



DRONE TENNIS

In this activity, students use IR sensors to control a drone with landing pads as paddles, playing a tennis-like game over tables or chairs. They maneuver the drones without touching them, learning about sensor technology and basic physics like motion and reaction. The game encourages teamwork, strategy, and hand-eye coordination as students compete to outmaneuver each other.

PREFLIGHT CHECKLIST

| | |
|-------------------------------|--|
| Activity Type | Competitive |
| Activity Time | 5-10 Mins |
| Student Groups of | Up to 4 +1 pilot |
| Difficulty | Hard |
| Supplies | Safety Gear, Drone, Controller, Batteries, Landing Pads |
| Designated Flight Area | Clear area free of obstructions and moving air. Recommend atleast 10x10 ft. |

Site Safety Inspection

- ✓ Designate flight area
- ✓ Place signage and ensure area remains clear

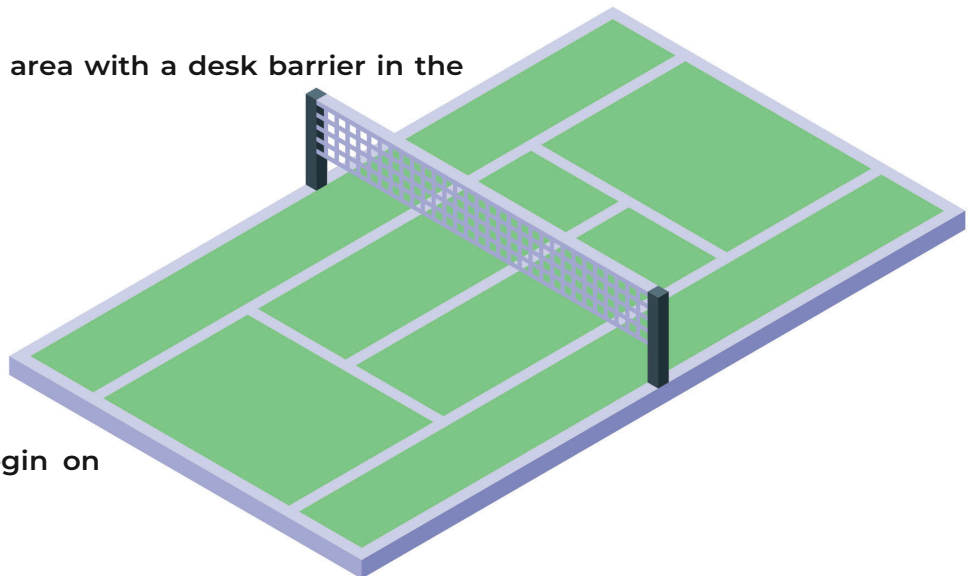
Preflight Inspections

- ✓ Inspect drone for any damage
- ✓ Debris or hair in the motors
- ✓ Inspect battery and verify voltage
- ✓ Insert battery until fully seated
- ✓ Connect and verify battery
- ✓ Apply safety gear

**Safety glasses must be worn by all participants.
Long hair or loose clothes should be secured.**

STEP #1

Have the students set up a flight area with a desk barrier in the middle to act as a tennis court.



STEP #2

Student teams of 1-2 should begin on each side of the court.

STEP #3

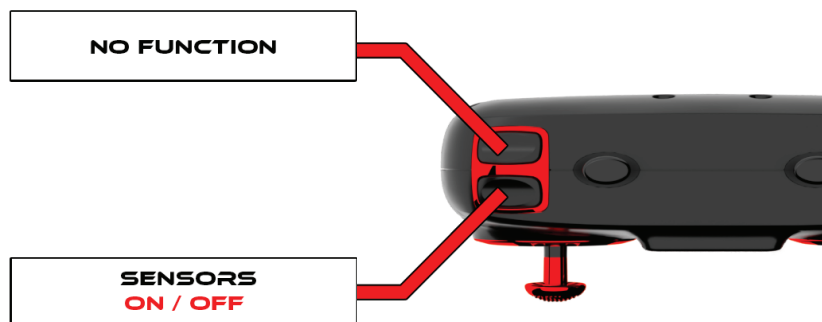
Have each pilot begin the binding procedure one at a time. Binding procedure can be found [here](#).

STEP #4

Pilots should then fly to the middle of the barrier at chest level with the red lights facing one of the players.

STEP #5

All pilots should then press the button located on the top left bumper of the controller to turn IR proximity sensors on.



Pro Tip: If sensors do not function, ensure you are in normal mode by pressing the right joystick in. One beep indicates normal mode, two beeps indicate fast mode.

STEP #6

The players will then use their landing pads to engage the drone's sensors while the pilot pauses their controller input until otherwise needed.



Do not touch or hit the drones with the landing pads.

STEP #7

Teams take turns pushing the drone back and forth with the IR sensors and landing pads while not moving their feet.



STEP #8

Controller pilots should not adjust the drone unless the altitude becomes too high or low and should return the drone to the flight area after a team scores a point with the red lights facing one of the students.

STEP #9

Teams earn one point when the opposing team fails to return the drone back over the barrier. Rounds should last until the drone auto lands from low battery or a team scores five points.

ROCKET DRONES SCORE SHEET

DRONE TENNIS

Doubles

| | | WINNER | Score |
|----------------------|----|----------------------|----------------------|
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Singles

| | | WINNER | Score |
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