

Appendix II.4.1

Name _____ Date _____

Initial Product Proposal

	Maximum Points	Student Score	Teacher Score
LOAN APPLICATION: (10 points total)			
Filled out completely by all business partners.	5		
Written legibly, in ink, and submitted wrinkle-free.	5		
PRODUCT PROPOSAL: (25 points total)			
One page, typed, 12 font, Times New Roman, and follows proper format (see example on DP).	5		
Includes a company name and a product name.	5		
Describes the product and its general purpose.	5		
Gives a preliminary list of materials needed to build the product.	5		
Describes who will use the product (male, female, ages) and why it will be useful to the consumer.	5		
Includes a colored sketch drawing of the product on an 8.5 x 11 sheet of blank paper.	5		
Resumes: (15 points total)			
Follows proper format guidelines and is professional, organized, and computer made.	5		
Minimum of two projects with detailed description.	5		
TOTAL POINTS:	50		

Scoring Guide				
5 - Yes! Excellent quality.	4 - Mostly yes! Good quality.	3 - Somewhat. Acceptable quality.	2 - Somewhat. Poor quality.	1 - Not at all. Very poor quality.

Teacher Comments:

Appendix II.4.2

Name _____ Date _____

Engineering Plan 1 Rubric

	<i>Max Points</i>	<i>Student Score</i>	<i>Teacher Score</i>
BACKGROUND: 1-2 typed pages (25 point total)			
Includes a detailed summary of the product that addresses the following issues:			
• What is the main purpose of the product?	5		
• How did you come up with the product idea?	5		
• How does it compare to other products on market?	5		
• How does it work in lay (common) terms?	5		
• Which physics principles help explain how it works?	5		
PARTS & ASSEMBLY: (35 points total)			
Organizes the following information about the product into a useful table:			
• Parts (list each material separately)	5		
• Physical Description (for each part)	5		
• Function (explain what each part does)	5		
• Electrical Specifications (for each electrical part)	5		
Draws the following diagrams that include clearly labeled parts:			
• Perspective diagram (front, side and top) not to scale	10		
• Schematic diagram (electrical components only)	5		
OVERALL PRESENTATION: (10 points total)			
Organizes document and clearly labels each section title.	5		
Uses correct spelling and grammar throughout document.	5		
TOTAL POINTS:	70		

SCORING:

5 = yes; 4 = mostly yes; 3 = kind of; 2 = not really; 1 = not at all

Bank President Comments:

Appendix II.4.3

Name _____ Date _____

Prototype 1 Review

	<i>Max Points</i>	<i>Student Score</i>	<i>Teacher Score</i>
PRESENTATION:			
Clearly explain what their product is and why it will be beneficial to their customers.	5		
Accurately describe the physics principals that explain how their prototype works.	5		
Demonstrate that the prototype actually works or explain what specific modifications must be made to fix it.	5		
Provide thoughtful analysis and specific examples of how the team has “worked smartly” during the design process.	5		
Share an honest critique of how their team has not always “worked smartly” to reach their full potential.	5		
Give specific strategies that they intend to use to optimize their success when they present the final business plan.	5		
TOTAL POINTS:	30		

SCORING:

5 = yes; 4 = mostly yes; 3 = kind of; 2 = not really; 1 = not at all

Comments:

Appendix II.4.4

Name _____ Date _____

Prototype 2 Review

	<i>Max Points</i>	<i>Student Score</i>	<i>Teacher Score</i>
PRESENTATION:			
Clearly explain what your product is and why it will be beneficial to your customers.	5		
Accurately describe the physics principals that explain how your prototype works.	5		
Demonstrate that the prototype actually works or explain what specific modifications must be made to fix it.	5		
Provide thoughtful analysis and specific examples of how the team has “worked smartly” during the design process.	5		
Share an honest critique of how their team has not always “worked smartly” to reach full potential.	5		
Give specific strategies that you intend to use to optimize your success when you present the final business plan.	5		
TOTAL POINTS:	30		

SCORING:

5 = yes; 4 = mostly yes; 3 = kind of; 2 = not really; 1 = not at all

Comments:

Appendix II.4.5

Name _____ Date _____

Final Engineering Plan

	<i>Max Pts</i>	<i>Student Score</i>	<i>Teacher Score</i>
BACKGROUND: 2-3 typed pages (25 point total)			
Includes a detailed summary that addresses the following issues (min. 1 paragraph each):			
• What is the main purpose of the product?	5		
• How did you come up with the product idea?	5		
• How does it compare to other products on the market?	5		
• How does it work in lay terms?	5		
• Which physics principles help explain how it works?	5		
PARTS & ASSEMBLY: (65 points total)			
Organizes the following information about each part into a useful table:			
• Name & Number (specific to your assembly)	5		
• Description	5		
• Function	5		
• Electrical Specifications (resistance, power consumption, maximum voltage, maximum current consumption, etc.)	5		
• Weight or Size	5		
• Price	5		
Draws the following diagrams that include clearly labeled part numbers:			
• Perspective diagrams to scale (front, side and top)	10		
• Pictorial diagrams to scale (horizontal/vertical cross section)	10		
• Schematic diagram of circuits (electrical components only)	5		
Includes detailed assembly instructions that use the following format:			
• Numbered, step-by-step instructions	5		
• Present tense, command form	5		
SPECIFICATIONS: (20 points total)			
Shows all steps needed to calculate the following electrical specifications:			
• Voltage (volts)	5		
• Equivalent resistance (ohms)	5		
• Current (amperes)	5		
• Power (watts)	5		
OVERALL PRESENTATION: (10 points total)			
Organizes document and clearly labels each section title.	5		
Uses correct spelling and grammar throughout document.	5		
TOTAL POINTS:	120		

