



# Arizona Computer Science for All

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# What's the plan?

- Who are we?
- Icebreaker
- Program introduction
- What CS is/isn't
- Time to explore
- Q&A



# Who are we?

- Kalman Mannis
  - Project Director for NSF funded: RAIN & AZ CS4All
  - Previous MS & HS Science Teacher, IT Director, and STEM Ed Specialist.
- Jared O'Leary
  - Worked with all grades K-Graduate students
  - Director of Education and Research at BootUp
  - [Link to my CV](#)



# How to reach the resources

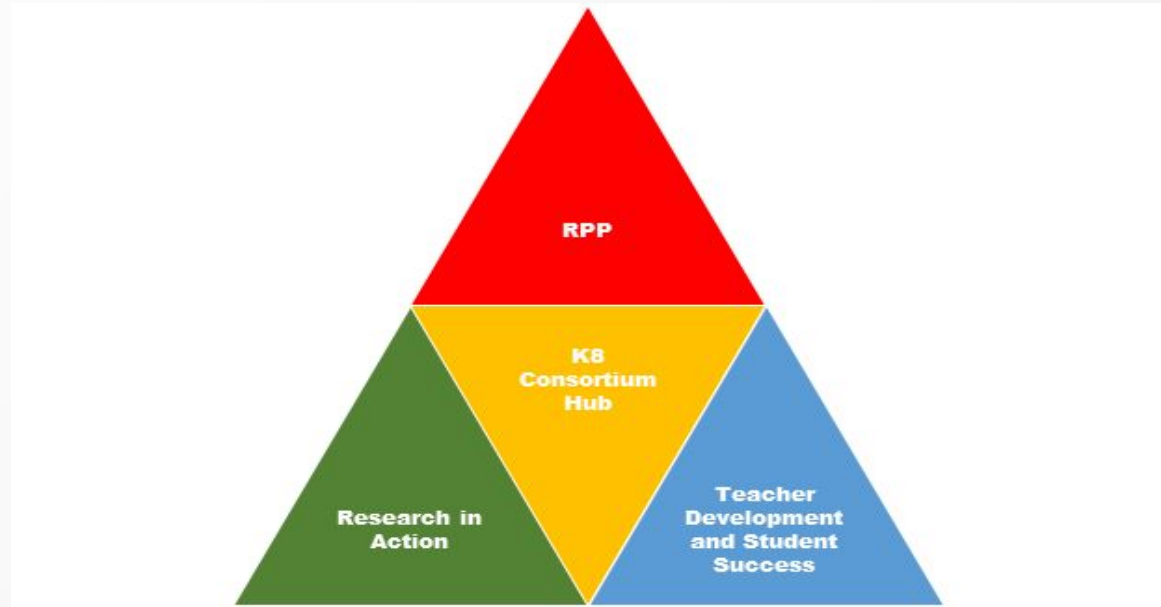
- Direct link is in the chat
- [www.JaredOLEary.com](http://www.JaredOLEary.com)
  - Presentations
    - Arizona Computer Science for All (*AZCS4All*)

Share a link to a meme or image that summarizes what you think of when you think of computer science



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# Vision of the AZ K-8 Consortium



- ***“It’s critically important to assess the current state of computer science education and professional development in rural schools serving underserved and underrepresented youth, and identify gaps and issues that need addressed.”*** Dr. Jeremy Babendure, executive director, SciTech Institute.

# AZ K-8 Consortium - what is it?

- The Arizona K-8 Consortium Hub is a network of Researcher-Practitioner Partnerships (RPPs) that include the SciTech Institute; Arizona Science Center, Arizona Practitioner-Researcher Educational Partnership (AZ PREP) Office in the T. Denny Sanford School of Social and Family Dynamics at Arizona State University; Arizona Department of Education; BootUp Professional Development (BootUp PD), and other computer science and computational thinking experts.
- The Hub will work with practitioners (Teachers/Administrators/Community) and researchers to establish RPPs across Arizona. The Hub's role will be to support the RPPs in partnership building, grant writing, assisting in research project development, and by helping to develop locally identified Professional Development needs builds local capacity.

