



STEM Series - Part 2
Computer Science Resources
for the K-5 Classroom
Shawn Abele

About Me!



Welcome!

Shawn Abele

shawnabele@gmail.com

@MsAbele

[Hot Spot Website](#)



Objective

Participants will have grade level appropriate ideas and resources to incorporate Computer Science into K-5 classes for the 2020-2021 school year and beyond!



Standards

[Arizona Computer Science Standards](#)

New AZ CS standards were adopted in October of 2018.

[Arizona Educational Technology Standards](#)

These EdTech Standards were adopted in 2009. AZ Dept of Ed has just begin the process to update these standards.

Timeline of completion of a new set of standards set for January 2021.



Computer Science Standards

Arizona Computer Science Standards

1. Computing Systems
2. Networking and the Internet
3. Data Analysis
4. Algorithms and Programming
5. Impacts of Computing

Many of these are already covered in your everyday use of technology in the classroom!



Why teach Computer Science?

[Check out these STATS](#) from code.org

ARIZONA

15,851 Open computing jobs
(2.9x the state average demand rate)

1,014 Computer science
graduates

UNITED STATES

633,868 Open computing jobs
nationwide

71,226 Computer science
students graduated into the
workforce last year



Ideas

- Use technology as an extension of core curriculum
- Projects relating to core
- Stations and small group
- AZ Computer Science and Educational Technology Standards



WARNING!!!

WARNING!! Information Overload
Save this Slide Deck to refer to later!!



Grade Level Aligned

Standards Aligned Lesson Ideas and Resources

[Kindergarten](#)

[1st Grade](#)

[2nd Grade](#)

[3rd Grade](#)

[4th Grade](#)

[5th Grade](#)

Computing Systems Lesson Plan

[Kindergarten](#)

[1st Grade](#)

[2nd Grade](#)

[3rd Grade](#)

code.org

[Unplugged Activities](#)



Grade Level Aligned

TAKE FIVE!!

I'll share the slideshow in the chat, click on your grade level and take a few minutes to look over those materials.

Respond in the chat 1 thing you think you can apply right away next school year!



Computing Systems

Take apart an OLD COMPUTER!

[Video explaining](#) main Computer
Parts

Assign a [Tech Expert](#)

hardware
software
devices
computer
bits&bytes
applications
troubleshoot



Networks & The Internet

[Color your password](#)

[Safe Online Surfing](#) fun activities developed by FBI

[Nova Labs](#) - Cybersecurity (upper elementary)

cybersecurity
wireless
password protect
privacy
personal
connect
information



Data & Analysis

[Sample Data Log](#)

Create Pictographs with [Google Drawings](#)

Collect Data using [Google Forms](#)

manipulate
conclusions
patterns
collect
fileExtensions
graph
present
organize
analyze
predictions
fileTypes



Algorithms & Programming

Interactive [Adventure Stories](#) in
Google Slides

[The Big Event](#) - unplugged activity

code.org (full training on code.org
June 11th!!!)



A word cloud of programming and problem-solving terms. The words are arranged in a roughly circular pattern, with 'model' at the top, 'code' on the left, 'debug' in the center, 'task' on the right, 'solve' at the bottom, and 'step-by-step' above it. Other words include 'sequence', 'events', 'variables', and 'loops'. The colors range from light orange to dark red.

model
code
model
sequence
debug
events
variables
step-by-step
solve
loops
task



Impacts of Computing

Common Sense Media

Great short videos and activities about Internet safety! - excellent videos for beginning of the day when doing attendance!

usability
equity
implement
collaboration
evolve accessibility
innovation
copyright



Questions and Comments



Contact Information

Shawn Abele

shawnabele@gmail.com

@MsAbele

[Hot Spot Website](#)

Sarah Sleasman

Arizona Department of
Education

Sarah.Sleasman@azed.gov

