JUNIOR DIVISION

Science Fair Rules

Designing an Investigation

Entry Form

Assessment Forms (Judging Criteria)

Science Fair Rules

1. One copy of the entry form **MUST BE RECEIVED** on or before Tuesday, February 9, 2010.

2. Exhibits will be received Tuesday, March 9 at 9:30 a.m. and must be in place by 11:00 a.m.

3. Junior Division 7-8 grade.

4. Entries must be declared in one category and one type of study.

5. Please use great care in selecting the proper category for your research entry. It will be judged in that category with the following exceptions:

    - If there are fewer than 3 entries in any category, this will be considered an insufficient number, and the entries will each be distributed into the most appropriate category based upon the title and the abstract, in the opinions of the Chief of Judges and the Director
    - If a judging team feels that a particular project is misclassified, it may be transferred to a more appropriate category with the approval of both judging teams concerned, the chief of Judges and the director.

6. All exhibits must be "Certified Approved" by the Inspection Committee. All required forms must be displayed prior and during judging. The Inspection Committee will ascertain that the exhibit conforms to all regulations (size, safety, etc.) All exhibits must be approved by the Regional Science Fair Scientific Review Committee.

7. Exhibits MUST NOT exceed 30 inches in depth (front to rear), 36 inches in width (side to side) and 108 inches in height. All switches and cords for 110 volts must be approved; if high voltage, it must have its own fuse.

8. A student may work on only one exhibit, individually or as a group member. **All work must be done by the student.** Teachers or parents may only advise.

9. Observations of people in natural settings do not require special approval. This means there is no interaction between the experimenter and the subject(s). For example, observing children at recess is acceptable. There can be zero risk involved. **However, display of photographs other than that of the student must have a photo release signed by the subject, and if under 18 years of age, also by the guardian of the subject..**

10. Experiments that involve interaction with human subjects, even when the experimenter is the human subject, require approval. Interaction is defined as any experiment in which the human subject knows that an experiment is being conducted. Examples would include, but are not limited to surveys, tests, skills performance, taste tests, endurance tests, medical surveys, or the application of anything to the body. These experiments must be approved by an Institutional Review Board using **Form 4 before the experiment begins.** Form 4 must be filled out for each human subject involved in the experiment. Form 4 must be submitted

with the application form. Form 4 can be found in the section for the Senior division. Projects involving interaction with human subjects that have not submitted Form 4 will not be allowed to display at the Fair.

11. Restrictions:
    - No plants, soils, chemicals, or mold may be displayed. Chemicals must be available to the general public and/or no more concentrated than 1N. Mold experiments must be done in closed environment – Ziploc baggies, Petri dishes, etc. The "containers" should not be opened by the students. Seal with tape before disposing. Clorox may be placed on the mold for 24 hours to destroy the spores.
    - No bacteria or cultures. Yeast is permitted as it is a food item.
    - Observations of animals in natural settings only. No tests, skills performance, taste tests, endurance tests, medical surveys or related tests (such as eye or pulse). There is no interaction between experimenter and subject(s), i.e. observing the dog playing or birds at a bird feeder would be acceptable. Running mice through a maze to determine how long it takes to find the food is unacceptable. No risk can be involved.
    - No animals or animal tissues. Research involving the use of animals may display drawings, charts or graphs to illustrate the conditions, developments, and results of the investigations. Sealed insect collections will be permitted on display. **Photographs and other presentations depicting vertebrate animals in other than normal conditions may not be displayed in the student's exhibit.**
    - No chemicals (including water) may be exhibited. Only household chemicals (chemicals sold to the general public) or chemicals with a concentration of 1N or less may be used. No flammables may be used. The use of chemicals requires an adult being present. All chemicals used should be used prudently and wisely.
    - No class 3 or 4 lasers, or explosives may be exhibited.
    - No tobacco products or firearms.
    - All experiments must be legal (i.e. no potato guns).