# What CS isn't





# What CS is

## Unplugged

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# What CS is

## Collaborative

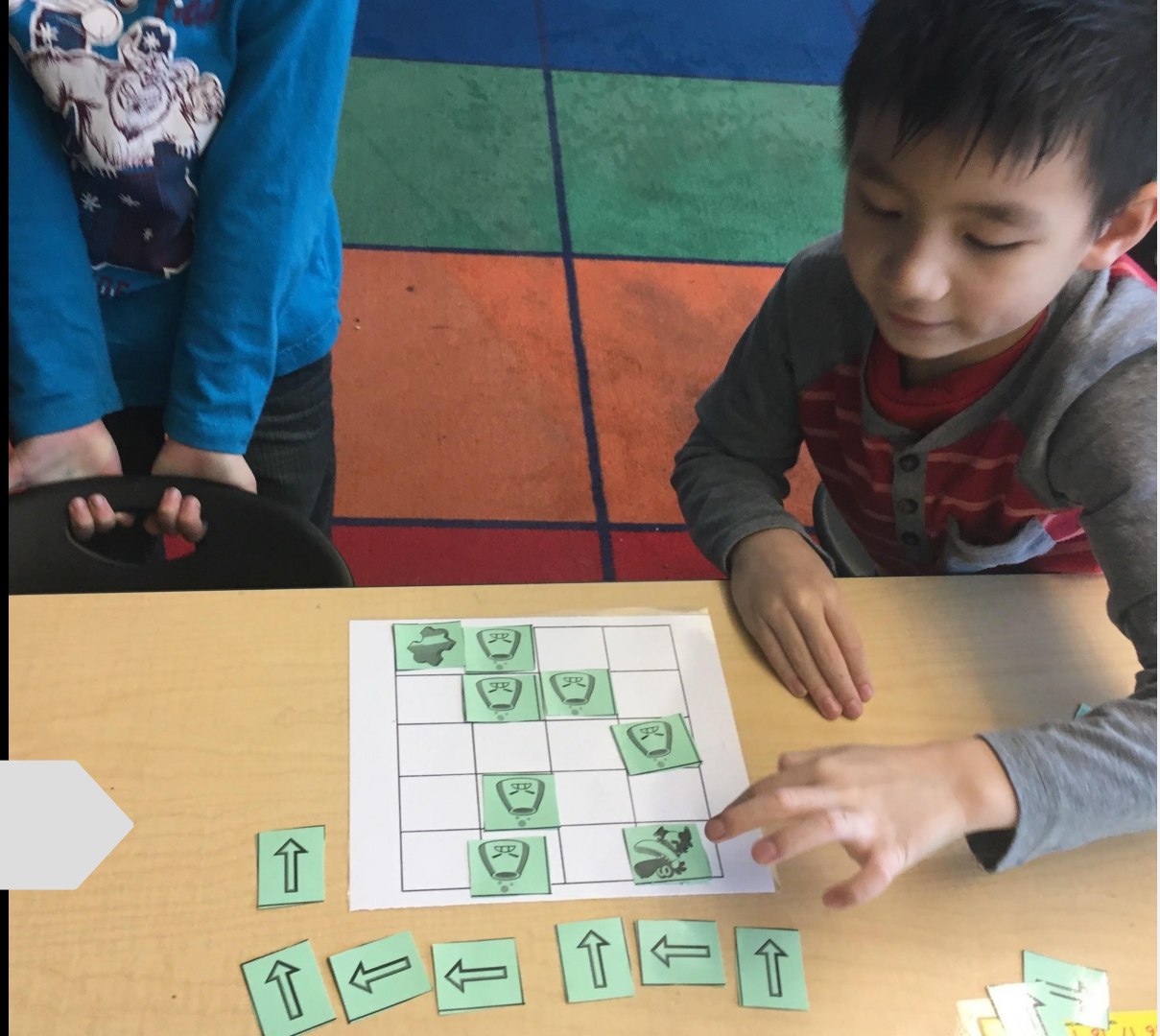
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# What CS is

## Problem solving

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# What CS is

## Physical computing

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What CS is

Creative

## Technology Classes at Desert Thunder

Jared O'Leary  
Arizona State University  
Avondale Elementary School District

# What CS is

## Coding in Avondale





# Time to explore

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# Hour of Code Activities

Try a one-hour tutorial designed for all ages in over 45 languages. Join millions of students and teachers in over 180 countries starting with an Hour of Code.

