

## Team

Alice Brooks  
Daniela Buchman  
Bettina Chen  
Miguel Reyes

## Mentors

Nick O'Connor  
Ashton Udall

E245 The Lean LaunchPad

# Colorwheels

Create. Express. Inspire.

Unleashing the next generation of female  
creativity through innovative play...

Parents: 69  
Kids: 110  
High school girls: 6  
Experts: 32  
Manufacturers: 6  
Bloggers: 3  
Survey responses: 68

Total: 294





**Alice Brooks**

BS MIT Mech E  
MS Stanford Mech E  
Nest Labs  
Product Development, Rapid  
prototyping

# Team



**Bettina Chen**

BS Caltech EE  
MS Stanford EE  
Experience at a hardware  
startup and mentoring kids



**Miguel Reyes**

BS IE (ASU)  
MS MS&E (Stanford)  
Intel Supply Chain, Mfg,  
Biz Dev, Teaching/presenting  
to kids

**Mentors**

Nick O'Connor  
Ashton Udall



**Daniela Buchman**

BS Brown Univ. Mech E  
MS Stanford  
Mech E  
Product Dev, Teaching/  
presenting to kids, finding  
local resources

# Original idea

We'll combine the best features from these



personality  
fun back story

+



beautiful design  
intuitive joiners

+



educational

+



infinite  
combinations

To make a new interactive building set for girls

# Original idea

We'll combine the best features from these



## Market Size

10 million US females aged 5-9

50% adoption (or so we thought...)

Basic kit \$40

5 million \* \$40 =

---

\$200 million target market

+



# Agenda

Phase 1: Customer discovery

Phase 2: Product and experience development

Phase 3: Channels and strategy

Appendix

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## Project timeline

Talking to parents, craigslist  
analogous product postings, and  
landing pages

---

Testing with analogous  
products with kids

# Agenda

Phase 1: Customer discovery

Phase 2: Product and experience development

Phase 3: Channels and strategy

Appendix

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## Project timeline

Talking to parents, craigslist  
analogous product postings, and  
landing pages

Developing the product

Testing with analogous  
products with kids

Developing the experience  
(Children's Creativity Museum)

# Agenda

Phase 1: Customer discovery

Phase 2: Product and experience development

Phase 3: Channels and strategy

Appendix

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## Project timeline

Talking to parents, craigslist  
analogous product postings, and  
landing pages

Developing the product

Brainstorming new business  
model ideas

Testing with analogous  
products with kids

Developing the experience  
(Children's Creativity Museum)

Investigating MLM

# Business Model Canvas

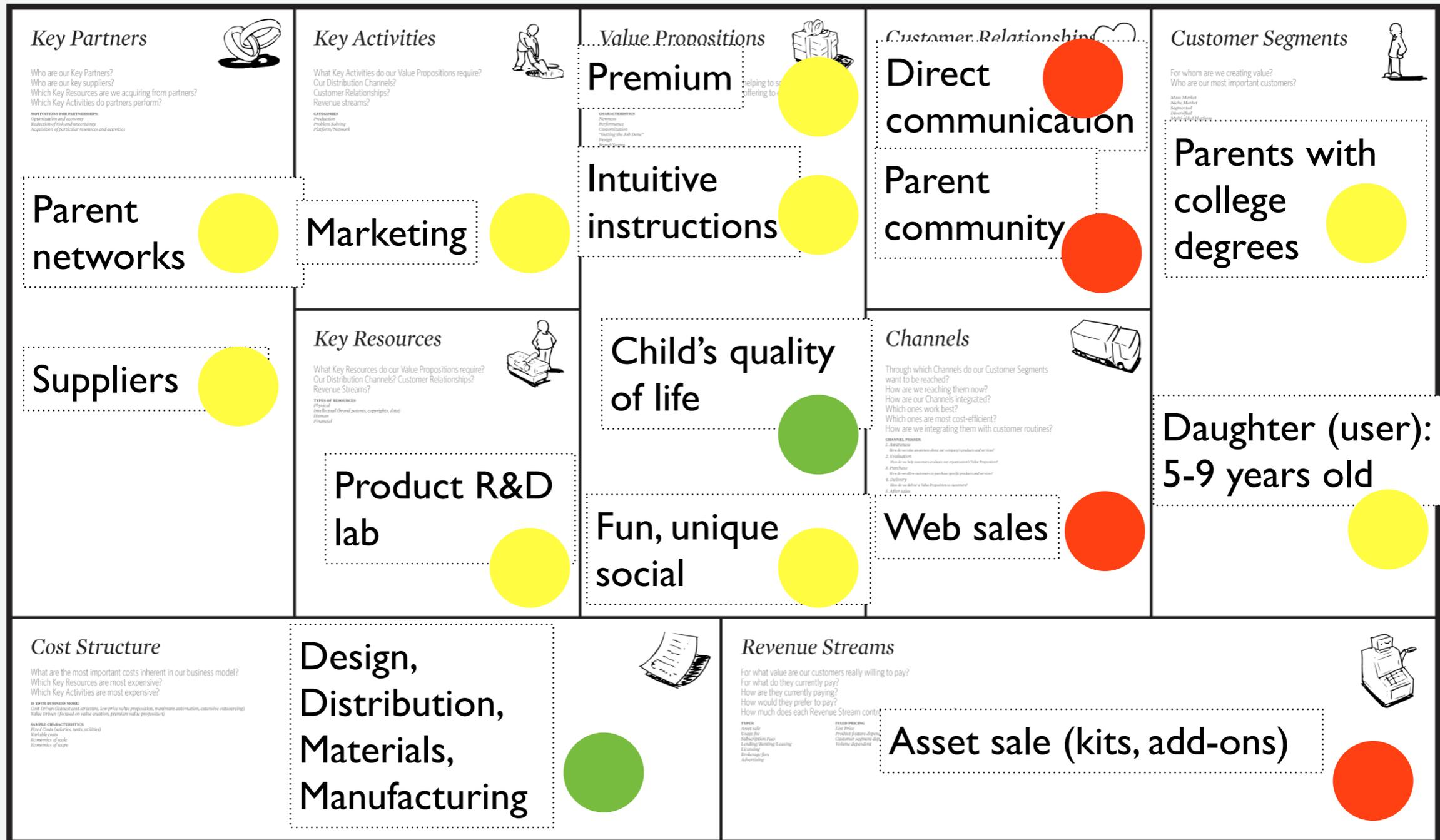
(Phase I)

## The Business Model Canvas

Designed for: ColorWheels

Designed by Alice Brooks, Daniela Buchman,  
Bettina Chen, Miguel Reyes

Iteration: 10

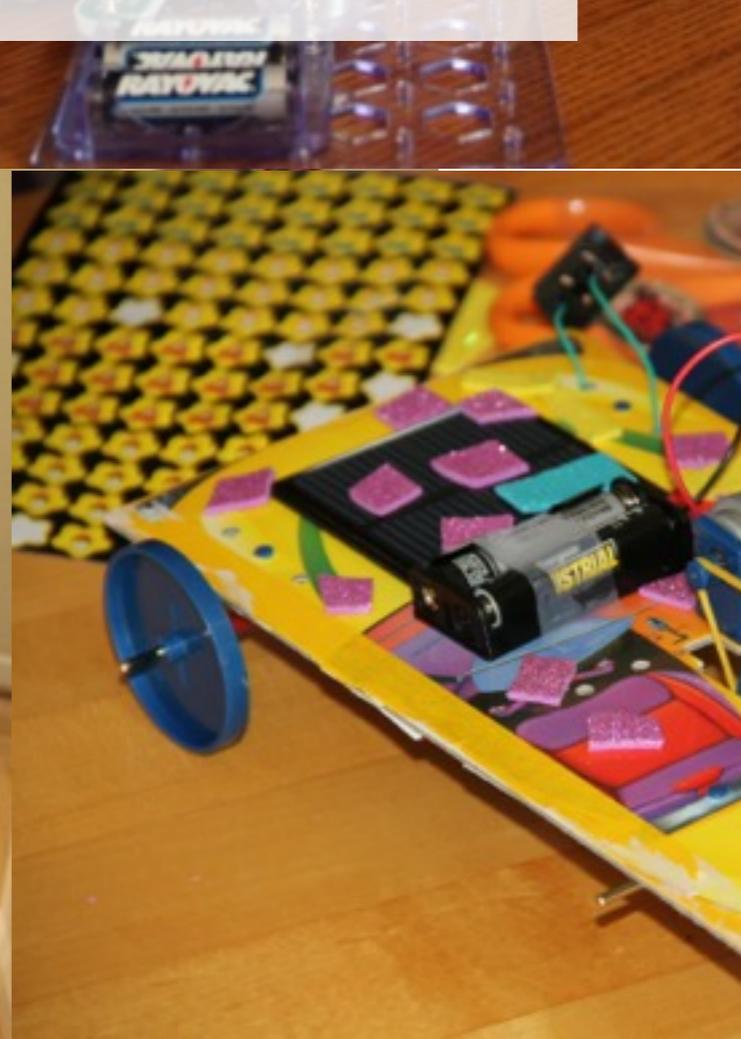




# Phase I: Customer Discovery



# Customer Discovery Goals





# Customer Discovery Goals

Understand buyer's wants, needs, and behaviors

Understand end user's wants, needs, and behaviors

---

Figure out why a solution does not yet exist

# What we did



# What we did

The background of the slide is a collage of four photographs. Top-left: A young girl with dark hair is looking at a tablet. Top-right: A group of children are gathered around a table, looking at a laptop screen. Bottom-left: A child is sitting on the floor, focused on a craft project with string and beads. Bottom-right: A young girl in a red t-shirt with 'GIRLS Swim Team' printed on it is smiling.

