WisCode Literati

DREAM BIG. LEARN CODE.

Wild Wisconsin winter Web Conference
January 2017

Who We Are

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Madison Public Library

Josh Cowles
Fond du Lac Public Library

TODAY...

WHY CODING?

WHO?

WHAT?

FUTURE...

HOW?

So, Why coding?

Coding Is NOT:

- A lone geek in a basement pounding on a keyboard
- Too complicated for everyday people to learn
- Too complicated for everyday librarians/teachers to TEACH
- Boring
- Mechanical
- Magical (though it can seem that way)

Coding is:

- Self-expression
- Problem-solving
- Everywhere
- Imaginative
- Fun
- Power

The Changing Landscape

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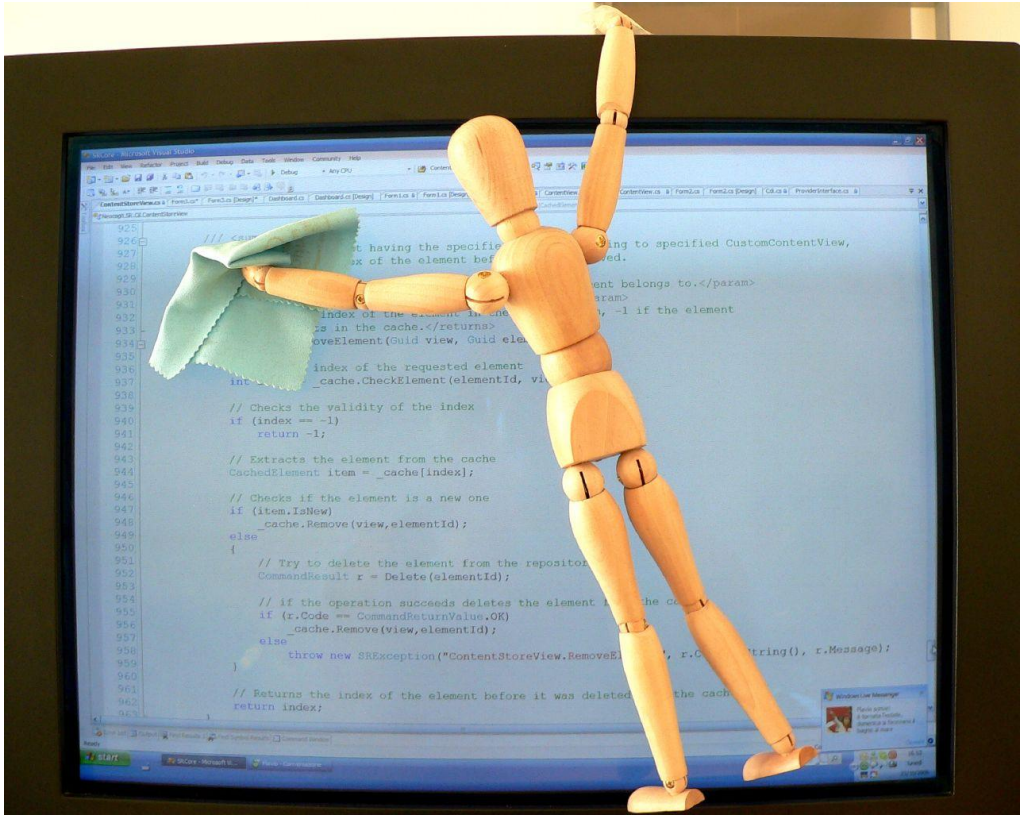
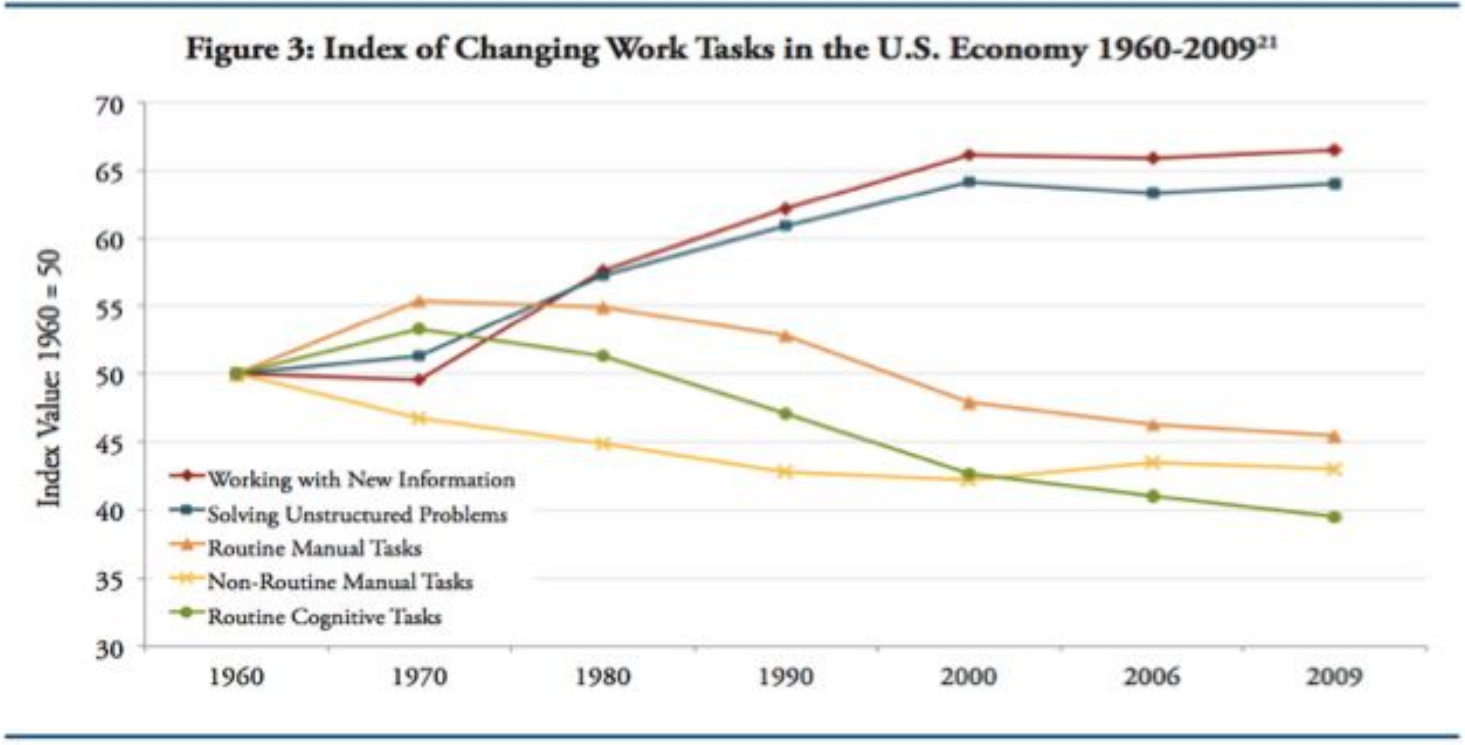
Literacy and Citizenship