Want to keep learning? [Go beyond an hour](#)

Teachers: [Host an hour](#) or [read the How-To Guide](#)

All grades

Pre-reader

Grades 2-5

Grades 6-8

Grades 9+

Beginner

Comfortable

Sort by

Most popular

Created by

All

Classroom technology

- Computers
- Android
- iPad/iPhone
- Screen reader

Subject

- Social Studies
- Language Arts
- Art, Media, Music
- Computer Science only

Activity type



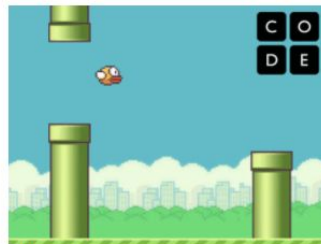
Dance Party  
Grades 2+ | Blocks



Minecraft Hour of Code  
Grades 2+ | Blocks



A Minecraft Tale of Two Villages  
Grades 2+ | Blocks, Python



Make a Flappy game



Play, Design & Code Retro Arcade Ga...



codeSpark Academy with The Foes: ...

Hour of code



Beginner Projects



CREATE THIS PROJECT



CREATE THIS PROJECT

# Project-based resources

Intermediate Projects



CREATE THIS PROJECT



CREATE THIS PROJECT

# Even more resources

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	A	B	C	D	E	F
1	ID	last_reviewed	product	description	url	image
2	1	3/13/2020	AgentSheets/AgentCubes	A drag and drop programming interface focused on building simulations to explore complex ideas and games. It uses "Conversational Programming" technology to help programmers understand their code. Creations can be shared easily as Java applets. Agentcubes allows for 3D programming.	<a href="http://www.agentsheets.com/products/index.html">http://www.agentsheets.com/products/index.html</a>	<a href="https://commons.wikimedia.org/wiki/File:AgentCubes_user_interface.png">https://commons.wikimedia.org/wiki/File:AgentCubes_user_interface.png</a>
3	2	3/13/2020	Alice	A drag and drop coding language used to program 3D objects, objects have preset motions and actions that can easily be used by beginner level students. The coding language can be made to look similar to Java script syntax	<a href="http://www.alice.org/index.php">http://www.alice.org/index.php</a>	<a href="https://www.google.com/url?sa=i&amp;url=https%3A%2F%2Fwww.buddies.org%2Fscience-fair-projects%2Fpreferences%2Fget-started-with-storytelling-alice&amp;psig=AOvVaw1fbegduk5WD01-&amp;ust=1587822143544000&amp;source=vfe&amp;ved=0CAIQRxgFwYgkCFQAAAAAABAD">https://www.google.com/url?sa=i&amp;url=https%3A%2F%2Fwww.buddies.org%2Fscience-fair-projects%2Fpreferences%2Fget-started-with-storytelling-alice&amp;psig=AOvVaw1fbegduk5WD01-&amp;ust=1587822143544000&amp;source=vfe&amp;ved=0CAIQRxgFwYgkCFQAAAAAABAD</a>
4	3	3/13/2020	Photon	Photon is a robot that develops along with children which means that he can do as much as his owner (features are unlocked with the learners development). He has touch, distance, displacement, ground color (B&W) and sound sensors, illuminated eyes and antennae, and a speaker. There is a narrative that goes along with the robot adding character, and objectives for the learner.	<a href="http://meetphoton.com/en/home/">http://meetphoton.com/en/home/</a>	<a href="https://photonrobot.com/products">https://photonrobot.com/products</a>
5	4	3/13/2020	Algobrix	Build code with LEGO compatible building blocks and watch your robot follow your commands. This system teaches loops, navigation, pointers, parameters, algorithmic thinking, LED and motors, touch and light sensors, if-then, and multithreading.	<a href="http://www.algobrix.com/">http://www.algobrix.com/</a>	<a href="http://www.youngeng.net/en/robotic-programs-company/young-engineering-groups/">http://www.youngeng.net/en/robotic-programs-company/young-engineering-groups/</a>
