

Dear Parents and Guardians,

All Cunningham students are required to complete a Science Fair project. This exciting and challenging experience will help your child learn many useful science skills, as well as how to complete a written report.

The emphasis is on using the scientific method. All projects must have results that can be observed, measured/counted, and recorded using charts, graphs, photographs, and/or drawings. Therefore, project selections must be made from a grade appropriate preselected list of proposals. This list will be made available to you by your child's science teacher. Once selected, a project cannot be changed.

Your child's complete Science Fair project will include:

1. Worksheet 1
2. Worksheet 2
3. A Science Fair Project Journal/work log. This log must have at least 5 dated entries. Entries may include the research, written descriptions, sketches and numerical data. Please do not include any opinions with your observations. The final journal entry should be a reflection.
4. A written report which states the hypothesis, identifies the dependent and independent variables, observations/data collection, description of the procedure and conclusion.

I encourage families to guide their children through this process, especially in the planning phase. Please check your child's project selection, hypothesis, materials list, and procedures to ensure that they meet your approval. Please monitor your child's progress and ensure safety measures are adhered to by actively supervising your child through this process.

I thank you in advance for the encouragement and support you will be providing your child during this project. One project from each class will be selected to participate in the Cunningham Science Fair, which will be held during the school day in May. Once selected, students will move onto the next phase of planning and be asked to create a science board and oral presentation for their project. A rubric will be supplied.

6 projects will be selected to represent our school in the Science Expo at the Museum of Natural History in June.

I wish you all good luck!

Please review this information with your child, sign and return the bottom portion of this page to your child's Science teacher.

Respectfully,

Jennifer Camillieri, Assistant Principal

-----tear off-----

Cunningham Science Fair Project

I have read the above and understand that my child must complete a Science Fair project. In addition, he/she must prepare a written report which summarizes the process. My child must also produce a work log with a minimum of 5 dated entries. I understand that this project is part of the curriculum and an important part of the Science assessment process.

Parent/Guardians Signature

Child's Name

Class #

6th GRADE SCIENCE FAIR PROJECT WORKSHEET #1

Name _____ Date _____

Class _____

Research Question

Research

List a minimum of 3 sources that you will use in your research of this topic.

1. _____
2. _____
3. _____
4. _____
5. _____

Based on the sources above, write a 3-4 paragraph essay which:

1. States the research question
2. Identifies what you have researched
3. Paraphrases what you have learned

Your essay should be attached to this sheet

Research	4	3	2	1
Structure	The essay is well paraphrased, well constructed and 3-4 paragraphs.	The essay is simply paraphrased, simply structured or fewer than 3 paragraphs.	The essay includes some information and has some clarity.	The essay is not clearly written or has little or no information.
Sources	Information is based on 3 or more reputable sources	Information is based on 2 reputable sources.	Information is based on 1 reputable source.	Information is not based on reputable sources.

Hypothesis

Based on your research, state your hypothesis.

This must be stated in terms of the independent and dependent variables.

(If...then...because)

because _____

	4	3	2	1
Hypothesis	The relationship between the independent variable and dependent variable is clearly stated as cause and effect. (If..then..because)	The relationship between the independent variable and dependent variable is simply stated as cause and effect. (If..then..)	The relationship between the independent variable and dependent variable is not stated as cause and effect or is stated unclearly.	The hypothesis does not reflect the investigation or is poorly done.

6TH GRADE SCIENCE FAIR PROJECT WORKSHEET #2

Name _____ Date _____

Class _____

Research Question

Variables/Constants:

Independent _____

Dependent _____

Constant _____

	4	3	2	1
Variable Constant	The independent and dependent variables and constants are identified correctly	Either the independent variable, dependent variable or constant is not identified clearly or accurately.	2 of the aforementioned are not identified clearly or accurately.	None of the aforementioned are not identified clearly or accurately.

