PLAYBOOK

HOW TO GET CODING AT YOUR SCHOOL

Teaching coding in school empowers critical thinking, provides students with new ways to explore ideas, and drives student growth and achievement. This playbook is designed to provide school leaders with a practical framework for implementing coding in their schools.

What is coding and why should we teach coding in schools?

- Coding is the essential digital literacy for the 21st century.
- Coding is using programming languages to create and design anything in the digital world.
- Like any language, programming languages can be taught to students starting at any age.
- Learning to code empowers students to think digitally and communicate in the modern world.
- Coding is a vital skill students will need succeed in the future, both academically and professionally.

How can our school community get started?

Many great coding programs, platforms, and curriculums are available for coding in school. The key is to pick a platform and curriculum appropriate for your students and get started. Once you begin, there are stages to building up your school's capacity over time. (see 5 Phases of Coding in School on the next page.) Here are some models for implementing coding in schools:

- After-school clubs run by teachers or volunteers from established programs such as **GirlsWhoCode**
- In school as a module in a technology class - often in a coding lab or maker space
- As a stand alone coding class or computer science class
- Integrated into other core academic subjects through content-aligned coding projects and lessons

What does our school need to do to get ready?

Engage Teachers: It is important for your school to have at least one or two teachers who will champion your early coding initiatives. Their success will motivate other teachers and students. Numerous programs, such as **TeachCS.org**, provide professional development to train teachers to teach coding in school.

Provide Computing Devices: Coding programs are available for laptops, iPads, Chromebooks, Macs or PCs - so whatever hardware your school has can be used to teach coding. If you would like help finding foundations or grants to fund the purchase of additional hardware, check out our comprehensive Grants and Funding Guide.
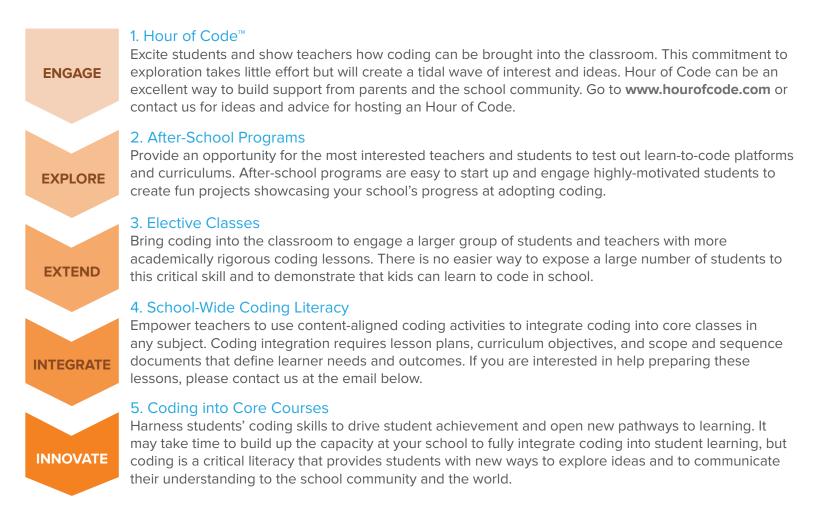
Choose a Platform and Curriculum: The appropriate platform and curriculum for your students depends on a variety of factors including grade level, teacher experience, computing devices, and target subject areas. For help choosing a coding program, see our Guide to Choosing a Coding Program or contact us at the email below.

Check the Internet Connectivity: Many coding applications are online - your school will need a reasonably good internet connection to use them. Options also exist for schools with limited or no internet access. For help assessing your school's internet readiness for coding, contact **Newline Education** at the email below.

Enlist Parent Support: Engaged parents and a supportive PTA/PTO will help sustain a fledgeling coding initiative as it starts up. Schools can create opportunities to inform parents about coding programs and to showcase students' work. Parents can be included in activities like hackathons and Hour of Code activities.

Created by **CODESTERS** · gordon@codesters.com & **NewlineEducation** · joe@newline.education

5 Phases of Coding in School

The phases below illustrate a process for implementing coding in your school, starting with exploration through an Hour of Code and building up to fully integrating coding into academic classes. Your school today might be at any phase along the path. And you can move through the stages in a step-by-step progression or jump directly to the stage your school is ready for. This playbook and the related resources are designed to help you get started where you are most comfortable and help you move toward integration and innovation with coding. See our Coding Phases Guide at **codeplaybook.com** for even more information and suggestions.

ENGAGE

1. Hour of Code™
Excite students and show teachers how coding can be brought into the classroom. This commitment to exploration takes little effort but will create a tidal wave of interest and ideas. Hour of Code can be an excellent way to build support from parents and the school community. Go to **www.hourofcode.com** or contact us for ideas and advice for hosting an Hour of Code.

EXPLORE

2. After-School Programs
Provide an opportunity for the most interested teachers and students to test out learn-to-code platforms and curriculums. After-school programs are easy to start up and engage highly-motivated students to create fun projects showcasing your school's progress at adopting coding.

EXTEND

3. Elective Classes
Bring coding into the classroom to engage a larger group of students and teachers with more academically rigorous coding lessons. There is no easier way to expose a large number of students to this critical skill and to demonstrate that kids can learn to code in school.

INTEGRATE

4. School-Wide Coding Literacy
Empower teachers to use content-aligned coding activities to integrate coding into core classes in any subject. Coding integration requires lesson plans, curriculum objectives, and scope and sequence documents that define learner needs and outcomes. If you are interested in help preparing these lessons, please contact us at the email below.

INNOVATE

5. Coding into Core Courses
Harness students' coding skills to drive student achievement and open new pathways to learning. It may take time to build up the capacity at your school to fully integrate coding into student learning, but coding is a critical literacy that provides students with new ways to explore ideas and to communicate their understanding to the school community and the world.

We hope this Playbook provides you with a practical framework with actionable ideas for how to implement a coding program at your school. Please reach out to us if you have questions or would like more information.

CODESTERS · www.codesters.com
Gordon Smith · gordon@codesters.com
Gordon is on a mission to create a world where every kid learns to code in school. Codesters has been built around asking the question "what are the barriers to coding in schools?" and working collaboratively with schools to develop solutions that overcome each barrier in a scalable, sustainable way.

NewlineEducation · www.Newline.Education
Joe DuFore · joe@newline.education
As founder of Newline Education, TEDx talker, university professor, and horrible ventriloquist, Joe looks to help schools bring coding, adaptive education, and any accelerated innovative practices into every school possible.