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Boone High School
2015 STEM Resource Document
North Central Region



Technology Resources:

Boston College Chemistry: Videos, experiments, ideas <https://sites.google.com/a/bc.edu/curiosity-cabinet/>

NC STEM Region website: <http://www.iowastem.gov/north-central-iowa-stem-region>

MIT Real science: Videos created by students <http://k12videos.mit.edu/>

Hooked on science: Lesson ideas and videos <http://www.hookedonscience.org/>

UNI FREE (Fabulous Resources for Energy Education) <http://www.uni.edu/ceee/education/free-fabulous-resources-energy-education/free>

CBiRC Center for Biorenewable Chemicals: Resources and PD for teachers and students <http://www.cbirc.iastate.edu/>

Jacobsen Institute for Youth Entrepreneurship: Summer camps and online curriculum <http://www.jacobsoninstitute.org/>

KidWind: Wind and alternative energy resources and lessons <http://www.kidwind.org/>

Steve Spangler: Experiments and resources <http://www.stevespanglerscience.com/>

Naiku: Formative assessment and collaborative assessment tools <http://www.naiku.net/>

Paper Desk: Online science notebook <http://mypaperdesk.com/>

Animoto: Animated video and presentation site <https://animoto.com/>

Diigo: Research and sharing site <https://www.diigo.com/>

Metro HS Teacher Exemplar

Key Partners	Key Activities	Value Proposition	Customer Relationships	Customer Segments
<p>1. Who are your key partners?</p> <p>Community Partners</p> <p>Parents</p> <p>Businesses</p> <p>Agencies</p> <p>School District</p> <p><i>City Council</i> <i>Mayor</i> <i>Larewey</i> <i>Grocers</i> <i>Wal-Mart</i> <i>Orscheln</i> <i>Boone Hardware</i> <i>Graddys</i> <i>Wilbur's</i> <i>Rheinhart Farms</i> <i>Krieger Greenhouse</i> <i>Hilltop Greenhouse</i> <i>- Ron Bittle</i> <i>Gov. STEM board</i> <i>ISU extension</i> <i>- Master Gardeners</i> <i>DMACC?</i> <i>Monsanto?</i> <i>AgReliant?</i> <i>John Deere?</i> <i>Rockwell Collins</i></p>	<p>1. What are your key activities?</p> <p><i>Blue Plate</i> <i>The Things Your School Is Doing</i> <i>Obama's</i></p> <p>Career Connections (classroom model)</p> <p>Tours</p> <p><u>Speakers</u></p> <p><u>Student Presentations</u></p> <p>Langford Team</p> <p>Training</p> <p>Rotary Club & activities</p> <p><i>Social media</i> <i>Putter Billy</i></p> <p>Key Resources <i>Radio</i> <i>Newspaper</i> <i>Boone TV</i></p> <p>1. What are your key resources?</p> <p>Key Resources</p> <p>Students</p> <p>Trained, innovative, professional staff</p> <p>Connections in the community</p> <p>Supportive administrators and school board</p> <p>Workplace Learning Connections</p> <p>Transportation</p> <p>Build in time</p> <p>Access to financial resources</p>	<p>1. What are your value propositions?</p> <p>Skills</p> <p>Employability (S, CP)</p> <p>Soft Skills (S, CP)</p> <p>Engagement (S, CP)</p> <p>Creativity (S, CP)</p> <p>I3 (Integrity, Innovation, Impact)</p> <p>Community Impact</p> <p>Decreased poverty</p> <p>Citizenship</p> <p>Improved Quality of Life</p> <p>Professional Development</p> <p>Teacher/Job Satisfaction (Being 2 of the 10)</p> <p>Engaged, productive classrooms</p> <p>Student-Centered Classrooms</p>	<p>1. Your customer relationships?</p> <p>Classroom (S)</p> <p>Individualized</p> <p>Hands on</p> <p>Relational</p> <p>Real World</p> <p>Relevant</p> <p>Communication</p> <p>Transparent (S, CP)</p> <p>Channels</p> <p>1. Channels</p> <p>Instruction (S)</p> <p>Hands-on instruction and activities</p> <p>Tours</p> <p>Project-Based Learning</p> <p>Real-world and Relevant</p> <p>Community (CP)</p> <p>Money</p> <p>Mentors</p> <p>Internships and Job Shadows</p> <p>Professional Development (PD)</p> <p>Cross-curricular</p> <p>Co-teaching</p> <p>Opportunities</p> <p>Professional Learning</p> <p>Communities</p>	<p>1. Customer Segments</p> <p>Students (S)</p> <p>Community Partners (CP)</p> <p>Parents</p> <p>Businesses</p> <p>Agencies - government, local, ???</p> <p>Professional Development (PD)</p> <p>Instructional</p>
<p>Cost Structure <i>School board</i></p> <p>1. What about your cost structure?</p> <p>Investments</p> <p>Training and Professional Development</p> <p>Time - Connections in the community, curriculum writing and common planning time</p> <p>Investment in multiple staff members</p>	<p>Revenue Streams <i>(Value)</i></p> <p>1. What are your revenue streams?</p> <p>Learning Outcomes</p> <p>Refer back to Value Propositions</p>			