## Interviewed 55 parents

- In homes, at schools and museums, on the streets
- Landing page tests
- Purchasing behavior

## Observed 41 kids playing

- In homes, at schools and museums
- Their toys, analogous products, initial prototypes

## Interviewed 18 experts

- Professors, educators, toy industry veterans

# Hypothesis testing

Hypothesis	Process	Findings
Fun + Educational Toy = Valuable to Parents	Parent Interviews	Fine motor skills Spatial cognition 
Age 5 to 9 = our Customers	Parent Interviews, Observation	Upper limit: 10 yrs old 
Girls interested in: PRODUCT	Homes, Schools, Museums, Parent interviews	Girls interested in: SOCIAL EXPERIENCE 
Visitors + Landing Page = SIGN-UPS	Showed to people in various places	NO SIGN-UPS 

Home



**"Creativity is as important in education as literacy"**

- Sir Ken Robinson

**ColorWheels will teach your daughter how to build cool toys.**

**In your home, on the road, on a play date.**

**Here is how it works**



- Sign up online
- We will ship you the toy kit and email you a link
- When your daughter is ready to start to build the kit she can follow step by step instructions on an action video online.

**Colorwheels will be launching soon. Sign up below if you are interested and we will be in touch**

Email \*

Submit

Home

Sign up before it's TOO LATE! Limited slots remain on our Parent Beta List.

# Colorwheel Toys

Unleashing the next generation of female creativity...

A new way to keep your daughter busy!  
Develop her creativity and skills!  
Hands-on learning by assembling then decorating!

Learn more at [www.colorwheeltoys.com](http://www.colorwheeltoys.com)

Sign up below to receive our kit for 50% off!

GO

powered by **launchrock**

"Creativity

ColorWhee  
how to bui

In your hor  
date.

Here is hov



Home

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Colorwheel Toys

"Too mysterious"

Learn more at [www.colorwheeltoys.com](http://www.colorwheeltoys.com)

Sign up before

email@address

"Who is this for?"

power

Home

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Colorwheel Toys

# Colorwheel Toys

Home Learning Topics Contact Us [Download Instructions](#) Questions? (650) 497-2478

Unleashing the

A new  
D  
Hands-on

Learn

Sign u

email@ad



Unleashing the next generation of female creativity and innovative play...

### Development

Creativity  
Fine Motor Skills  
Visual Comprehension

### Unique Experience

Assemble then decorate  
Discover on your own or with someone else

### Hands-on Learning

Circuits  
Velocity  
Power Source  
Mechanical Design

"Creativity

ColorWheel  
how to build

In your hor  
date.

Here is how



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A new  
D  
Hands-on

Learn

Sign u

email@ad



“What am I supposed to do now?”

Unleash  
creativity and innovative play...

### Development

Creativity  
Fine Motor Skills  
Visual Comprehension

### Unique Experience

Assemble then decorate  
Discover on your own or with someone else

### Hands-on Learning

Circuits  
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Visual  
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Home Gallery Store About

## Amazingly fun and educational.

Engage your daughter's creativity with this hands-on car kit built from scratch. Starting at \$29 (free shipping)



1 2 3

### Unleashing the next generation of young female creativity...

Born out of a Stanford Engineering class, Colorwheel Toys is providing a unique and innovative educational experience for young girls aged 6-10.

Home

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Home Gallery Store About

## Amazingly fun and educational.

Engage your daughter's creativity with this hands-on car kit built from scratch. Starting at \$29 (free shipping)



6 purchases

1 2 3

### Unleashing the next generation of young female creativity...

Born out of a Stanford Engineering class, Colorwheel Toys is providing a unique and innovative educational experience for young girls aged 6-10.

# Key Learnings

Parents

Hands-on learning  
Convenient purchasing decision  
Educated STEM parents

Kids

Fun to assemble and decorate  
Community  
Girls aged 6-10

Experts

This problem is the holy grail  
Differences in development correctable  
through play

# Susan (STEM Mother)

---



She's a scientist.

Household income: \$80k+

She works 60+ hours a week and is incredibly busy.

## **Motivations**

Needs educational toys/after school activities, so she can feel good about her daughter's intellectual development.

Wants to do anything she can to help her daughter prepare for college.

## **Colorwheels Angle**

Heard about colorwheels through other moms; signs up for the mailing list and gets information/deals.

Older "Mary Kay" girls are good role models for her daughter. Give her daughter something to aspire to

# Susan (STEM Mother)

---

She's a scientist.

She works 60+ hours a week and is incredibly busy

Anything to help her daughter prepare for college

Needs educational toys/after school activities, so she can feel good about her daughter's intellectual

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## Colorwheels Angle

Heard about colorwheels through other moms, signs up for the mailing list and gets

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Older

som

Heard about Colorwheels through other moms

daughter. Give her daughter

# Maya, 8 years old

---

Attends piano lessons, soccer practice, girl scouts, and advanced math classes after school.

Her mother is a neurologist.

## **Motivations**

Likes playing with her friends and doing group activities

Is interested in science but also likes playing pretend with her friends.

## **Colorwheels Angle**

Way more fun than math classes and she gets to play with her friends.

Interacts with “cool” older girls that help her build her projects.



# Maya, 8 years old

Attends piano lessons, scouts, and advanced math classes after school.

Her mother is a neurologist.

## Motivations

Likes playing with her friends and doing group activities

Is interested in science but also likes

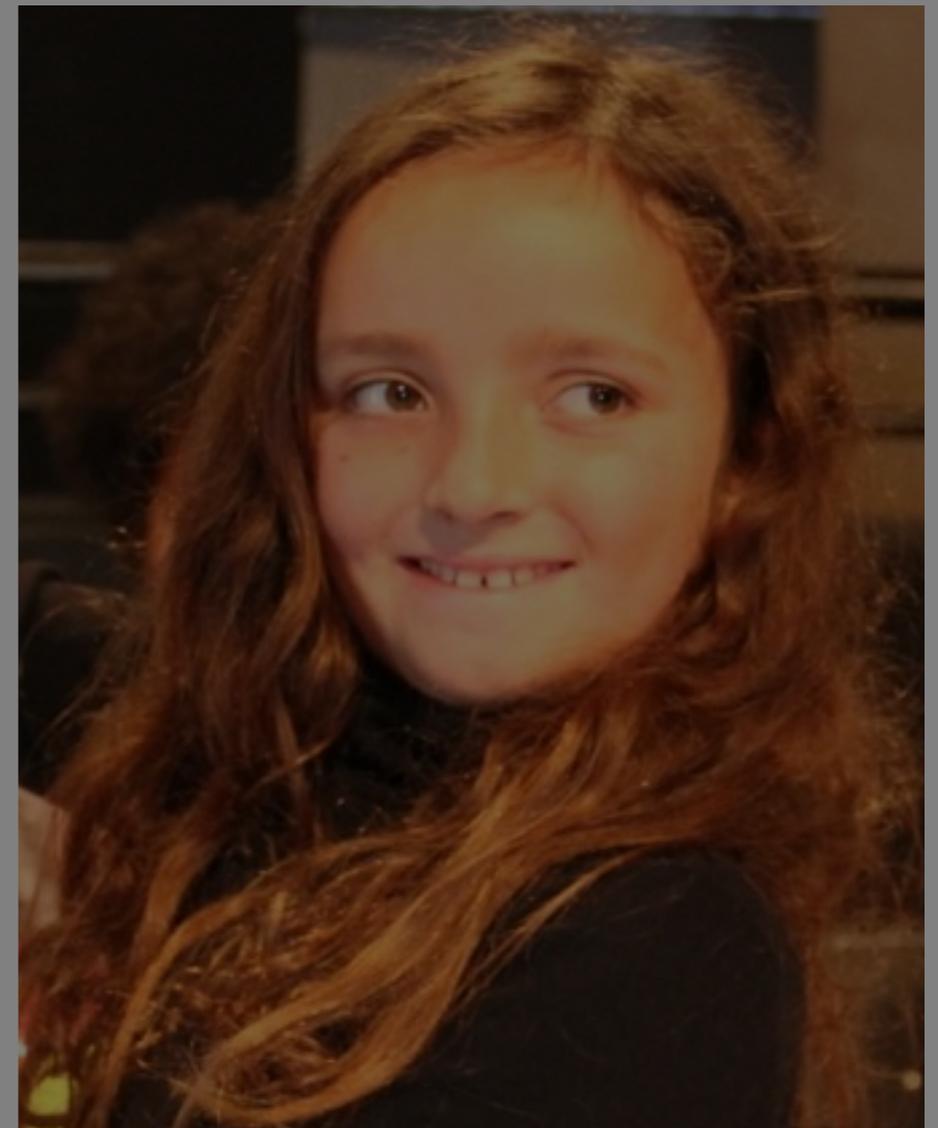
Looks up to older girls

Way more fun than math classes and she gets to play with her friends.

Interacts with “cool” older girls that help her build her projects.