12. Every effort will be made to prevent damage or loss to exhibits. Security will be present during public viewing. However, neither Southeast Missouri State University, Drury Southwest, Hathaway Consulting, The Southeast Missourian, Linda R. Godwin Center for Science and Mathematics Educator nor the Show Me Center will be responsible for loss or damage to any exhibit or part thereof.

13. All exhibits must remain until after the Award's Presentation at the close of the fair and all must be removed before 9:30 p.m. Any projects removed before the Award's Presentation will automatically be disqualified for any award.

14. These rules conform to those of the International Science and Engineering Fair and must be followed.

Designing an Investigation

Journal Your Study

Begin a Log Book immediately. This is a diary with dated recordings. It contains interviews, reading notes, articles, decisions, and collected, raw data. It is to be displayed on the exhibit. Judges peruse it to see what and how much information is recorded, to determine scientific attention to detail, and get a sense of your adventure into the unknown. Put tabs on beginning pages of study sections: background, problem, hypothesis, etc.

Begin with a Curious Question

Nature is always wordlessly talking to us. A watching scientist may become curious about an object or event. This curiosity leads the scientist to explore the puzzlement. Electing to do a science, engineering, math or computer study takes muck longer than a homework assignment. Because of this it is essential that you select a topic about which there is much curiosity.

There are many possibilities for a Science Fair study. Science limits its studies to those things that one can see, touch, hear, smell, or taste. Mathematics studies examine patterns resulting from numerical relationships. Computer studies involve novel use of hardware, software ore creation of new software. Engineering studies create or examine the efficiency of products or processes.

Select a Study-Topic

Use a hobby or interest, alter some activity done in school or in scouting, or read through the 12 study categories and find one that you like the best, or find what you naturally watch in our universe.

To find out what you watch, set up a page with the left side headed observations and the right side, thoughts. For a week write on the observation side what you watch when you are riding in a car or walking down a street. On the thought side write what you thought about it when you were watching.

Be especially interested in the “I wonder” type of thoughts, e.g., “I wonder how that works”, “I wonder what would happen if...”, “I wonder what that is”, etc. These lead to investigative questions.

Collect Lots of Information

When you have identified a topic and narrowed it to a researchable one, talk with others who have experience and knowledge about it. Search out written information about it. Find out:

- Who is famous for studying it,
- What is known about it,
- How have others studies it, and
- Why is such a study worth the effort.

Begin at home collecting articles from books, newspapers, or magazines. Visit your school, city, or college library and select items from the card catalog. Check the blue pages for federal or state agencies that might have free pamphlets. Check the yellow pages for a professional organization or trade group that has an interest in the topic. You may have access to Internet and hence via computer you can get materials from a great variety of sources and experts.

Summarize your collected information in the Log. Create a history summary of important people and findings. Create a fact summary. This would include major terms and their operational definitions. Link these facts to show how they are related. On the method summary list any standard way that scientists study your topic. This would include set-up procedures, standard measurement units, equipment, etc. On the importance summary record what is important or significant to mankind about this topic.

Design Your Study

Narrow your topic or curiosity to a researchable problem. Your expected answer is given as a hypothesis. Examine your study and decide which of the study designs it is. Ask yourself, “What will I be doing when the study is being carried out?” and check your answer to the five given below and use the associated design.

1. When collecting something in order to identify it, use the collection design
2. When watching a natural situation to find a pattern, use the observation design.
3. When building something to show how it works or to show a scaled model, use the model design.
4. When altering one component, while keeping others constant, and watching what happens to another component, use the experiment design.
5. Doing a series of experiments to create a product or process, use the invention design.

Study design also includes a control, samples, and trials. The control is a base of comparison. In experiments it is usually a zero amount of the IV. In a model it is a drawing or picture of the real thing. A sample is a specimen in a collection, a recording in an observation, a result in an experiment. Its purpose is to examine a single relationship between the IV and DV. A trial is a repeat or replication of an experiment to check on consistency of results.

