

PEC Science fair

ON Monday, January 30th 2012, PEC Fifth & Sixth grade students will present at the 4th annual PEC science fair. Students will have the opportunity to research a topic that interests them, create a fun and engaging display, and show off their findings to the PEC community.

TIMELINE

December 12-16: review science fair categories and project topics.

During class, teachers will review science fair categories and acceptable project topics with students. students will determine a topic that interests them, and select a question or problem they would like to solve using scientific method.

Students will select a project that is related to the 4th, 5th, or 6th grade science curriculum. teachers will approve the students' selections by Friday December 16. recommended website for selecting a project:

<http://www.sciencebuddies.com>

December 17-January 3: students can begin gathering information and initiate experiment during winter break.

For those students that need additional time to conduct their experiment (ie experiments that study plant growth), they can initiate their experiment during winter break. students should use the scientific method worksheet as their guide for gathering data.

January 3- 6: during class, students will review scientific method worksheet to be used as they conduct their experiment. They will review the following:

How to research their topic and selected question/problem
review the research paper requirements
how to develop a hypothesis, based upon their research

research report requirements

Title

The research report title should reflect the selected category and the question/problem the student would like to answer or solve with their science experiment.

research report requirements (cont)

introduction

The introduction should include a brief description of their project category and of the topic selected. it should also include at least one reason why the student selected it to study.

report body

the report body should contain 3 paragraphs with information gathered from at least 3 separate resources.

conclusion

summarize the information gathered on the topic. student should also include an educated guess as to what is going to happen during their experiment. this "guess" should be based upon their project research.

bibliography

identify all sources (at least 3) used to write report.

January 9-13

during class, students will learn about designing and "doing" the experiment. they will:

- ensure their experiment matches their question or problem
- determine the variables (things that might change during their experiment)
- how to set up a controlled experiment (keep the variables from changing)
- write a procedure for conducting the experiment
- create a materials list to conduct the experiment

January 16-20

During Class and after school

students can obtain help with their experiment as necessary. a schedule of available help will be available by January 13.

at home, students should:

- continue experiment
- if student's experiment requires less than one week for data gathering, he/she can begin creating their science fair board. see project board requirements on following page.

January 23-27

Finalize data collecting and complete project board according to project board requirements.

project board requirements

TITLE

the project title should reflect their selected topic and the problem or question they are trying to solve.

HYPOTHESIS

the hypothesis is an “educated guess” that answers the question or problem they are trying to solve

PROCEDURE

the steps that were taken to test the hypothesis

VARIABLES

a list of all the things that were different or changed during the experiment. (teacher will provide a list of examples during class.)

OBSERVATIONS/DATA COLLECTED

observations are things that are noticed during the experiment. student can put these observations in a chart or write them as notes.

data is information that is collected using instruments such as scales, rulers, clocks or stopwatches. this information can be displayed as a chart, a list, a table, or a graph.

CONCLUSION

the conclusion is the explanation and summary of what happened during the experiment. it ties everything together and states whether student’s hypothesis was correct or incorrect. the summary should also include information about what went right and what went wrong during the experiment and how that might have affected the outcome.

PHOTOGRAPHS/DRAWINGS OF YOUR EXPERIMENT

ITEMS THAT WERE BUILT OR CREATED TO CONDUCT YOUR EXPERIMENT (OPTIONAL – ALL PROJECTS MAY OR MAY NOT HAVE ADDITIONAL ITEMS.)

BACK OF PROJECT BOARD SHOULD CONTAIN:

student name, grade, and teacher

research report should be taped to back of board.

science fair
weekly checklist

December 12-16

Topic selected: _____

Related to 4th, 5th or 6th grade curriculum? Y or N

If No, pick a new topic

Teacher approval (initials) _____

January 3-6

Research resources to be used (at least 3) teacher initials: _____

research report (attach separately)

teacher's comments:

hypothesis for your experiment:
