

CATALYST VOLUNTEER ROLE & PROFILE: PLTW App Creators

Please note: The volunteer role and responsibilities may be modified based on the discretion of the classroom teacher.

[Click here to see how volunteers will contribute to the entire Project Lead The Way \(PLTW\) course unit.](#)

COURSE OVERVIEW: Students are introduced to the field of computer science and the concepts of computational thinking, through the creation of mobile apps (using MIT App Inventor). Students apply all of the knowledge and skills they have acquired in the course to design and create a mobile app solution for a personal or community problem. They convey the positive impact of the application of computer science to other disciplines and to society.

IN THIS PROJECT: Students have agency and choice in their final experience by choosing a problem that interest them from the areas of health, environment, emergency preparedness, education, community service, and school culture. Because problems in the real world involve more than one discipline, the unit will introduce students to biomedical science concepts as they work on solutions for the specific problems they choose to tackle. In the final project, students apply the design process and computational thinking skills to break down the problem into smaller modules.

Skill Focus: Mobile Development, Software/Application Testing

Industry Focus: Application Development, Mobile Development, Software QA Tester, User Experience Design

VOLUNTEERS NEEDED:

- Programmers/Coders and Computer Science professionals who have experience collaborating with others/providing feedback on colleagues' work and leading development teams are well-suited to support students in their work on the final project (developing their app of choice).
- Developers who have worked on social impact apps (including but not limited to lifestyle, health, community-building, health, environment, emergency preparedness, education, community service, safety, education or similar applications).
- User Experience Designers who can help students improve their designs from the end user perspective.

THE VOLUNTEER ROLE: After learning about peer programming best practices for middle schoolers, volunteers observe students discussing and testing their code using peer programming protocol (students sit together and give each other feedback). Volunteers observe student partnerships and help students translate their peer feedback into an improvement in their code by reviewing areas of code that would benefit from updates/iterations. They then support students to test their revised code and reflect on the improvements -- including celebrating their success.

VISIT 1 (Day 3-4 of Fitness App Activity), Volunteers will:

- Introduce themselves and begin to build relationships with students.
- Share an example of a client/design brief for a similar project they worked on related to the students' fitness app challenge.
- Meet with groups to understand their fitness app design (and progress on the challenge) and support brainstorm/sketch design solution ideas.
- Support students to use incremental testing using the debugging steps.
- Share reflections on strengths, progress, collaboration and coping strategies you observed as part of the closing activity.

VISIT 2 (Day 4-7) "Build and Test", Volunteers will:

- Share examples /stories of the role of collaboration in projects they have worked on including why effective collaboration was essential to the team's achievements.
- Observe for and engage students in discussions that emphasize key mindsets essential to this unit.
- Support students to use incremental testing (using the debugging steps) and strategies.
- Highlight progress in fixing code and successful collaboration and feedback strategies.
- Support students as they effectively document their ideas.

VISIT 3 (Day 9) "Present the Solution", Volunteers will:

- Conference with small groups of students to use the provided rubric to do a self-assessment of their work and final product and discuss.
- Ask students questions similar to those of their audience at the final project, so that students can practice responding. Give students feedback on the quality of their responses to help them improve!