Many after school activities

Playing with friends





# Phase 2: Product and experience development



# Business Model Canvas

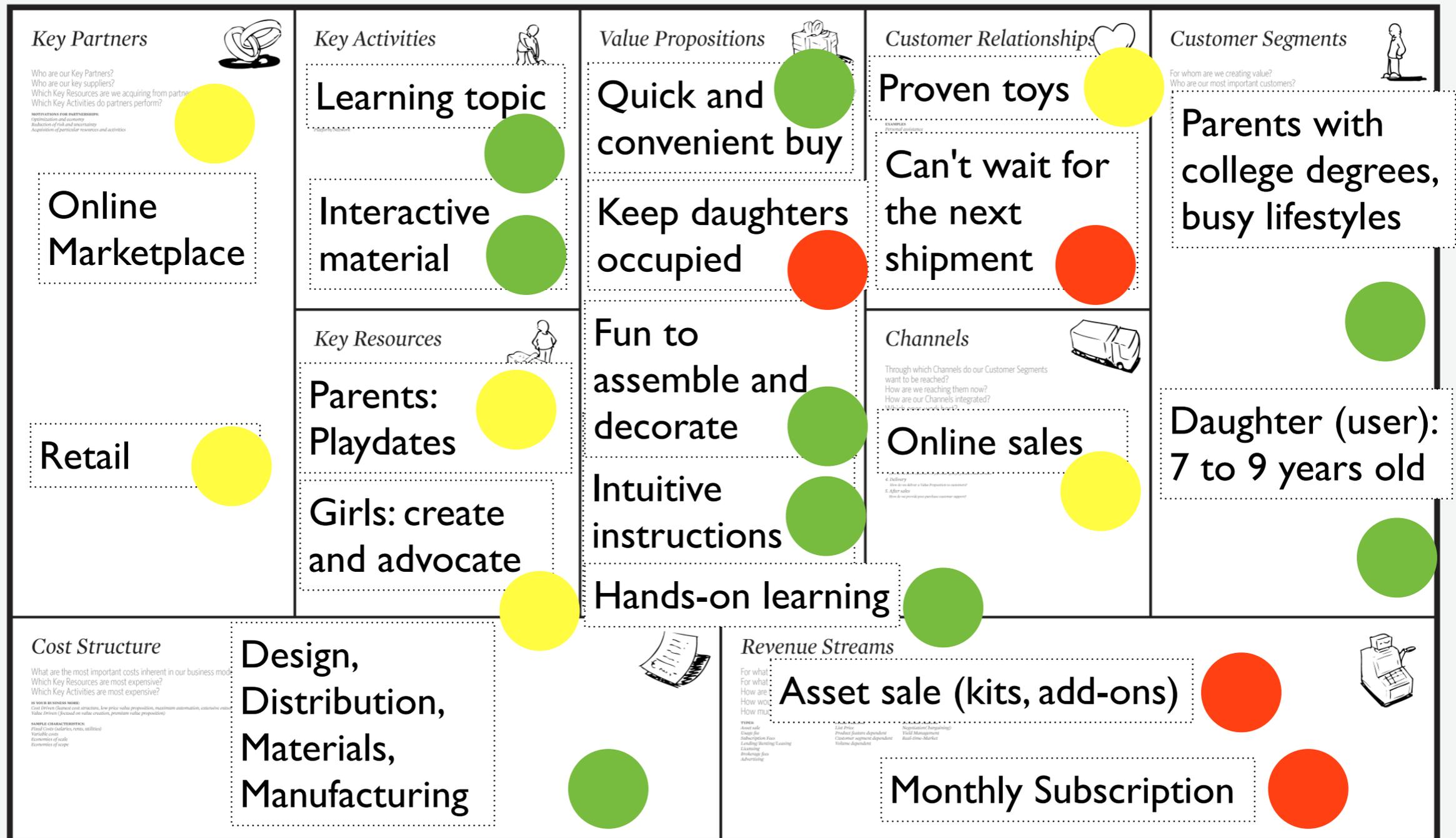
(Phase 2)

## The Business Model Canvas

Designed for:

Designed by:

Iteration: <sup>no.</sup>



# Revised Product Idea (DIY electronic kit)

**Skills Developed:** Fine motor skills by assembling the toy, spatial cognition

**Benefits:** Learn about voltage, solar power, how circuits turn on/off

**Vision:** Use our line-up of toys to build **Colorwheel City**

**Social Proof:** Show off masterpiece on website



# Product and Experience Goals





# Product and Experience Goals

Determine if our presence is necessary in the current model for the experience to succeed

Product that girls can learn from independently, with minimal parental involvement and stay engaged

# What we did



# What we did

**Removed ourselves from the experience**

Shipped 12 MVP kits to local families

**Tested social play and competition as motivator**

Hosted after school program at Duveneck

**Mimicked Girl Scout community and culture to test engagement**

Hosted 2 sessions at SF Children's Creativity Museum



# Hypothesis testing

Hypothesis	Process	Findings
Online Website Community = HIGH POTENTIAL	Parent Interviews	NO: Laptops INSTEAD: iPad, iPhones 
Our target = GIRLS	Parent Interviews, User Testing	Create very feminine toys 
Proud to share completed kit	1-on-1 testing, 19 kids at once	Group would share and be competitive 

# Key Learnings

MVP

Experience is more important than the product

Parents and kids are busy

Varied parent expectations of the experience

Diminishing returns: 12 kits not necessary

Duveneck

Competition!

More fun in a group

Parents prefer safe apps to website for kids

CCM

Excitement at badges, community feel

The experience is essential

We are part of the product and the experience

How do we provide more role models?

# Experience > Product

## Capitalize on this with:

- Party Packages
- Physical store
- Colorwheels Team Video Series
- School programs, after school and weekends
  
- Young Mary Kay type agents



# Experience > Product

Hypothesis	Process	Findings
Play dates = FUN	2-3 hour sessions in 8 homes, "New toy, new people in my house!!"	
Build on their own = FULLY ENGAGED	Shipped 12 kits for kids to assemble	
After-school programs = FUN social experience	22 kids racing their cars with each others	
Public Establishments = FUN social experience	32 kids - SF Children's Creativity Museum (Feb 18, Feb 25)	



# Colorwheel Toys

837 likes · 107 talking about this

Message

Retail and Consumer Merchandise  
Unleashing the next generation of female creativity through innovative play!



837



About

Photos

Likes

Sweepstakes

# Phase 3: Channels, Strategy

Status Photo Ask Question Milestone

Write something...

27 Friends  
Like Colorwheel Toys



Colorwheel Toys  
February 19

Update to Sweepstakes: Tell us who you'd buy our product for! Have daughters, granddaughters, nieces, cousins, neighbors or relatives of family friends who are girls aged 7-10?

Like · Comment · Share

23 people like this.

Michelle Lindquist I'd buy them for my niece, since my girls are now teenagers.  
February 19 at 11:09pm · Unlike · 1

Nicole Shada my to lil girls :)  
February 19 at 11:16pm · Unlike · 1

Nicole Shada two lol  
February 19 at 11:16pm · Like

Recent Posts by Others on Colorwheel Toys See All

Gabi PiXie Morris  
Hi Colorwheel Toys :) I entered! :) Yayyy!!! :) Join this ...  
 1 · February 28 at 10:36am

John Moldt  
nice  
February 28 at 4:16am

Robin Ritter  
My friends children!  
February 27 at 4:27pm

Bill Budka  
@ If I win...I will smile sooooooooooooooooooooo BIG !!  
February 24 at 8:07pm

More Posts

# What we did

## 4 Main Areas:

Experience trumps product

Channels

Girl Scout model

Market Broadening via MLM

Kept coming back to our 3 core principles:

Girls

STEM

Hands-on learning

# Business Model Canvas

(Phase 3)

## The Business Model Canvas

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Iteration: <sup>TM</sup>



# Business Model Canvas

(Phase 3)

The Business Model Canvas

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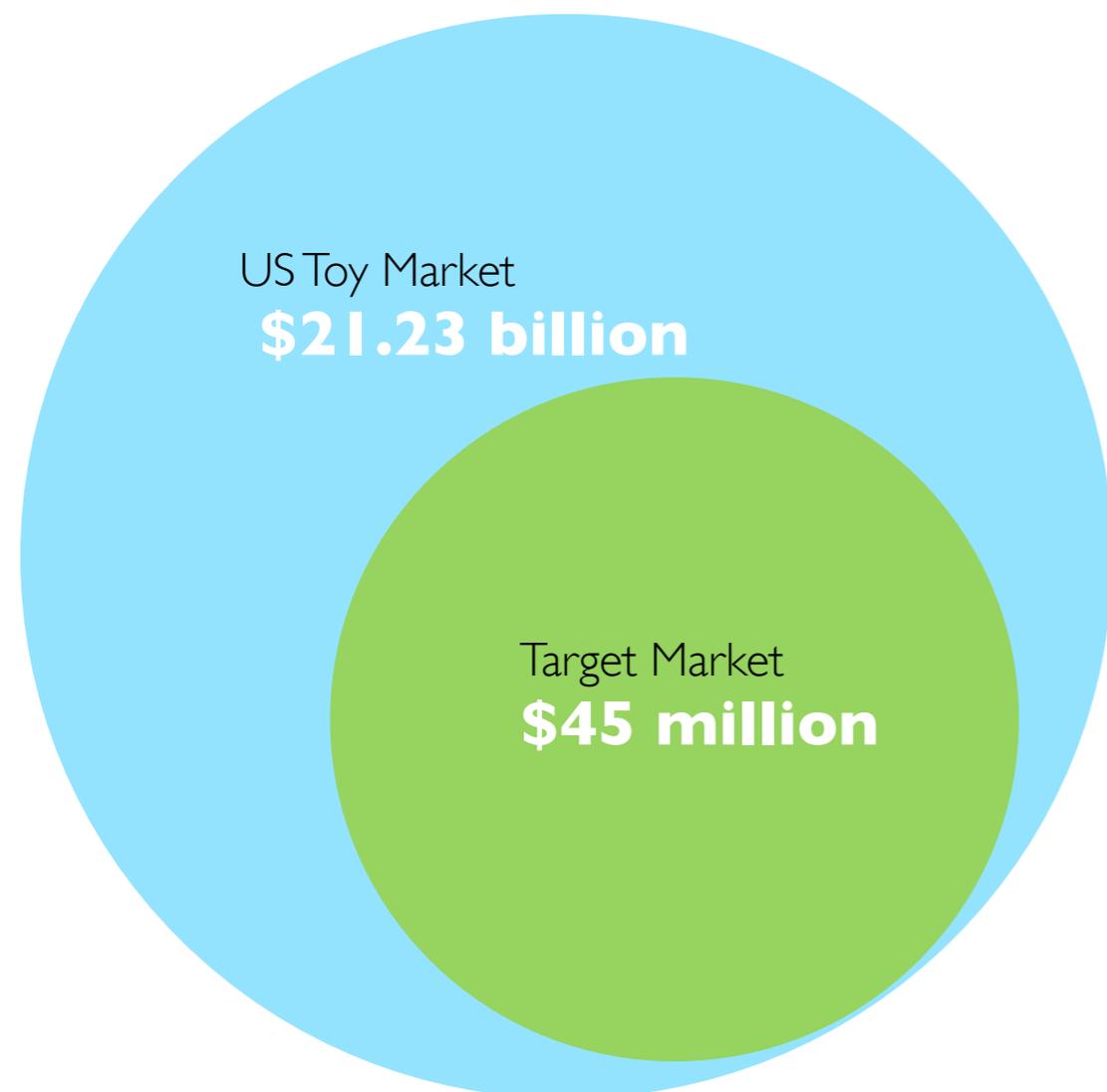


# Updated Market Size (Online sales)

“Online/Internet sales experiencing the most explosive revenue growth over 2009 at 22 percent.”

