



**LEARN TO CODE  
AND  
CHANGE THE WORLD**

girls who  
**CODE**

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**KDLA: 10/29/18**

# AGENDA

- **Introductions & Welcome**
- **Girls Who Code Mission & History**
- **Clubs Program Overview**
- **Deep Dive**
  - ◆ Building Sisterhood
  - ◆ Women in Tech Spotlights
  - ◆ Coding Challenges
  - ◆ Girls Who Code Project Design
- **Design Thinking: Building Your Program**
- **Q&A**



# THE SHAKEDOWN (3-5)



**Type:** Active Energizer

**Description:** This activity is an opportunity to shake out jitters and help focus energy.

**Instructions:** Have girls stand in a circle. Then, tell them to follow your lead.

1. Hold out your right hand. Quickly shake it and count down from 6 on each shake. Repeat this with your left hand.
2. Hold out your right leg. Quickly shake it and count down from 6 on each shake. Repeat this with your left leg.
3. Continue to shake and count, decreasing by one count each round until you get down to one.

For a demonstration, check it out [here!](#)



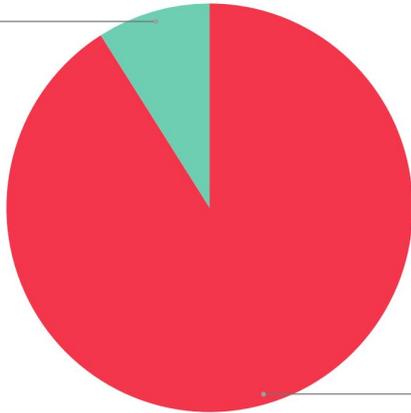
# Our Mission & History

★ **What percentage of open software and computing jobs are outside of Silicon Valley?**

★ **What percentage of computing jobs are in tech companies?**

# 91%

Silicon Valley  
9.0%



Remainder of the United States  
91.0%

# 67%

**Retail**

**Transportation**

**Agriculture**

**Entertainment**

**Government**

**Banking**

**Manufacturing**

**★ If you were in a room of 25 engineers, on average how many would be women?**

# THE PROBLEM

Right now, in a room of **25** software engineers, **only 3** are women.



- ★ **In 5 years, how many jobs will be open in computing related fields?**
- ★ **What percentage will be held by women?**

Five years from now...

**1.4 MILLION**

jobs will be open in the U.S. in  
computing-related fields

**29%** of those jobs will be filled by  
U.S. graduates

**3%** will be filled by women.





# OUR MISSION

Girls Who Code works to **inspire, educate, and equip girls** with the computing skills needed to pursue 21st century opportunities.

Our vision is to reach **gender parity** in computing and technology sectors.

# OUR EDUCATIONAL PHILOSOPHY

We believe that ALL girls are creative and able to make a positive impact on the world through computer science.



## **MORE THAN CODE**

Learning computational thinking and computer science cultivates girls' interests and prepares them for long-term success in computer science.



## **SISTERHOOD & COLLABORATION**

Positive and supportive environments both enable & sustain the learning process and longevity in computer science.



## **REAL-WORLD RELEVANCE & IMPACT**

Interest-based learning enables and empowers students to make an impact in their communities.

# WHO WE SERVE

Girls Who Code serves all girls, especially those who:

- Are underrepresented in computer science and technology fields in terms of race, creed or background
- Have little to no access or exposure to computer science education in school
- Are Free and Reduced Lunch eligible
- Identify as female regardless of gender assignment at birth or legal recognition





# Clubs Programs Overview

# GIRLS WHO CODE CLUBS

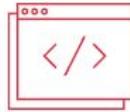
Clubs are FREE after-school programs for 3-12th grade girls to **join our sisterhood** of supportive peers and role models and **use computer science to change the world**.

Clubs are led by **Facilitators**, who can be teachers, librarians, parents, or volunteers from any background or field. **Many Facilitators have no computer science experience** and learn to code alongside their Club members.