DESIGN OF EACH TYPE OF STUDY

Think of a science study as you would a story plot. You will have **main characters** (independent variables) in a **setting** (constant variables) acting out a **plot** (dependent variables).

- The independent variable (IV) is **what** an investigator has selected as important
- The constant variable (CV) are the **where**, **when**, and **how** conditions you intend to maintain.
- The dependent variable (DV) is **what happens** or the collected raw data.

It is important to reorganize the raw data so that the resulting relationship pattern can be seen.

TYPE	IV	CV	DV	RESULTS
Collection	**What** characteristics of the collected objects are useful to identify it.	**When**, **where** and **how** will the collecting be done. Include any safety aspect.	**What** is recorded about each selected IV.	The rearranged data showing identity.
Observation	**What** observable aspects are valuable about an object or event.	**When**, **where** and **how** will the observation be done. Include any safety factor.	**What** is recorded about each selected IV.	The rearranged data showing a sequence pattern.
Model	**What** is the design of the replica being built; if it works or is scaled.	**When**, **where** and **how** the materials will be assembled. Include any safety factor.	**What** the completed replica looks like.	The model and evidence that it works or is scaled.
Experiment	**What** has been selected to be altered.	**When**, **where** and **how** the study will be set up. Include any safety factor.	**What** is expected to respond to the IV alterations and be recorded.	Graph of the averaged data.
Invention	**What** has been selected to be altered first time, second time, etc.	**When**, **where** and **how** the study will be set up. Include any safety factor.	**What** is expected to respond and be recorded.	Product or process meets specifications.

Run the Designed Study Investigation

It is a good idea to check procedure with a mentor, develop any needed skills, and get essential materials and apparatus. Decide how you are going to record your data and how you are going to reorganize it to examine for a pattern. Each type of study has its own conventional method of recording and analyzing data. Check again as to how others have done it. Prepare the necessary table, cards or sheets for raw data. Data tables use the DV for the title, each IV is a column heading, and each row is a sample.

Do a trial run of your study to check it and any critical aspect of it. Be sure that it is going to work as planned before recording data that you intend to use to form a conclusion. When the plan is known to work, follow it without variation. Take photographs which show the process and hence enable the reader or viewer to visualize exactly what you did. (Please do NOT show your face in any photos.) Record the raw data in the prepared tables while you are doing the investigation.

Analyze and Interpret the Results

It is necessary to reorganize the raw data so that findings can be analyzed and interpreted. This is best done by a summary table or graphic. For a collection use a table or diagram showing distinguishing characteristics, identity, and relationship. An observation can use a summary data sheet that shows the pattern that was found. The model uses the finished replica and evidence that it works or is made to scale. An experiment uses a graph with the averaged DV on the Y or vertical axis and the IV is on the X or horizontal axis. Use a line graph if the IV is a number and a bar graph if it is a name. An invention's graph shows that specifications have been met.

Using precise words, write an interpretation of your displayed results. Describe what you see in it that supports this interpretation.

Arrive at a Conclusion

Reexamine your hypothesis and react to it. Your reaction can be "I support", "I do not support" or "I'm uncertain". After arriving at one of these conclusions, is conventional to describe how your findings fit into the body of current knowledge. The significance of your findings can be shared. Lastly, what would you change in your study or what would be your next study if you continue studying this topic.

