Bootstrap

Program your own videogame...

What is Bootstrap?

Bootstrap is a rigorous, proven curriculum for middle-school students, which introduces the basic concepts of algebra and computer programming. Since 2005, Bootstrap has reached hundreds of Citizen Schools apprentices around the country, introducing functions, variables, booleans, conditional branching and Cartesian planes week by week. At the end of the semester, Bootstrap students present their video games to an audience of parents, teachers and peers.

Join volunteers from Google, Microsoft, IBM, Apple, Facebook or more than half a dozen colleges and universities to bring computer programming to Citizen Schools apprentices!

But I've never taught before!

That's okay! The curriculum is designed for new teachers, and every lesson has been carefully designed and thoroughly tested. The lesson plans are robust, with detailed instructions for teachers, students, as well as example code, screenshots, and even suggestions for notes to write on the board. For veteran teachers (or the more ambitious!), the lessons also provide enough flexibility if you'd like to come up with your own activities and projects. Finally, Bootstrap teachers received specialized training it goes beyond the standard Citizen Schools training to offer in-depth support in both programming content and classroom management techniques.

Games are cool, but how will this teach Algebra?

Bootstrap is based on the TeachScheme curriculum, which has been developed over the last ten years to teach the fundamentals of programming to high school and college students around the world. Scheme is a highly algebraic programming language, and TeachScheme has shown *significant impact* on students' understanding of Algebra (an evaluation done in Texas showed a *20%* improvement on standardized tests of high-school Algebra). Unlike TeachScheme, Bootstrap is intended to be the *first dose* of formal algebra, for students as young as eleven. We believe that students who see these concepts in an environment that is concrete and creative will be better able to recognize and apply them later in other contexts.

Where can I find out more?

The curriculum, student materials, software and handouts are all freely available on our website, at http://www.bootstrapworld.org. You can also contact Emmanuel Schanzer, the Program Director, at schanzer@bootstrapworld.org.