

# Coding with Parrot Mini Drones

**Terminal Objective 2.4:** Fly the minidrone through an obstacle course

**Performance Objective 2.4:** Using an iPad or Android tablet with the free flight mini app, fly the mini drone through an obstacle courses with accuracy.

## Enabling Objectives:

1. Demonstrate precision flight of the mini drone using pitch, yaw, and roll in a safe manner

## Materials and Supplies:

- iPad with iOS 8.0 or later or Android tablet with 4.0 or later
- Download and install free flight mini app on tablet (found in app store)
- Safety glasses for all participants
- Parrot Mini Drone: Cargo or Mamba
- USB charging device
- Flight Challenge 2.4 (for reference)
- 3 hoops and some way to secure
- 2 foam floor mats
- *Performance Assessment 2.4: Remote flight challenge* (copy for each student)
- *Understanding Check 2.4: Remote flight* (copy for each student) and answer key

## Learning Activities:

1. Video: ROAV mini 2.4 v1
2. *Understanding Check 2.4: Remote flight*

## Formative Assessment:

1. Practice flying mini drone through obstacle course
2. *Understanding Check 2.4: Remote flight* use answer key

## Summative Assessment:

1. Safely perform obstacle course flight. (Refer to *Remote flight challenge*)
2. Evaluate students using *Performance Assessment 2.4: Remote flight challenge*

## Supplemental teacher resources:

- Parrot Mambo Racing Club (just for fun)
- <https://www.youtube.com/watch?v=CR51A4AMHIU>
- Optional flypad accessory  
<https://community.parrot.com/t5/Mambo-Knowledge-Base/Parrot-Flypad/ta-p/145932>

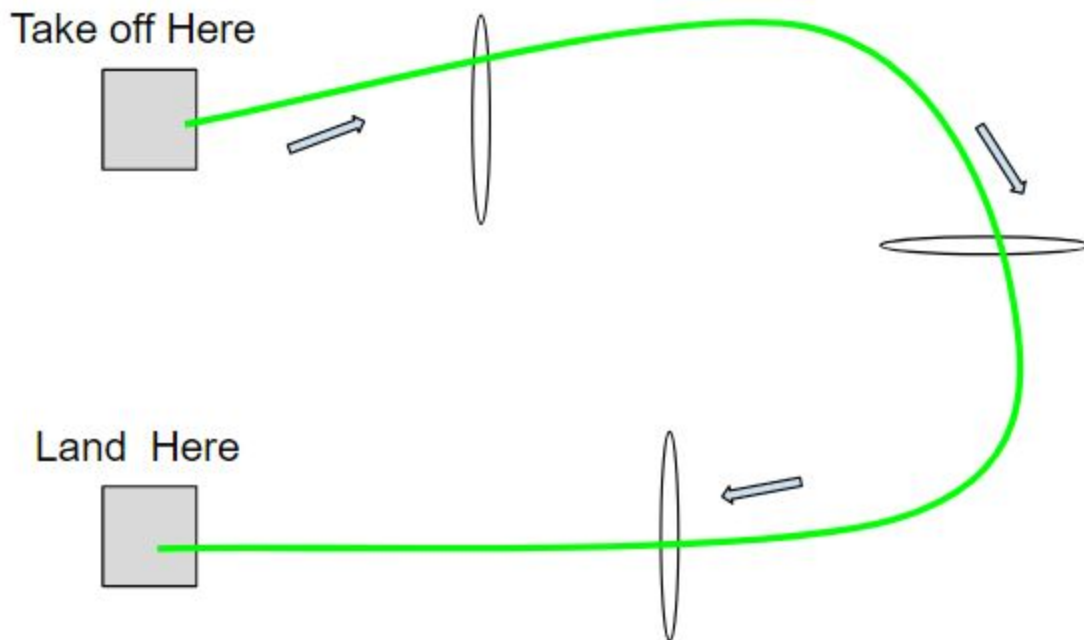
## Remote flight challenge 2.4

To set up this challenge you will need 3 hoops fixed in an upright position and two foam floor mats.

### Steps:

1. Establish designated fly and safe zones in an open area
2. Set up challenge using hoops and mats.(see figure 1)
3. Have operating student place mini drone in the fly zone
4. Move to the safe zone
5. Have student practice the task of maneuvering mini drone through the hoops
6. Evaluate students using *Performance Assessment 2.4: Remote flight challenge*

Figure 1



## Performance Assessment 2.4: Remote flight challenge

Name: \_\_\_\_\_ Date \_\_\_\_\_

**Terminal Objective 2:4** Fly the mini drone through an obstacle course

**Performance Objective 2.4:** Using an iPad or Android tablet with the free flight mini app, fly the mini drone through an obstacle courses with accuracy.