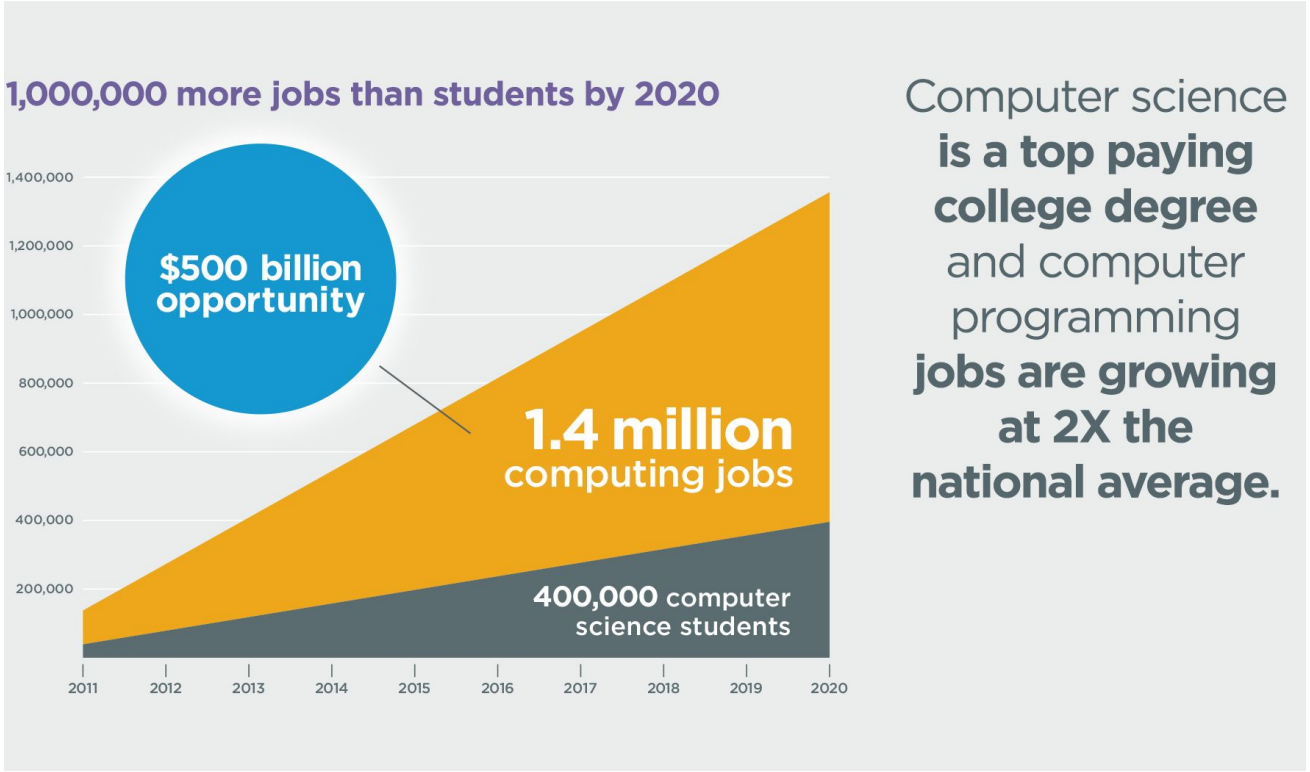
Computational Thinking

Coding & Jobs



Source: Dancing with Robots - Human Skills for Computerized Work, Levy and Murnane, 2013

Coding & Jobs: Where are the future employees?



(code.org)

Why Libraries?

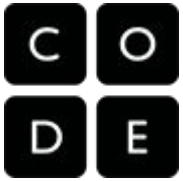
Coding & School Curricula

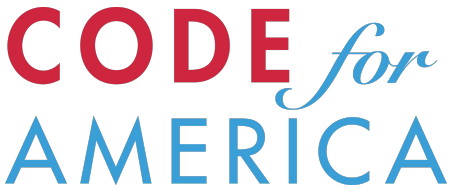
(code.org)

Coding & Life-Long Learners

- Limited opportunities
- Costly
- Career change oriented

The Proliferation of Coding Initiatives





Coding IRL

- What we did
- What other people did
- How to advocate
- What are you doing?
- DPI partnership

WISCONSIN DEPARTMENT OF PUBLIC INSTRUCTION + WisCode Literati =

KITS!

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HOME WHY? KITS + RESOURCES STORIES CONTACT

Search

Choose a category below, search for a specific kit, or browse all kits.

NO TECH

These kits + resources require zero technology and no coding experience.

LOW TECH

These kits + resources require minimal common technology (such as computers, tablets, smart phones) and internet skills. Includes basic coding skills.

HIGH TECH

These kits + resources require intermediate technology skills and are easier with more coding experience.

HIGH TECH - EXAMPLE 1

Mindstorm Challenges

This kit builds on our Lego Mindstorm kit that introduces using Lego Mindstorms.

Why?

The LEGO Mindstorm software is an introduction to programming and creating code. The programming e
Users create sequences and t
programs.

Who?

For ages 8+. Users will create th
them to the robot.

