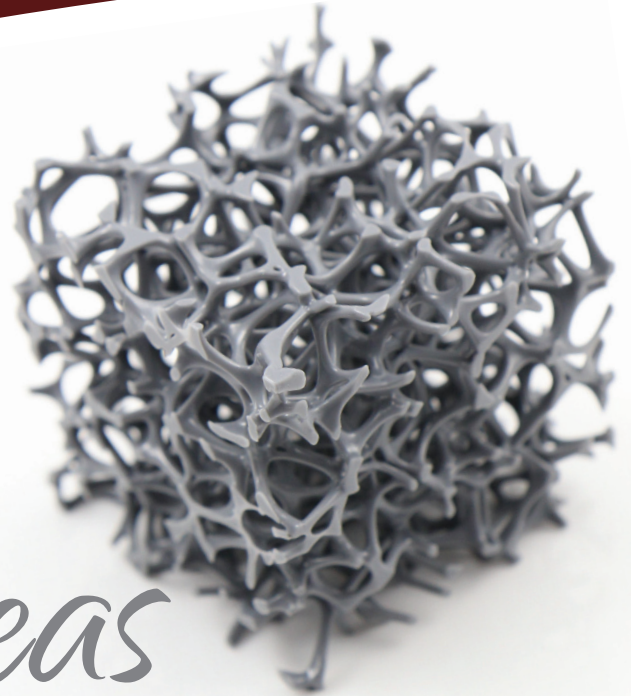
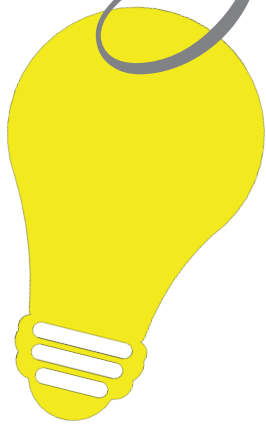


THE TYREX LEARNING FOUNDATIONSM



Bright Ideas



BOOT CAMP

FOR BOOTSTRAPPERS

CLASSROOM WORKBOOK

A Start-Up Simulation for K-12

TYREX LEARNING FOUNDATION™

Bright Ideas



BOOT CAMP

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THE TYREX LEARNING
FOUNDATION™

The “maker” culture is a great way to inspire learning - hands-on learning fosters creativity, and creativity leads to amazing, sometimes world-changing bright ideas. Making is human nature, and it fuels engagement, curiosity, and innovation unlike any textbook or traditional classroom. But once we know how to make, how do we make change?

A great way to take your maker talents and make a change is by starting your own successful business. Those who start their own businesses are called “**entrepreneurs.**” Entrepreneurs are vitally important to the world we all share, but starting your own successful business is anything but simple. Our **Bright Ideas Boot Camp** will take you through **10 basic steps** to starting your own successful business with activities to help you think through different areas of a business and learn how to make good, sound decisions.



CREATE an *Idea*

QUESTION:

Start with an idea for a product that doesn't already exist that solves a need in society.

ASK YOURSELF:

Is my idea original?

ACTIVITY:

To turn your bright idea into a business, you'll need to be able to sell it. Selling a solution to a problem creates a viable business. Write down three personal or community needs and then list three potential products or services that could solve each need. Sometimes you find the idea, but other times the idea finds you.

Need: _____

Solution: _____

Solution: _____

Solution: _____

Need: _____

Solution: _____

Solution: _____

Solution: _____

Need: _____

Solution: _____

Solution: _____

Solution: _____

EXAMPLE #1: COMPANY A

Problem: Contractors had need of customized equipment to fit into a specialized console.

Need: Not easy to obtain these at a competitive price or to meet their specifications.

Solution: Utilizing 3D printing to create customized cassettes that can fit contractor's job sights. These were able to be produced with custom designs at a reduced cost and faster lead times.

EXAMPLE #2: PET SHELTER

Problem: The local animal shelter needs a way to bring more people in for their annual adoption drive.

Need: Something to entice people to come in to look at animals and consider adopting one.

Solution: 3D Print customized dog tags for each new owner who adopts an animal.

#2

MAKE a Plan

QUESTION:

Taking time right now to make a plan will save you time in the long run.

ASK YOURSELF:

How much will I spend? What market do I anticipate?

ACTIVITY:

How much do your resources cost? Develop a brief business plan to find an estimated initial budget. Use our worksheet to determine setup costs and ongoing costs over three different time frames and three different production volumes. If your idea requires labor, leave out labor costs for now - we'll get to that soon.

LOW NUMBER OF PRODUCTS OVER A SHORT PERIOD OF TIME

Cost for Initial Setup: _____

Ongoing Costs: _____ per _____ (quantity, period of time)

HIGH NUMBER OF PRODUCTS OVER A LONG PERIOD OF TIME

Cost for Initial Setup: _____

Ongoing Costs: _____ per _____ (quantity, period of time)

HIGH NUMBER OF PRODUCTS OVER A SHORT PERIOD OF TIME

Cost for Initial Setup: _____

Ongoing Costs: _____ per _____ (quantity, period of time)

EXAMPLE: FLOWER SHOP

Problem: A small flower shop owner wants to determine the cost of a new arrangement. The arrangement consists of a flower, soil, and a glass vase. He can buy flowers in bulk at a rate of 10 flowers for 50 dollars, glass vases at a rate of one vase for \$1, and 50 pounds of soil for \$3.

Need: Each month, he needs to make 10 arrangements for delivery. Based on his production requirements his budget needs to be ...

Cost for Initial Setup:

Ongoing costs: \$60.25 per month (Flowers, Soil, Vases)



#3

CHECK the *Resources*

QUESTION:

You estimated your material cost, but now it's time to look at the value of your idea - benefit (or value) versus cost.

ASK YOURSELF:

Are the materials expensive? Is labor expensive? What is my cost to launch?

ACTIVITY:

A successful business is profitable, and one way to stay profitable is by making sure the value of your product or service is higher than what it costs to produce, perform, or support. Research dollar values for labor, sales, equipment, materials, shipping, and anything else involved in making or selling your bright idea; then add them up.

COST CHECK

Cost of Materials: _____

Cost of Labor: _____

Cost of Launch: _____

EXAMPLE: **FLOWER SHOP**

Problem: At \$60.25 a month in cost, the flower shop owner discovers he needs to price his product higher than \$6.25 to make a profit. He discovers people are not willing to pay over five dollars these arrangements, so he needs to find a way to cut costs in order to justify charging a lower price per unit.

Need: By growing his own flowers, the flower shop owner can cut the purchase price of flowers from \$50 a month to \$25 a month.

Result: This brings his cost per month to \$35.25 a month, allowing him to charge over \$3.52 to make a profit, which better fits the market demand.



SET your Goals

QUESTION:

The success of your bright idea depends on your ability to achieve your goals, so set goals that you CAN achieve. Did you know that written goals are over 80% more likely to be achieved?

ASK YOURSELF:

How much capacity do I have? What are my production and sales objectives?

ACTIVITY:

Write down five goals for your business. Make sure each goal is S.M.A.R.T. (Specific, Measurable, Achievable, Realistic and Timely). Next, write down five actions necessary to accomplish each goal.

GOAL #1: _____

Steps to accomplish:

1. _____
2. _____
3. _____
4. _____
5. _____

GOAL #2: _____

Steps to accomplish:

1. _____
2. _____
3. _____
4. _____
5. _____

GOAL #3: _____

Steps to accomplish:

1. _____
2. _____
3. _____
4. _____
5. _____

GOAL #4: _____

Steps to accomplish:

1. _____
2. _____
3. _____
4. _____
5. _____

GOAL #5: _____

Steps to accomplish:

1. _____
2. _____
3. _____
4. _____
5. _____

EXAMPLE: PET SHELTER

Goal: To bring more people into the pet shelter for the upcoming Adoption Drive.

Steps to accomplish:

1. Set the date for the Adoption Drive
2. Raise awareness through Facebook ad campaign
3. Put out community flyers in local neighborhoods
4. Reach out to local radio stations
5. Incentivize with custom 3D printed pet tags



#5

FIND a *Team*

QUESTION: Doing everything yourself may be fun, but it can also be exhausting. Having helping hands can be a huge help, but remember - those helping hands are attached to real people with real aspirations for themselves. Find great fits.

