

# BVG Maker-Space Proposal

**Rationale:** to invite innovation and creativity into the lives of our students and school as a whole.

**Purpose:** to allow students the creative output in a safe, risk-tolerant, space that nurtures their creativity and willingness to FAIL

**Who:** All Prep and Upper School students

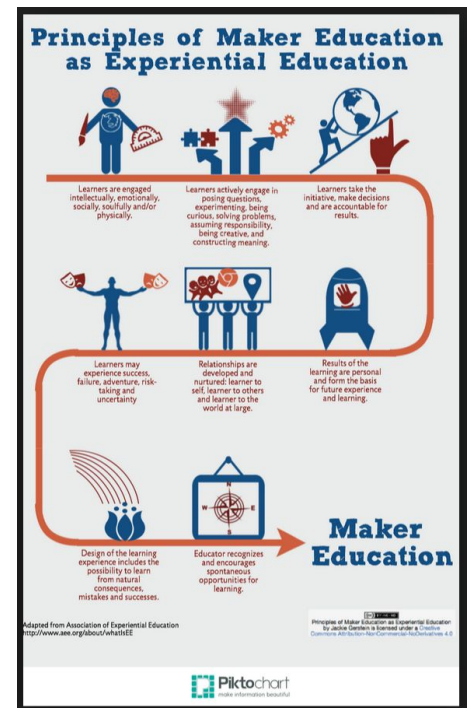
\* Ideally this is linked in with some classroom projects

\* For example: electricity, power/amps, dioramas, etc...

**What:** see pg. 11 & 12 [HERE](#)

**Where:** The Robotics Lab in the Prep School

**When:** This could be integrated into the Prep School Science quite readily, as well as an after-school club for the whole school



## Research: (at a glance)

- Edutopia: [The Maker Movement](#) "This is much more than hands-on learning. The "meaningful" part of constructionism is not just touchy-feely new age language. It acknowledges that the power of making something comes from the learner's question or impulse and is not imposed from the outside. Questions like "How can my car go faster?" or "I like the way this looks, can I make it prettier?" are treated as valid, and in fact, potentially more valid than criteria imposed by anyone else, including a teacher. Constructionism empowers learners to connect with everything they know, feel, and wonder, stretching themselves into learning new things. It seeks to liberate learners from their dependency on being taught."
- TEDTalks: [We are Makers by Dale Dougherty](#) "Makers are a source of innovation, and I think it relates back to something like the birth of the personal computer industry. This is Steve Wozniak. Where does he learn about computers? It's the Homebrew Computer Club -- just like a hackerspace. And he says, "I could go there all day long and talk to people and share ideas for free." Well he did a little bit better than free. But it's important to understand that a lot of the origins of our industries -- even like Henry Ford -- come from this idea of playing and figuring things out in groups. Well, if I haven't convinced you that you're a maker, I hope I could convince you that our next generation should be makers, that kids are particularly interested in this, in this ability to control the physical world and be able to use things like micro-controllers and build robots. And we've got to get this into schools, or into communities in many, many ways -- the ability to tinker, to shape and reshape the world around us. There's a great opportunity today -- and that's what I really care about the most. An the answer to the question: what will America make? It's more makers."

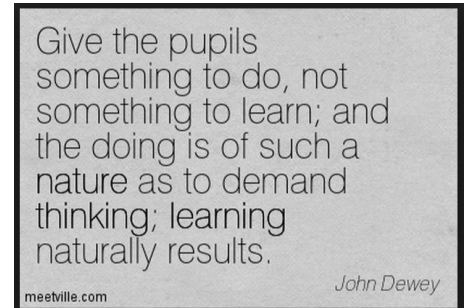
## Why MakerSpace?

Cited in the recent Horizon Report, under the subsection “Keeping Education Relevant”, Maker education initiatives are listed as a one of the important education initiatives.

Makerspace is a great ‘next step’ for those interested in the Lego Robotics concepts.

Makerspace is now a sub-arm of research under Project Zero

Makerspace acknowledges and celebrates all learning strengths



### **How Does MakerSpace Concept Fit with Bayview Glen?**

The Maker Philosophy resonates strongly with the concept of Excellence in Action, and Inquiry Based Learning. Based on a growing body of evidence, makerspace is more than just DIY building. With proper guidance, support and vision, Makerspaces are hubs of learning where students can explore and elaborate on concepts learned in classes. They can apply many different concepts and disciplines to create things.

As a club, makerspace can work with teachers to integrate concepts with students as a differentiated approach. For example, if exploring early settlers of Canada, students can apply their knowledge to build a replica of early shelters, town lay-outs, etc.... Conversely, students could also try to grow the same food as back then in a garden, or build the same farming tools. In science, if exploring the solar system, students could build a Galilean telescope and then elaborate on it to build their own. With proper guidance and support, these learning opportunities could be brought directly into the classroom. As the makerspace becomes more embedded, more programs could be added that would see the use of circuitry, building tools, and the like for more advanced project.

Makerspace resonates with our Inquiry-Based focus. Keeping learning journals, students can plan out, record their progress, and reflect backwards and forwards on their makerspace journey.

***Attached to this proposal is a MakerEducation manual with excellent details and ideas for implementation and growth. Please take a look...***

Budget:

Item	Quantity	Cost
<a href="#">Magformer Remote Control Set</a>	3	129.95 per
<a href="#">Magformer Small Power Set</a>	3	79.99 per
<a href="#">BlinkyBug kit</a>	10	19.99 per
<a href="#">Makey-Makey Standard Kit</a>	3	49.99 per
<a href="#">Squishy Circuits Kit</a>	3	24.99 per
<a href="#">Makerbot Replicator</a>	1	2899.00 per
Associated 3D printing Material	various	on demand
<a href="#">Solar Car Kit (10pk)</a>	1	164 per
<a href="#">Kids Inventing: A Handbook</a>	2	18.99 per
<a href="#">Maker Movement Manifesto</a>	1	18.00 per
<a href="#">School Library MakerSpaces</a>	1	42.75 per
<a href="#">Invent to Learn guide to 3D printing</a>	1	20.00 per
<a href="#">PlayOsmo for iPad</a>	2	79.99 per
Idea Books	40	5.99 per
Makerspace Robot Kit	5	50.00 per
Storage containers	various	TBD