Written for about a Grade 4 level - Older students' projects can be more complex.

Displaying a Science Study (including product testing)

Not an experiment - no hypothesis needed.

What you wanted to find out

What you know already based on you previous experiences or your library or internet research. Include definitions if appropriate. What did you think would happen? Why did this topic interest you?

What you did

What supplies or equipment you used

Title

What you found out: "The Data"

Purpose of this Study

To find out if it really does rain all winter long in the Fraser Valley like people say.

Background Information and My Expectations

I thought it would rain every day in January because I walk to school and it seems like it's always raining!

Procedure

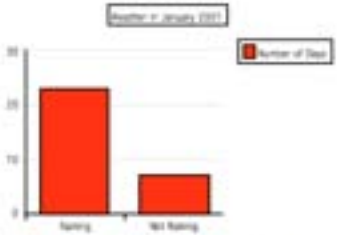
1. I observed and recorded (etc.) every day, for a month.
2. I analysed my data.
3. I graphed my results and found a pattern.

Materials

- a clipboard
- a record sheet

Rainy - or Not?

Results



It was raining on 23 days out of 30 days, or 77 % of the time

photo of a rainy day

photo of a not-rainy day

Discussion of the Results

1. I made my observations only at noon, but sometimes it rained earlier or later in the day.
2. On two of the days, it was snowing. I counted these days as "raining".
3. I found out that it did rain on more days than it didn't, but that it did not rain every day, as I expected.

Conclusion

Even though people in the Fraser Valley complain all the time about rainy winters, it did not rain every day, only 77% of the time in January.

References

Books and other resources

Acknowledgments

I would like to thank...

What did your observation tell you? Discuss anything interesting or unexpected that happened

What you learned

Where you found your information

People and associations who helped you

Clare Brooks '00

A study involves the collection and analysis of data to reveal evidence of a fact, situation, or pattern of scientific interest. The data should be original, the methods should be sound, and the analysis should be insightful. The study might investigate a cause and effect relationship; if so, then the student might include an hypothesis, but it is not always necessary.
Note: product testing is usually a study, not an experiment.

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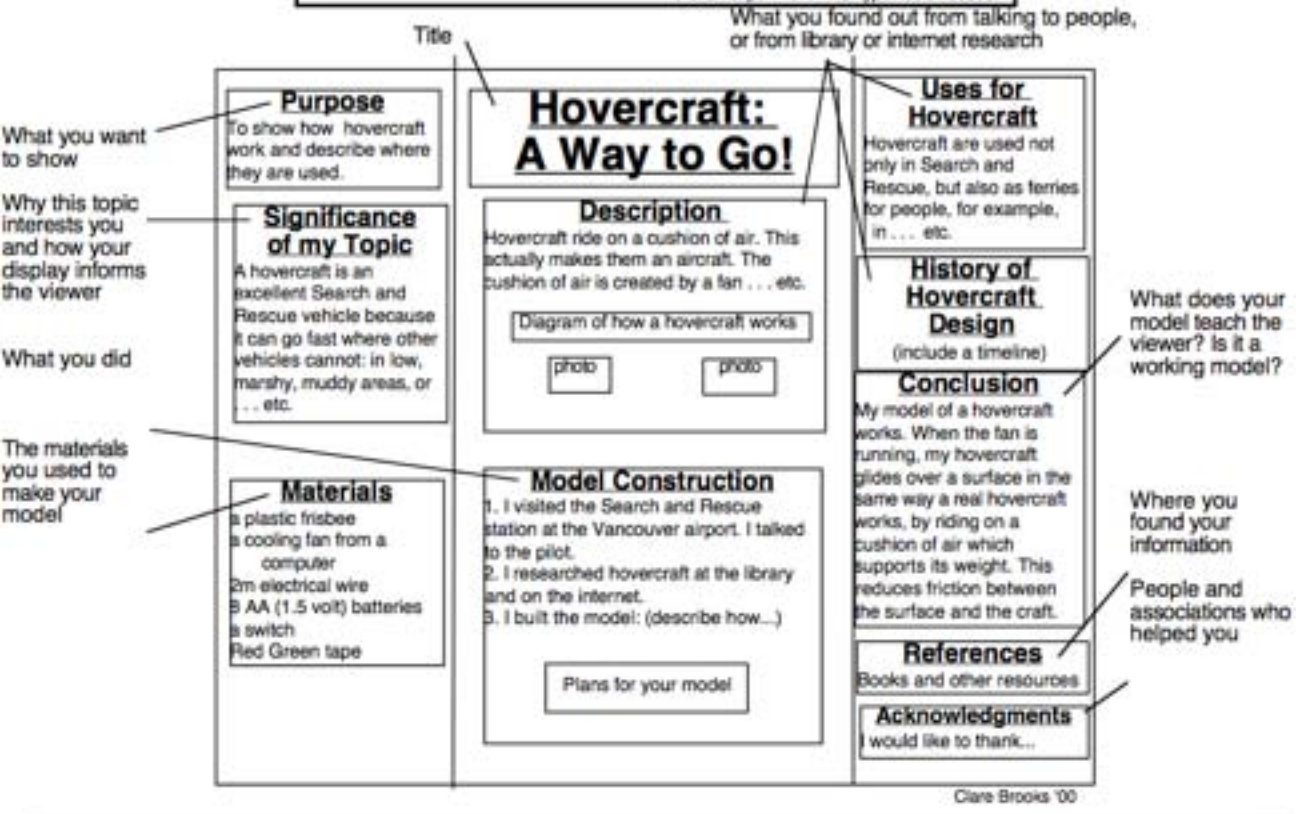
Displaying a Science Model

Not an experiment - no hypothesis needed.



