

DRONE GUIDE

The following is a suggested list of drones for the Droneworks competition. The marketplace for drones is constantly changing, so other permissible drones may be available. Please see the Droneworks competitive event guides for detailed drone specifications.

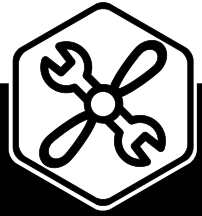
	Ryze Tello/Tello EDU	Parrot Mambo FPV	RoboLink CoDrone Lite
website	www.ryzerobotics.com/tello	www.parrot.com/us/drones/parrot-mambo-fpv	www.robotlink.com/codrone/
price	\$99.00/\$129.00	\$149.99	\$119.99
store	Amazon, Best Buy, Pitsco	Amazon	Amazon
camera	Included	Included with FPV kit	+ Camera kit \$39.99
	Boost Combo - \$149.00		

Autonomous Flight Coding

Android	Tello EDU DroneBlocks	Tynker	ByBlocks
iOS	Tello EDU DroneBlocks Swift Playgrounds	Tickle Swift Playgrounds	
PC	MIT Scratch 2.0 Offline	Blockly (browser-based)	Snap! (browser-based) Entry
Mac	MIT Scratch 2.0 Offline	Blockly (browser-based)	Snap! (browser-based) Entry
Chromebook	Droneblocks (Chrome app)	Blockly (browser-based)	Snap! (browser-based)
Other	Python, Javascript	Python, Javascript	Python, Javascript

Manual Flight

Android	Tello (free) Tello EDU (free) TelloFPV (\$5.49)	FreeFlight Mini (free)	Petrone (free)
iOS	Tello (free) Tello EDU (free)	FreeFlight Mini (free)	Petrone (free)
Android controller	Tello (GameSir T1d) Tello EDU (none) TelloFPV (wired/Bluetooth PS3 gamepad)	FreeFlight Mini (wired/Bluetooth PS3 gamepad) FlyPad included with FPV kit	Petrone (Bluetooth PS3 gamepad) Available in CoDrone Pro kit
iOS controller	Tello (Steelseries Nimbus, GameSir T1s, GameSir T1d) Tello EDU (none)	FreeFlight Mini (wired/Bluetooth PS3 gamepad) FlyPad included with FPV kit	Petrone (Bluetooth PS3 gamepad) Available in CoDrone Pro kit



GET STARTED

Is this a new event?

- This is the 3rd year for Middle School and the 1st for High School
- Droneworks is an Oklahoma ONLY event, not a National TSA event

Who can participate?

- Middle School & High School
- Team of 1-2 participants

Can we have more than one team?

- 2 Teams per Chapter

What do we have to do?

- **Research** a real-world topic and document the use of drones
- **Create** a digital research poster (MS) or a digital research portfolio (HS)
- **Code** a drone to fly pre-programmed flight paths to score the most points in an **autonomous** flight challenge. Submit your solution as a video. (Droneworks 2021 Only)

Is coding a drone hard?

- You can choose how to code your drone based on your skill level. Beginner teams can use blocks-style programming app on a smartphone/tablet or Scratch or Blockly on a computer. Advanced teams can use text-based programming such as Python or JavaScript to code their drone.

What type of drone do we need to buy?

- One that can be programmed for autonomous flight. *See the back side of this guide for more information.*

What do we need to compete?

- A programmable drone
- A smartphone/tablet

Do we have to have a smartphone/tablet?

- Yes, **manual** flight with these programmable drones is only possible with a smartphone/tablet app.
- **Autonomous** flight code may be run from a smartphone/tablet or a computer.

What else should we buy?

- Gamepad Controller (Optional - *See the back side of this guide for more app compatibility.*)
- Extra Batteries
- Battery Charging Hub
- Prop Guard