

# BUSINESS VENTURES

KIN SHOWCASE 2015 – 2016



Growing up, I knew that as a kid, I wanted one thing more than I wanted anything else in the world. Toys. Games. Something to make my life more exciting. The newest, hottest thing from Best Buy that my parents refused to buy me under the pretense of ‘we can’t afford it’. And like any kid, I lacked the one necessity that was required to actually GET these things.

Money.

Now, we all hear the solutions for this when we’re too young for a job: “Mow some lawns! Sell cookies! Sell lemonade! Wash my car for me!” Of course, you’re not going to ask a Kindergartener to do these things, but for kids from third to fifth grade, they’re definitely left wondering if there’s a way for them to make enough money to get themselves things that they may not be able to obtain otherwise.

While “money” may not be the driving force for all kids, there are hundreds of thousands of kids out there who still cling onto their creativity in their day to day lives. They dream of big things. Owning their own store that sells dinosaurs or drawing cartoons about race cars when they grow up. Or even

creating a robot that can clean their room for them. And who says all these ideas are strictly limited by their imaginations? A lot of things that kids dream up of are *entirely* doable! But adults are often far too wrapped up in limitations that they don’t tend to put stock into these ideas.

What these kids need is an investment. No, you don’t have to put in ten thousand dollars to fund your child or student’s desire to create a movie theatre where dogs deliver your popcorn to your seat for you. But the investment of belief is worth so much more.

This year, we want our robotics students to invest into their ideas themselves. Their challenge is to use their robotics knowledge to invent something that can either change the world or just make it easier to change the channel on TV when we’ve lost the remote. No idea is too big and no student is too small to accomplish these big ideas. And from these ideas may grow a very viable business that they can take with them throughout their childhood and on into adulthood. We’re here to encourage students to think about - not only the future of the technological world - but their own future as well.

**All it takes is an investment in their imagination.**

# GOAL:

Our goal for our students this year is to have them plan, research, build, and test an invention that will represent a real-world product and come up with a business plan for its success while implementing teamwork methods and practices. Outlandish or realistic, we encourage students to overcome limitations and find ways to make things work. They will be learning how to build and program the LEGO NXT and EV3 robots and then using their own imagination to create an invention all their own. They will then create a presentation based on their research to back up and support their business model and how it would work and function in a real world environment. At the end of the year, we hope that students will have the desire to pursue their ideas beyond the classroom.

# THE PROCESS:

The most essential part of entrepreneurship is the process. Business don't get made overnight and typically they follow a formula that, while it won't guarantee success, could very well give them a head start and put young business owners on the right path.

## 1. Ideas By the Thousands

Ideas are what fuels any business and any product that may have come to fruition already. Without someone's *idea* to kickstart the process, businesses and inventions would not exist today! It was someone's *idea* to create the wheel. It was someone's *idea* to invent the computer. And it was someone's *idea* that created the game we know as Minecraft! But it's not always that these ideas come out of nowhere. Sometimes we need to sit down and do what we typically do for any major endeavor. We need to brainstorm.

### Questions to Ask:

- What sorts of things do people need but don't have access to?
- What would make someone's life a little more exciting?
- What can I do to help someone less fortunate than me?
- What sort of tool would I like to have had before now?
- How can I improve something that already exists?

These aren't the only questions we can ask ourselves in order to come up with a list of things that we could possibly take on. But it's definitely a good start! Coming up with at least *five* ideas to start with is ideal and will guarantee that you will be able to choose one that everyone in the team can agree on. This is definitely where teamwork will come into play as team members will have differing opinions. Combining ideas is always a possibility as well! Just keep in mind how hard it may be to accomplish within the time allotted.

## 2. Researching 'Til You Drop

Once we get into high school, research is a well ingrained process in our minds. We easily use appropriate methods and tools that we've learned over the course of our class experience. But for Elementary students, research is a brand new beast. And teaching our young entrepreneurs how to research properly is a key foundation for their future academic careers. The sooner they learn it, the easier it is to utilize.

When it comes to researching their inventions and whether or not their idea is sound, there is a process that must be remembered.

### a) The Search Engine

Simply releasing students onto Google is a terrible means of teaching them appropriate searching techniques. For our projects, we will be using a kid-safe and parent approved version of Google that always has the Safesearch ON. <http://www.safesearchkids.com/> is our go-to search engine and is the ONLY one we will utilize in our classroom. It limits the amount of inappropriate things they are exposed to (Though this is no excuse for lack of monitoring. Make sure you watch what they do!) and keeps them on the right track.

### b) Search Terms

*"Terms"* (a word or phrase used to describe a thing or to express a concept) are essentially the words the students will use to search for a specific subject. When using terms, they can either be used to yield broad results or specific ones. For example: If you're looking for dog robots, you'll want to use those terms together, rather than by themselves. Just "dogs" will not give you dog robots right away. Nor will "robots" give you dog robots right away. Using these words together ensures that you are getting the results that you want. Terms are important in the sense that Google cannot know what you want to find if you don't tell it!

### c) Answering Questions

Research isn't JUST about looking at information and pictures without and sort of real progress. Research serves a purpose in the fact that you are using it to answer questions – preferably the ones you were asking yourself earlier in the "Ideas by the Thousands" section – about your subject. For example: If you are interested in making a dog robot, what sort of uses could it have? Research will help you answer this by giving you an idea. Dogs are often used for assisting people who can't do things on their own! Blind people and people who have seizures both can use dogs to their advantage. But how can this be improved on by having it be a robot instead of a real dog? Is there a certain size of dog that would best serve someone who was in need of assistance? These questions will come and go as they figure out what they really want to do. But researching will help to answer them.

d) Taking Notes

An essential part of research is note taking. Without writing down the information we find out about our subject, how are we expected to remember it? While some students might SAY they have a photographic memory, it's easy to forget things throughout the course of a day. Especially when there are more exciting things going on. Writing things down helps us to remember the information even better and provides a backup in case we don't! However, not all note taking has to be the same and not all students will be able to take notes in the same way. There are a few options when taking notes.

- **Word for Word** – Students are able to simply copy down the information word for word, but this requires credit which we will cover next.
- **Paraphrasing** – Students can take the information given and re-write it in their own words. This is usually the more popular option as it makes it easier for them to re-read and understand later.
- **Bullet Points** – Like in this list, students can take the main ideas of the information given and make a list of them. It's short and not ideal if you want to remember specifics, but this is good for quicker, simpler searches where a lot of information is not needed.

These three methods can be used by any and all students and some may even opt to use more than one or even all three! Note taking can be done in any form they choose as long as they're getting crucial information by doing it.

e) Credit Where It's Due

Words I've heard before: "Elementary Students don't need to learn MLA format!" And while that rings somewhat true, what elementary students DO need to understand is the dangers of plagiarism and what it could mean for them when they get older to use someone else's work without proper credit. The earlier they learn this, the better, and while it's unfair to expect them to remember proper citation format, it's important to teach them to at least write the source of their information. A good, simple format to use is: **Title of Page, website URL**. The title of the page is very often found at the very top. If there is no article title, the website name will do. Teach them how to pinpoint these titles to use. The website URL does not need to be the entire thing. Just the main domain is the important part! Let them know to write this underneath the notes they have for this site. It helps them remember where they previously found it.

f) Simplifying the Process (The Teacher Section)

So how are you supposed to explain all this in a way they can understand? Easy! Write it down for them! Having it up on a whiteboard is probably the most ideal way of keeping it where they can all see it, but here is the way your board should be set up. Keep in mind that you'll need to explain each of these points to them before you begin researching! (That's what this whole curriculum is here help you with!)

## RESEARCHING!

1. Where to Go: <http://www.safesearchkids.com/>
2. Terms!
  - *"dogs" won't give you dog robots!*
  - *"robots" won't give you dog robots!*
  - *"dog robots" WILL give you dog robots!*
3. Answering Questions!
  - *Does something like this already exist?*
  - *How does it work?*
  - *What kinds are there?*
  - *Can I make it better?*
4. Notes!
  - *Word for Word*
  - *Paraphrasing*
  - *Bullet-Points*
5. Giving Credit!
  - Title of Page, Website URL.



### **A Warning about Research:**

Students have the capacity to get into ALL SORTS of nonsense while on the internet. Not only that, but taking notes is not exactly their favorite thing. They'll try and get by on the absolute smallest amount possible. And because the researching process will be taking place alongside the building and inventing process, you'll need to keep a close eye on their activities. This doesn't mean you hover over them or immediately kick them out of class the second you see something they shouldn't be on. When it comes to bad sites, the internet is fraught with them and sometimes students stumble on them accidentally. It's not fair to punish them for not having the foresight (nor the ability, really) to download Adblock and to navigate the internet flawlessly. Ask questions about why they are where they are. Give them small warnings to stay where they should be. If behavior persists, THAT'S when discipline needs to be taken. Don't get angry. Get investigative about their behavior. It'll keep everyone much calmer. Notes can also suffer because of being off task. Keep your eyes on them and encourage them that the more notes they take, the better off they'll be!

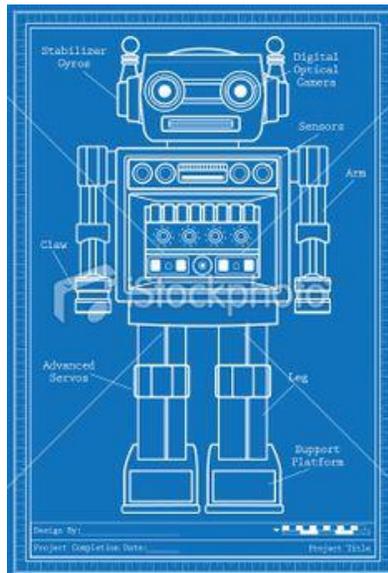
### 3. Blueprints and Prototypes

Before building, there needs to be a PLAN. Building without any sort of structural basis for your idea will just lead to a bad and confusing time where the team has no clue what they want to do for their invention. A blueprint doesn't need to be complicated and a prototype certainly won't be perfect. But these are crucial steps to making sure that the invention functions in the way intended.

Blueprints: Blueprints will be drawings that the students will make (labelling them Blueprint 1, 2, 3, etc.) of the different sides and top and bottom of their robot. While some students are not very artistically inclined, you can always reassure them that it doesn't need to be a work of art. Sketches are welcome, but you need to be aware that sketching and SCRIBBLING is not the same thing. Ask them to write notes on their blueprints. What is the base? What is the piece that moves? Where will the brick go, if their invention requires movement? What piece is going to keep it from falling over? These notes are crucial to making sure the invention actually works!

Prototypes: Throughout the Inventions process, students will be making multiple prototypes. Each one will require a set of blueprints in order to record what they're attempting to do with each one and what changes were made. These prototypes will be tested and improved upon. But throughout each iteration, students will need to write down what they're changing and why. Have them write down what didn't work and what did. A separate section of their notes entitled "Prototype Notes" along with the date (important for remembering when they tried something!) is suitable enough for these notes.

Remember to remind them **"FUNCTION OVER AESTHETIC."** Meaning whether or not it WORKS is more important than whether or not it LOOKS COOL. A cool looking robot doesn't mean much if it doesn't work the way it was meant to.



## 4. The Business Plan

This section is referenced from a website specifically for the purpose of teaching kids how to create a business plan. For a standalone version to print, go to: <http://bizkids.com/wp/wp-content/uploads/Kids-Business-Plan.pdf>

### What is a business plan?

A business plan is a written document that describes an idea for a product or service and how it will make money. It includes your marketing plan as well as estimates for revenue, expenses, and how to make a profit.

### Why do I need this?

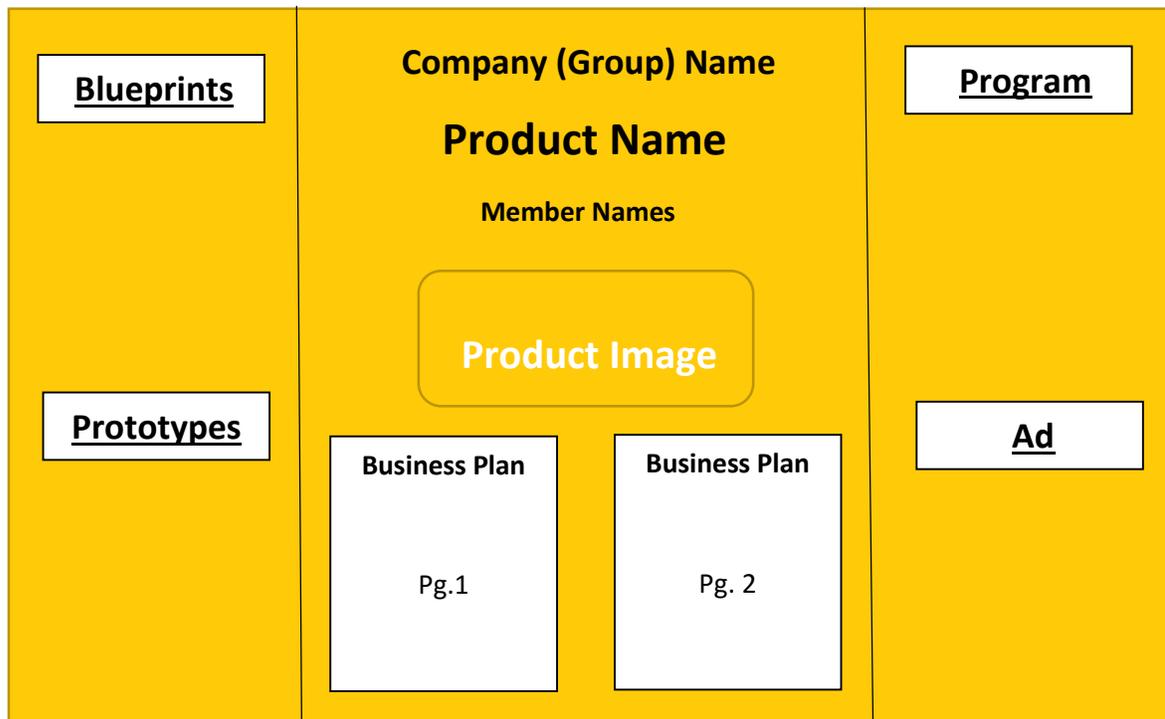
A business plan is like a roadmap. It allows you to plan out the various aspects of your business on paper, and keeps you from making unnecessary mistakes later on. It helps an entrepreneur think about the costs associated with starting a business and show banks that you are serious about your idea.