JUNIOR DIVISION ENTRY FORM

MAIL so it is received by February 09, 2010 to: Chris McGowan, College of Science and Mathematics, One University Plaza, MS 6000, Southeast Missouri State University, Cape Girardeau, MO 63701

NAME	SCHOOL
STUDENT'S EMAIL M / F	TEACHER TEACHER'S EMAIL
ADDRESS	ADDRESS
CITY ZIP	CITY ZIP
PHONE	PHONE FAX

CATEGORY	GRADE: 7 8	No. STUDENTS	TYPE OF STUDY
(Circle appropriate code.) BSS BIO BOT CHM ESS ENG ENV MCS MED MIC PHY ZOO	**ELECTRICITY**: ___ Yes ($15.00) ___ No ($10.00) (per exhibit)	(Circle appropriate number) 1 2 3 4 (An entry form must be submitted for each student. Please clip together)	COLLECTION OBSERVATION MODEL EXPERIMENT INVENTION

TITLE:

ALL STUDIES
Is this a continuation of a previous study?_____

Where will the study be done?_____

What date will study data begin?_____

List the following:
IV:

CV:

DV:

BIBLIOGRAPHY: List 3 sources.
1.

2.

3.

REGULATED STUDIES Answer those that apply

A. Human Subjects: (Prefer observational studies. In experiment, subjects must normally "do" the IV.)
How do you know that the human subjects are risk free?

B. Pathogenic Agents: How do you know **there are no disease causing organisms?**

C. Non-human Vertebrate: (Prefer observational studies, experiments, must meet strict conditions.)
How do you:
know vertebrate has no pain?

know vertebrate will not be harmed?

feed the vertebrate?

water the vertebrate?

cage the vertebrate?

STUDY SAFETY

Examine the study design for the following safety aspects.
Put an OK if it applies and it is safe, put an NA if it does not apply.
Chemicals_____ Equipment_____ Radiation_____ Radioactive_____ Other_____

AUTHORIZATION

Teacher Sponsor	Date
Parent/Guardian Sponsor	Date
Regional Fair Director	Date

Completing the Entry Form

Student Information:

- Print first and last name
- E-mail address (if available)
- Circle M (male) or F (female)
- Print complete address
- Phone (include area code)

School Information:

- Print full name of school
- Teacher's name
- Teacher's e-mail address
- Complete address of school
- Phone (include area code)
- FAX number (include area code)

Category: Circle the category which best fits the study. (See Page 7, "Determining Project Categories").

Grade: Circle 7th or 8th grade

Electricity: Circle whether electricity is needed for project.

No. of students: Circle the appropriate number of students. Each student must fill out an application. Clip all members of a team together.

Type of Study: Circle the type of science investigation design.

Title: Print the complete title of the project.

All Studies: complete the 3 questions. Draw a picture of paste a picture showing set-up. Label IV, CV, and DV. Print three bibliography sources which were used.

Regulated Studies: Check the "all studies" section. Do you have any of these aspects in it? If answer is no, write NA by each question. Complete any question which applies. This concerns the health and safety of you and others. There are exacting regulations to follow. If, after reading enclosed regulations, you should have questions, call Dr. Chris McGowan, Director of the Southeast Missouri Regional Science Fair at (573) 651-2163.

JUNIOR DIVISION ENTRY FORM

MAIL so it is received by February 14th to: Chris McGowan, College of Science and Mathematics, One University Plaza, MS 6000, Southeast Missouri State University, Cape Girardeau, MO 63701

NAME Abraham Lincoln
STUDENT'S EMAIL alincoln@hotmail.com
M F
ADDRESS 1 Lincoln Log Road
CITY Cape Girardeau, MO ZIP 63701
PHONE (573) 765-4321

SCHOOL Washington Junior High
TEACHER Mr. John Adams
TEACHER'S EMAIL jadams@school.com
ADDRESS 10 Cherry Drive
CITY Cape Girardeau, MO 63701 ZIP
PHONE (573) 246-8642 FAX (573) 246-1357

CATEGORY (Circle appropriate code.)
BSS BIO BOT CHM
ESS ENG ENV MCS
MED MIC PHY ZOO

GRADE: 7 8

ELECTRICITY:
Yes ($15.00)
No ($10.00)
(per exhibit)

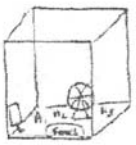
No. STUDENTS (Circle appropriate number)
1 2 3 4
(An entry form must be submitted for each student. Please clip together)

TYPE OF STUDY
COLLECTION
OBSERVATION
MODEL
EXPERIMENT
INVENTION

TITLE: "Which Classroom Hampster Is Dominant?"