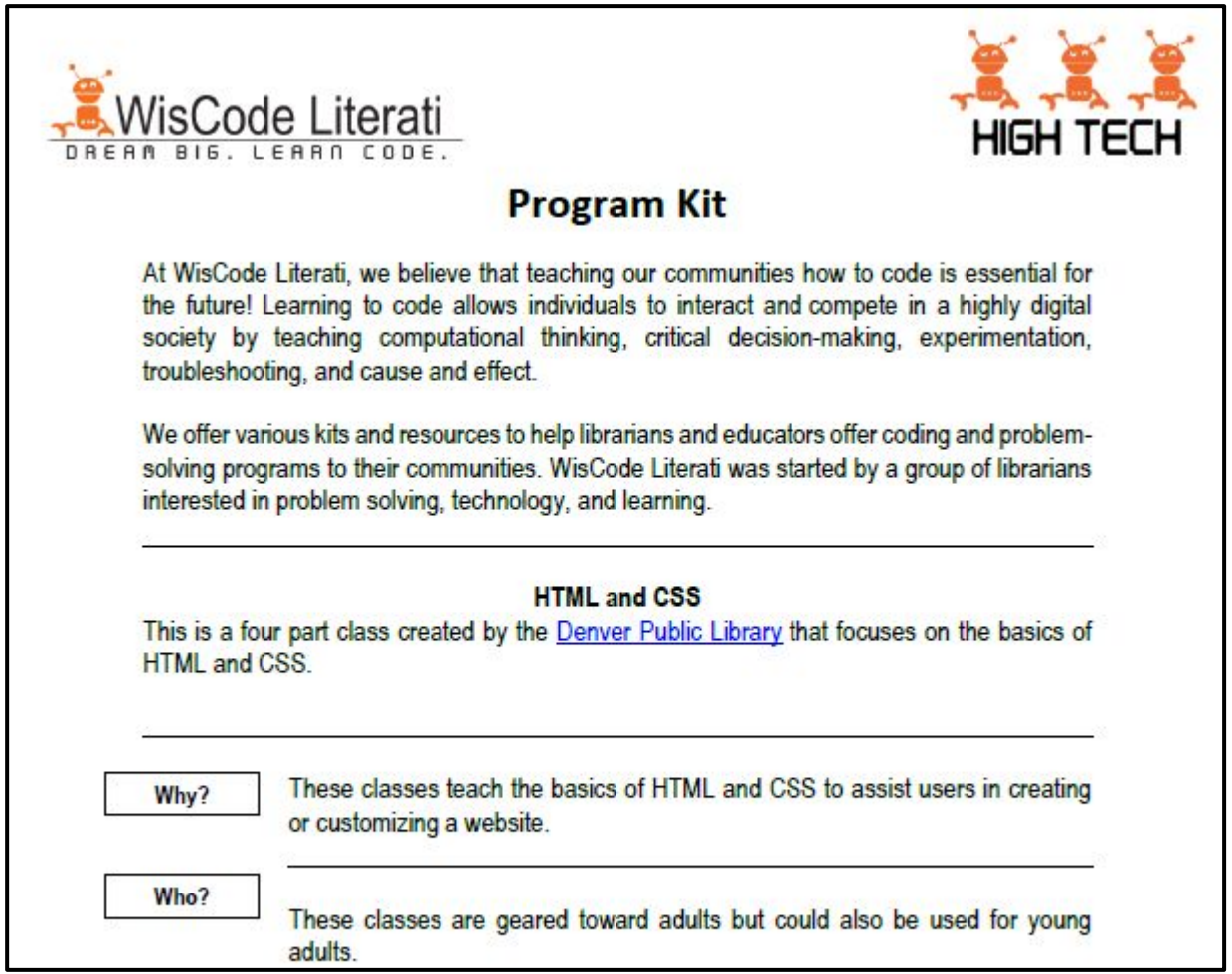
What?

- One Lego Mindstorm kit
the brick prebuilt in the m
- One laptop with EV3 soft
- Masking tape
- Rulers and yardsticks
- Protractors
- Objects to create obstac

How?

To prepare, mark shapes and l
a circle, a zig zag, and any oth

HIGH TECH - EXAMPLE 2



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HIGH TECH

Program Kit

At WisCode Literati, we believe that teaching our communities how to code is essential for the future! Learning to code allows individuals to interact and compete in a highly digital society by teaching computational thinking, critical decision-making, experimentation, troubleshooting, and cause and effect.

We offer various kits and resources to help librarians and educators offer coding and problem-solving programs to their communities. WisCode Literati was started by a group of librarians interested in problem solving, technology, and learning.

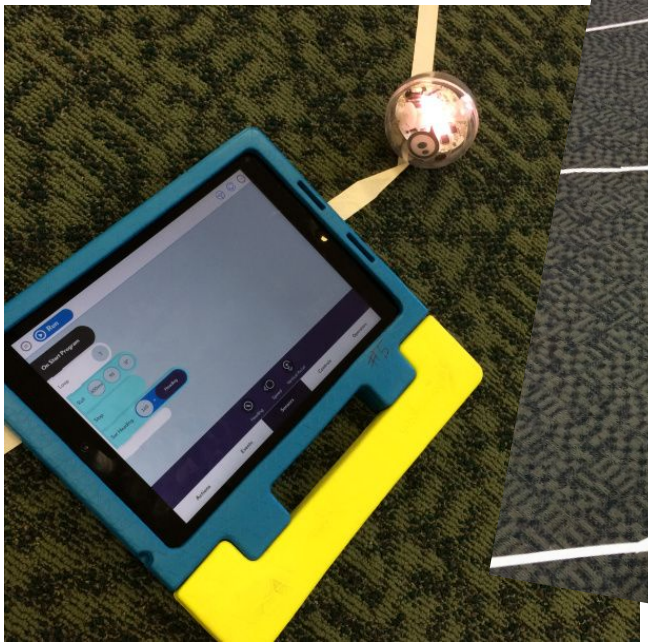
HTML and CSS

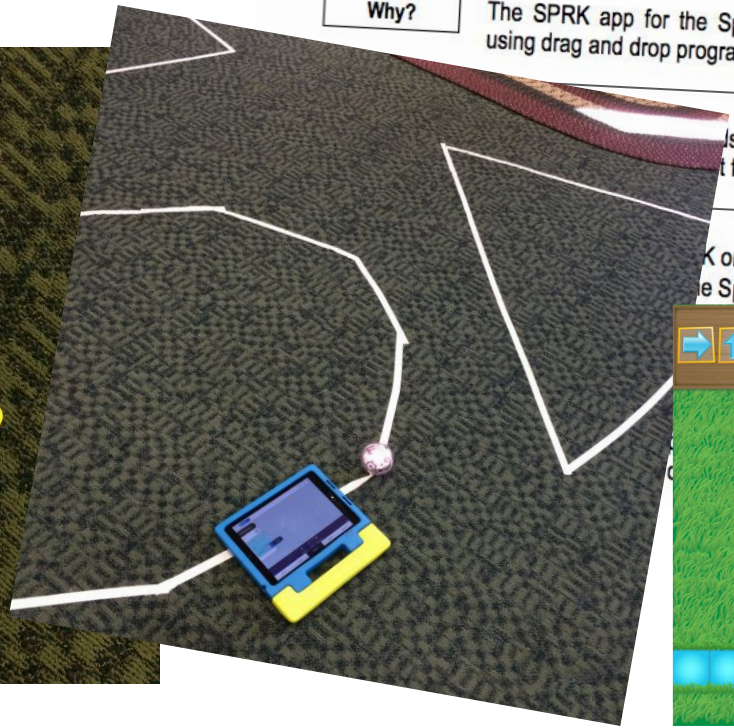
This is a four part class created by the Denver Public Library that focuses on the basics of HTML and CSS.

Why? These classes teach the basics of HTML and CSS to assist users in creating or customizing a website.

Who? These classes are geared toward adults but could also be used for young adults.

LOW TECH





Basic Sphero

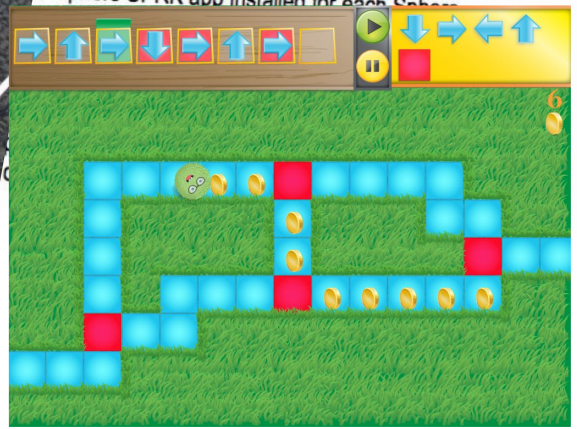
This kit is an introduction to building block programming using a Sphero robot and the Sphero SPRK app for iOS or Android.

Why? The SPRK app for the Sphero lets users program the robot's movements using drag and drop programming and learn about basic coding.

…ls age 10 and older. A smaller group is best, with …t for each 2-3 kids.

