

Drone Club & Tinker Time

**Preparing Student Employees to Assist Library Users with Drones,
Robotics, and Electronics**

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	Drone Club	Tinker Time (Sandbox)
Began	February 2019	February 2020
Domain	Quadcopter Drones	Electronics, Robotics, Creative Software
Scope	Design, Construction, Programming and Piloting; Basic Safety and FAA Regulations	Explore K-12 kits designed for teaching and learning basic concepts of electronics and robotics; utilize creative software and technology such as Adobe After Effects and a greenscreen.
Participants	Drone club members, student employees and a volunteer Python programmer	Only student employees; COVID Shutdown

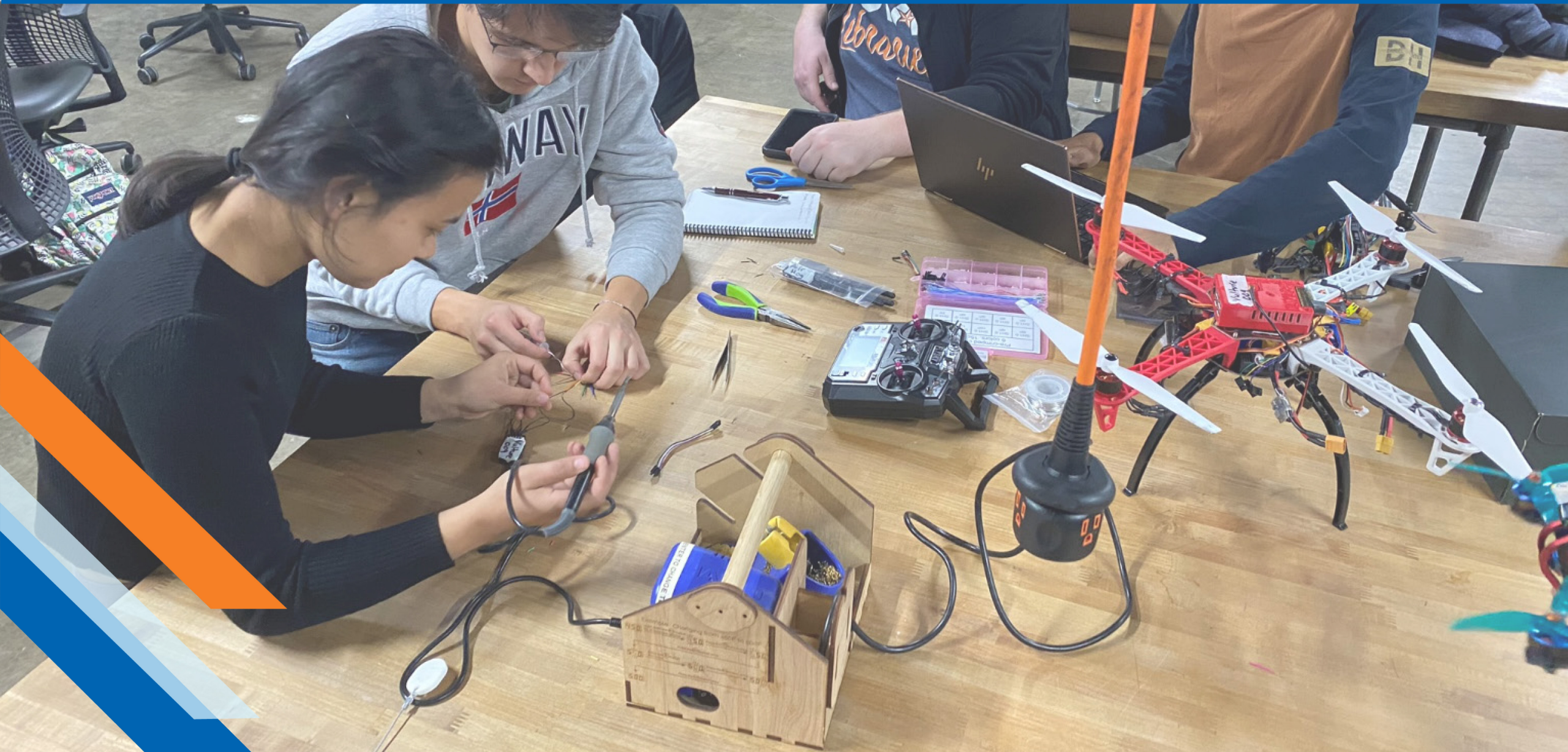


Common Characteristics

Informal, Experiential, Hands-on, Exploratory, Experimental, Voluntary,
Interest Driven, Student Led, Project-based, Low Risk, Learner-centric,
Collaborative, Everyone is a Learner