SCORING:

5 = yes; 4 = mostly yes; 3 = kind of; 2 = not really; 1 = not at all

Information that you would like to share before your Engineering Plan is reviewed:

Bank President Comments:

Appendix II.4.6

Name _____ Date _____

Prototype 3 Review

	<i>Max Points</i>	<i>Student Score</i>	<i>Teacher Score</i>
PRESENTATION:			
Clearly explain what your product is and why it will be beneficial to your customers.	5		
Give a step-by-step description of how your product works using electricity principles in your explanation.	5		
Show that all parts necessary to make the prototype have been purchased and that you have all price information.	5		
Explain what specific modifications have been made since the previous week's prototype review.	5		
Demonstrate that the prototype actually works or explain what specific modifications must be made to fix it.	5		
Provide thoughtful analysis and specific examples of how the team has "worked smartly" during the design process.	5		
Share an honest critique of how their team has not always "worked smartly" to reach full potential.	5		
TOTAL POINTS:	35		

SCORING:

5 = yes; 4 = mostly yes; 3 = kind of; 2 = not really; 1 = not at all

Comments:

Appendix II.4.7

Name _____ Date _____

Financial Plan

	<i>Maximum Points</i>	<i>Student Score</i>	<i>Teacher Score</i>
BACKGROUND (15 points total)			
Includes a detailed summary of the financial plan that addresses the issues below. Format should be double spaced, 12 font, with the title "BACKGROUND" at the top-center of the page.			
• Projected financial needs and use of proceeds.	5		
• Explain how your company organization supports the production of the number of units that must be sold.	5		
COST OF GOODS SOLD (30 points total)			
Includes a title page "COST OF GOODS SOLD" at the center of the page with a 2-5 sentence, written summary that:			
• Defines what COGS is and describes the decisions you made that affected COGS directly.	5		
Organizes the following information about each COG into an accurate useful budget table:			
• Summary	5		
• Direct Materials (DM)	5		
• Direct Labor (DL)	5		
• Overhead (OH)	5		
Uses COGS template and titles each table & column heading appropriately.	5		
INCOME STATEMENT (20 points total)			
Includes a title page "INCOME STATEMENT" at the center of the page with a 2-5 sentence, written summary that:			
• Explains what an income statement is and describes the "bottom line" for the company.	5		
Organizes the following information into a useful table:			
• Revenue, COGS, GP, operating expenses, and net income/loss.	5		
• Includes a 2-yr projection w/GPM and units sold included.	5		
Titles the table and column headings appropriately.	5		
BREAK-EVEN ANALYSIS (25 points total)			
Includes a title page "BREAK-EVEN ANALYSIS" at the center of the page with a 2-5 sentence, written summary that:			
• Explains what a break-even analysis is and how number of units sold and price of product was chosen.	5		
Includes each of the following in a graph that is printed on a separate page:			
• Accurate linear plots of revenue, cost of goods sold, and fixed costs.	5		
• Uses $y=mx+b$ to find the equation of <u>each</u> line on the graph.	5		
• Determines the break-even point (revenue, COGS, and units).	5		
Titles graph, labels axes, and includes a useful key.	5		

GROSS PROFIT MARGIN (20 points total)			
Includes a title page “GROSS PROFIT MARGIN” at the center of the page with a 2-5 sentence, written summary that:			
• Explains what GPM is and financial decisions that were made that affected your profitability.	5		
Includes all of the following in an accurate and useful graph/table:			
Organizes GPM, GP, revenue and units into a useful table.	5		
Graphs the curve of gross profit margin vs. units.	5		
Titles table/graph and labels column headings/axes correctly.	5		
Total Points:	105		

SCORING:

5 points = yes; 4 points = mostly yes; 3 points = kind of; 2 points = not really; 1 point = not at all

Comments:

Appendix II.4.8

Name _____ Date _____

Prototype Demo

	<i>Max Pts</i>	Score
Each of the following components should take 30 – 60 seconds:		
Describe your company and your product by giving company name, each partner’s name, product name, and a brief explanation of how the product is beneficial to target market.	5	
Describe your product using common terms (as if you were explaining what it does to a young child).	5	
Describe how your product uses electricity in order to work, giving a step-by-step explanation of the electrical principles.	5	
Demonstrate that the product works.	5	
Presentation Skills:		
Each member of the team actively participates in the presentation to the class by leading at least one of the above.	5	
The team is prepared, is comfortable speaking in front of the class, uses a professional tone, and makes eye contact.	5	
TOTAL POINTS:	30	

SCORING:

5 = yes; 4 = mostly yes; 3 = kind of; 2 = not really; 1 = not at all

Appendix II.4.9

Name _____ Date _____

Pitch Rubric

Points

9-10 – EXCELLENT! You have exceeded expectations.

5-8– ADEQUATE. You have met the requirement.

0-4 – NEEDS IMPROVEMENT. Your work is below standard.

	E	A	N
Engineering Plan			
Explanation of physics principals*			
Diagram: Flash animation and schematic*			
Prototype			
Demonstration*			
UL Label*			
Marketing Plan			
Description of target group demographics*			
Competitive analysis in market*			
Advertisement: print ad, radio or T.V. commercial**			
Financial Plan			
Revenue model: break-even analysis, gross profit margins, statistical survey or data & assumptions**			
Income statement (2 yr. projection)*			
Use of proceeds*			
Presentation Skills			
Eye contact, clear voice, enthusiasm			
Organization and quality of “pitch”			
Total Points:			

***Required**

****Choose one of the options offered**