ASK YOURSELF:

Will I hire staff or volunteers? Do I need experts or entry level employees?

ACTIVITY:

List five priorities - in order - that you set for your business. Thinking through your values and keeping them in mind while hiring will cut down on mismatches and help find employees or volunteers who fit with you.

EMPLOYEE / VOLUNTEER COMPATIBILITY

Priority #1: _____

Priority #2: _____

Priority #3: _____

Priority #4: _____

Priority #5: _____

EXAMPLE: BAKERY

The owner of a bakery prioritized six values to help establish its company culture and set its direction from the very beginning of the business.

Priority #1: Prosperity – In order to maintain a successful and sustainable business and support all the other priorities, the business needs to be profitable and prosperous.

Priority #2: Employee Well-Being – Employees are the cornerstone of our success and supporting every employee will be a priority from day one.

Priority #3: Community Citizenship – We believe that our company is a resident of the community, not just a renter. We have a responsibility to our community now and into the future.

Priority #4: Entrepreneurship - All employees should strive to be entrepreneurs by exercising their initiative. By taking full advantage of opportunities we can become not just successful, but special.

Priority #5: Professionalism – Our company sets itself apart by striving to reach the highest levels of performance in technical, ethical, and service standards.

Priority #6: Innovation – The power of our bakery lies in our collective ability to provide customized creations for customers of all shapes, sizes and types. We will find a way to get it done!



#6

ANALYZE your *Market*

QUESTION:

Your "market" is every potential customer for your product or service. You can target a certain group within your market, but for this exercise don't limit yourself - what connects all the people who could use your solution?

ASK YOURSELF:

Who will buy what I'm selling? How will my customer react to my product?

ACTIVITY:

Use our worksheet to create three distinct customer profiles - you'll define not only demographic and geographic information, but things like personal / professional goals and buying patterns.

CUSTOMER #1

Age: _____
Gender: _____
Lives in: _____
Career: _____
Goals: _____
Budget: _____

CUSTOMER #2

Age: _____
Gender: _____
Lives in: _____
Career: _____
Goals: _____
Budget: _____

CUSTOMER #3

Age: _____
Gender: _____
Lives in: _____
Career: _____
Goals: _____
Budget: _____

EXAMPLE: **FLOWER SHOP**

CUSTOMER TYPE - Young Professional

Age: 23
Gender: Female
Lives in: First Apartment
Career: Entry-level Dental Hygienist
Goals: Live a rich, fulfilled life
Budget: Very small

EXAMPLE: **ANIMAL SHELTER**

CUSTOMER TYPE - Student

Age: 15 years
Gender: Male
Lives in: Parents' Home
Career: N/A
Goals: Stay in shape, work towards college
Budget: Parents determine funding



MARKET your *Idea*

QUESTION:

Focus on optimizing the way you communicate with potential customers. Talk to them, not about yourself, and answer their question before they ask it. If they only learned one thing about your product, what should it be?

ASK YOURSELF:

Can someone understand the benefit in 10 seconds?

ACTIVITY:

Write one clear sentence that tells your customer what problem your product is solving. Listing product features loses focus on what your customer really cares about - how can this help me?

PRODUCT SOLUTION STATEMENT

EXAMPLE: **FLOWER SHOP**

Problem: Solve the problem of requiring a specific product form factor to fit into the standard industrial application by providing customized designs to meet those specifications.

Solution: The flower shop orders new arrangements which provide a vibrant and happy desk decoration to brighten a customer's day with amazing, beautiful flowers.



#8

ENGAGE your *Community*

QUESTION:

Truly successful organizations have a social purpose - people want to work for, and buy from, organizations that make the world a better place for everyone. Incorporating a social conscience into your core business is vital!

ASK YOURSELF:

What do I want my business to mean?

What is the purpose of my business beyond making a profit?

ACTIVITY:

List a community organization that could benefit from your product or service. List one way you can help them with your "treasure," one way with your "time," and one way with your "talent."