…K or Sphero 2.0 for each 2-3 kids

…e Sphero SPRK app installed for each Sphero



NO TECH

Frogs & Cupcakes

This is a board game, based off the board game Robot Turtles, that teaches kids how to code! Kids will program their frog to move on a grid from a starting square to a cupcake using simple commands: move forward, turn left, turn right. Add more obstacles as you move forward to introduce more complex co

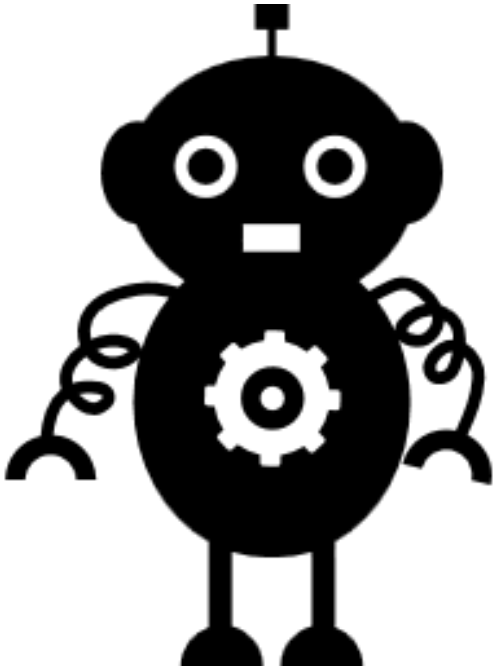
Why? This game introduces basic programming with building bl that also does this, so you c Turtles to families with small

Who? This program can be done w or in teams of 2-4. Upper e younger kids can also play w

What?

- Small plastic frogs, distinguishable left ar

HUMAN ROBOT



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Program a Friend

In this program students will be writing "code" to command the actions of another student. Begin the program with a group demonstration and then break them out into groups of two or more.

Why? This kit deals with the underlying concepts of coding. It teaches the importance of sequence and detailed information.

Who? This program can be done with any age but is geared toward students, middle school age students. This could be done with a small group of 2 to 4 or a large group. After the beginning group demonstration, the group can be broken down into smaller groups of 2 or more.

What? Various supplies. See description below.

How? Before beginning with the small groups, doing a large group sequence activity to demonstrate is important. Have the group of students tell you how to do something. A fun option is make a peanut butter (or some non-allergy food) and jelly sandwich. Have the bread, PB, Jelly, knife, etc. at hand. Tell the students that they need to tell you how to make the sandwich. Do exactly as

Dream Big. Learn Code.

How to advocate for coding... to your administration

- By year 2020 there will be 1.4 million jobs in programming and a lack of qualified job applicants.
- Formal coding programs can cost $$$$$.
- Library offers access to those with no tech
- Teaches problem solving, project management, computational thinking = improved employability

How to advocate for coding... to parents

- Not all schools teach coding.
- By year 2020 there will be 1.4 million jobs in programming and a lack of qualified job applicants.
- Coding teaches problem solving, project management, computational thinking.
- Coding is a skill that can be learned at home! Fun board games and apps that you can play with your children teach important code literacy skills.

How to advocate for coding....to teachers

- By year 2020 there will be 1.4 million jobs in programming and a lack of qualified job applicants.
- Teaching code literacy helps kids learn analytical thinking and problem solving that they can use in other subjects
- Library offers support to help you bring coding games and activities into your classroom.

How to advocate for coding... to kids and teens

- This game (app, program) lets you show off your thinking skills to solve puzzles and/or make something.
- Coding teaches the skills needed to build apps and computer games.
- Coding lets you solve problems and try to outsmart your friends!

How to advocate for coding... to potential partners

- The library will highlight the partnership and your business will be promoted to the community.
- You will have access to future workforce and can help mold and mentor potential employees.

How to advocate for coding... to the media

- By year 2020 there will be 1.4 million jobs in programming and a lack of qualified job applicants.
- Coding teaches problem solving, project management, computational thinking.
- Formal coding programs can cost $$$$$.

Coding in Your Communities

Community Partnerships

What are your local schools doing?

Do you have a community makerspace?

Milwaukee Makerspace

Other local organizations, clubs, business...