ALL STUDIES
Is this a continuation of a previous study? NO
Where will the study be done? Classroom
What date will study data begin? Dec. 6

List the following:
IV: Who eats first? Who pushes who from food?
CV: H1, H2, or H3



DV: Food and water; Position of food, water, and wheel; Where it is in classroom; H1, H2, H3 (hampsters)

BIBLIOGRAPHY: List 3 sources.
1. Caring for hampsters
2. Encyclopedia (CD Rom)
3. Animal Behavior

REGULATED STUDIES Answer those that apply

A. Human Subjects: (Prefer observational studies. In experiment, subjects must normally "do" the IV.)
How do you know that the human subjects are risk free?
N/A

B. Pathogenic Agents: How do you know **there are no disease causing organisms?**
N/A

C. Non-human Vertebrate: (Prefer observational studies, experiments, must meet strict conditions.)
How do you:
know vertebrate has no pain?
Just watching
know vertebrate will not be harmed?
Just watching
feed the vertebrate?
Purina Hampster Chow
water the vertebrate?
Changed twice daily
cage the vertebrate?
Purchased hampster cage

STUDY SAFETY
Examine the study design for the following safety aspects.
Put an OK if it applies and it is safe, put an NA if it does not apply.
Chemicals N/A Equipment N/A Radiation N/A Radioactive N/A Other Animals don't bite.

AUTHORIZATION
Teacher Sponsor Mr. John Adams Date Nov. 20
Parent/Guardian Sponsor Mrs. Nancy Lincoln Date Dec. 1
Regional Fair Director Date

Study Safety: Be sure that you and others are safe during your study. Put an OK for those involved in your study and which you protected yourself from and NA if it is not in your study.

Authorization: Get parent and teacher to check that all rules and regulations have been followed; ask them to sign **before** beginning experiment.

Study Assessment

COLLECTION STUDY

As a science study is being planned, designed, carried out, written about and displayed, check against these criteria. They will be used by a judge to assess your display and science study design.

DISPLAY

POINTS	CRITERION	EXPLANATION	RATING
0 - 2	Easily Viewed	Display faces forward, materials easily read.	_____
0 - 2	Labels	Sections of study design are labeled.	_____
0 - 2	Attractive	Uses color for emphasis, good arrangement, graphic.	_____
0 - 4	Text on Display	Correct spelling and grammar, clear and concise writing.	_____
0 - 5	Creative Approach	Evidence of researcher's original input into the design	_____

REPORT

POINTS	CRITERION	EXPLANATION	RATING
0 - 10	Written Report	Standard sections and formats included.	

POINTS	CRITERION	EXPLANATION	RATING
0 - 15	Log Book	A time-task diary. Reading & interview notes. Recorded data.	_____
0 - 10	Background	History, significance, facts & procedural information about object to be collected	_____
0 - 5	Problem	Question about IV-DV relationship.	_____
0 - 5	Hypothesis	The expected relationship between the IV and DV.	_____
0 - 10	Procedure	Includes the where, when and how of the study (CV), the selected characteristics (IV), recorded specific characteristics (DV). Use of metrics when possible or appropriate. How recording will be done.	_____
0 - 10	Number of Items	A reasonable number based on the availability of the object.	_____
0 - 10	Identification	Objects labeled correctly with reasons.	_____
0 - 10	Results	A results diagram or table with relationships, characteristics, identity.	_____
0 - 5	Conclusions	Reaction to hypothesis consistent with results. Includes link to background informational facts, procedure, and significance.	_____
0 - 5	Scientific Worth	Thoroughness of plan, follows plan, uses standard characteristics and procedures, gives possible future study.	_____

Study Assessment

OBSERVATION STUDY

As a science study is being planned, designed, carried out, written about and displayed, check against these criteria. They will be used by a judge to assess your display and science study design.

