



In response to multiple requests from the field, the Kansas State Department of Education has compiled a list of available resources for computer science education.

The following list is comprehensive, but KSDE doesn't recommend one resource over another.

Resources for Computer Science Instruction

Institutional/Instructional

Code.org maintains an extensive advocacy network, in addition to a K-12 computer science (CS) curriculum (at this time, it is available free of charge), and also a large number of resources on their site:

- Resources for teachers inspiring students.
<https://code.org/educate/resources>
- Video library for teaching CS topics.
<https://code.org/educate/resources/videos>
- A set of resources they compiled as schools were shutting down.
<https://code.org/athome>.

Computer Science Teachers Association (CSTA) is a membership-based teacher organization with quite a few chapters across the United States. This is the organization that created the national computer science education standards on which the Kansas model computer science standards are based:

- A list of resources they compiled for teachers at the beginning of the pandemic. Some have to do with pedagogy online/remote, while others are topical in nature. Some may require membership.
<https://www.csteachers.org/page/csta-compiled-resources-to-support-teaching-during-covid-19>

International Society for Technology in Education (ISTE) is a membership-based teacher organization with worldwide membership.

- A set of "Open Educational Resources" (no purchase of a license is required to use these).
<https://www.iste.org/learn/open-educational-resources>

RESOURCES FOR CS INSTRUCTION INSTITUTIONAL/INSTRUCTIONAL | PROGRAMMING

Microsoft:

- Microsoft Resource Center
<https://www.microsoft.com/en-us/education/school-leaders/resource-center>
- TEALS is a Microsoft program to bring expertise into the classroom remotely.
<https://www.tealsk12.org/wp-content/uploads/2020/03/RemoteBestPractices-TEALSProgram.pdf>

Verizon offers Verizon Innovative Learning for the classroom:

- Verizon Innovative Learning for the classroom.
<https://vilteacher.com/>

CTeLearning is a Kansas company that helps Kansas teachers integrate their curriculum:
<https://ctelearning.com/>

Google offers an online computer science curriculum for multiple grade levels:
<https://csfirst.withgoogle.com/s/en/home>

CSTA also has compiled a list of professional development opportunities for teachers:
<https://www.csteachers.org/page/quality-pd>

AHA Island is a resource for pre-kindergarten and kindergarten age students learning about computational thinking:
<http://ahaisland.org>

Programming

Scratch is a free block coding tool for teaching beginning programming fundamentals:
<https://scratch.mit.edu/>

Python is a free programming language:
<https://www.python.org/>

Java is a free programming language:
<https://www.java.com/en/>

Hour of Code has hundreds of activities, many of them coding related, to play online and/or download:
<https://hourofcode.com/us>

RESOURCES FOR CS INSTRUCTION PROGRAMMING | NETWORKING | DATA MANAGEMENT

There are several websites that turn coding exercises into a game:

- <https://codecombat.com/>
- <https://www.codemonkey.com/>
- <https://www.tynker.com/>
- <https://www.lifewire.com/best-free-coding-games-4177710>

The **Khan Academy** is generally known for math, but they have programming courses too: <https://www.khanacademy.org/computing/computer-programming>

CodeCademy has free programming courses: <https://www.codecademy.com/>

Phaser lets you code games within its framework: <https://phaser.io/>

When it comes to web coding, **W3Schools** is the go-to for many people: <https://www.w3schools.com/>

CodeHS has a free side and a paid side: <https://codehs.com>

Codelicious offers computer science programming courses in several languages, for fee. <https://codelicious.com>

CoderZ offers two cyber robotics courses (virtual robotics) as well as a set of Python modules, for fee. <https://gocoderz.com/>

ComputerScience.org has compiled and curated a list of 20 programming bootcamps. These are not free resources, and many are professional-grade training opportunities for people entering the workforce. <https://www.computerscience.org/degrees/bootcamp/>

Networking

The **Cisco Academy** has some free courses available: https://www.cisco.com/c/m/en_sg/partners/cisco-networking-academy/index.html

Data Management

Google hosts a free data analytics course series: <https://analytics.google.com/analytics/academy/>

Kansas State Department of Education (KSDE) does not endorse nor curate any vendors' materials. This list is provided as an assistance to teachers and administrators in locating resources and should not be taken as recommendation or endorsement of those resources.

For more information, contact:

Stephen King
Education Program Consultant - Computer Science
Career, Standards and Assessment Services
(785) 296-1893
sking@ksde.org



Kansas State Department of Education
900 S.W. Jackson Street, Suite 102
Topeka, Kansas 66612-1212
(785) 296-3201
www.ksde.org

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