Materials:

- | | |
|----------|-----------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

	4	3	2	1
Materials	All materials are listed clearly and accurately	Most of the materials are listed clearly and accurately	Some of the materials are listed and/or are written incorrectly	Several materials are missing, unclear, or inaccurate

Procedure:

The steps you will follow. These steps should be written in number order. Please write or type your procedure on a sheet of paper and attach it to this worksheet.

	4	3	2	1
Procedure	All procedures are clear and are written in order. Steps are written in complete sentences.	Almost all procedures are clear and are written in order or steps are not written in complete sentences.	Most procedures are listed out of order, or are difficult to follow.	Procedures are unorganized or do not show the steps of the experiment.

6TH Grade Science Fair Project Written Report

Your task is to write a 3-5 paragraph Science report which provides the conclusion and reflection to your project.

Your report should include:

1. A title page
2. The research question.
3. Your hypothesis in terms of the independent and dependent variables.
4. Your results.
5. Your conclusion.
6. Photos of your experiment.

Your data should be attached to your essay.

Data should be organized into a graph or table.

	4	3	2	1
Results	Data is clearly summarized. Results are accurate and reliable. Reference is made to tables, graphs, or charts.	Data is clearly summarized. Results are accurate and reliable. There is no reference made to tables, graphs, or charts.	Includes a summary stating mostly procedures, or results are unclear or inaccurate.	Results are unrelated to investigation or poorly done.
Conclusion	Answers the research question, states whether findings supported the hypothesis, uses reasoning in connection to scientific concepts or principles, discusses sources of error. Results and background information are used to support conclusions.	Answers the research question, states whether findings supported hypothesis, results are used to support conclusions. Does not discuss sources of error or make connections to scientific concepts or principles.	Includes a summary, some discussion of question, hypothesis, sources of error and/or make connections to scientific concepts or principles.	Conclusion was poorly done and shows little effort.
Mechanics	No grammatical, spelling or punctuation errors.	Almost no grammatical, spelling or punctuation errors	A few grammatical spelling, or punctuation errors.	Many grammatical, spelling, or punctuation errors.
Data	Data table and/or graphs are accurate and include correct title, labels and units of measure.	Data table and/or graphs are incomplete or title, labels or units of measure are missing or inaccurate.	Data table and graphs are incomplete or inaccurate, and missing labels or units of measure.	Data table and graphs are poorly done and show little effort.

SCIENTIFIC INVESTIGATION VOCABULARY

1. science process/inquiry skills – used to gather information and solve problems
2. observation – information gathered by using your senses
3. senses – sight, hearing, touch, smell, and taste
4. compare – look for ways two things are similar (alike)
5. contrast – look for ways two things are different
6. data – information collected by observation
7. scientific method – a series of steps followed to solve a problem
8. problem – a question to be investigated (or studied)
9. hypothesis – a possible answer to a problem; a prediction of the relationship of the independent & dependent variables
10. research – information that relates to the problem
11. independent variable – (manipulated variable) the factor or variable that is changed on purpose
12. dependent variable – (responding variable) the factor or variable that may change because of the changes made to the independent variable
13. experiment – a plan for testing the hypothesis
14. experimental design diagram – a labeled drawing of one's experimental set-up which shows all the equipment used
15. constant – something that does not change
16. controlled experiment – an experiment in which all conditions (variables), except one, are kept constant
17. procedure – step-by-step directions for carrying out an experiment
18. materials – items or equipment used to carry out an experiment
19. visual representations – charts, tables, and graphs that organize the data to make it easier to understand
20. analysis – study of the data to see if it does or does not support the hypothesis
21. conclusion – a statement that answers the question asked in the problem. It must also tell, specifically, how the data supported, or did not support the hypothesis
22. lab report – explains in writing what happened in an experiment
23. field study – observing and recording the behavior of one or more living things in their habitat. The information can be used to create an ethogram.
24. ethogram – an inventory of the behaviors of a species (specific animal)