St. Francis Annual Science Fair – VI

Participants - Grades 5, 6, 7, and 8

March 11, 2010, TH – Written Report due
March 16, T – Display Board, Journal, Research due

This year we will have two **Science Coaches,** Karen Kiss and Bernie Miller, to assist students as advisors. The experimental process will be modeled in class and guidelines given for the project. Beyond this, the **Science Coaches** will meet with each child in preparation for each of these assessment dates:

Jan. 11 – written **Science Proposal, Research**

Feb. 8 – **Journal Check, Research**

March 11 **– Written Report**

March 16 – **Complete Science Project**

Some Experiment details: an experiment **tests only one variable** at a time. All other variables need to be controlled. An experiment can have several phases in order to test more than one variable.

- Independent Variable – the one you are controlling and altering
- Dependent Variable – the variable which changes depending on what you do with the independent variable.
- Constants – the elements of the experiment which do not change throughout the experimental process.

A "control" is an element of an experiment which is left in its natural state and the other parts of the experiment are shown in comparison with the control. It makes the changes obvious; gives contrast. Not all experiments lend themselves to a "control."

Experiments with living organisms such as people, animals, mold, bacteria, insects, etc. need special permission. (If you would like to review the Valley Catholic Guidelines, check their website: Valley Catholic Middle School Science Fair.)

Details: Some students in Grades 6, 7, and 8 will also present at Valley Catholic Science Fair. Students in grades 7 and 8 may work with a partner.

Science Fair Project

includes the following four items:

I. Journal

As you do your **inquiry experiment** (vs. a demonstration) be sure to include the date each time you record data.

II. Science Board (Display)

Boards need to have attractive headings and brief information. (We have many boards to loan. Check out boards from SMP.) Include all of the headings of the written report, in that order. "Materials Needed" is usually not a category included.

III. Written Report

Include:

1. Cover page with name of experiment and your name/date.
2. About 1 ½ to 2 pages, font 14, double spaced. Not more than 4 pages.
3. The following **<u>headings</u>**: (Make headings stand out.)
    a. **Question**
    b. **Hypothesis**
    c. **Procedure**
    d. **Data** (Include lists, tables, graphs, sketches, photos) List Independent and Dependent Variables and Constants. (Controls?)
    e. **Analysis of Data** (No opinions or reasons here, only facts)
    f. **Conclusion** (Briefly answer the **Question.** Was your hypothesis correct? **Give opinions or reasons for these results.** Tell how this experiment applies to your life and how it benefits humanity. What would you do next?)

Other important elements of the written report are an opening paragraph and a **Bibliography** page**.**

(This report will be used as the abstract for grades 6, 7, and 8 when presenting the experiment at Valley Catholic Science Fair.)

IV. Internet Research

Include a folder which contains two or three articles that present information directly relating to the **concepts being explored** with this experiment.

Science Coaches and the Sister Mary Peter are available to help with ideas regarding the concepts.

Try to find an experiment in which you can **answer one or more** of the following questions:

a. How can this help me in my life?
b. Does research in this area contribute to my health or the health of others?
c. Does this experiment help with conservation of natural resources?
d. What might the next step be after this experiment?

In summary, the report is saying is:

- What happened?
- Why did it happen?
- Why is this important to know?