

Sample Project Plan for an Experimental Project

ACSI Science Fair Experimental Project

Date of Fair: 2/29/2005 Project #: XXX (assigned by chairperson on the day of the fair)

Name: Ellie May

Grade: 6 Teacher: Mr. Easyway

Project title: The Effect of Bright Light on Bleach Effectiveness

Problem that will be investigated: Bleach is effective in removing stains from clothing, and bright sunlight also tends to bleach colors. I will investigate whether the effects can be combined to increase the effectiveness of bleach in stain removal.

Description of experiment: Several pieces of white cotton cloth will be stained with grape jelly. Then the pieces of stained cloth will be exposed to bleach, bleach and a bright sunlamp, and a sunlamp alone to determine if the combination of bleach and the sunlamp is more effective in stain removal than the bleach or sunlamp alone.

Experimental hypothesis: Bleach is more effective when used with bright light to remove stains.

Experimental control: Several pieces of stained cloth will be kept separate and exposed only to water instead of water and bleach. The controls will be kept out of bright light for the experiment.

Experimental variable: The experimental variable is the exposure to bright light.

Control variables: The control variables are everything else that could affect the removal of the stain. The amount of the bleach in the water will remain the same, the time of exposure will remain the same, the intensity of the light will remain the same, the same cloth and stain will be used for all samples, and the water temperature will remain the same.

Materials required: Cotton cloth, household bleach, grape jelly, sunlamp, camera, and film

How will special materials and equipment be obtained? The sunlamp will be purchased at a hardware store.

Planned experimental procedure (use back side if needed):

1. Divide cotton cloth into 24 squares, number each with a marking pen, and stain each with a smear of grape jelly. Let jelly stand for five minutes before rinsing each piece in cold water for one minute.

(Procedure continued on back.)

Data to be taken: Photograph the results and display.

Planned method of presentation (graphs, tables, photographs, etc.): Photographs and actual pieces of cloth used in experiments

Sample Experimental Project Worksheet

ACSI Science Fair Experimental Project

Date of Fair: _____ Project #: _____ (assigned by chairperson on the day of the fair)

Name: _____

Grade: _____ Teacher: _____

Project title: _____

Problem that will be investigated: _____

Description of experiment: _____

Experimental hypothesis: _____

Experimental control: _____

Experimental variable: _____

Control variables: _____

Materials required: _____

How will special materials and equipment be obtained? _____

Planned experimental procedure (use back side if needed): _____

Data to be taken: _____

Planned method of presentation (graphs, tables, photographs, etc.): _____

Sample Project Plan for an Engineering Project

ACSI Science Fair Experimental Project

Date of Fair: 2/29/2005 Project #: XXX (assigned by chairperson on the day of the fair)

Name: Rachel Blackburn

Grade: 11 Teacher: Mr. Easyway

Project title: Which Bridge Supports the Most Weight?

Problem that will be investigated:

The question of whether suspension bridges or cable-stayed bridges will support more mass will be investigated.

Description of equipment:

A suspension bridge and a cable-stayed bridge will be built, using the same type of materials for construction. Each bridge will be tested with small weights to determine which one will support more mass. This experiment will be repeated several times before a conclusion is established.

How will the equipment be built?

(See list of 6 steps on back)

How will the equipment be used in investigation?

(See list of 9 steps on back)

Investigative variable:

The investigative variable is the design of bridge.

Control variables:

The control variables are the materials used in constructing the bridges, the way of measuring, the number of times the bridges are tested, and the way the bridges are tested.

Materials required per round of testing:

Four balsa wood strips that are $\frac{1}{2}$ " wide, four wood dowels that are $\frac{1}{2}$ " wide, a bottle of model glue, a roll of lightweight twine, a roll of fishing string, 12 kg small weights, a small lightweight container, a camera, and film

How will the special materials and equipment be obtained?

Balsa wood and dowels will be purchased at a hobby store.

The small weights will be borrowed from the school science lab.

Data to be taken:

Observations will be recorded after each weight is added to the container. The mass held by each bridge prior to breaking will also be recorded.

How will data be analyzed?

For each round of testing, data will be recorded to determine how much mass the bridge held before breaking. Each piece of data will be recorded on a bar graph. In addition, the average mass will be calculated for each type of bridge.

Planned method of data presentation (graphs, tables, photographs, etc.):

Photographs and a graph of the data

Sample Engineering Project Worksheet

ACSI Science Fair Experimental Project

Date of Fair: _____ Project #: _____ (assigned by chairperson on the day of the fair)

Name: _____

Grade: _____ Teacher: _____

Project title: _____

Problem that will be investigated: _____

Description of equipment: _____

How will the equipment be built? _____

How will the equipment be used in investigation? _____

Investigative variable: _____

Control variables: _____

Materials required per round of testing: _____

How will the special materials and equipment be obtained? _____

Data to be taken: _____

How will data be analyzed? _____

Planned method of data presentation (graphs, tables, photographs, etc.): _____