We offer two Club programs for you to choose from:



**3rd-5th Grade Clubs**



**6th-12th Grade Clubs**



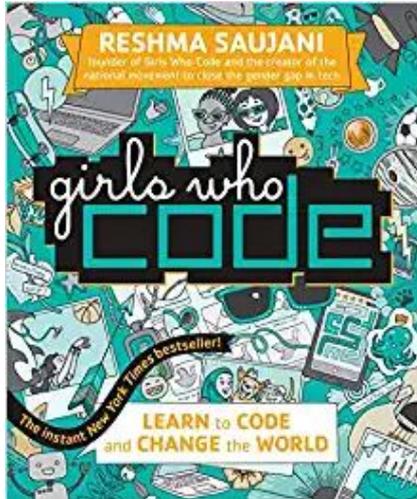
# CLUBS MODEL

The two main Club Programs are divided by age group:

## 3-5TH GRADE CLUBS

Girls Who Code 3rd-5th Grade Clubs are a community of girls who actively **design, code, read and explore together.**

- **10 meetings** per school year
- **~45-60 minutes** during lunch, enrichment blocks, or after school



## 6-12TH GRADE CLUBS

Our Clubs are free after-school programs for 6-12th grade girls to **use computer science to impact their community** and join our sisterhood of supportive peers and role models.

Club girls work in teams to design and build a **Girls Who Code Project** that solves real world problems they care about through code.

- **Minimum of 10 meetings to the full academic year**
- **~1-2 hours per week** after school.



# HOW WE SUPPORT CLUBS

Girls Who Code provides **FREE materials and curriculum** to the Club Facilitator in order to support you with:

- **CS Skills** Custom online training, online curriculum platform HQ, curriculum materials, and extended computer science resources
- **Community** Clubs Success Specialist, online community with thousands of other Girls Who Code Facilitators, and in-person and virtual events
- **Logistics Support** Recruitment Toolkits, Clubs Fund, and earlier access to resources

# GIRLS WHO CODE IMPACT

## 90,000 GIRLS

Served To Date!

Our **5,000 college-aged alumni** are choosing to major in CS, or related fields, at a rate **15 times the national average**.

Our outreach to historically underrepresented groups - particularly girls who are Black, Latinx, or from low-income households - is paying off too. Our Black and Latinx alumni are choosing to major in CS or related fields at a rate **16 times the national average**.

Learn more about our outcomes in our [2017 Annual Report](#).



# WHAT YOU NEED TO GET STARTED



It is easy as 1-2-3 to get started! Before you apply to start a 3-5th Grade or 6-12th Grade Club in your community, you'll need need:

1



**Space** in a non-profit location to host your club at least once a week

2

**Computers and internet connection**  
(6-12th Grade Clubs only)

OR

**Copies of our non-fiction books**  
(3-5th Grade Clubs only)

3

**A Facilitator** who is over 18+ and will be responsible for administration and leading the Club curriculum.

NO technical experience is needed!



# OUR COMMUNITY PARTNERS



Our organization relies on **collaboration with Community Partners** to drive our work and reach even more girls in your community. We seek to create partnerships with state and local leaders, school districts, community organizations, library networks and colleges/universities to **launch multiple Girls Who Code Clubs**.

Some of our other nearby Community Partners include, but are not limited to, the following:



Northeast Ohio  
Regional Library System



# OUR KDLA Partnership



**Join these libraries, who are already approved to launch Girls Who Code Clubs during the 2018-19 academic school year!**

**Clark County Public Library**

**Corbin Public Library (3-5)**

**Corbin Public Library (6-12)**

**Estill County Public Library**

**Fleming County Public Library**

**Henderson County Public Library**

**Jackson County Public Library (3-5)**

**Jackson County Public Library (6-12)**

**Jessamine County Public Library**

**John L. Street Library: Trigg Coding Girls Jr.**

**John L. Street Library: Trigg Coding Girls Sr.**

**Johnson County Public Library**

**Lincoln County Public Library (3-5)**

**Lincoln County Public Library (6-12)**

**Logan County Public Library**

**Madison County Public Library (3-5)**

**Madison County Public Library (6-12)**

**Marion County Public Library: Coderz By Nature**

**Marion County Public Library: Geek gURLs Byte**

**Pike County Public Library District: Elkhorn City**

**Public Library**

**Trimble County Public Library: TCPL Applets**

**Trimble County Public Library: TCPL Holler Hackers**



# PARTNERSHIP BENEFITS

- **A designated Clubs Success Specialist** for all affiliated Clubs
- **Access to the Community Partner Fund:** grants to support Clubs across a partnership
- **Priority access to engagement opportunities** like field trips
- **A designated Community Partner Manager** to provide regular communication, Club updates, and outreach support



# Program Deep Dive

# GIRLS WHO CODE SAMPLE CURRICULUM

What happens during a Girls Who Code Club session? Here's a quick snapshot!