### Assessment

Skill Check	Pass	Retry
Followed safe practices	<input type="radio"/>	<input type="radio"/>
Demonstrated proper power up and power down procedures	<input type="radio"/>	<input type="radio"/>
Flew the mini drone generally following path	<input type="radio"/>	<input type="radio"/>
Flew the mini drone hitting 1 or less obstacles	<input type="radio"/>	<input type="radio"/>
Landed mini drone touching pad	<input type="radio"/>	<input type="radio"/>

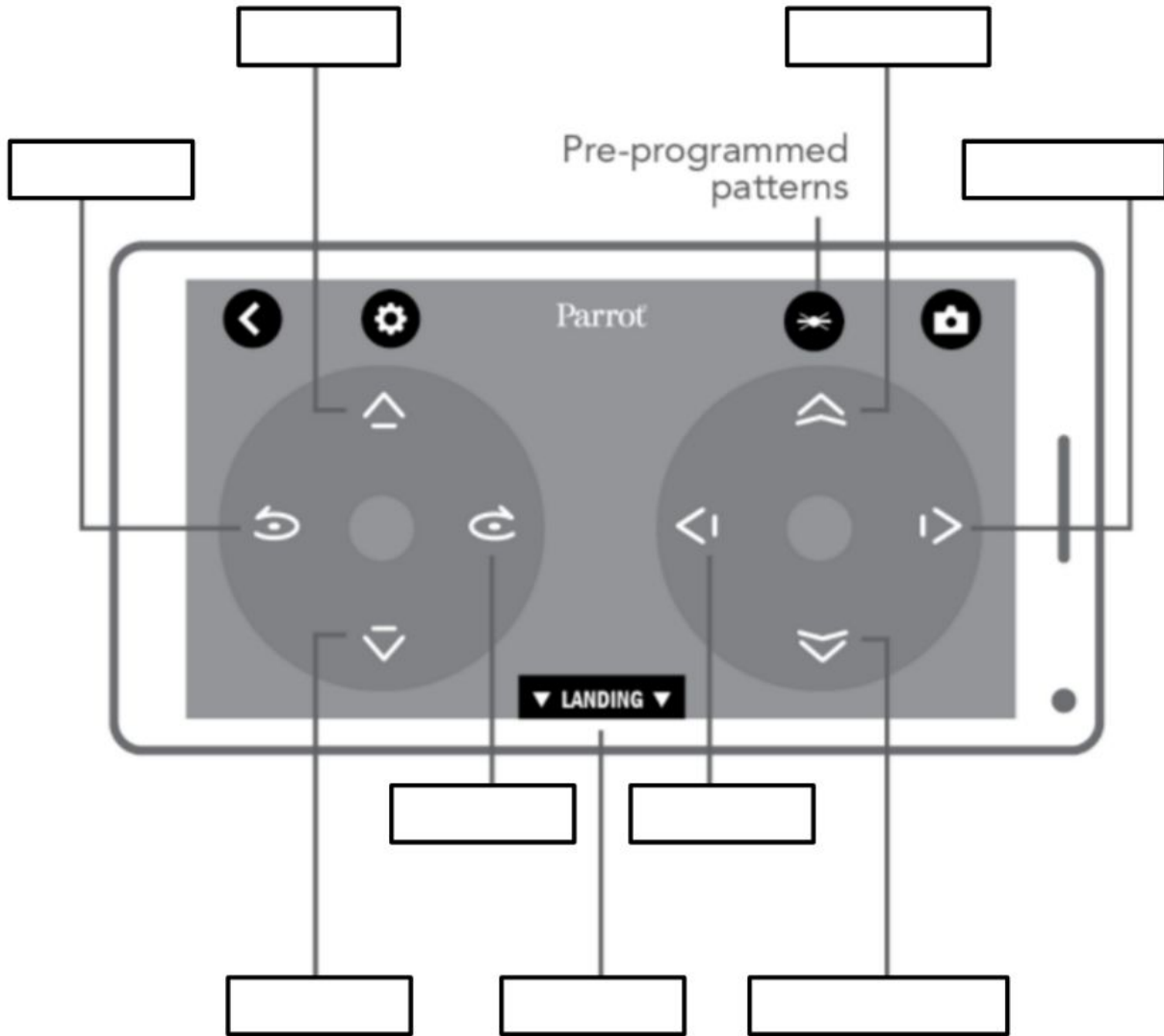
**Note:** To pass this objective, all skill check items must receive a pass.