6	5	3/13/2020	Antbo	A programmable robot for kids, using 3 servo motors, that walks like an ant. Can upload data (e.g., distance, accomplishments) using wi-fi. You can order parts to upgrade and extend the robot. It's expected to start shipping in November, 2016.	<a href="https://www.businessinsider.com/a-new-robotic-pet-called-antbo-launches-2016-4">https://www.businessinsider.com/a-new-robotic-pet-called-antbo-launches-2016-4</a>	<a href="https://www.businessinsider.com/a-new-robotic-pet-called-antbo-launches-2016-4">https://www.businessinsider.com/a-new-robotic-pet-called-antbo-launches-2016-4</a>
7		3/13/2020	App Lab	A branch of code.org which allows students to create their own apps in a simple block programming environment. Students can easily switch from block coding to JS to understand how their commands translate. For a detailed post of all of App Lab's features, see <a href="https://medium.com/@okaycoder/learning-to-program-with-applab-a-brilliant-new-tool-from-code-org-b79235dacdf1">https://medium.com/@okaycoder/learning-to-program-with-applab-a-brilliant-new-tool-from-code-org-b79235dacdf1</a>	<a href="https://code.org/educate/applab">https://code.org/educate/applab</a>	<a href="https://www.google.com/url?sa=i&amp;url=https%3A%2F%2Fwww.fresnet.org%2F%2Faplab-intro%2Fres&amp;psig=AOvVaw3BchtnL9ryU&amp;ust=158782391&amp;source=images&amp;cd=vfe&amp;ved=FwoTC0Is0JefgekCFQAAAAAABAD">https://www.google.com/url?sa=i&amp;url=https%3A%2F%2Fwww.fresnet.org%2F%2Faplab-intro%2Fres&amp;psig=AOvVaw3BchtnL9ryU&amp;ust=158782391&amp;source=images&amp;cd=vfe&amp;ved=FwoTC0Is0JefgekCFQAAAAAABAD</a>
8		3/13/2020	Barefoot Computing	An online community for teachers to share resources to teach computing concepts (e.g., control, repetition, networking, sequence) to primary-aged children. Barefoot Computing is based in the UK and its primary community consists of computing teachers for K-8. The Micro Bit is a mini computer, designed by the BBC	<a href="https://barefootcas.org.uk/">https://barefootcas.org.uk/</a>	<a href="https://www.google.com/url?sa=i&amp;url=https%3A%2F%2Fwww.barefootcas.org.uk/vvaw1TV-hzKXc8yggUxtValn&amp;ust=158782391&amp;source=images&amp;cd=vfe&amp;ved=0CAIQRxgFwYgkCFQAAAAAABAD">https://www.google.com/url?sa=i&amp;url=https%3A%2F%2Fwww.barefootcas.org.uk/vvaw1TV-hzKXc8yggUxtValn&amp;ust=158782391&amp;source=images&amp;cd=vfe&amp;ved=0CAIQRxgFwYgkCFQAAAAAABAD</a>



# Upcoming events

- AZ SciTech Festival

- January 30 - February 28, 2021

- Code.org Workshops at AZ Science Center

- Join the Arizona Science Center for virtual [Code.org CS Fundamentals](#) Workshops. This Intro workshop is designed for elementary educators new to teaching computer science who want to explore how to begin teaching the CS Fundamentals curriculum. Join your peers and experienced facilitators to get a hands-on introduction to computer science, pedagogy, overviews of the online curriculum and teacher dashboard, as well as strategies for teaching “unplugged” classroom activities. Monthly workshops scheduled from February through May. A minimum of 10 participants are needed to hold the workshop.

- Microsoft DigiGirlz

- January 30th

- Girls Who Code

- Apply by February 4th for a free 2-week program Summer Immersion program

# Q&A



SCITECH  
INSTITUTE



BootUp  
*Professional Development*™

Now, Coding is Elementary.