Drone Club

Raspberry Pi, 3D modeling and printing, basic circuits & soldering,
Navio2 & PixHawk flight controllers, DJI Mavic Air, Snaptain S5C

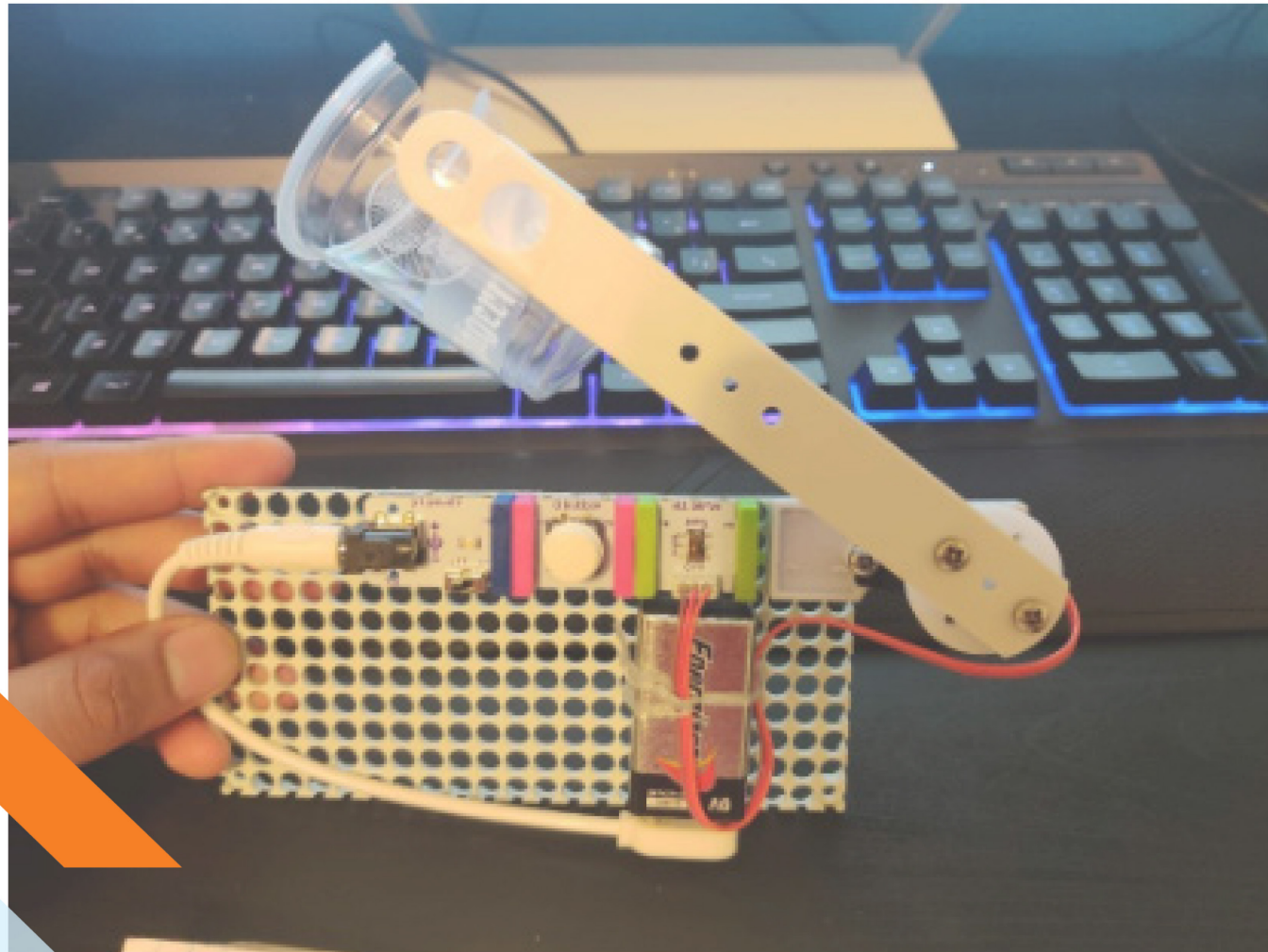


Tinker Time K-12 Kits

Ozobot Evo, Bloxels, Little Bits, Makey Makey, Makeado, Legos, Arduino & Raspberry Pi, each with project kits, Snap Circuits



throwing arm machine that you can build around later.