Assessed by: \_\_\_\_\_ Date: \_\_\_\_\_

## Understanding Check 2.4: Remote flight

Name: \_\_\_\_\_ Date: \_\_\_\_\_

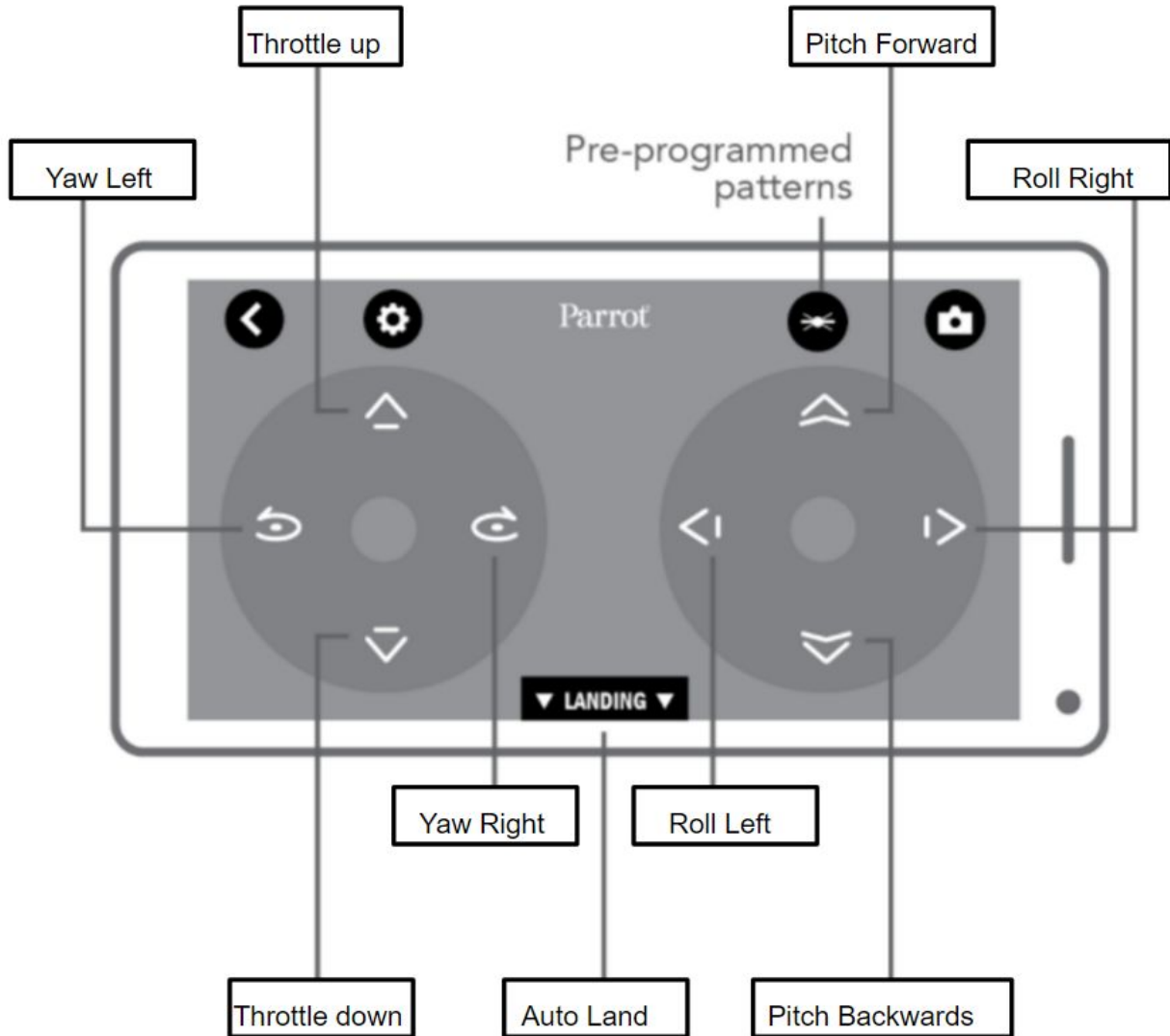
Fill in the blank with the proper flight control on the image below



### Word bank

Yaw Left	Yaw Right	Pitch Forward
Pitch Backward	Roll Left	Roll Right
Throttle Up	Throttle Down	Auto Land

## Understanding Check 2.4: Remote flight Answer key



## Outline Video 2.4: Remote Flight Challenge

### I. Remote Flight Challenge (Animation)