## 6th-12th Grade Clubs

<b>10 min</b>	<b>Build Sisterhood</b>
<b>10 min</b>	<b>Women in Tech Spotlight</b>
<b>60+ min</b>	<b>Self-Guided Coding Tutorials: Learn, Plan, Build, Celebrate</b>
<b>10 min</b>	<b>Girls Who Code Standups</b>

## 3rd-5th Grade Clubs

<b>10 min</b>	<b>Build Sisterhood</b>
<b>15+ min</b>	<b>Read &amp; Reflect</b>
<b>20+ min</b>	<b>GWC Challenge</b>
<b>5 min</b>	<b>Close-Out</b>

# Building Sisterhood



# BLIND DRAWING (6-12)

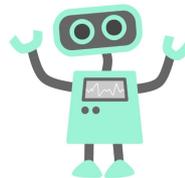


**Type:** Communication Builder

**Description:** This activity is an opportunity for girls to collaborate and build communication skills

**Instructions:** Have girls pair up and designate one as the drawer and one as the communicator.

1. Find a partner, and sit back to back.
2. One person will be given a picture and will give instructions to their partner to help their partner draw the picture.
  - a. Don't give away what your picture is! For example, if your picture is a puppy chasing a ball, don't say "draw a puppy chasing a ball".
3. The other person will have up to five minutes to try to draw the image using only the directions.
4. Compare the drawing with the original picture.
5. Switch roles and repeat!



# MONSTER DRAWINGS (6-12)



**Type:** Team Building

**Description:** This activity is an opportunity to shake out jitters and help focus energy.

**Instructions:** Have girls get in groups of 3. Each girl will get a piece of paper and fold it into three horizontal sections. Then follow my instructions to draw your monsters!

