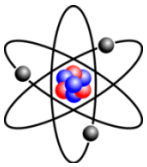
Name _____ Colonial Christian School



Colonial Christian Secondary School Science Fair Schedule- Engineering

Date	Assigned	Brief	Turn in
9/2	Design[1] Question	A sentence or two about what is needed and why.	Printout of sentences
9/23	Research	Research 5 or more articles about similar devices, components or issues that pertain	Printouts of read materials
10/21	Design:	1. Make up alternative solutions 2. Make up criteria and constraints 3. Rate solutions and choose 4. Type up decision table 5. Type up rationale	Rationale paragraph Alternatives Decision Table
11/4	Drawing[2]	Draw a neat annotated engineering "blue print" of the device you intend to build. Your design should be repeatable from your drawing	Drawing
3/31	Prototype	Build your device. Modify your drawing as you solve problems and come up with solutions.	Device
4/5	Improve	Write a paragraph or more on the improvements you made during construction and improvements you propose for an upgraded version	Printed Paragraph
4/21	Draft	Type or prepare: 1. Problem description (make application very clear) 2. Decision table 3. Decision and advantages and disadvantages 4. Make a neat version of your design drawing 5. Pictures of operation& graphs 6. Display version of prototype 7. Improvements	5-10 pg report for revision
5/5	Final Check	Grade your project using the CCS Science Fair grading rubric and turn the grade sheet in for credit.	Document
5/12	Present	All previous materials regarded by judges (big grade)	Inspection

[1] A problem they want to solve, or a process or physical design to improve from https://sciencefaircentral.com/students/engineering-projects

[2] Engineering drawings should be unambiguous and clear. For any part of a component there must be only one interpretation. The drawing must be complete. The drawing must be suitable for duplication. Drawings must be language-independent. https://www.joshuanava.biz/engineering/requirements-of-engineering-drawings.html

"*Science* without religion is lame, religion without *science* is blind." - Albert Einstein 1954

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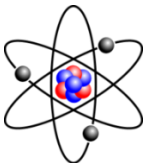

Colonial Christian Secondary School Science Fair Schedule- Experiment

Date	Assigned	Brief	Turn in
9/2	Prob.[3] Statement& Hypothesis[4]	Problem as a question A sentence containing a hypothesis that is reasonable, testable and significant.	Typed Printout
9/23	Research	Research 5 or more articles about experiments, components or issues that pertain	Printouts of read materials
10/21	Approach	Design a controlled experiment[5] or a "blind" experiment. Identify the independent and dependent variables, controls. List materials and draw setup (if needed) Prepare mathematics to determine if results are significant or not. Assessment sheets and tables	Printed page with lists and assessment plan
11/4	Drawing	Annotated pictures of experiment apparatus and observation methodology	Pics/drawing
3/31	Conduct	1. Conduct the experiment. 2. Record data in tables. 3. Do the math. 4. Draw a conclusion.	Data tables Conclusion Draft 1
4/5	Abstract[6]	Write a scientific abstract containing motivation, problem statement, approach, results and conclusion.	Paragraph
4/21	Draft	Type or prepare: 1. Abstract 2. Hypothesis & motivation 3. Approach 4. Print pics, drawings, graphs 5. Results	Draft 2 Type report
5/5	Final Check	Grade your project using the CCS Science Fair grading rubric and turn the grade sheet in for credit.	Document
5/12	Present	All previous materials regarded by judges (big grade)	Inspection

[3] This single phrase defines and directs all of the work you will be doing. From https://classroom.synonym.com/

[4] The hypothesis is often written using the words "IF" and "THEN." For example, "**If** I do not study, **then** I will fail the test." The "if' and "then" statements reflect your **independent and dependent variables**. From https://harford.libguides.com/c.php?g=321391&p=2150493

[5] A controlled experiment is one in which everything is held constant except for one variable, Anne Marie Helmenstine, Ph.D., https://www.thoughtco.com/controlled-experiment-609091

[6] The usual sections defined in a structured abstract are the Background, Methods, Results, and Conclusions. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3136027/

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