

Overview of IT lessons with Hands-on Activities (draft 6/9/22)

Each activity:

- has *optional* opening and closing activities, each about 5-10 minutes
- is approximately 25-40 minutes
- gives students opportunities to build collaboration and problem-solving skills while working in small groups or pairs

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Activity Title and Guiding Question	Learning Target and Career Spotlight (Optional)	Materials	Original Source
Robot Obstacle Course <i>How is Coding a Superpower?</i> 40 minutes+	Young Professionals learn about coding by programming a 'robot' (another student) using simple written commands. Career Spotlight: Software Developer	• Videos and handouts	Coding Superpowers Digital version: Coding Apps
Communication Exercise <i>What Does It Take to Speak Computer?</i> 15-20 minutes	Young Professionals participate in a communication exercise designed to model how computers respond to code. Career Spotlight: Coder (Jobs requiring coding skills)	• Paper and pencils • Several colors of clay or playdough • Medium-sized box with relatively high sides • A location to place the box, making it impossible for students to see inside from their desks • Debrief handout (optional)	

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Mini Design Challenge <i>How do Designers Think?</i> 20 minutes	Young Professionals work in “design teams” to solve a design challenge and then learn about the kind of design thinking used by software designers. Career Spotlight: Software Designer	• Thinking by Design Video • Newspaper (two sheets per group) • Masking Tape • Rulers (one per group)	Thinking By Design
Compare and Analyze Apps <i>What are the Qualities of a Good App?</i> 40 minutes (core 2-part activity)	Young professionals compare and analyze real apps. Career Spotlight: App Developer	• At least one app-enabled device per group to view app prototypes • <App Analysis Note-Catcher>	