US market size for building sets (2010): \$1.2 billion (2x the 2004 market size)

– NPD Press Release



7.5M households with girls 5-9

20% of US households make over \$92K

$$7.5 * 0.20 = 1.5M$$

Expect to get 30% of those households = 450K

$$450K * \$100 = 45M$$

(\$100 comes from subscription and also from analogous toys that these households are willing to spend on)

# Channels and Analytics

Hypothesis	Process	Findings
Video = Action from viewers	Success in conveying message, Did not lead to more sign-ups or purchases	
Online sweepstakes = more traffic	~100 unique visitors for 5 days ~3 purchases	
Mail Chimp A/B campaign = more purchases	~150 who signed up led to 1 purchase	
SF Creativity Museum parents = visit our site	15 out of 28 families viewed our site (54% acquisition)	

# Summary of results

## Channel Funnel



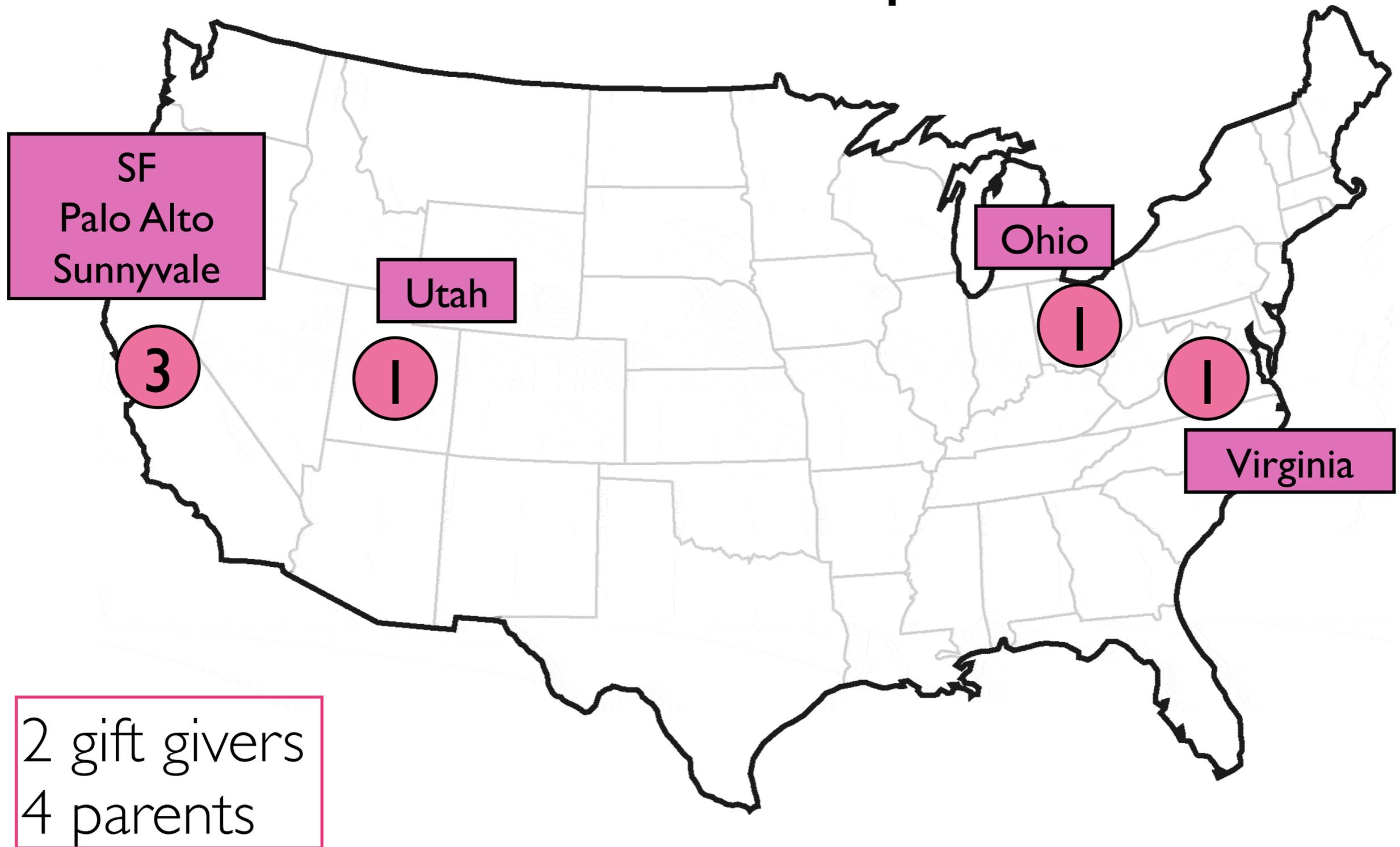
6 kits sold\*\$20/kit=\$120 revenue

\$120-6kits\*\$8materials/kit=>\$72 profit

Cost of advertising (wildfire) = \$13.91

	revenue	profit	acquisition cost
visitors	\$0.17	\$0.10	\$0.02
emails	\$0.78	\$0.47	\$0.09
sales	\$20.00	\$12.00	\$2.32

# Customer map



# Girl Scout Model

Hypothesis	Process	Findings
Warm culture + sense of community = heightened engagement	Sashes, Girl scout culture (hand-holding circle)	
Gamification of toy building experience	Badges, Level-up	

# Michelle, Junior in high school, 16

Attends high school at a top school and is applying to 15 top colleges for applied math. “She’s more interested in the experience than the pay”

## Motivations

Wants something to help her get into excellent four year college and pursue her degree in applied math.

## Colorwheels Angle

Flexible working hours

Great college application enhancer

Money



About 106K female students from the class of 2011 scored a 3 or higher on a STEM AP test

# Michelle, Junior in high school, 16

Attends high school  
applying for jobs  
“She’s more interested in the experience than the pay”  
the pay”

Motivation  
Wants so  
flexible working hours  
excellent  
four year college and pursue her degree in  
applied math

Colorwheel  
Flexible w  
Great college application  
enhancer  
Money



About 106K female students from the class of 2011 scored a 3 or higher on a STEM AP test

# Key Learnings

Channels

Better ways to reach target market  
Don't leave out the gift givers

MLM

Evangelists: highly motivated teenagers  
Effectively train and retain

Partners

Exposure through: Local partnerships  
Bloggers: Required \$\$ or followers

# Company Vision

This decade we will inspire and unleash the next generation of female creativity to accelerate the growth of females in the STEM field.

# Core Principles

Hands-on Learning  
STEM (Science, Tech, Engr, and Math)  
Geared towards girls

# Overall Project Take-aways

1. Advice  $\neq$  Wisdom

\*pick out what makes the most sense

2. Titles  $\neq$  Roles

\*fully democratic was too slow

3. Building a product  $\neq$  Building a company

\*investigate “product-market fit” as well

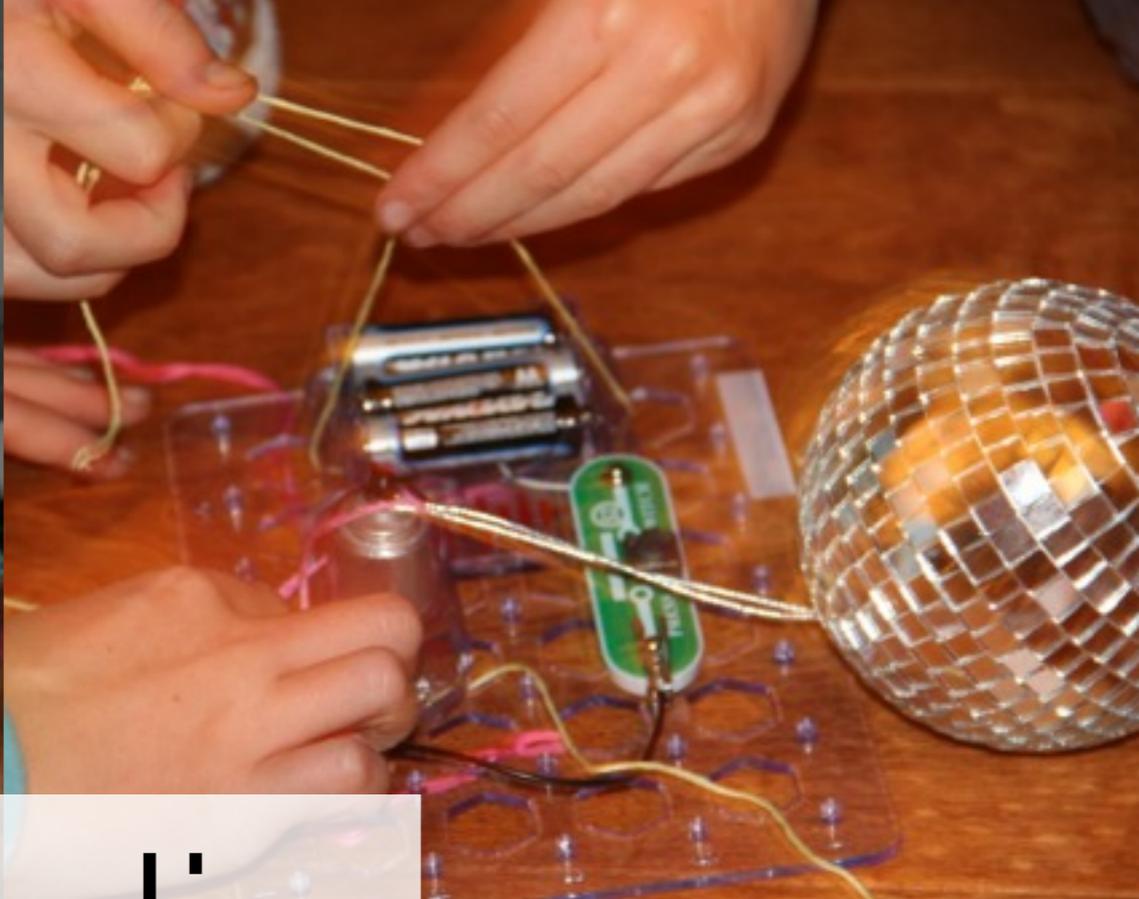
4. Successful entrepreneurs = Don't give up