This is an example set up of the basic bits you will need. The **p1 power** bit connected to the battery will provide the power you will need (I recommend using the tie twisty provided with the

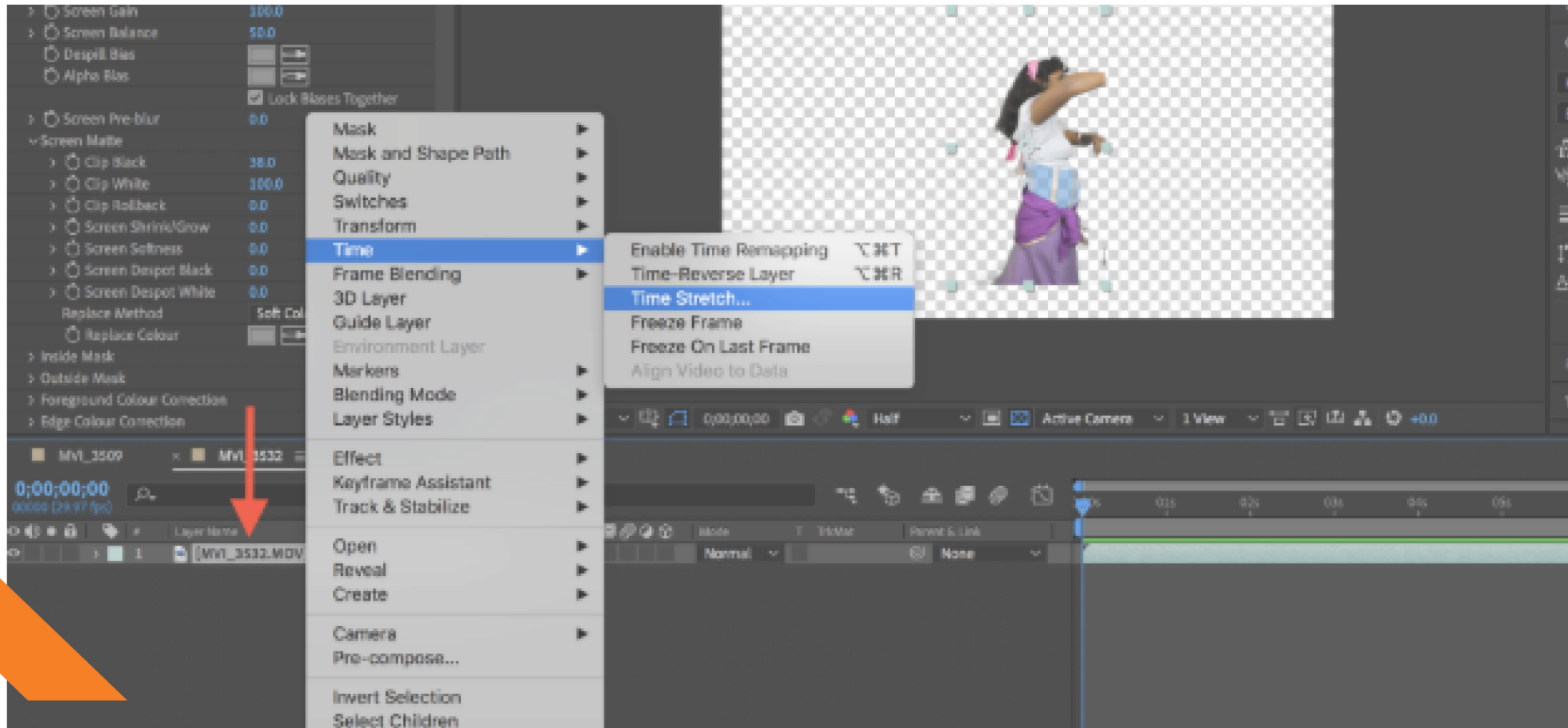


- i. Try using smaller cups at first to get accustomed to how to shoot the projectile. See how fast you can knock down the tower and compete with your friends for the best time!

