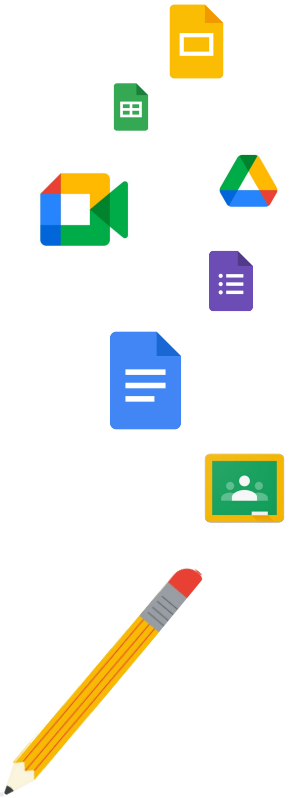
Google for Education

Coding on Chromebooks with CS First

Teach with Chrome Series



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Speaker slide

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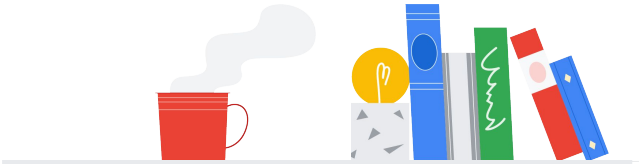


Agenda

1. Launch Coding with CS First
2. Coding in the Classroom
3. Additional Resources and Q&A

Overview

Why Coding?

Benefits of Coding

Problem Solving

- Logic
- Making judgements
- Making steps & rules
- Breaking down into parts
- Removing unnecessary detail

Mindsets

- Perseverance
- Resilience
- Creative
- Collaborative

Careers

- 22% growth in next decade
- Rapid Growth from data collection
- Emerging Fields
  - Artificial Intelligence
  - Virtual Reality
  - Data Research

Focus on Integration

Computational Thinking (CT) is a foundational skills, and its application as a cross-curricular skill serves as a way to integrate coding into any core subject area.

Develop a working knowledge of CT core components to facilitate learning that integrates coding into your classroom.

Create opportunities that explore the following principles: decomposition, pattern recognition, abstraction, algorithmic design

Source: Iste.org

Launch into Coding

CSFirst

CS First

Curriculum

- No CS experience required
- Fun hands-on learning
- Free of charge

Teacher Tools

- Allow students to save their work
- Manage class progress with a dashboard
- Get a free classroom kit

Student Engagement

- Popular Topics
- Badges

CS First

Section 02

Coding in the Classroom

Unplugged Activities

Using Scratch

Unplugged CS Activities

Understand Abstract

- Physical Objects
  - Music
  - Pictures
- Familiar Contexts
- Mental Models

Generalize Knowledge

- Make connections
- Focus on Language

No Computer Needed

- Challenge Based
- Problem Solving Skills
- Understanding of Principles

CS First Unplugged

CS Unplugged

CS Fundamentals Unplugged

Block Based Coding Platforms

Scratch

- Free Visual Programming for Children launched 2007
- Develop by MIT Media Lab
- Emphasizes “remixing” projects
- Social Community
- Lots of Extensions - Micro:bit, Lego, Makey Makey, AI, etc

Snap!

- Free Visual Programming Language for Children began in 2011
- Inspired by Scratch
- Developed by UC Berkeley
- No Social platform
- More Advanced Features - lists, libraries, advanced functions, etc.

MakeCode

- Free Visual Programming for Children
- Developed by Microsoft
- No Login Required
- Not a Universal Language
- Aimed at Customized Targets (Hardware)
- Used with Arcade, Micro:bit & Minecraft

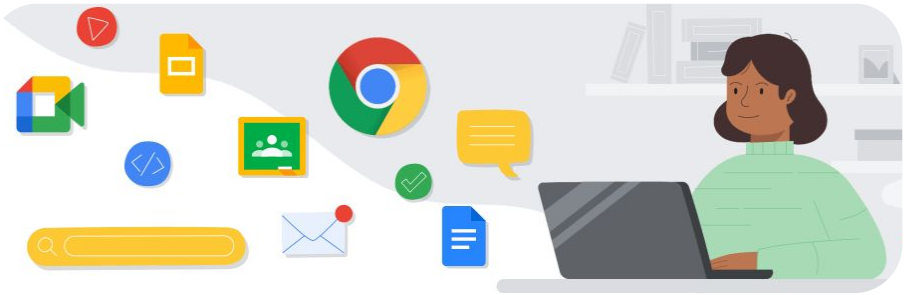
Section 3

Resources and Q&A

Resources

- Lego Education
- Minecraft Education
- Micro:bit
- CS First
- CSforALL
- Linux on Chromebooks

Q&A



Thank you

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