\*Get used to picking yourself up

# Moving Forward



Officially starts next week!



# Appendix



# Business Model Canvas

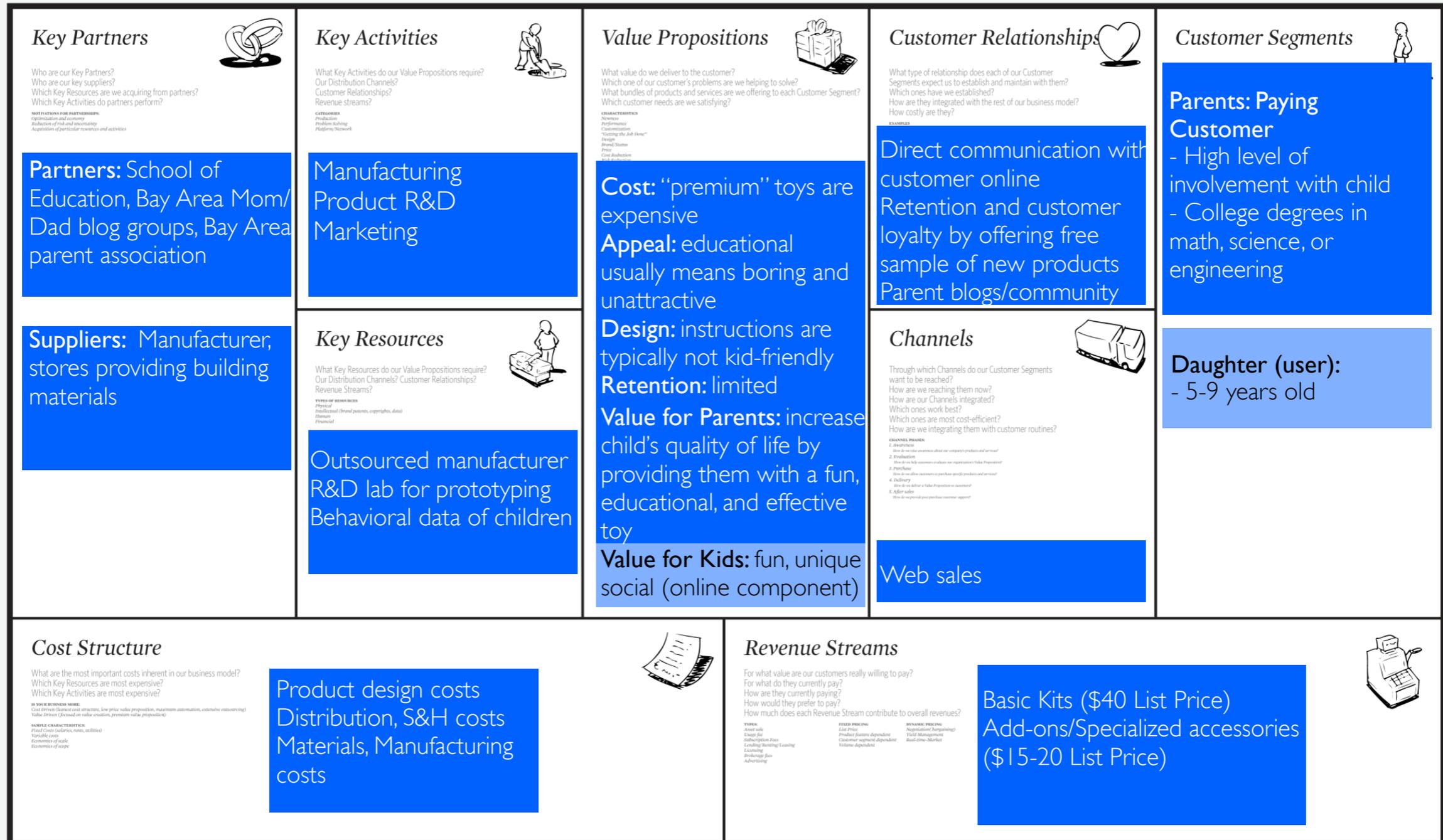
## The Business Model Canvas

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Designed by Alice Brooks, Daniela Buchman,  
Bettina Chen, Miguel Reyes

(week 1)

Iteration: <sup>no.</sup>



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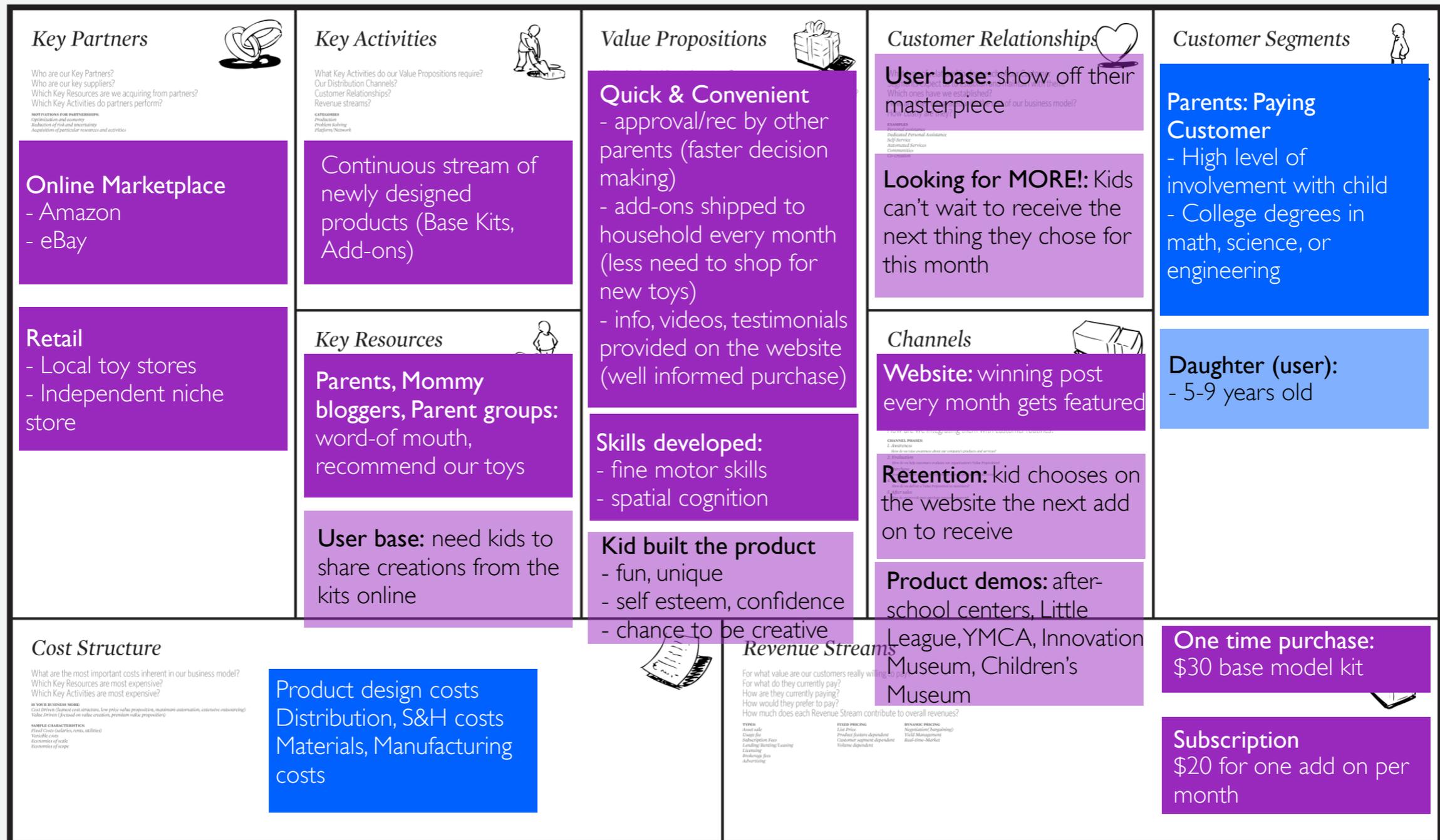
(week 2)

