



Python with CodeX AP CSP Curriculum

More Missions Overview

The Units before the Create PT go through Mission 9. Many more missions are available for the CodeX. These missions can be completed any time after Mission 9. Depending on your school calendar, pacing and student engagement, you can assign these missions throughout the school year or wait until after the AP Exam. Additional materials for each mission can be found on the Learning Portal: [CodeX Resources for Teachers](#). Materials include lesson prep, slides, a student workbook, a digital log (assignment), links to reviews and tests, and remix projects.

Mission 10: Reaction Tester

Time Frame: 1 class period

This lesson utilizes the CodeX internal clock to calculate your reaction time to a visual prompt. An additional step is given to create functions for part of the program code, which is included on the assignment but is optional.

Mission 11: Spirit Level

Time Frame: 1 class period

This lesson utilizes the CodeX accelerometer to determine tilt. It uses a graphical interface to simulate a spirit level. It includes an additional step to create a function for part of the program code, which is included on the assignment but is optional.

Mission 12: Night Light

Time Frame: 1 class period

This lesson utilizes the CodeX light sensor to read ambient light. Students write code that turn on the pixels like a night light when the ambient lighting is below a set threshold. It includes an additional step to create a function for part of the program code, which is included on the assignment but is optional.

Mission 13: Sounds Fun

Time Frame: 2 class periods

In this mission students learn about non-blocking audio functions. They create a graphical user interface using a moveable rectangle and text.

Mission 14: Line Art

Time Frame: 2 class periods

The mission shows the magic of computer graphics with only a few lines of code. Students use code to create line art “webs”. It involves some math and a lot of loops to create visually stunning line art.

Mission 15: Handball

Time Frame: 2-3 class periods

This is the first of a two-part project. Students build a handheld gaming framework that ends with a fun, playable game of handball. It must be completed before moving on to Mission 16.

Mission 16: Break Out

Time Frame: 2-3 class periods

This mission builds on the code from Mission 15 to add functionality to the game. It becomes a handheld version of Breakout!, complete with brick colors and a scoring system.

Additional Projects

Additional CodeX projects are available. Look through the [Monthly Project Spotlights](#) and [Cross-Curricular Projects](#).

Final Project

Time Frame: 2-5 class periods

A lesson plan, planning guide and rubrics for the final project can be found on the [Learning Portal](#).

Assessment

Kahoot reviews and unit tests are available in the Learning Portal. Missions 10-12 are in Unit 3, Missions 13-14 are in Unit 4 and Missions 15-16 are in Unit 5. You can find review links and test questions there.

Assessment opportunities for these Missions include:

- [Mission 10 Kahoot Review](#)
- [Mission 11 Kahoot Review](#)
- [Mission 12 Kahoot Review](#)
- [Unit 3 Vocabulary Kahoot Review](#) (includes Mission 9)
- [Unit 3 Code Review Kahoot](#) (includes Mission 9)
- [MS Forms Unit 3 Vocabulary Test](#) (includes Mission 9)
- [MS Forms Unit 3 Coding Concepts Test](#) (includes Mission 9)
- [Mission 13 Obj. 1-6 Kahoot Review](#)
- [Mission 13 Obj. 7-11 Kahoot Review](#)
- [Mission 14 Obj. 1-5 Kahoot Review](#)
- [Mission 14 Obj. 6-9 Kahoot Review](#)
- [Unit 4 Vocabulary Kahoot Review](#)
- [Unit 4 Code Review Kahoot](#)
- [MS Forms Unit 4 Vocabulary Test](#)
- [MS Forms Unit 4 Coding Concepts Test](#)
- [Unit 5 Vocabulary Kahoot Review](#)
- [Unit 5 Code Review Kahoot](#)
- [MS Forms Unit 5 Vocabulary Test](#)
- [MS Forms Unit 5 Coding Concepts Test](#)

Each mission includes the following assessment opportunities:

- Assignment
- Program completion

Materials / Preparation

- The missions have assignments that should be distributed and completed digitally. Prepare the assignments in the digital format that works best for your classroom.
- Additional materials are available through the Learning Portal.
- Go through the lessons in advance so you are prepared to guide and help your students as needed.
- If you want the CodeX to be moveable, make sure you have AAA batteries.