Computer Science Project-Based Learning Activities

Hands-on activities designed to build foundational computer science skills through practical projects.

Bug Hunters: Debugging Challenge (Grades K–5)
Students work in teams to find and fix simple coding mistakes.

1. Introduce debugging concepts (finding mistakes).
2. Provide simple code puzzles with intentional errors (e.g., Scratch blocks).
3. Students collaborate to fix errors.
4. Share how they solved the puzzles.

My First App (Grades 6–8)
Students create simple interactive apps using block-based coding (e.g., App Inventor).

1. Brainstorm app ideas that solve everyday problems.
2. Create prototypes using block-based coding tools.
3. Test and get feedback from classmates.
4. Present apps and explain problem-solving strategies.

Website for Change (Grades 9–12)
Students design a website addressing a community issue using basic HTML, CSS, or website builders.

1. Identify a relevant community issue.
2. Plan website structure and content.
3. Develop the site using coding tools or website builders.
4. Present websites and share their potential impact.