To show how something works by using a model. The model should clearly illustrate the function of the various parts of the mechanism, or natural object or event. The model may be working or static and, if appropriate, the model should be in scale.

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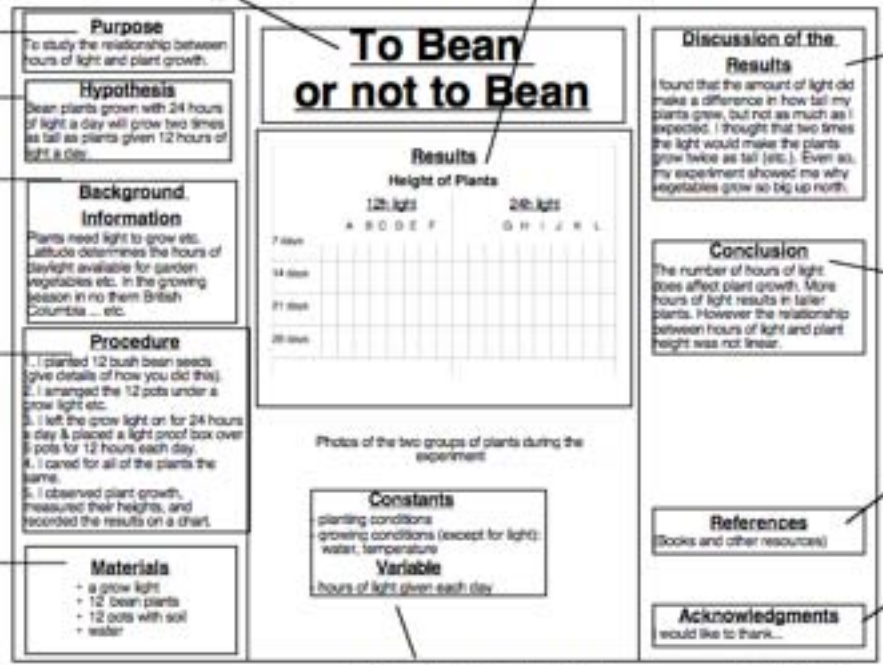
Displaying a Science Experiment

Traditionally, the most common "Science Fair Project"



The student designs an experiment to test a specific hypothesis which links "A" to "B". The student recognises and controls variables, and collects, analyses, and presents data. **Note:** the following are worthwhile projects but are not experiments and do not require an hypothesis: a demonstration, a model, a report, a study, an innovation/invention. For ideas on how to present them, see additional information sheets.

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Displaying a Science Demonstration

Note: Kids' science books often call such demonstrations "experiments" but they are not experiments, according to Science Fair guidelines; no hypothesis is needed.

Title

What happened / what you observed; charts, tables, graphs etc.

To demonstrate... (some interesting science phenomenon or concept)

A scientific explanation (what you learned before you started). Include definitions if appropriate.

What you did

What did your observations tell you? Discuss anything interesting or unexpected that happened.

What you have shown

Where you found your information

People and associations who helped you

Purpose

To demonstrate magnetic attraction.

Background Information

In a piece of magnetised metal, the atoms are arranged . . . etc.
In non-metals, the atoms...etc.

Procedure

1. I found 10 items in my kitchen drawer.
2. I tested each one to see if a magnet would attract it.
3. I recorded my results on a chart.

Materials

- a bar magnet
- a cork
- a paper clip
- a nickel
- a penny
- aluminum foil . . . etc.

Magnetic Attraction

Results

	Attracted?	
	Yes	No
Cork		✓
Foil		✓
Fork		✓
~~	✓	
~~		

Diagram of magnetic forces

Discussion of the Results

I was surprised that some metallic things like aluminum foil were not attracted by the magnet. I noticed that some really heavy metal objects were attracted by the magnet, but the magnet was not strong enough to pick them up.
Non-metallic objects were not attracted to the magnet at all – not even a little bit! . . . etc.

Conclusion

A magnet will attract some metals but not others. It will not attract non-metals.

References

(Books and other resources)

Acknowledgments

I would like to thank...

Clare Brooks '00

"Hands-on" materials on display

To demonstrate a science phenomenon or concept that is interesting but already well known and understood (even if not by the student). The demonstration shows how it works and why.

Written for about a Grade 4 level - older students projects can be more complex.

Displaying an Innovation/Invention

Not an experiment - no hypothesis needed.