The Business Model Canvas

Designed for:

Designed by:

Or:
 Iteration:

Key Partners



Who are our Key Partners?
Who are our key suppliers?
Which Key Resources are we acquiring from partners?
Which Key Activities do partners perform?
motivations for partnerships:
Optimization and economy
Reduction of risk and uncertainty
Acquisition of particular resources and activities

Hyvee/Students - w
Forewarn/Parents - w/s
School board - sc
- Boone News Trib
- Boone Hope - sup, +
- City Council of S

Chamber of Commerce
Gov STEM Board
LSU Extension
Monsanto
Ag Reliant
John Deere
Wilbur Farms
Boone Hardware

Key Activities



What Key Activities do our Value Propositions require?
Our Distribution Channels?
Customer Relationships?
Revenue streams?
categories
Production
Problem Solving
Platform/Network

- Education
- Planting
- Distribution
- Application
- Building - \$2-3K
- Gov. Blue Plate 8' x 12'
- Michelle Obama

Our Distribution Channels?
Customer Relationships? Revenue Streams?

types of resources
Physical
Intellectual (brand patents, copyrights, data)
Human
Financial

- Education
- Willing hands
- Delivery/Pickup?
- Rev- posts CSA
Soil, seeds, nutrients
Human, dirt work Ed

Value Propositions



What value do we deliver to the customer?
Which one of our customer's problems are we helping to solve?
What bundles of products and services are we offering to each Customer Segment?
Which customer needs are we satisfying?

characteristics
Newness
Performance
Customization
"Getting the Job Done"
Design
Brand/Status
Price
Cost Reduction
Risk Reduction
Accessibility
Convenience/Usability

Boone Food Security
- Poor nutritional lunches
- food packages - free
- hunger, insecurity
- accessible through application
- employability
- engagement

Customer Relationships



For whom are we creating value?
Who are our most important customers?
What type of relationship does each of our Customer Segments expect us to establish and maintain with them?
Which ones have we established?

examples
Personal assistance
Dedicated Personal Assistance
Self-Service
Automated Services
Communities
Co-creation

- Students + families
- Low SES,
- respect, trust, a service, opportunity for input

with customer routines?

channel phases:
1. Awareness: How do we raise awareness about our company's products and services?
2. Evaluation: How do we help customers evaluate our organization's Value Proposition?
3. Purchase: How do we allow customers to purchase specific products and services?
4. Delivery: How do we deliver a Value Proposition to customers?
5. After sales: How do we provide post-purchase customer support?

School records
Free reduced lunch
Use own pockets
Boone Hope
Paper, calls, word of mouth
Surveys

Customer Segments



How are they integrated with the rest of our business model? How costly are they?