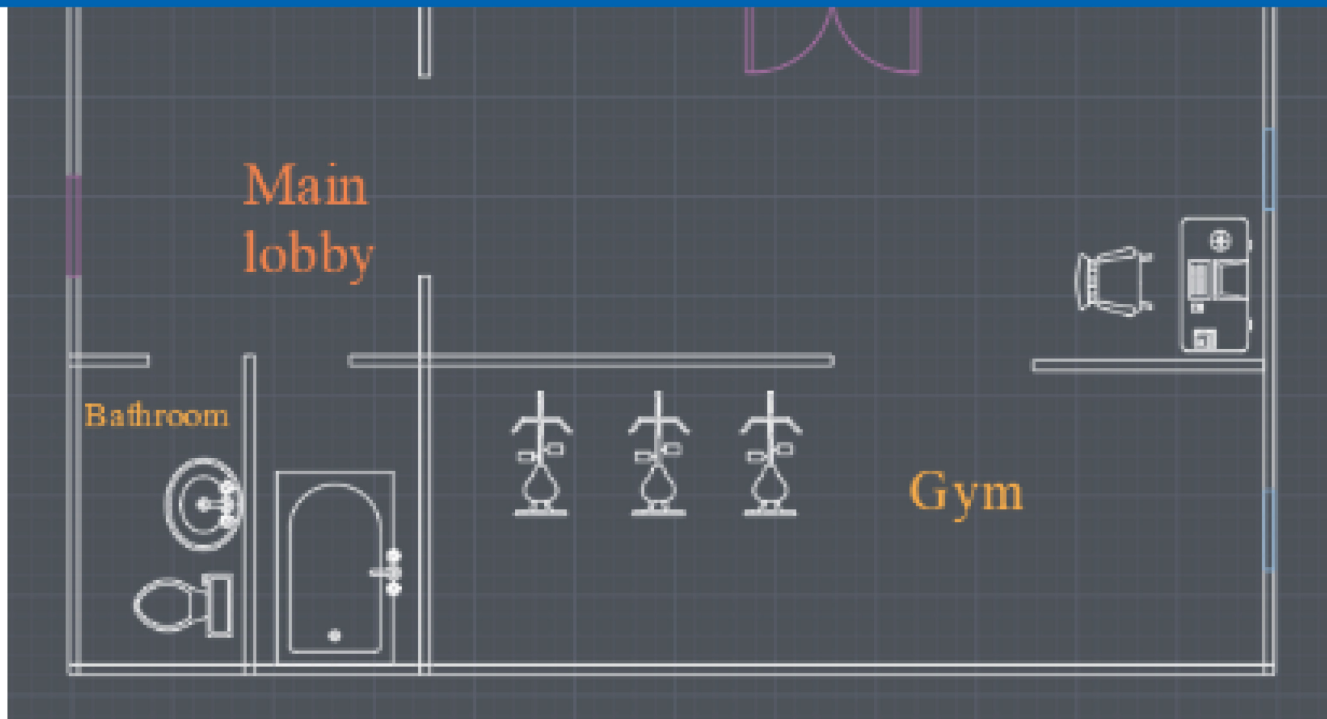


Tinker Time Software

Adobe Creative Suite, including Photoshop, Premier, After Effects and Audition; Sketchup & Lumion; SolidWorks, 3DS Max, AutoCAD and Fusion 360



For the “Stretch Factor” type in “135” which will make the new total duration of the dancing

