Mission 5 Assignment Log	**Name:**
Pre-Mission Preparation	
In the last mission, you learned about analog and digital devices. Explain the difference between analog and digital.	Answers can include: • Analog devices have continuous readings, and digital devices read in intervals. • Analog devices return values from 0 to 2^16-1, digital devices return True or False
In this mission you will set up an alert system. What are some things that might cause an alarm in a rocket living space?	Answers will vary
Mission 5 Checks	
Objective #1 You will be coding a continuous loop during this mission. What tasks will be included in the loop?	• Read sensors • Check sensor values • Set alert output • Repeat!
Objective #2 What is “frequency”?	Analog period – one cycle of on and off
What is “duty-cycle”?	The period when the device is on
Objective #3 What does REPL stand for?	Read-Evaluate-Print Loop
What are two things the console panel lets you do?	• See output of print statements • Type in Python statements directly • Test out snippets of code • Test out language features and APIs
Objective #4 What information does the temperature sensor return? What has to happen to the raw data?	Volts The raw data must be converted to degrees Celsius
Objective #5 Summarize the temperature alerting system; explain how it works.	Answers can vary. An answer might be: The original temperature is read. Using the temperature threshold, the temp-limit is calculated. Then the temperature sensor is read continuously. If the temp-limit is met or exceeded, the alarm is set off.

Objective #6 During the first part of the objective, you look at all the values of the sound sensor. Record the range of values for a “normal” range of sound in your environment. Modifying the code to print only values outside the normal range. Record some data.	Answers depend on individual readings Answers depend on individual readings
Objective #7 Summarize the EMA calculation; explain how it works.	Exponential moving average. It puts more weight on the newest value and less weight on the previous average
Objective #8 Explain how the sound sensor alert is different from the temperature sensor alert.	The sound sensor records high and low values when it detects a loud noise. The temperature sensor is linear – it reads higher when the temp goes up and lower when the temp goes down.
Objective #9 Explain how “display.print()” is different from “print()”.	display.print() displays on the CodeX screen. print() displays on the console.
Post-Mission Reflection	
What is one new thing you learned from this mission?	Answers will vary.
What is something you learned about your classmates while working on this mission?	Answers will vary.