For a one-week CoDrone camp, I would structure it so students progressively move from pilots to engineers to programmers. Since Build Play Learn Labs focuses on “Build, Play, Learn,” the camp should include all three components each day.

Drone Camp Goals

By the end of camp, students should be able to:

1. Fly a CoDrone safely.
2. Understand drone parts and repairs.
3. Program a drone using block coding or Python.
4. Complete a drone challenge course.
5. Present a final project or demonstration to families.

Recommended Daily Schedule (10 AM–3 PM)

Time	Activity
10:00–10:30	Morning Meeting & Safety
10:30–11:15	Drone Lesson
11:15–12:00	Hands-on Flying
12:00–1:00	Lunch & Outdoor Games
1:00–2:00	Programming Session
2:00–2:45	Challenge/Competition
2:45–3:00	Reflection & Cleanup

Check out this video, "kid movies about drones"https://share.google/CozN80kKTs8Qy3Tni

Day 1: Drone Pilot Academy

Topics:

- What is a drone? A flying technology
- FAA basics.
- Drone parts:
    - Propellers
    - Battery
    - Motors
    - Frame
    - Controller

Activities:

- Open the box.
- Label drone components.
- Learn takeoff and landing.
- Hover challenge.

Challenge

- Hover for 10 seconds.
- Land on a target.

Day 1 Schedule (10:00 AM – 3:00 PM)

Time	Activity
10:00–10:15 AM	Welcome, Check-In, Camp Expectations, and Safety Briefing

10:15–10:45 AM	**Introduction to Drones**- What is a drone?- How drones are used (photography, delivery, rescue, agriculture, science)
10:45–11:15 AM	**FAA Basics & Drone Safety**- Flying responsibly- Airspace awareness- Respecting privacy and people
11:15–11:45 AM	**Drone Anatomy Lesson**- Propellers- Battery- Motors- Frame- Controller
11:45 AM–12:00 PM	**Open the Box Activity**- Unbox drones- Identify and label all components
12:00–12:30 PM	Lunch & Outdoor Movement Break
12:30–1:30 PM	**Flight Training Lab**- Learn takeoff procedures- Practice landing techniques- Hover Challenge
1:30–2:00 PM	**3D Printing Innovation Hour**- Design your own drone component in Tinkercad: - Propeller guard - Landing gear - Camera mount - Custom drone shell
2:00–2:30 PM	**Scratch Exploration Hour**- Play and analyze drone-themed Scratch projects.- Discuss game mechanics.- Brainstorm your own drone simulator or obstacle course game.

2:30–2:50 PM	**Drone Pilot Challenge**- Hover for 10 seconds.- Land on a target.- Complete a mini obstacle course (optional).
2:50–3:00 PM	Reflection Circle & Pilot Logbook Entry- What did you learn today?- What was the hardest part?- What would you like to build tomorrow?

Daily Learning Objectives

By the end of Day 1, students will:

- Understand what drones are and their real-world applications.
- Demonstrate knowledge of FAA safety guidelines.
- Identify all major drone components.
- Successfully take off, hover, and land a drone safely.
- Create a concept for a custom 3D-printed drone accessory.
- Explore how drones can be represented through game design using Scratch.

Drone Pilot Academy Challenge

Challenge	Completion
Hover for 10 Seconds	□
Land on Target	□
Identify 5 Drone Parts	□
Complete Safety Quiz	□

Design a Drone Part in Tinkercad	□
Explore a Scratch Drone Game	□

At the end of the day, each student can receive their first stamp toward becoming an official **Build Play Learn Labs Junior Drone Pilot**. Students who complete all challenges throughout the week can earn a Drone Pilot Certificate during the camp graduation ceremony.

Day 2: Safety and Repair

Watch

- Drone Safety and Repair Video.

Topics

- Propeller replacement.
- Battery charging.
- Crash procedures.
- Pre-flight checklist.

Build Activity

Students create:

- Emergency landing pads.
- Cardboard drone hangars.
- Drone pilot licenses.

Challenge

- Obstacle course.

Day 3: Flight School

Skills

- Forward.
- Backward.
- Rotate.
- Figure-8 patterns.

Stations

1. Precision Landing.
2. Tunnel Flight.
3. Cone Slalom.
4. Balloon Avoidance.

Competition

- “Top Pilot.”

Day 4: Programming Day

Watch

- Programming Controller Video.

Students learn:

Take Off
Move Forward
Turn Left
Turn Right
Land

Example:

```
drone.takeoff()

drone.move_forward(50)

drone.turn_left(90)

drone.land()
```

Students create:

- Square flight path.
- Triangle flight path.
- Initials in the air.

Advanced Students

- Add loops.
- Add conditionals.
- Create dance routines.

Day 5: Innovation Day

Teams build:

1. Search and Rescue Drone.
2. Delivery Drone.
3. Wildlife Monitoring Drone.
4. Mars Exploration Drone.
5. Earthquake Response Drone.

(Have students make posters and presentations.)

Day 6: Drone Olympics

Events:

- Longest Hover.
- Fastest Obstacle Course.
- Best Landing.
- Programming Challenge.
- Team Relay.

Award Categories:

- Best Pilot.
- Best Engineer.
- Best Programmer.
- Best Teamwork.
- Innovation Award.

Materials Needed

- CoDrone EDU kits.
- Extra propellers.
- Batteries.
- Chargers.
- Painter’s tape.
- Hula hoops.
- Cones.
- Balloons.
- Cardboard.
- Markers.
- Scissors.
- First aid kit.

Suggested Intern Roles

Intern	Responsibility
1	Battery Manager
2	Repair Technician
3	Flight Instructor
4	Programming Coach
5	Photographer/Media

Camp Rules

1. Propellers off when not flying.
2. Fly only in designated zones.
3. No flying above heads.
4. Two hands on controller.
5. Listen for “LAND NOW.”
6. Respect equipment.
7. Safety glasses recommended.

Final Showcase

Invite parents on Friday at 2 PM.

Students will:

- Demonstrate flying.
- Show code.
- Present innovations.
- Receive certificates.
- Take group photos.

Video resources:

Drone camp training

Getting started:

Check out this video, "codrone drone tutorial"

Drone safety and repair

https://youtu.be/1jMr9CVSEq4?feature=shared

Opening the box:

Check out this video, "codrone drone tutorial"

Getting started Programming the controller:

https://youtu.be/fWdKRTGeL30?feature=shared

How to program your first drone:

Check out this video, "codrone drone tutorial" :

https://www.google.com/search?hl=en-US&hl=en-US&client=mobilesearchapp&channel=iss&rlz=1MDAPLA_enUS1216&sca_esv=5171afe6e00816b8&v=429.1.942703598&q=codrone%20drone%20tutorial&docid=mxhQ01M5eWTglM&ibp=video&shem=epsd1%2Civsple%2Crimspwouoe&shndl=41&shmd=H4sIAAAAAAAA_-OawsgI45zvUpSfI6oQUJSfXpSYm5uZl64QUlqSX5SZmCOVnVFSUlBspa-fmpdcVFIQkpqiW5KUZ6CXXlySWJKZrJecn6ufmZuYnlpsX2gLlLFy9EuxdE8OTArQ9cgwdU6qCAiwjA_UNS01sggM