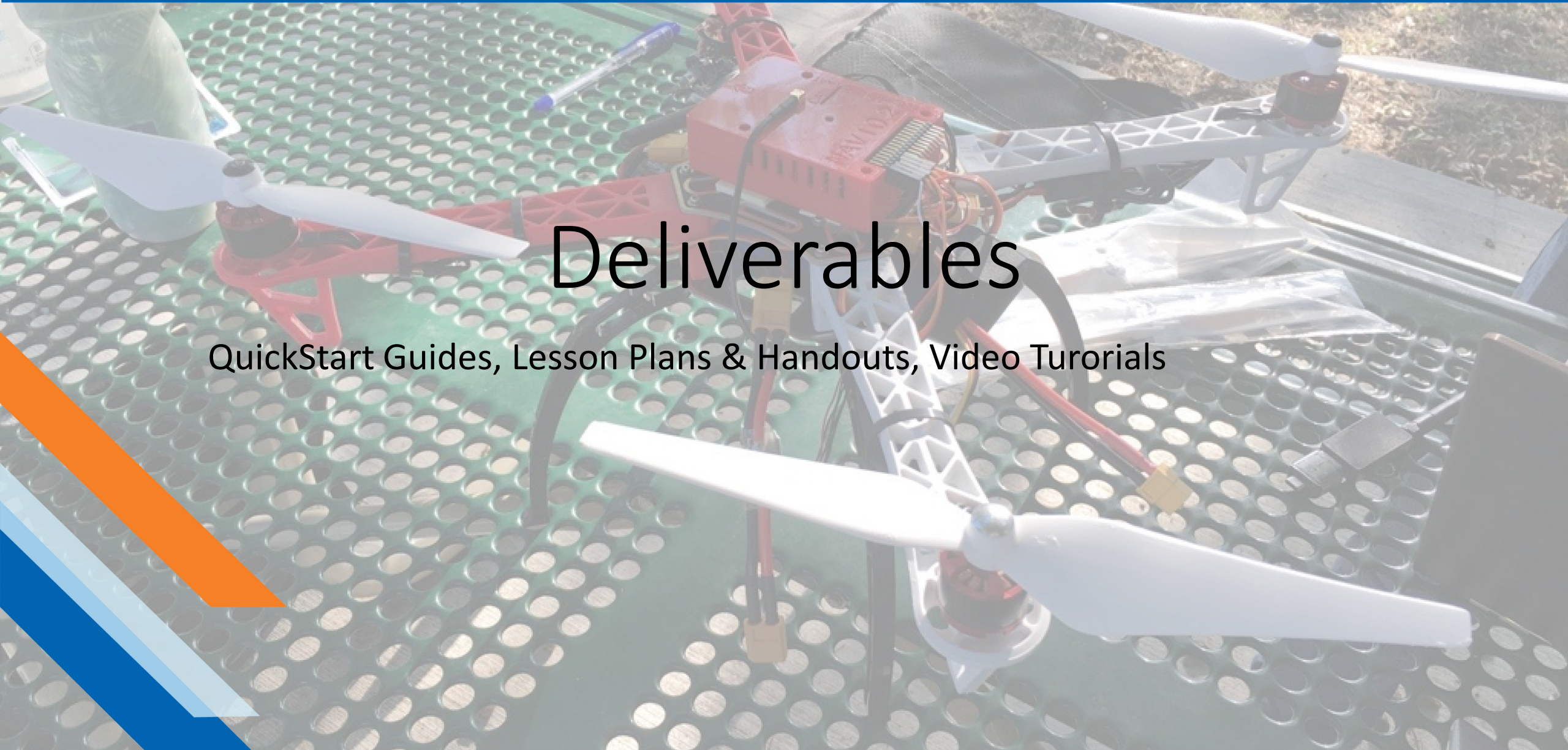


Congrats! You now know some of the basics for adding some annotations to let anyone reading your floor plan know what each item is.

Independent Practice: Try to make a more complex floor plan, perhaps an office space with many cubicles and desks, printers etc. Use what you've learned here to recreate perhaps a floor plan of your own home, your school, or your workplace.

