Mission 9 Assignment Log	Name:

Pre-Mission Preparation

During this mission you will set up an automatic watering system. What automated activities do you use or see?	Answers will vary.

Mission 9 Checks

Objective #1 Give at least two facts about a relay.	• It is an electronically operated switch • It allows relatively low power to switch to high power • It allows a single controller to switch multiple loads at the same time • It allows a DC logic circuit to switch to AC power
What is the benefit of using a relay?	Circuit isolation
Objective #2 Explain how to connect the water pump and CodeX to the relay. (You can draw a diagram.)	 The middle terminal connects to the CodeX using a jumper wire. The NO terminal connects to the water pump. The black wire of the pump connects to the CodeX G.
Objective #3 Explain the importance of priming.	A majority of pump problems occur because the pump was not primed first.
What constants are needed for coding the pump?	PUMP_ON = True PUMP_OFF = False
Objective #4 Explain how conductivity affects the soil moisture sensor?	More water in the soil means more conductivity. More conductivity means less resistance. Less resistance means a higher reading.
More water in the soil = _____ = _____	More conductivity Less resistance
With more water in the soil, the readings will be: (higher / lower)	higher

Objective #5 What code do you add to the program to include the moisture sensor to control the water pump?	Add an if statement that checks if the moisture sensor is less than the threshold. If so, turn on the pump for the given TIME_ON amount of time.
Post-Mission Reflection	
Discuss a problem you had with the program. How did you overcome the problem?	Answers will vary.
Where are some places you may find a relay, or that could use a relay?	Answers will vary.