DISPLAY

POINTS	CRITERION	EXPLANATION	RATING
0 - 2	Easily Viewed	Display faces forward, materials easily read.	_____
0 - 2	Labels	Sections of study design are labeled.	_____
0 - 2	Attractive	Uses color for emphasis, good arrangement, graphic.	_____
0 - 4	Text on Display	Correct spelling and grammar, clear and concise writing.	_____
0 - 5	Creative Approach	Evidence of researcher's original input into the design	_____

REPORT

POINTS	CRITERION	EXPLANATION	RATING
0 - 10	Written Report	Standard sections and formats included.	

POINTS	CRITERION	EXPLANATION	RATING
0 - 15	Log Book	A time-task diary. Reading & interview notes. Recorded data.	_____
0 - 10	Background	History, significance, facts & procedural information on event being observed.	_____
0 - 5	Problem	Question about IV-DV relationship of the observed event.	_____
0 - 5	Hypothesis	The expected relationship between the IV and DV.	_____
0 - 10	Procedure	Includes the where, when and how of the observation (CV), what IVs are selected to be observed, and DVs to be recorded. How recording will be done. Uses metric units if numerical units are involved.	_____
0 - 20	Observations	Actual observational data (drawings and words). Appropriate number of trials for event.	_____
0 - 10	Results	A summary reorganized table or graphic which shows the pattern.	_____
0 - 5	Conclusions	Reaction to hypothesis consistent with results. Includes link to background informational facts, procedure, and significance.	_____
0 - 5	Scientific Worth	Thoroughness of plan, follows plan, checks for truthful and consistent data, gives possible future study.	_____
0 - 5	Scientific Worth	Thoroughness of plan, follows plan, uses standard characteristics and procedures, gives possible future study.	_____

Study Assessment

MODEL STUDY

As a science study is being planned, designed, carried out, written about and displayed, check against these criteria. They will be used by a judge to assess your display and science study design.

DISPLAY

POINTS	CRITERION	EXPLANATION	RATING
0 - 2	Easily Viewed	Display faces forward, materials easily read.	_____
0 - 2	Labels	Sections of study design are labeled.	_____
0 - 2	Attractive	Uses color for emphasis, good arrangement, graphic.	_____
0 - 4	Text on Display	Correct spelling and grammar, clear and concise writing.	_____
0 - 5	Creative Approach	Evidence of researcher's original input into the design	_____

REPORT

POINTS	CRITERION	EXPLANATION	RATING
0 - 10	Written Report	Standard sections and formats included.	

POINTS	CRITERION	EXPLANATION	RATING
0 - 15	Log Book	A time-task diary. Reading & interview notes. Recorded data.	_____
0 - 10	Background	History, significance, facts & procedural information about the model. Includes illustration or photo of real object.	_____
0 - 5	Problem	Problem giving intent of model to be constructed.	_____
0 - 5	Hypothesis	Belief about similarity of model to actual object/event.	_____
0 - 10	Procedure	Includes the where, when and how of the model will be built (CV), drawing of the construction design and indication whether it is a workable or scaled model (IV), DV is replica model. Uses metric units.	_____
0 - 20	Construction	Photographs, log statements made throughout the construction and quality of the constructed model (DV).	_____
0 - 10	Results	Model parts related to real object(s). Model tested for workability or scale.	_____
0 - 5	Conclusions	Reaction to hypothesis consistent with results. Includes link to background informational facts, procedure, and significance.	_____
0 - 5	Scientific Worth	Thoroughness of plan, follows plan, good building skills, gives possible future study.	_____
0 - 5	Scientific Worth	Thoroughness of plan, follows plan, uses standard characteristics and procedures, gives possible future study.	_____

Study Assessment

EXPERIMENT STUDY

As a science study is being planned, designed, carried out, written about and displayed, check against these criteria. They will be used by a judge to assess your display and science study design.