Title

Describe how your invention works. Draw a detailed picture / diagram / flow chart / schematic etc..

What you wanted to invent or innovate

How was there a need for this invention? How is your project original or innovative?

How you went about designing your innovation

Materials and equipment you used for your project

Purpose

To design electric gloves so cyclists can signal turns at night.

Significance of my Invention

Many people use bicycles to travel to and from work or school. At night,... etc

Product Development

1. I did background research to see if there is such a product already on the market.
2. I talked to 5 cyclists
3. I drew detailed plans.
4. I made my gloves.

Materials

- a pair of gloves
-10 m electrical wire
-2 20 watt halogen bulbs
-a 12 volt battery ...etc.

Light Up Your Night

Description

The cyclist wears a wire harness connected to a battery mounted in the bottle cage. etc...

Diagram

Testing and Evaluation

1. I ran three sets of tests with 1 cyclist and 3 drivers.
2. (Describe procedure. . .)

	Trial 1	Trial 2	Trial 3
Driver A			
Driver B			
Driver C			
Average Distance			

Improvements

1. Systems should have a brighter bulb for increased safety.
2. My system was too expensive: it cost $180.

Conclusion

My electric gloves work. They can be worn by cyclists at night and be seen by car drivers. They contribute to safety on the road.

What does your invention do? What are its practical uses? (applications)

References

(Books and other resources)

Where you found your information

Acknowledgments

I would like to thank...

People and associations who helped you

Clare Brooks '00

To display an original innovation or invention developed and evaluated by the student: devices, models, techniques, or approaches in technology, engineering, or computers.

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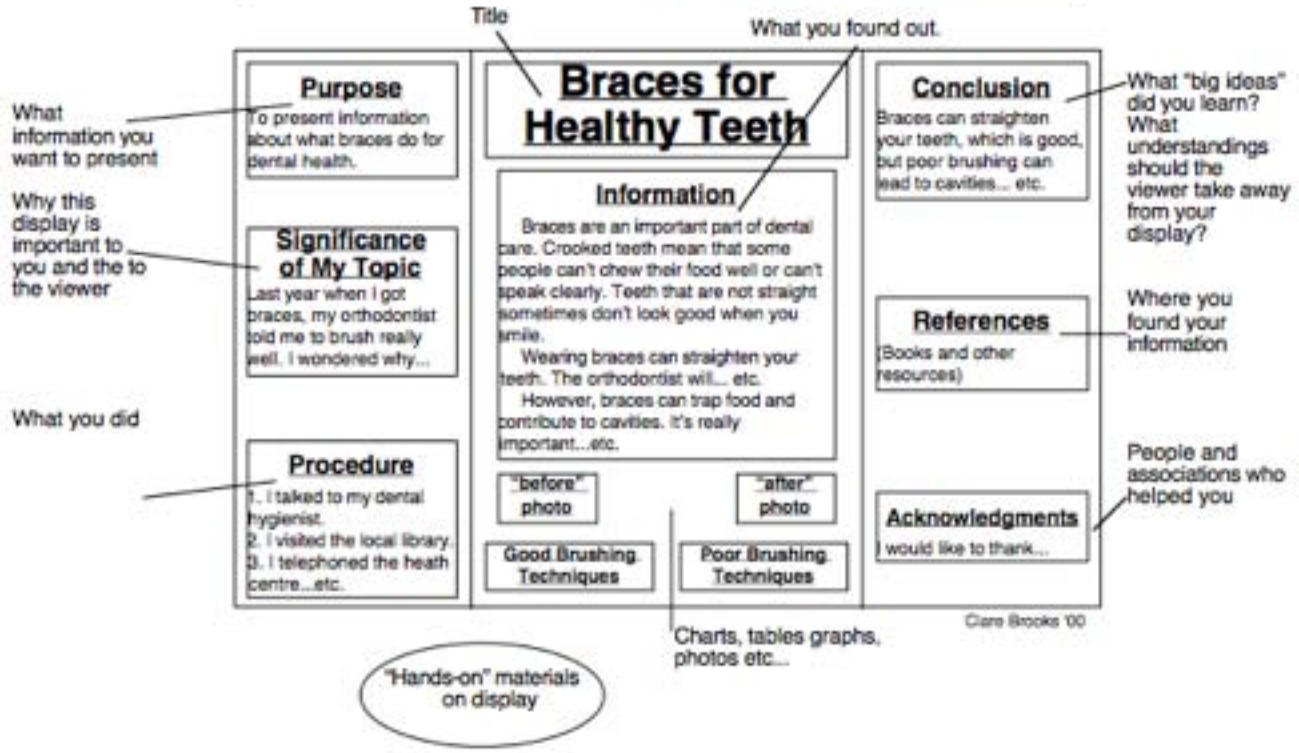
Displaying a Science Report

Not an experiment - no hypothesis needed.



A report displays information about a topic. It "informs" the viewer. It can be similar to an information poster, and can include photos and illustrations, and "hands on material". A report can overlap with a model.