

# Coding with Parrot Mini Drones

**Terminal Objective 4.3:** Retrieve data remotely using mini drone and space board

**Performance Objective 4.3:** Retrieve data remotely using mini drone and space board to remotely read sensor values.

## Enabling Objectives:

1. Define what sensors do
2. Identify different types of sensors
3. Set up an ArduSat sensor experiment
4. Record sensor data

## Materials and Supplies:

- Laptop with internet connection using chrome browser (plugin required for arduino)
- ROAVcopter sensor-kit <https://www.becauselearning.com/>
- 3D printed mount for space board or building block alternative(from lesson 4.2)
- 8 inch wire tie to secure Moteino
- LED bucket assembly (see RGB bucket document)
- Peltier hot/cold plate assembly (see hot/cold bucket document)

## Learning Activities:

1. Video: ROAV mini 4.3 v1
2. *Data Retrieval Mission Experiment* <https://ehub.ardusat.com/experiments/4487>

## Formative Assessment:

1. Activity sheet 4.3: *Pilot Data Mission*

## Summative Assessment:

1. Evaluate students using *Performance Assessment 4.3:v: Pilot Data Mission*

## Supplemental teacher resources:

- ROAVcopter sensor-kit  
<https://www.becauselearning.com/>
- ArduSat experiment hub  
<https://ehub.ardusat.com/experiments/overview>

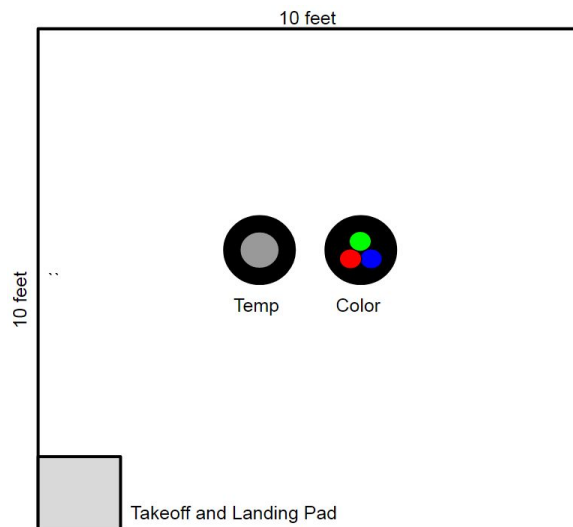
## Activity Sheet 4.3: Pilot Data Mission

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

### Challenge

As a team you are to attach the sace board to the mini drone and pilot the mini drone remotely to collect sensor data. There are two data sets that well need to be retrieved. The fist is a temperature and the next is a color reading. Your challenge is to navigate obstacles and to collect the data required.

### Field set up



Ambient temperature reading: \_\_\_\_\_

**Data retrieved:** Indicate the reading by placing a checkmark in the correct circle.

<b>Temperature</b>	<b>Cold</b>	<b>Room</b>	<b>High</b>
Reading	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Color</b>	<b>Red</b>	<b>Green</b>	<b>Blue</b>
Reading	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3) **Reflection** What was the hardest part of this challenge?