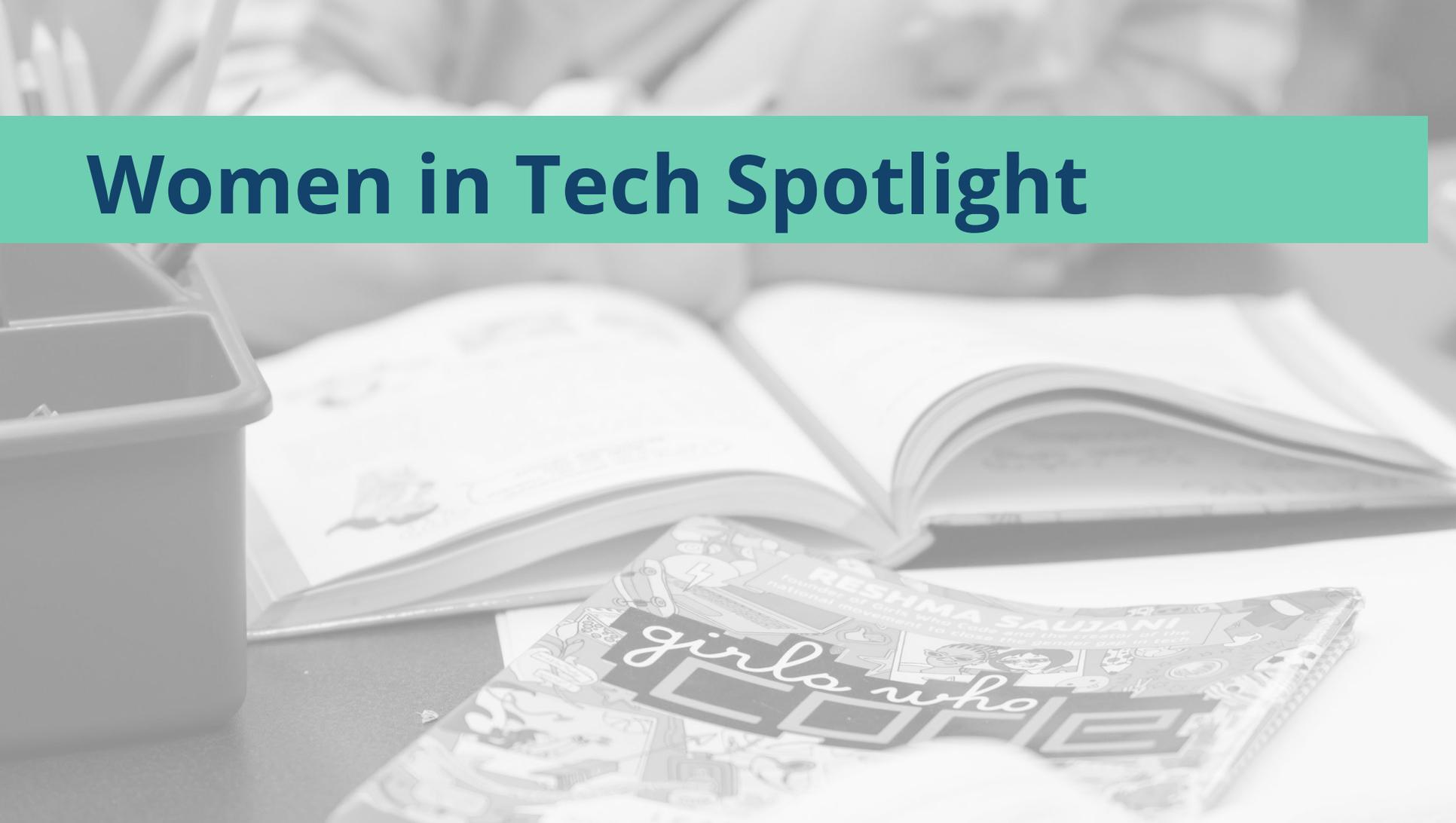
**Debrief:**

**Step 1: Turn and talk with a partner about the following questions:**

- How does combining different ideas for the monsters make this game more fun or interesting? How does it make it more challenging?
- How does this relate to the work your team is doing with your Girls Who Code project?

**Step 2: Share out your discussion with the class!**

# Women in Tech Spotlight



# AYANNA HOWARD



Role models come in all shapes and sizes. In fact, Dr. Ayanna Howard's first role model wasn't even human! **Bionic Woman**, a robotic superheroine, inspired Dr. Howard's passion for building robots and engineering at an early age.

- **Professor of bioengineering**
- **Co-founder and Chief Technology Officer** of the educational robotics company Zyrobotics
- **Developed robots** that are learning to inhabit Mars with NASA

# AYANNA HOWARD



# AYANNA HOWARD



**BRAVERY:** Dr. Howard showed bravery when she spoke up in an uncomfortable situation at work. What would you say to yourself in that moment?



**RESILIENCE:** Imagine you are working with Dr. Howard on one of her robots. What might go wrong? How might you stay positive and work through the problem?



**CREATIVITY:** Which industries use robots today? What are some problems that robots can be used to solve?



**PURPOSE:** What inspires Dr. Howard to make innovations in robotics? Who or what inspires you?



# Coding Concepts



# UNPLUGGED (3-5): THE PEANUT BUTTER & JELLY EFFECT



**Key Vocabulary: Computational thinking:** A way of thinking that helps us work logically through big problems by breaking them down into smaller pieces, looking for patterns, and then using the information to come up with a step-by-step solution.

**Materials:** Paper or index cards, pencils, and any materials you need to act out your task.

**Prompt:** As a Club, agree on an everyday task, like making a sandwich. Try to write instructions that a computer can follow. Then, swap your instructions with a partner, who will pretend to be a robot!

See if they're able to follow your instructions.