Mass Market
Niche Market
Segmented
Diversified
Multi-sided Platform

- Specific niche
- later - less specific paying customers keeping needy
- Community Partners
- PD

Existing lot
Current CSA in Boone = \$400/week - but price dependent low variability
Lumley

Which Key Activities are most expensive?

is your business more:

Cost Driven (leanest cost structure, low price value proposition, maximum automation, extensive outsourcing)

Value Driven (focused on value creation, premium value proposition)

sample characteristics:

Fixed Costs (salaries, rents, utilities)

Variable costs

Economies of scale

Economies of scope

- Saving seeds
- Nutrient replacement cost
- Variable crops

start-up for structure
start-up supplies
Soil, nutrients
Distribution?
value driven - it's a service

Revenue Streams

For what value are our customers paying?
For what do they currently pay?
How would they prefer to pay?

types:
Asset sale
Usage fee
Subscription Fees
Lending/Renting/Leasing
licensing
fixed pricing
List Price
Product feature
Customer segment
Volume dependent

Small CSA
- Security
- CSA Sub - 1:1
- word of mouth

The Business Model Canvas

Designed for:

Designed by:

Or
Instructor

<p>Key Partners</p>  <p>Who are our Key Partners? Who are our key suppliers? Which Key Resources are we acquiring from partners? Which Key Activities do partners perform? motivations for partnerships: Optimization and economy Reduction of risk and uncertainty Acquisition of particular resources and activities</p>	<p>Key Activities</p>  <p>What Key Activities do our Value Propositions require? Our Distribution Channels? Customer Relationships? Revenue streams? categories: Production Problem Solving Platform/Network</p>	<p>Value Propositions</p>  <p>What value do we deliver to the customer? Which one of our customer's problems are we helping to solve? What bundles of products and services are we offering to each Customer Segment? Which customer needs are we satisfying? characteristics: Novelty Performance Customization "getting the job Done" Design Brand/Status Price Cost Reduction Risk Reduction Accessibility Convenience/Usability</p>	<p>Customer Relationships</p>  <p>For whom are we creating value? Who are our most important customers? What type of relationships does each of our Customer Segments expect us to establish and maintain with them? Which ones have we established? examples: Personal assistance Dedicated Personal Assistance Self-Service Automated Services Communities Co-creation</p>	<p>Customer Segments</p>  <p>How are they integrated with the rest of our business model? How costly are they? Mass Market Niche Market Segmented Diversified Multi-sided Platforms</p>
<p>Cost Structure</p> <p>What are the most important costs inherent in our business model? Which Key Resources are most expensive? Which Key Activities are most expensive? Is your business more: Cost Driven (cheapest cost structure, maximum automation, extensive outsourcing) Value Driven (focused on value creation, premium value proposition) sample characteristics: Fixed Costs (salaries, rents, utilities) Variable costs Economies of scale Economies of scope</p>	<p>Key Resources</p>  <p>What Key Resources do our Value Propositions require? Our Distribution Channels? Customer Relationships? Revenue Streams? types of resources: Physical Intellectual (brand patents, copyrights, data) Human Financial</p>	<p>Channels</p>  <p>Through which Channels do our Customer Segments want to be reached? How are we reaching them now? How are our Channels integrated? Which ones work best? Which ones are most cost-efficient? How are we integrating them with customer routines? channel phrases: 1. Awareness: How do we raise awareness about our company's products and services? 2. Evaluation: How do we help customers evaluate our organization's Value Proposition? 3. Purchase: How do we allow customers to purchase specific products and services? 4. Delivery: How do we deliver a Value Proposition to customers? 5. After sales: How do we provide post-purchase customer support?</p>	<p>Revenue Streams</p>  <p>For what value are our customers really willing to pay? For what do they currently pay? How are they currently paying? How would they prefer to pay? How much does each Revenue Stream contribute to overall revenues? types: Asset sale Usage fee Subscription fees Lending/Renting/Leasing Volume dependent Advertising fixed pricing dynamic pricing negotiation/bargaining List Price Yield Management Real-time Market Customer segment dependent</p>	

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