

Examples

There are various types of science projects. If there is no restriction or limitation, try to choose the best type that suit you.

Experimental science projects are more common and fun.

The effect of CO₂ concentration on the number of stomata in plants.

Theoretical science projects are more difficult and advance.

Computer simulation for the next major flu outbreaks in Thailand.

Exploration science projects are mostly outdoor, when diversity of data must be collected from the field.

A survey of flowering plant diversity in school playground.

Invention science projects have you built a new prototype, device or create a new process that is good at a particular task.

Wireless warning system for flooding.



How to do a Science Project

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"Genius is one percent inspiration and ninety-nine percent perspiration" — Thomas Edison

How to do a science project?



A topic to study

If you have a choice to select your own topic to study, select one that you are interested in.

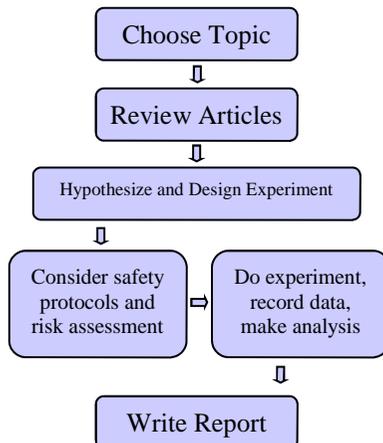
Also consider the opportunities to learn new things, plausibility of the project, assistance availability, impact to the community.

Planning

Make the best use of time by planning your project well, using the flow chart of recommended sequence below.

Get started once you have decided your topic. Collecting information and get into the experiment.

Do not underestimate the time it will take to do experiment and write the report.



Experimental Design

Making hypothesis which is the possible answer of the question. One good hypothesis is better than many uncertain hypotheses.

If x causes y , then changing in x would cause y to change. That is independent variable (x) and its effects on dependent variable (y) to be measured.

Control variables are those that should be the same for all experiments, while control experiment has its subjects untreated in the controlled condition.

Subjects given the same treatment are replicates. There should be as many as possible, and with the same number of them in each experiment.

Randomization of positioning and allocation of treatments in the experiment helps you eliminate the bias. Advance techniques include randomize block design.

Data analysis

Keep your record tidy. Analyze and calculate your graphs as soon as you can. This could be used to create new hypothesis, modify existing one, or reveal flaws in experimental design.

Computer applications such as spreadsheets will be very useful in data analysis, while word processor helps report preparation.



Writing a report

Introduction

Provides orientations to the reader, explains why and how you do it. Indicates hypothesis.

Materials and methods

Explains how you do the project, with enough data to repeat by others.

Results

Displays and describes the data, preferably in the forms of table, graphs, and photograph.

Discussion

Discusses the results: their meaning, importance, comparisons, suggestions.

Acknowledgements

Gives credit to those who helped carry out the work.

References

Lists all references cited, in appropriate format, for others to look for in the library.



Reference: Jones, A., Reed, R. and Weyers, J. (1998), Practical Skills in Biology 2nd Edition. Longman. England.