# Girls Who Code Projects (6-12)

# 6-12TH GRADE GIRLS WHO CODE PROJECTS



## WATER WELL

"Track and reduce your water usage"

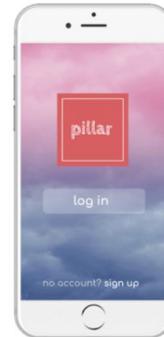


For more Girls Who Code Projects, check out our online [Project Gallery!](#)



## PILLAR

"100% anonymous community to share problems and get support and advice"



what is pillar?

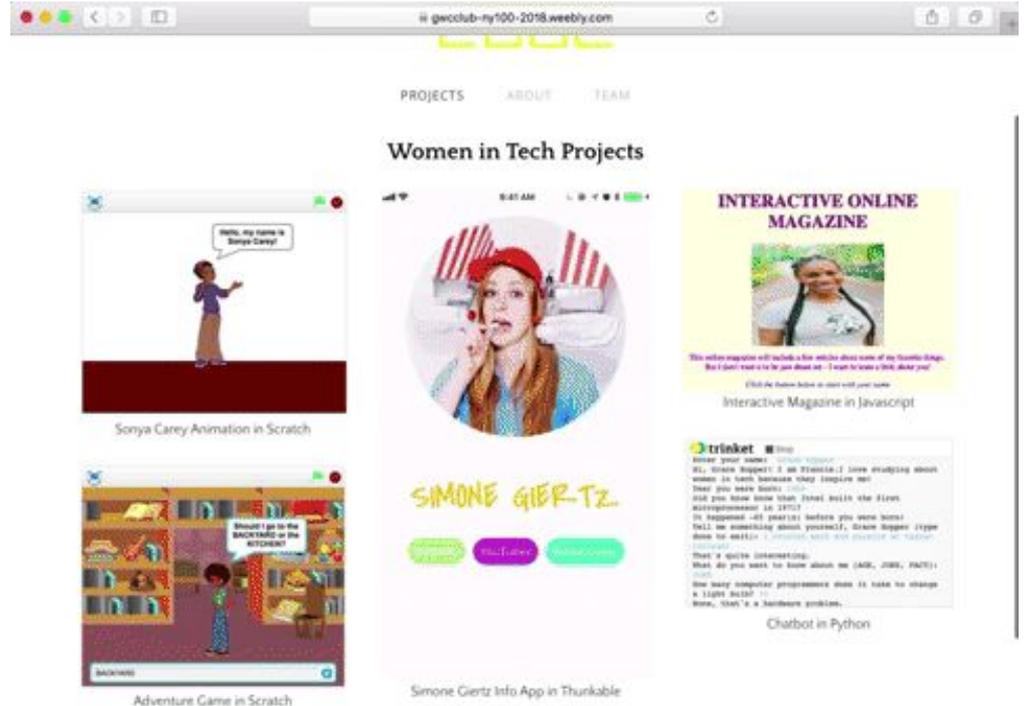
- 100% anonymous!
- Post your problems, big and small
- Ask questions and be heard
- Get personalized advice from real people
- Pay it forward by helping others

# GIRLS WHO CODE PROJECT WEBSITES

Your GWC Project is a website where girls can showcase what they've been working on. As girls complete different tutorials, they can add the projects they've built to their Club's GWC Project site.

Each Club's GWC Project site will be built and hosted using **Weebly**, a drag-and-drop website builder.

