## A Tinkering School

Objective:	Provide a facility and courses to tutor students doing design projects that combine Science, Math and Engineering Design using technology and computer Science (Software).	
Customers Will begin with the first two groups	<ul> <li>School will service the following potential customer base:</li> <li>After school parents who want a hands-on technology based curriculum for their children</li> <li>Home School Parents for Hands-on Science/ Engineering learning</li> <li>On-line learning organizations that need a Lab environment that they don't have</li> <li>Adult education in Technology areas.</li> <li>Existing after school programs</li> <li>Summer School Students</li> </ul>	
Competitors	<ul> <li>Existing after school programs that are held in local schools.</li> <li><u>http://afterschoolprograms.com/after-school-programs</u></li> <li><u>http://www.kidscornerwinchester.org/</u></li> <li><u>http://highlandsafterschool.org/</u> Newton Middle School children</li> <li><u>http://www.masonrice.org/</u> School based afterschool program</li> <li>Home Schooling on-line <u>www.icademy.com/Homeschooling</u></li> <li>Most like ours <u>http://www.kidsborough.com/</u></li> <li>MassBay community College Summer Program 2 weeks, \$300 STEM programs Grades 7,8</li> </ul>	
Uniqueness	The courses focus on engaged hands on learning like <b>Tinkering</b> that is a playful style of design by making constant experiments and exploring new ideas in the design process. We focus on the interdisciplinary learning that integrates, Language Arts, Art, Engineering, Mathematics and Technology ( <b>STEAM</b> ) It is celebrating the iterative and divergent/ convergent process that is part of the design process. Learning experiences should reflect a view of science as influenced by individual experience as well as social and historical contexts. They should highlight forms of participation in science that are also familiar to nonscientist learners—question asking, various modes of communication, drawing analogies, etc <i>National academy of Science</i>	
Courses:	The courses will be project base learning to fully engage the	

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<i>Tie to the Common Cord Learning</i>	<ul> <li>student. They will work in teams and do final projects that will be demonstrated to family members.</li> <li>Sound Science and Technology</li> <li>Robotic Puppets</li> <li>Solving Engineering Design Challenges in Stories</li> <li>Finding and Innovating the Bugs in your Life</li> <li>Software Design and App Creation</li> <li>Basic Circuit design</li> <li>3D Printers in today's Society</li> <li>Mechanical CAM's and Clocks</li> <li>Bike Repair and Tire Fixing</li> <li>Home Appliance Repair Starting your own business</li> <li>Instrument building for Weather Predicting</li> <li>Solving Societal Issues</li> </ul>	
Ages Groups:	<ul> <li>The courses will be designed for the following age groups</li> <li>1. 6 to 9 grade Level</li> <li>2. 3 to 5 grade Level</li> <li>3. Adults</li> </ul>	
Course Content:	<ul> <li>Each course will be designed around the appropriate age group and include the following: <ul> <li>Problem Solving Methods</li> <li>Thinking Skills (Creative and Critical thinking, Questioning, Reflection and System thinking)</li> <li>Collaboration</li> <li>Entrepreneurship</li> <li>What do Scientists, Mathematicians, and Engineers do</li> </ul> </li> </ul>	
Course Size	Each course will contain a max. of 10 students and no less than 7 students	
Course Length	Each course will be 8 session over 8 weeks	
Learning Goals By the end of this course, the students will be:	<ul> <li>Clearly articulate the nature of technology/engineering/science as defined in the Common Core Framework</li> <li>Use creative design process such as Brainstorming, Brainwriting, and Morphological Analysis</li> <li>Create a learning environment that engages the students and excites them in learning the disciplines involved with the specific project.</li> <li>Explain the relationship between science, math and technology/engineering</li> </ul>	



	<ul> <li>Provide examples of the types of tasks that engineers perform</li> <li>Describe the steps of the engineering design process</li> <li>Design lessons that are interdisciplinary and utilize the engineering design process</li> <li>Be able to model for students the use of productive questioning and meta-cognitive reflection, creative and critical thinking skills in the learning process.</li> </ul>	
Budget	Expense Items         Initial Capital cost for Instruments         Facility Set-Up         Monthly Facility         Internet/ Phone/Utilities         Marketing	Expense
Business Plan Vision	Developing a business plan requires attention first and foremost is creating a vision. This is should avoid relying on impulse. Whilst devel- you need to first evaluate your product or ser- there is also a requirement to study various m Knowing details about your competition is a v that helps in deciding the vision of the compar- out of your own business frame to view all the a clear vision with values. Identify the mission this. Bring attention to short-term goals and p of your priorities.	the time when one oping a business plan, vice. Apart from this, arket segments. very important factor ny. You need to step pros and cons. Define a statement based on

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Client Needs	Whilst developing a business plan, you need to think from the perspective of your customers. What is it that your customer will look for in your product/service? Is there any unique feature? Would they prefer to opt for some other product or service? Knowing what your target group wants and delivering beyond their expectations can ease the process for you. After all, you need your business to stand out from the crowd and knowing the pulse of your customers gives you many ideas to refine your business plan.
Develop a Budget	<ul> <li>To develop a strong business plan, you need to plan your budget accordingly. For this, you need to financial forecast! The other elements of your business plan would depend largely on this. You need a clear picture of:</li> <li>Industry• Competitors• Customers• Market Conditions You need to be aware about the competitive pricing and how your product/service will add more value.</li> </ul>
Cover all areas	You need to make a list of things that help develop a strong business plan by paying attention to the minutest of details. Whilst making your plan, add sections such as the company, product/service, the management team, marketing/sales pitch, competition, finances and more. Once done, get a second opinion from a person who can look at your business venture from a fresh perspective. In this manner, you can cover all areas including few points that may have been missed. Avoiding creating a solid business plan is not really a bright idea. Although there is a lot of time spent in its creation, a good, solid plan is a surefire way for a successful business!