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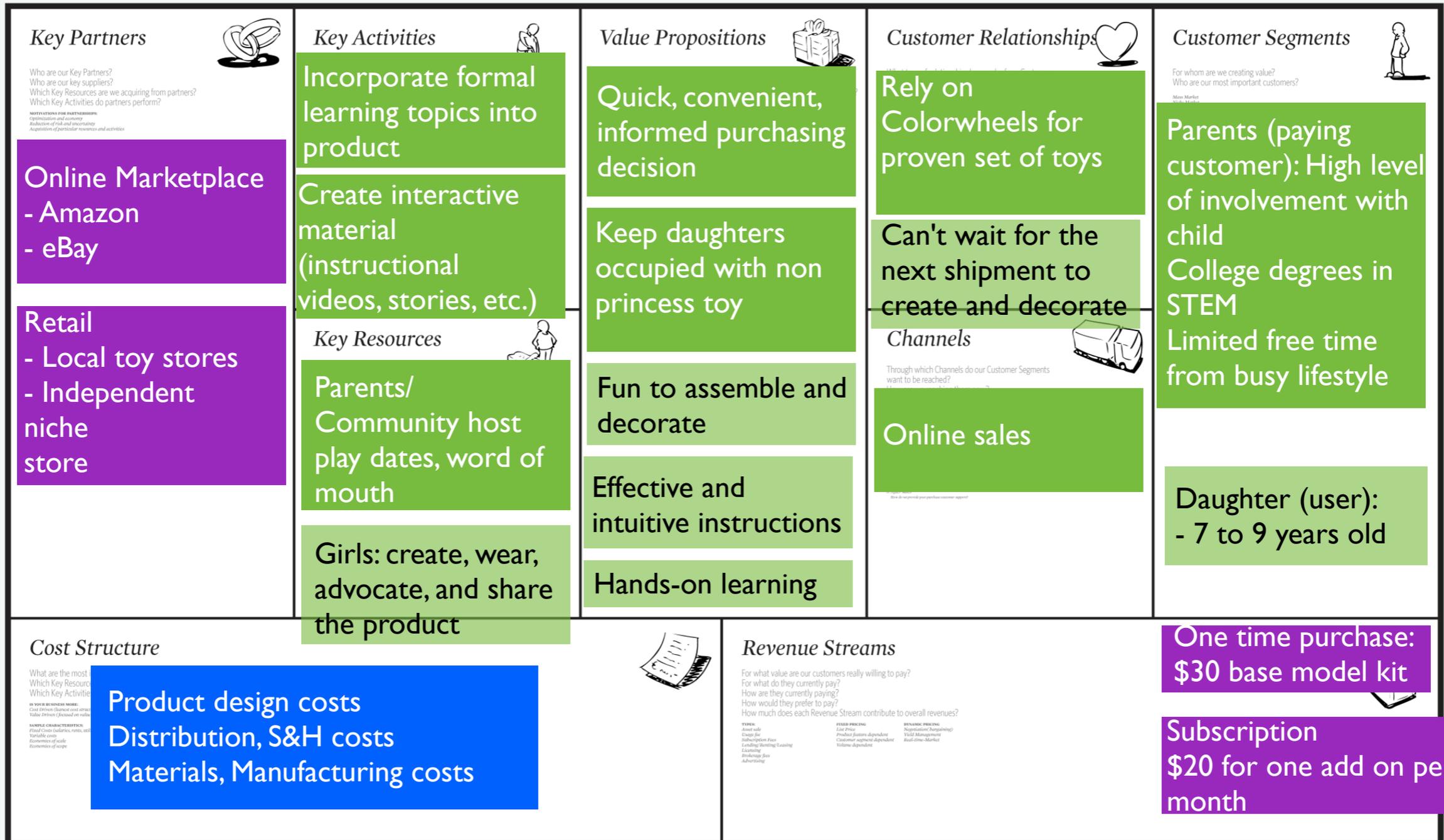
(week 3)

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Iteration: <sup>no.</sup>



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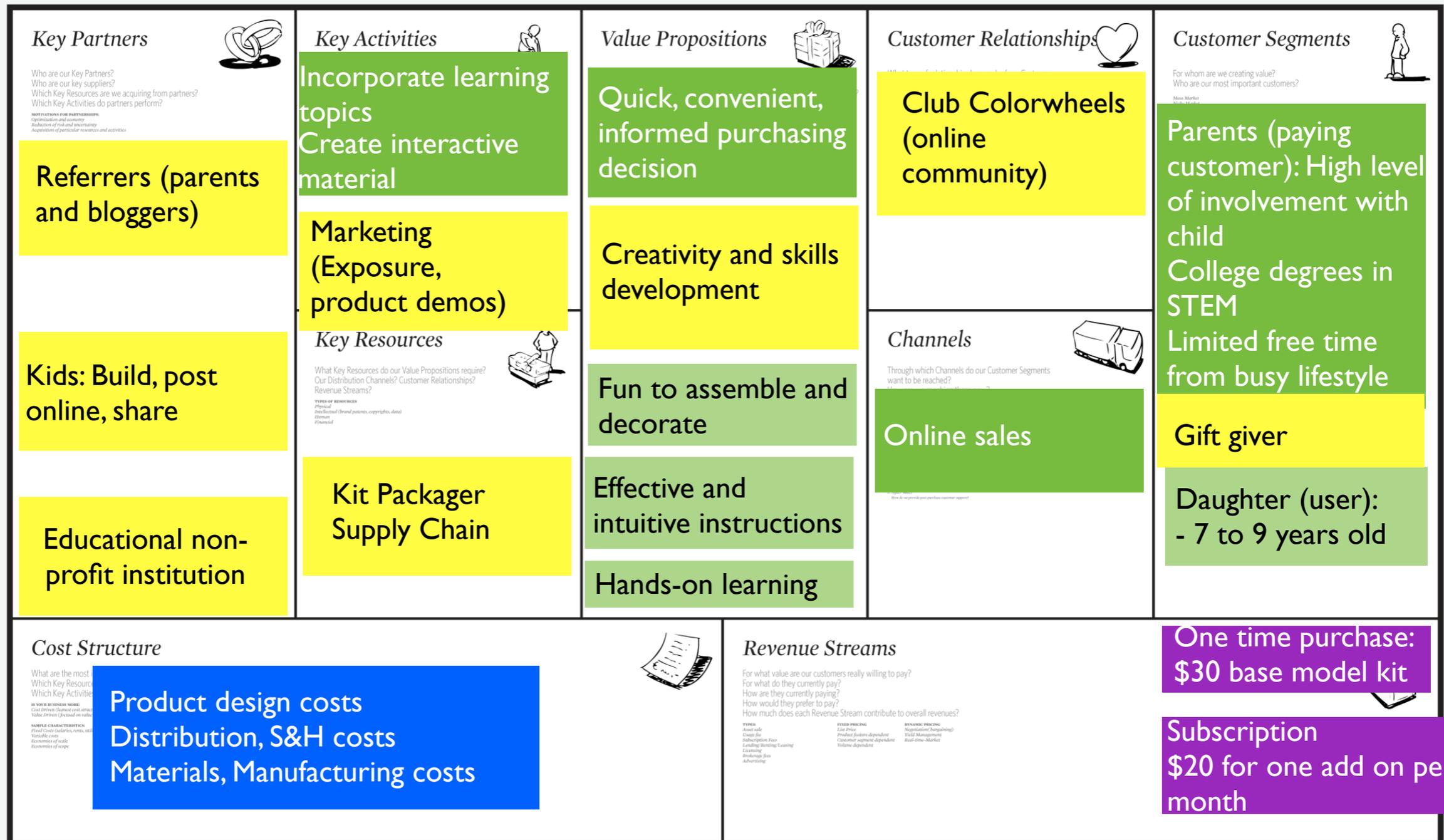
(week 4)

## The Business Model Canvas

Designed for:

Designed by:

Iteration: <sup>no.</sup>



same as last week

new this week

# Business Model Canvas

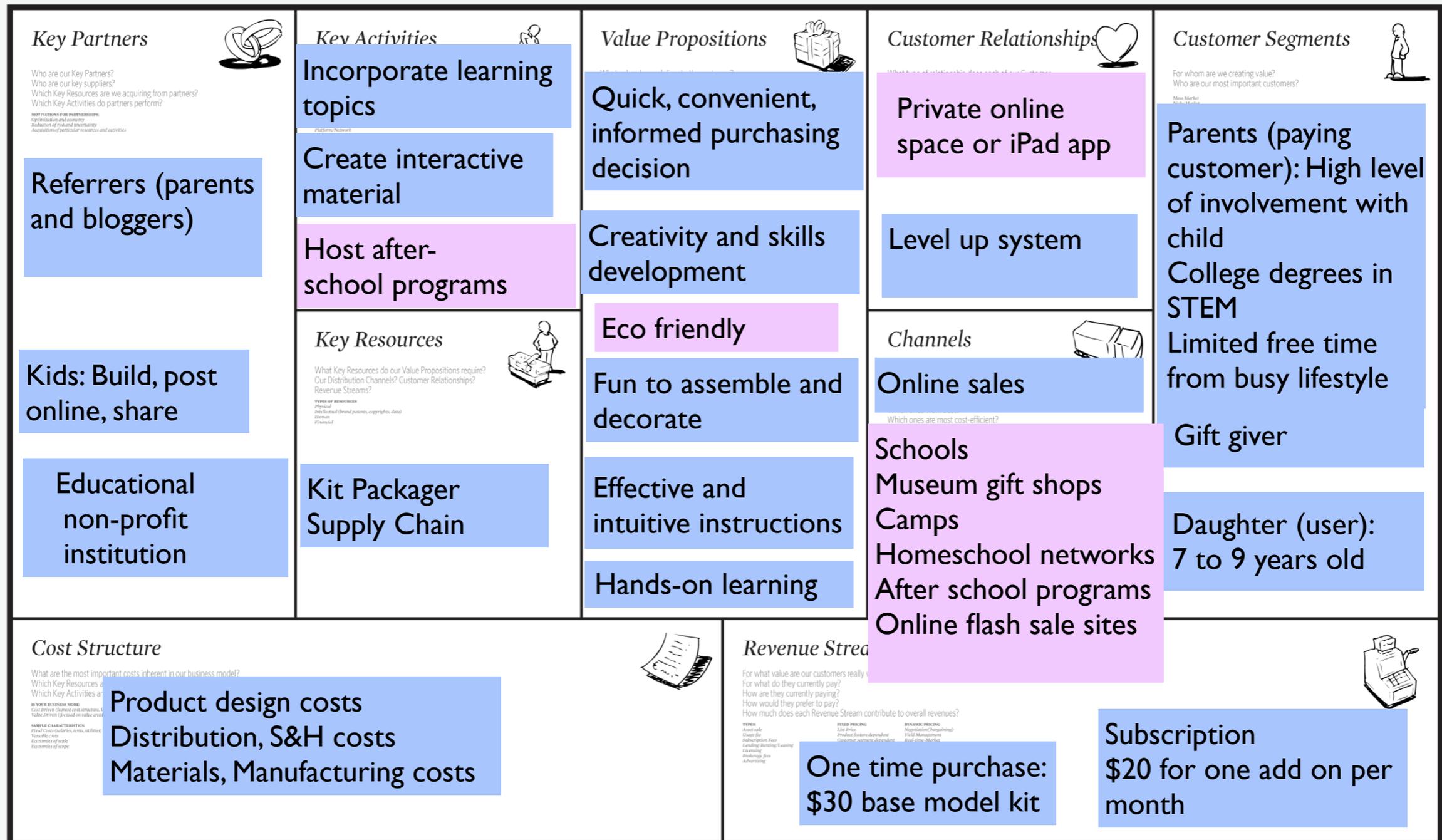
## The Business Model Canvas

Designed for: ColorWheels

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(week 5)

Iteration: 00



same as last week

new this week

# Business Model Canvas

Train young reps

(week 6)

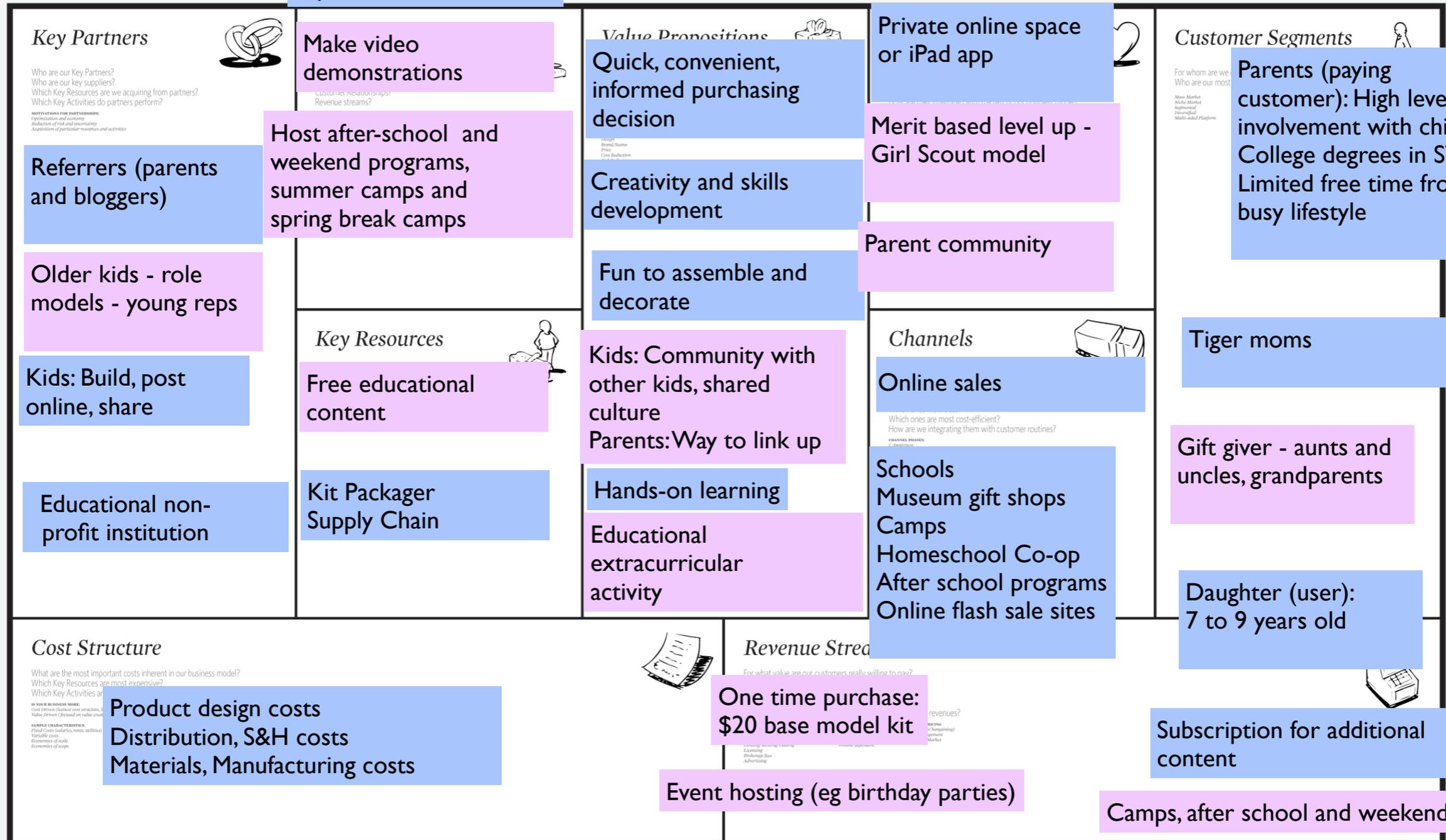
The Business Model

Incorporate learning topics

ColorWheels

Designed by Alice Brooks, Daniela Buchman, Bettina Chen, Miguel Reyes

Iteration: 00



# Business Model Canvas

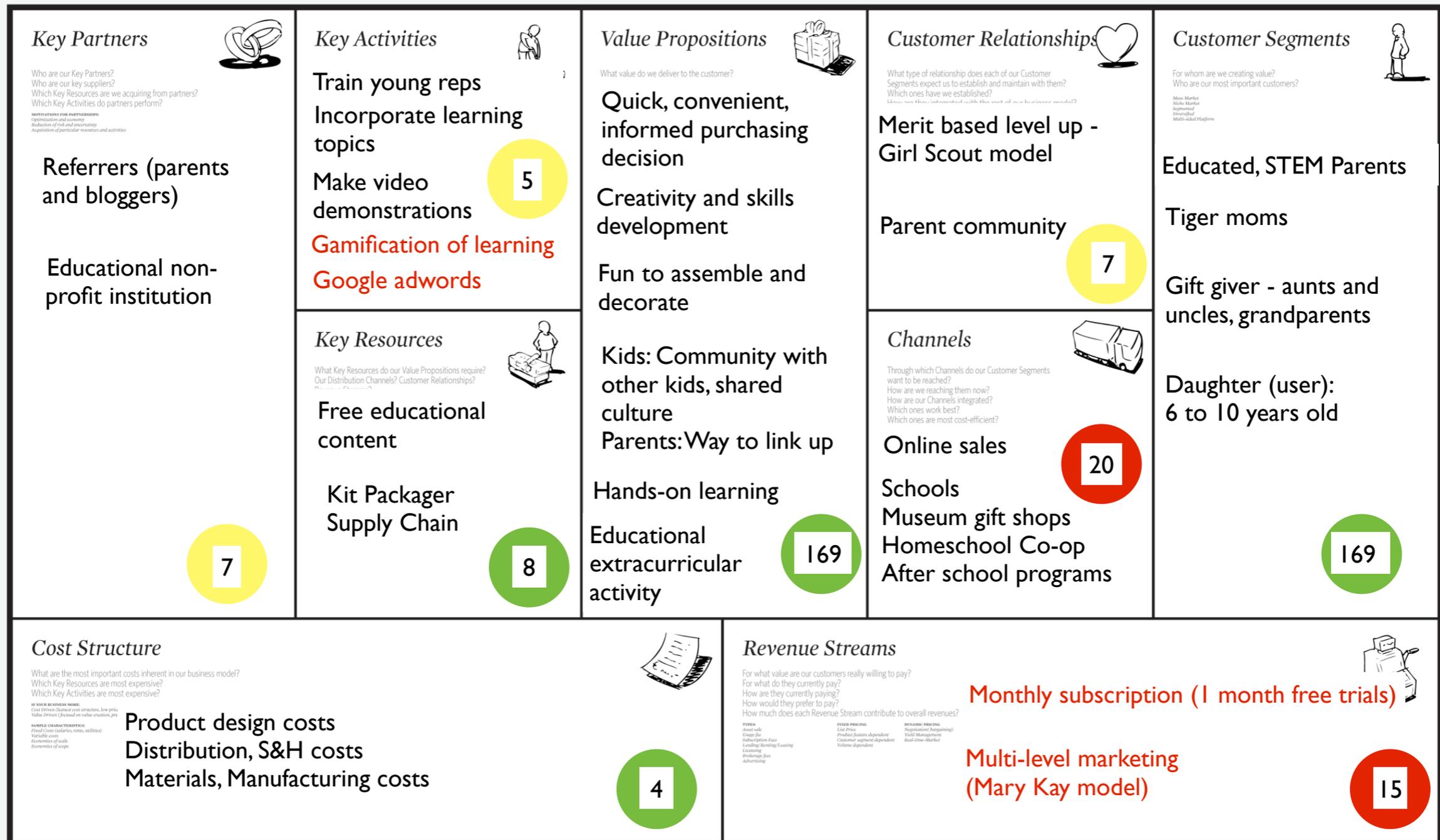
(week 7)

