 3 = average
- 4 = above average
- 5 = superior

Originality and Creativity

- 1. Props and graphics add to the clarity and interest of the display. _____

Scientific Thought

- 2. Purpose of exhibit is evident and scientific in nature:
(must be a display/collection/model/demonstration
of a scientific principle or phenomena) _____
- 3. The important ideas are emphasized over trivial details _____

Thoroughness

- 4. Understands the scientific principles and concepts of the topic. _____
- 5. Skill in handling, preparing, and displaying the materials. _____
- 6. Thorough and orderly coverage of topic in the report. _____

The Display

- 7. All display guidelines for the science fair are followed. _____
- 8. Spelling, grammar, and mechanics are accurate. _____
- 9. Overall attractiveness and organization of displayed materials. _____
- 10. Display clearly demonstrates the concept/principle so that others can learn.
(this includes using clear headings) _____

Total = _____