DISPLAY

POINTS	CRITERION	EXPLANATION	RATING
0 - 2	Easily Viewed	Display faces forward, materials easily read.	_____
0 - 2	Labels	Sections of study design are labeled.	_____
0 - 2	Attractive	Uses color for emphasis, good arrangement, graphic.	_____
0 - 4	Text on Display	Correct spelling and grammar, clear and concise writing.	_____
0 - 5	Creative Approach	Evidence of researcher's original input into the design	_____

REPORT

POINTS	CRITERION	EXPLANATION	RATING
0 - 10	Written Report	Standard sections and formats included.	

POINTS	CRITERION	EXPLANATION	RATING
0 - 15	Log Book	A time-task diary. Reading & interview notes. Recorded data.	_____
0 - 10	Background	History, significance, facts & procedural information on cause-effect.	_____
0 - 5	Problem	Questions giving the IV-DV relationship.	_____
0 - 5	Hypothesis	Expected, directional relationship between the IV and DV.	_____
0 - 20	Procedure	Identifies the alterations of the selected IV, the what DV and how it will be measured, and the where, when and how of the CVs. Uses metric units.	_____
0 - 10	Trials & Samples	Appropriate number of samples and trials, use of control.	_____
0 - 10	Results	Graph showing the IV - DV relationship. Bar graph if IV is words; line if numbers. Interpretation of the findings. Uses averaged values.	_____
0 - 5	Conclusions	Reaction to hypothesis consistent with results. Includes link to background information - facts, procedure, and significance.	_____
0 - 5	Scientific Worth	Thoroughness of plan, uses dry run, checks for valid and reliable data, gives possible future study.	_____
0 - 5	Scientific Worth	Thoroughness of plan, follows plan, uses standard characteristics and procedures, gives possible future study.	_____

Study Assessment

INVENTION STUDY (Most Engineering, Math & Computer)

As a science study is being planned, designed, carried out, written about and displayed, check against these criteria. They will be used by a judge to assess your display and science study design.

DISPLAY

POINTS	CRITERION	EXPLANATION	RATING
0 - 2	Easily Viewed	Display faces forward, materials easily read.	_____
0 - 2	Labels	Sections of study design are labeled.	_____
0 - 2	Attractive	Uses color for emphasis, good arrangement, graphic.	_____
0 - 4	Text on Display	Correct spelling and grammar, clear and concise writing.	_____
0 - 5	Creative Approach	Evidence of researcher's original input into the design	_____

REPORT

POINTS	CRITERION	EXPLANATION	RATING
0 - 10	Written Report	Standard sections and formats included.	

POINTS	CRITERION	EXPLANATION	RATING
0 - 15	Log Book	A time-task diary. Reading & interview notes. Recorded data.	_____
0 - 10	Background	History, significance, facts & procedural information.	_____
0 - 5	Problem	Question or statement of purpose with predetermined specifications.	_____
0 - 5	Hypothesis	Expected, directional relationship between the IV and DV.	_____
0 - 20	Procedure	Identifies the alterations of the selected IVs, the what and how the DV will be measured, and the where, when and how of the CVs. Indicates how additional tests will be made. Uses metric units.	_____
0 - 10	Trials & Samples	Appropriate number of samples and trials, use of control.	_____
0 - 10	Results	Graph showing the IV - DV relationship compared to specifications and interpretation of the findings.	_____
0 - 5	Conclusions	Reaction to hypothesis consistent with specifications. Includes link to background informational facts, procedure, and significance.	_____
0 - 5	Scientific Worth	Thoroughness of plan, uses dry run, checks for valid and reliable data, gives possible future study.	_____
0 - 5	Scientific Worth	Thoroughness of plan, follows plan, uses standard characteristics and procedures, gives possible future study.	_____