COMMUNITY INVOLVEMENT

Charitable Organization: _____

How to help financially: _____

How to help with time: _____

How to help with talent: _____

EXAMPLE: **FLOWER SHOP**

CHARITABLE ORGANIZATION:

St. Jude's Children's Hospital

Financial: Affordable bedside decoration
Time: Product already made - no need to source a colorful pick-me-up item
Talent: Bright decorations and companion flowers bring comfort

EXAMPLE: **ANIMAL SHELTER**

CHARITABLE ORGANIZATION:

Austin Pets Alive

Financial: Affordable 3D printed incentive for adopting pets
Time: Printing customized pet tags onsite with reasonable lead times
Talent: Each tag can be customized; making adopting more special and personal



#9

ASK for *Advice*

QUESTION:

Nobody knows it all! Good advice can save you time, can save you from making big mistakes, and can give you great perspective. Talk to someone who's been in your shoes and succeeded.

ASK YOURSELF:

Who can save me time by sharing their perspective?

ACTIVITY:

Use our worksheet to list three things necessary to ask for advice thoughtfully - context, goal, and struggle. What do they need to know to help? What's your desired outcome? What's stopping you from achieving it?

SEARCH FOR ASSISTANCE

What does your mentor need to know to help?:

What is your desired outcome?:

What is stopping you from achieving this desired outcome?:

EXAMPLE: **ANIMAL SHELTER**

Problem: The owner of the local animal shelter wants to 3D print pet tags for people who participate in the shelter's annual adoption drive. He knows how to 3D print the tags, but he lacks customer service skills.

Solution: He turns to a friend, who runs a successful bakery and know what it takes to succeed.

- **What does his mentor need to know?:** The basics of customer service
- **What is his desired outcome?:** Have a solid understanding of how to provide good customer service
- **What is stopping him?:** Nervousness in interacting with others people - which knowledge and confidence from his friend at the bakery can help with!



MOVE *Forward*

QUESTION:

So what's next? Do you go back to the drawing board, start small or start planning how to grow as quickly as possible? Now that you've thought through your bright idea business, the really hard decisions are waiting for you! Reflect on the success or struggle of your business so far. Does your business have a future?

ASK YOURSELF:

Do I leave a legacy? Do I expand? Do I move on to a new venture?

ACTIVITY:

Think through your options for growth and list simple "pros and cons" for each. What's the risk and reward of finding a partner, of getting big really quickly, or of taking your time?

FINDING A PARTNER OR INVESTOR ...

Pros: _____

Cons: _____

GROWING RAPIDLY ...

Pros: _____

Cons: _____

GROWING SLOWLY ...

Pros: _____

Cons: _____

EXAMPLE: BAKERY

Finding a Partner or Investor ...

Pros: Less monetary stress month to month, not as reliant on sales in the beginning and can afford to spend time on making best baked goods possible to entice purchases.

Cons: Profits are split with another person, partner may want to move in different direction not in the vision of what the bakery stand for.

Growing Rapidly ...

Pros: Can sell more baked goods, funnel money back into business for equipment or promotion, and potentially make more baked goods to sell.

Cons: Increasing supply of baked goods might not lead to an increase of sales, which leads to increase in storage and maintenance per pastry.

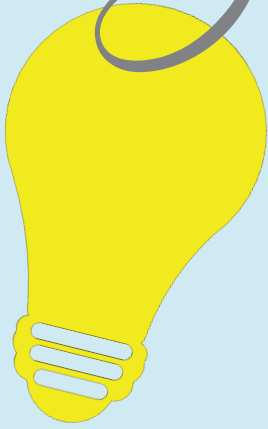
Growing Slowly ...

Pros: Better able to assess demand as sales come in, no need to increase storage capacity or maintenance times as units are made closer to the rate of purchase.

Cons: Might not be able to meet demand as supply is limited. Will not be able to fulfill larger orders if necessary as most time is tied up in smaller, singular sales.

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Bright Ideas



BOOT CAMP

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The TyRex Learning Foundation's Bright Ideas Boot Camp is an entrepreneurial development program for students (K-12) that features 3D printing. Its goal is to help students cultivate their ideas and illuminate the path for taking those ideas into the real business world.

The program strives to take students on a journey from ...

Inspiration to Commercialization

tyrexlearningfoundation.com