Introduction to the Science Fair at T.H. Bell for 7th grade students and parents/guardians

Introduction:

Welcome to T.H. Bell's **2014-2015** Science Fair project activity. We are excited to begin this activity and are looking forward to seeing the completed projects. Original, creative, and well-executed ideas are what we are striving for this year.

Objectives:

At the conclusion of this project, students will have gained valuable experience in organization, research, and presentation skills, as well as the use of the scientific method of problem solving and scientific inquiry to answer a question.

Purpose:

1) Students will be provided with the opportunity to conduct research, formulate a hypothesis, establish experimental procedures, and reach a conclusion based on the collection of evidence and analysis of data.
2) Students will be given the opportunity to scientifically explore a subject that is of particular interest to them.
3) Students will participate in presenting their findings and conclusion within a scientific community (our classroom).

Due Dates:

Item	Due Date
Topic Selection	10-21-14
Science Fair Worksheet	11-22-14
Presentation Sign-Up	12-6-14
Display Board (can use templates)	Presentation Date (12-8 – 12-19)
Grading Rubric	Presentation Date (12-8 – 12-19)
Final Report of Project (including research, data, and conclusions)	1-23-15

General Information:

1) In order to help kick start this process, we have material available to help you in choosing a subject.
2) Students must have their projects pre-approved by parents or guardians and teacher prior to beginning.
3) If the project changes, a new plan must be submitted for teacher approval.
4) Based on the quality of work, some students will be invited to submit their projects to the district and state fairs.
5) Important Note: We are not expecting new research, but the research project must be new to the student.

CAUTION: **Do not wait until the last minute to work on your project simply to fulfill a requirement. Our expectations are high and last-minute projects will be graded accordingly.**

Specific Requirements:

1) All science students must participate since this is a graded assignment.
2) All projects must be of a scientific nature that uses the Scientific Method to test a hypothesis by planning and conducting an experiment, collecting evidence, analyzing data, and forming a conclusion.
3) Students are required to meet all project deadlines during this process. Late work will be penalized, unless prior arrangements are made. Please see the timetable for the individual due dates.
4) The following items will be required: a) Project Log Book c) Display Board (tri-fold preferred) d) Judging Rubric e) Report on the project (including research, data, and conclusions)
5) Display boards will be presented in class.
6) If units of measurement are used (mass, length, etc.), the metric system will be required.

Students

Students, from this point you are required to receive both a parent or guardian's signature and a teacher's signature as you complete each step of the process. Please refer to the timetable for deadlines. It is important for you to understand that your project is expected to be done well. Much of the work we have done in class during the first unit was in preparation for the Science Fair. Similar to your lab investigations, your project development will begin with observations, descriptions, development of a question, and construction of a hypothesis based on research. For some this process comes naturally, and others may need more help along the way. Either way, in science there is a systematic way of acquiring knowledge; therefore, necessary to break these processes into steps. Being thoughtful and mindful in the beginning steps will make the other steps of this process less stressful. For those that need extra assistance, after school support will be provided on selected dates that your student can sign up for (maximum of 5 students per session).

Parents and guardians, we ask that you support your student through this experience. Not only will they need assistance in selecting an appropriate topic, but they will be required to obtain your signature along the way. Since students will be doing the work on these projects at home, it is necessary for you to help guide them in choosing a topic and experiment that is acceptable to you.

Parents & Guardians

What does "support" mean?

1) This means that you can assist and guide your student in selecting a topic and experiment that is acceptable to you and within the range of your student's capabilities and your resources.
2) It also means that you require your student to critically think about how to apply scientific techniques to their project. Prompting is acceptable but you should not provide the answers.
3) Finally, you may assist in providing resources or your expertise in critiquing your student's work, but the display board and final report need to reflect your student's original thoughts and creativity.

1st Step: Science Fair Project Proposal Plan

1) The Question I plan to investigate in my experiment *(please phrase as a question using a complete sentence*):

2) Can you find at least 3 sources of information on the subject? Document these initial sources.

3) Can you measure changes to the important factors (variables) using a number that represents a quantity such as a count, percentage, length, width, weight, voltage, velocity, energy, time, etc.?
If not, are you measuring a factor (variable) that is simply present or not present? For example:

- Lights ON in one trial, then lights OFF in another trial
- USE fertilizer in one trial, then DON'T USE fertilizer in another trial

Please make a list of your initial variables and controls.

4) Can you design a "fair test" to answer your question? In other words, can you change only one factor (variable) at a time, and control other factors that might influence your experiment, so that they do not interfere? Explain your initial methods and procedures to test.

5) Is your experiment safe to perform? Explain, if necessary.

6) Do you have all the materials and equipment you need for your science fair project, or will you be able to obtain them? Please list the initial materials you plan to use.

Students and Parents/Guardians, please sign and date below.

Student Name: _____

Student Signature: _____ Date: _____

Parents and guardians, by signing this form you have read through your student's project proposal, approve of the above project, and are willing to support your student, as stated in the introduction form.

Parent/Guardian Signature: _____ Date: _____