There are various sections within a Business Plan that you need to have answers for.

- The Idea
  - What is your big idea? Summarize it within a few sentences.
  - What makes your idea unique?
  - What do existing products not do that yours will?
  - Why will people buy it?
- Marketing
  - Who will be your customers?
  - Adults? Kids? Teens? Elders? Men? Women?
  - Where will you sell your product? Online? In stores? Which stores?
  - How will you get the word out about your business? Commercials? Radio? A website? Celebrities? Twitter/Facebook?
  - What is the name of your Business and your Product? (Ex: *RoboCo. presents Robo Dog.*)
- Finances/Money
  - How much will it cost to start your business? What will you need to get started on making your product? Will you need materials? Money for commercials? The amount of money you need to start your business is called "Startup Cost".
  - Where will you get the money for your Startup Cost? Fundraisers? Donations? Investors? (*Investors are people who put money into your company or product because they want to get some of the money from when you start selling it later.*) Savings?
  - What is the cost of making each product? (This is called "Cost Per Unit".) This amount should be less than what you are going to charge for!
- Pricing
  - How much are you charging for each product?
- Profit
  - How much will you make on each sale after expenses?
  - Price of Product – Cost Per Unit = Profit

## 5. The Presentation Board

The presentation board that the students will be making (one per group) is probably the most important part of the presentation! This is how other people and judges will see their group and see how organized (or unorganized) the students are! There are a few essential things that must be on these presentation boards. Look at the example below for an overview of the bare minimum requirements that each board should have.



- **IMPORTANT NOTE: DO NOT DRAW/WRITE ANYTHING DIRECTLY ON THE BOARD. EVERYTHING WILL BE STAPLED OR TAPED ON.**
- The board should have the company/group name at the very top, the product name in the middle, and then all the member names (first and last) underneath that.
- An image of the finished product should be in the center.
- The team's business plan, separated into two pages (TYPED) should be on the bottom of the middle portion.
- On the left, either cut out or staple together a small book of the blueprints the team has had. Tape or staple it to the board for people to look through.
- Techies should get pictures of each prototype that a group produces (no students in these images please). Save them in a folder on a USB/Flash Drive with their group name/campus specified. These will be printed and stapled to their boards.
- On the right, a printout of the program will be attached. You can print from both the NXT and EV3 programs.
- On the bottom right, an advertisement will need to be made by hand or clip art on Microsoft Word. Students will need your help with this. Staple the finished advertisement in this section.

## 6. The Pitch

This is the final part of the presentation process and a very important part, too! Your students need to know how to give a pitch in which they explain their business plan and try and convince people to buy their product. While it doesn't need to be complicated, it DOES need to be interesting! And it DOES need to be typed up. There are two ways students can give their pitch:

A Skit: Students can create a 1-2 minute skit that can kind of play out like a commercial. They'll need to be responsible for writing down lines and figuring out who says what. This skit needs to explain what the product does, how much it costs, and why it's awesome! Those are the only requirements.

Informational: Students can choose to give things like statistics. (Ex: 98% of household accidents happen in the kitchen! Our product will lower this number to almost nothing!) They need to make it seem like their product will alter numbers somehow.

## 7. The End!

The purpose of this worksheet is to get the ball rolling and to let you, as a techie, know how to properly teach towards an end goal and towards a theme. By the end of this semester, students will hopefully learn the basics of creating a business plan and getting into entrepreneurship. But by no means is this a finite list of rules! Feel free to go onto other topics as necessary (while still maintaining deadlines), expand and elaborate on ideas and other sorts of things that students might find interesting. Make it fun! Make it exciting! And the more excited you are about it, the more excited the students will be too.

## Good Luck and Happy Inventing!