BOYS & GIRLS CLUBS

GIRL SCOUTS

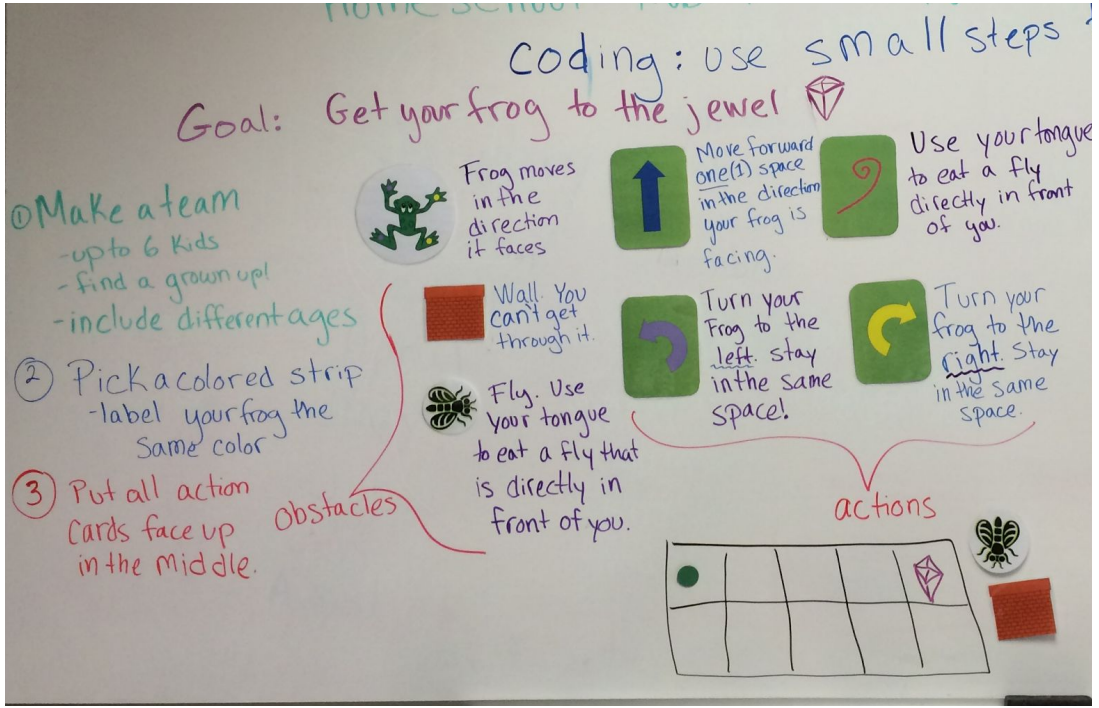
BOY SCOUTS OF AMERICA

Hour of CODE

Coding in Your Communities

Monroe Public Library

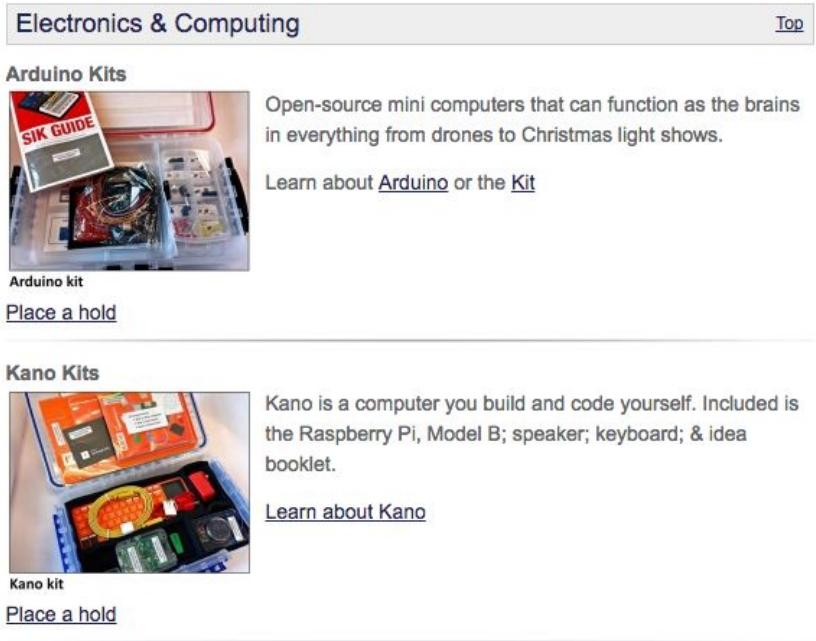
- Board game coding
- Playing with robots
- Elementary and middle school age



Coding in Your Communities

Fond du Lac Public Library

- Equipment Kits
- Arduino/Robotics Intro
- “Getting Started” Series
- Expansion to Teacher Kits



Coding in Your Communities

Milton School District & Milton Public Library

- Summer Club Partnership
- Elementary age
- Scratch - An Intro to Computer Science

Questions?

Thank you!

wiscode.org

@wiscodeliterati

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