COVID-19

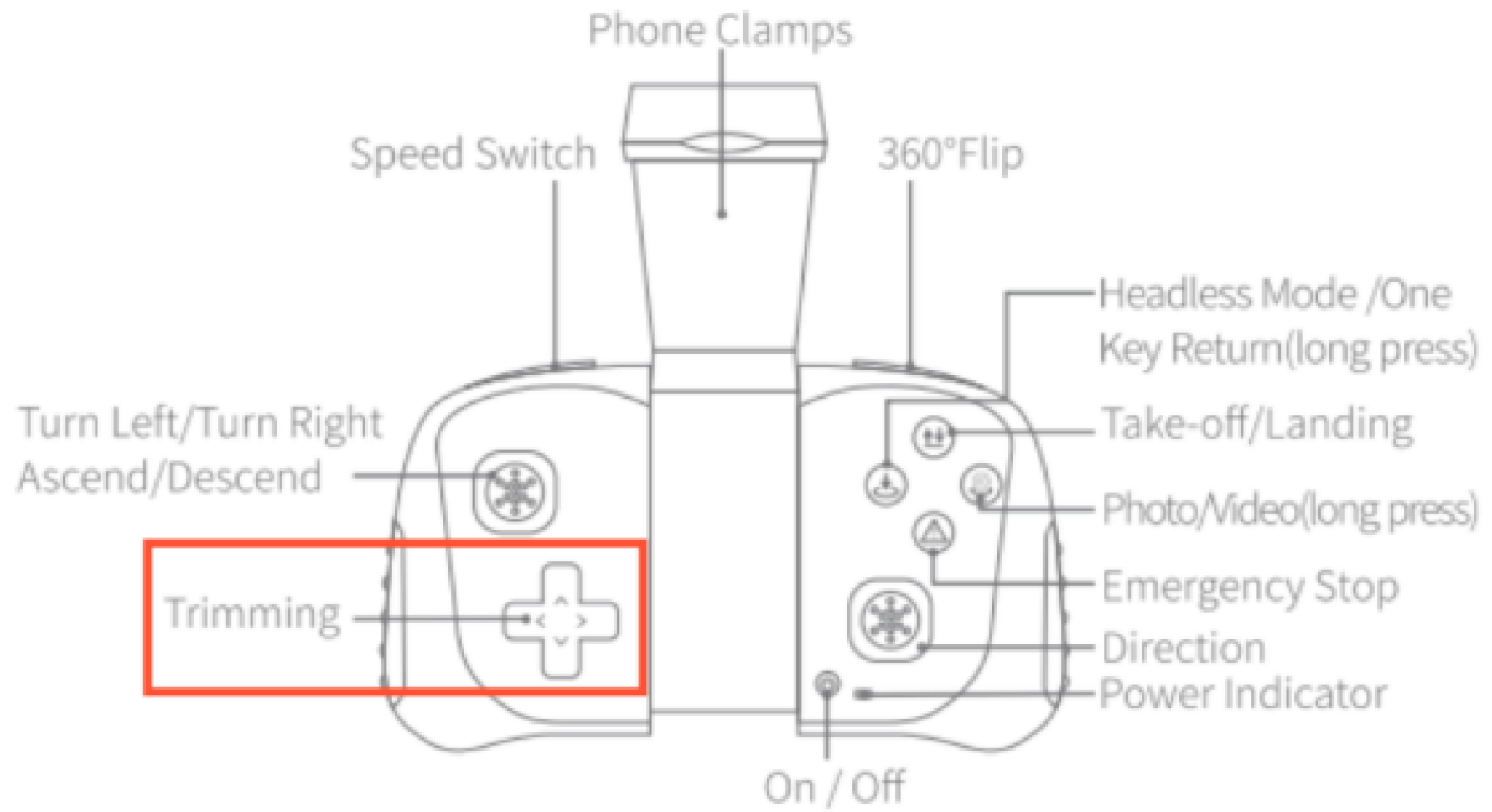
Most drone club activities suspended; Tinker Time (Sandbox) had barely begun. Moved to an online environment, providing training to student employees in preparation for rollout of new items, services and spaces in Fall 2020.



Deliverables

QuickStart Guides, Lesson Plans & Handouts, Video Tutorials

it, which I will cover in the app section of this guide.



- The bits come are color coded to indicate their function:
 - **Blue** bits provide power, the p1 power bit uses a chord that attaches to a 9V battery and the P3 USB power that connects to a micro USB chord and a power brick for a wall outlet.
 - **Pink** bits are input bits that take input from either a person or the environment and then send a signal to other bits based on that input.
 - **Orange** bits are called wire bits. They are only used to connect or extend circuits.
 - **Green** bits are output bits. When they receive a signal, they make things happen! They can light up, make sounds, or turn motors.

How they Work:

Every bit has a top and bottom, the top will have the interactable pieces (buttons, displays, switches,) and the bottom will have the feet that you use to attach the bits to the provided boards. On each side of the bits are magnets which are used





Student Experience

Any Questions?

Contact Us

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