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Iteration: <sup>no</sup>



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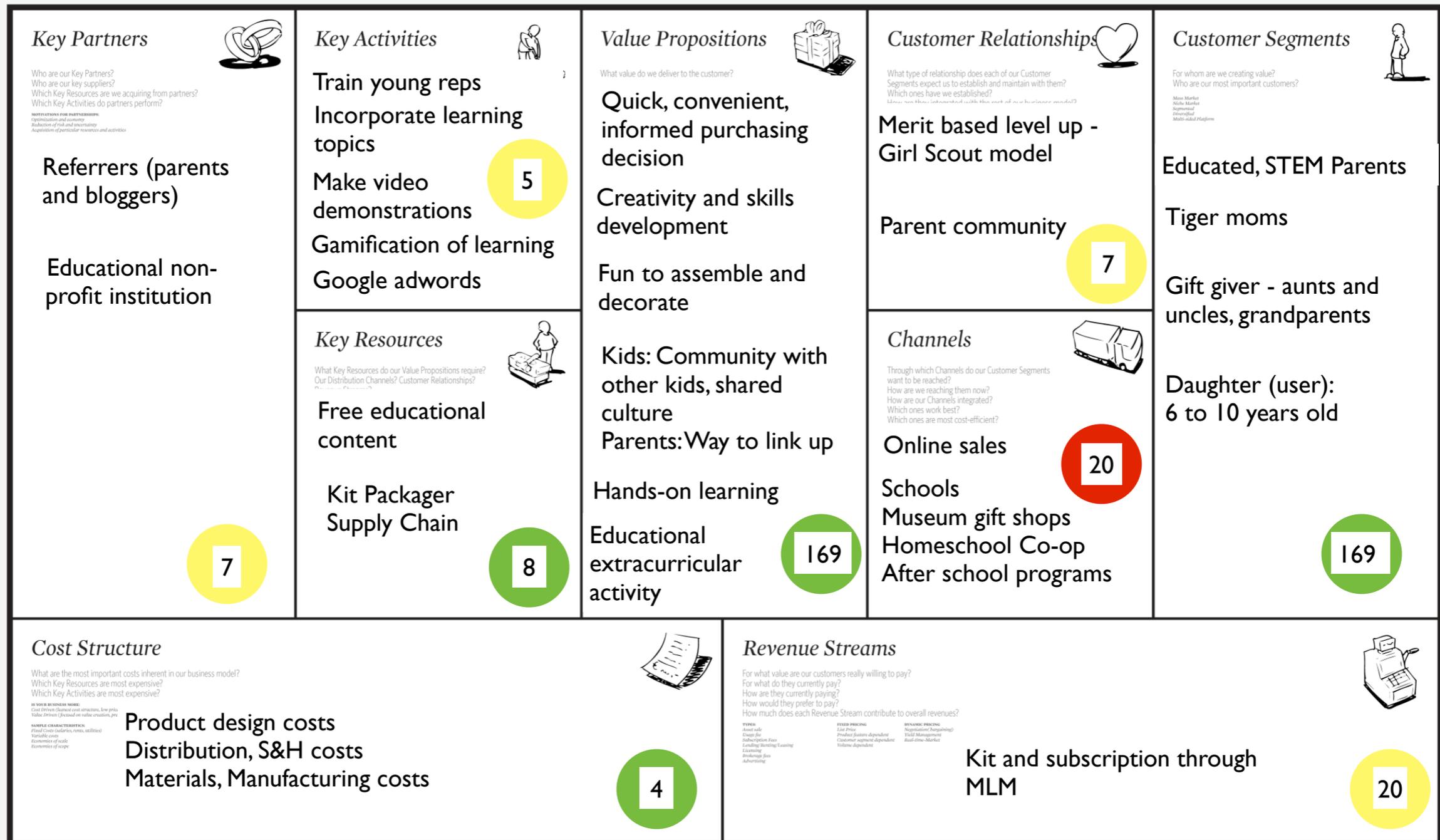
(week 8)

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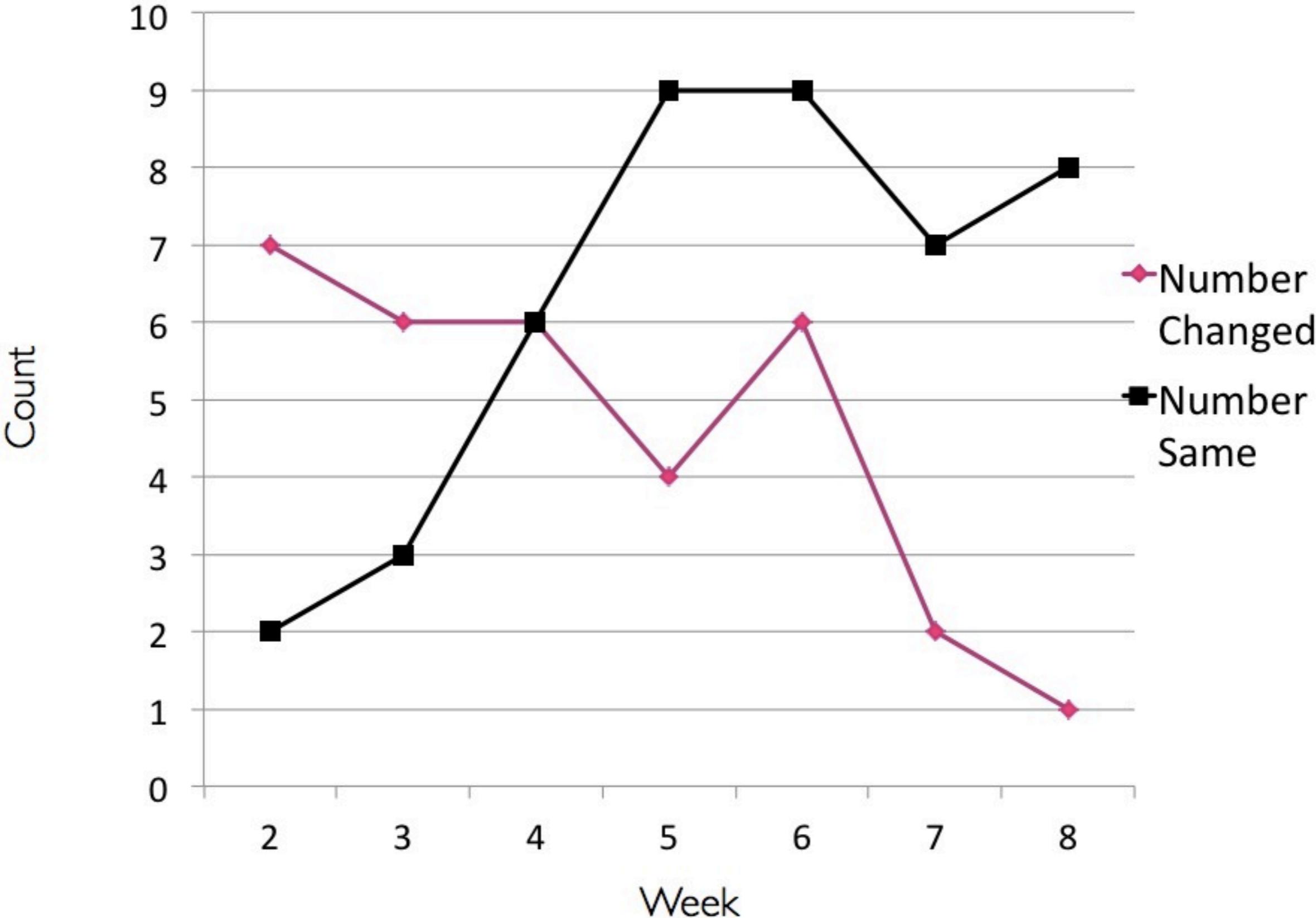


C change from previous week  
S same as previous week

# BMC changes chart

	2	3	4	5	6	7	8
KP	C	S	C	S	C/S	S	S
KA	C	C	C/S	C/S	C/S	C	S
KR	C	C	C	S	C/S	S	S
C\$	S	C	S	S	S	S	S
VP	C	C	C/S	C/S	C/S	S	S
CR	C	C	C	C/S	C/S	S	S
CH	C	C	S	C/S	S	S	S
CS	S	C	C/S	S	S	S	S
R\$	C	S	S	S	C/S	C	C
Totals	7C/2S	6C/3S	6C/6S	4C/9S	6C/9S	2C/7S	1C/8S

# BMC Weekly Changes Comparison



# Operations Timeline

PRODUCT

Now:  
1 product

2012:  
5 products

2013:  
30 other  
products

MULTI-LEVEL

MKTG

2012: 100  
active agents  
in CA

2013:  
expand to 1,000  
agents in 5 new states  
(NY, TX, IL, FL, WA)

2016: hit 5,000 agents

# Multi-Level Marketing in Action

## Stella and Dot

Sell the Story: work from home, flexible  
“Stella & Dot is so much more than a fashion brand we're a company inspired by, and created for, strong, savvy women from all walks of life.”



## Chloe and Isabel

Sellers age 19-27, sellers interact with customers in online community originally, founder worked for major jewelry companies. Tiffany's etc.



# Summary of results

Few responses from bloggers: 2 of the 3 responses requested money to advertise us

Sweepstakes upped our “Likes” on Facebook to 837 from 50

Email marketing campaign to 150 people yielded 1 purchase out of 29 clicks



About 106,000 female students from the class of 2011 scored a 3 or higher on a STEM AP test.

By participating as a colorwheels ambassador, high school girls will have more confidence in their STEM abilities.

Long term goal: start programs to help high school girls take more STEM AP classes and get involved in more STEM activities, ex: FIRST Robotics, Science Fairs

### Physics C: E&M

Gender .....



**23%** **77%**  
Female Male

### Statistics

Gender .....



**52%** **48%**  
Female Male