

PlanetBravo's Technology Curriculum 2020-2021



Taking a page from our PB@Home camp where we worked with over 2000 campers from 9am-3pm daily this summer, PlanetBravo has created a 4-unit school year that works both **online** and **in-person**. The hindrances of traditional computer classes have been removed, while retaining the important lessons of Coding, Digital Literacy, and STEAM projects.

We fixed this by:

- Rewriting the curriculum to focus on 4 units for the year.
- Running all lessons live with classes through video conferencing software (Zoom).
- Making all lessons web-based (even work on iPads). Students receive the lesson from the instructor live (5-10 minutes), but then turn to a website to guide them through the work. These websites allow the students to write and compile code, engineer 3-dimensional objects, or design advanced graphics for presentations (as a few examples)
- The instructor is there the entire time to coach and support the students in realtime
- Using Google Classroom to provide resources and support materials for each unit

What is needed from the school:

- 30-60 minutes per week (30 max for Grades TK-2) of live scheduled time with the students
 - We provide the *short* class link such as: pb4.us/MrA (no IDs or passwords to transfer)
- Class sizes of no more than 35 students at one time
- 2-6 classrooms per day
- Students with any internet-connected devices (Computer, Chromebook, iPad, Android tablet)

Grades TK-K

- Unit 1: Core Essentials (Lessons pertaining to online learning tools, academic games for mousing, keys, etc.)
- Unit 2: Computer Science (Code.org Sequencing, Looping, Stacking, and more basic problem solving skills in code)
- Unit 3: STEAM (Digital Art lessons to learn the fundamental tools of creating graphics on a computer)
- Unit 4: Project Design (Art and Animation projects in Scratch)

Grades 1-2

- Unit 1: Core Essentials (Lessons pertaining to online learning tools, Word Processing, Internet, Online Safety, etc.)
- Unit 2: Computer Science (Scratch Coding: art and animation, leading to basic input statements)
- Unit 3: STEAM (3D Modeling in TinkerCAD to design basic three-dimensional shapes)
- Unit 4: Project Design (Scratch Game Design: making interactive games with user control)

Grades 3-5

- Unit 1: Core Essentials (Lessons pertaining to online learning tools, Word Processing, Internet, Online Safety, etc.)
- Unit 2: Computer Science (Python coding language: input, print, if/then, variables, etc.)
- Unit 3: STEAM (3D Printing: using tools to create and scale for 3D printers)
- Unit 4: Project Design (Game Froot Game Design: students combine all skills from the year for an online game)

Grades 6-8

- Unit 1: Core Essentials (Lessons pertaining to online learning tools, Word Processing, Internet, Online Safety, etc.)
- Unit 2: Computer Science (HTML/CSS web design using code)
- Unit 3: STEAM (TinkerCAD Circuits: students work on electrical design online)
- Unit 4: Project Design (Pygame: Using repl.it, student code in Python language to make graphical online games.)