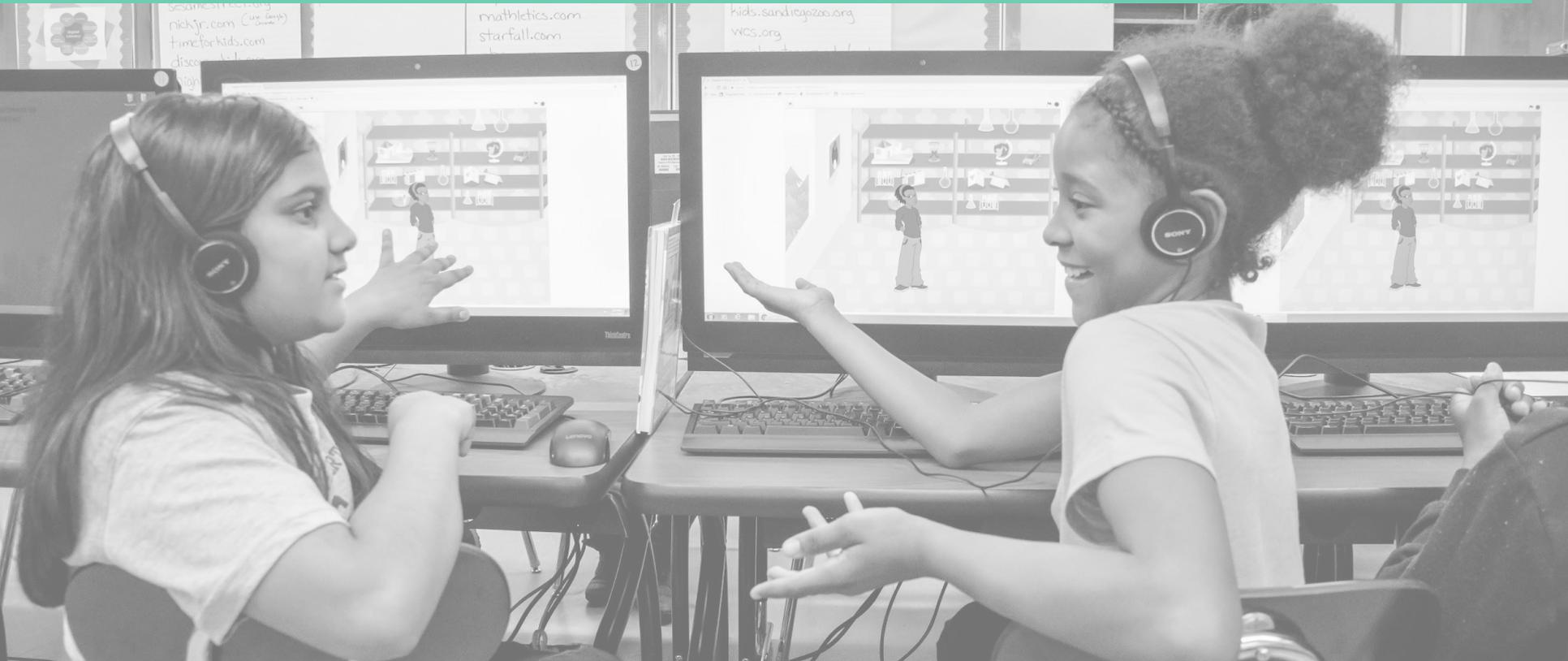
Here is an **example** of what their website could look like!



# THE TRUTH BEHIND US: A GWC PROJECT



# Stand Ups (6-12)





So we can help others brainstorm ideas when trying to decide what to design.

We'll know we have it when someone has completed our survey and come up with an idea!

What are today's coding challenges?

UNPLUGGED

In a small group, use the questions on pg 61 to brainstorm ideas for something you might want to create. Together, then, choose an

ON-LINE

Use the questions on pgs. 64-67 to create an interactive quiz that other people can use as a tool when trying to decide what to design.

What are some questions you can ask you dial in on a design?

Dial in on a design

How long will this take?

Does it solve my problem?

Environment & Water, cool most of day

How to take of

any quest.

# Design Thinking: Building Your Program

# DESIGN THINKING

## Reflection:

What does my community STEM landscape look like?  
What resources can I leverage?

## Reframe the problem:

What do I hope to accomplish?  
What are my goals for a Girls Who Code Club?

## Design the solution:

What can my Girls Who Code Club look like in my community to complement my work?

## Action Steps:

What 3 steps can I take once I get back to my community?

## Barriers:

What are some barriers and how can I address them?



# Questions?





# THANK YOU!

Want to connect? Email me at [hannah.simongoldman@girlswhocode.com](mailto:hannah.simongoldman@girlswhocode.com)!

# APPENDIX: RESOURCES

**Clubs Overview:** Explains requirements to start a Club and how Girls Who Code supports you

**Clubs Curriculum Overview:** Shows what girls will learn in Clubs

**Clubs Application:** Apply to start your own Club!

**Community Partner Outreach Toolkit:** Outreach materials/template language

**Clubs Community Partnership Overview:** Information about Community Partnerships