Lab 3: Sensors
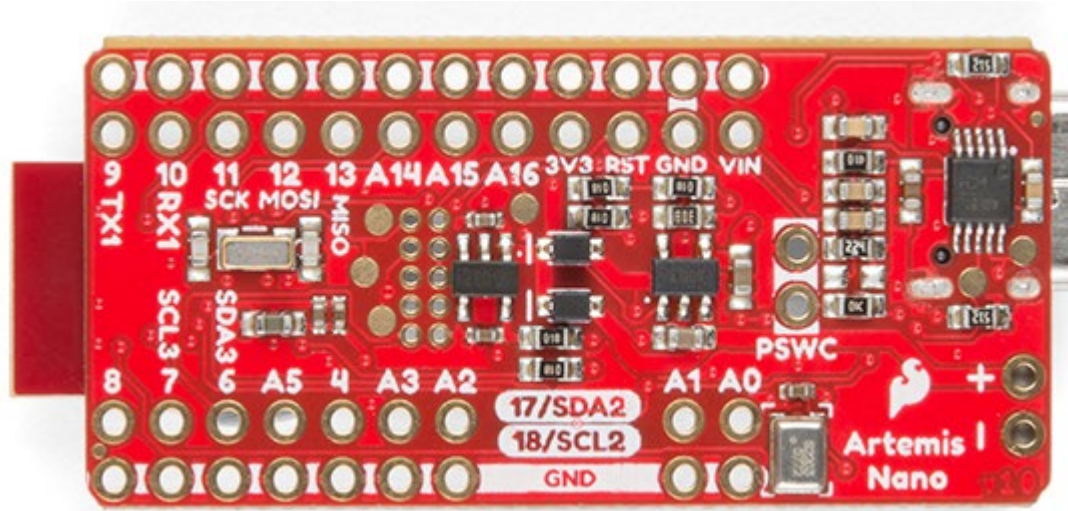
- Connect to TOF sensors and IMU
- Understand and process data
- Things to consider…
  - Color coding
  - Permanent solder joints / Detachable connections?
  - Single core or braided wires?
  - Routing of TOF sensors, IMU, Artemis, battery
  - Routing for motor drivers and battery for the motors
  - How will you deal with two TOF sensors on one I2C line?
  - Mechanical mounting components (optional)

Lab 3: Sensors (pre-lab)
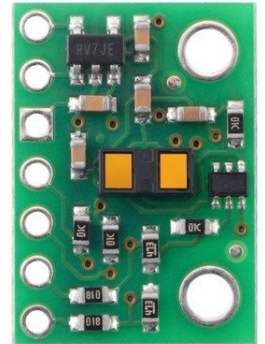
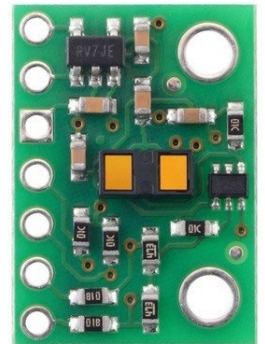*Draw the connection diagram that you intend to use*

Sensors

Motor drivers (optional until Lab 4)

GND	GND
VMM	VIN
BIN1	BOUT1
BIN2	BOUT2
AIN2	AOUT2
AIN1	AOUT1
nSLEEP	AISEN
nFAULT	BISEN

GND	GND
VMM	VIN
BIN1	BOUT1
BIN2	BOUT2
AIN2	AOUT2
AIN1	AOUT1
nSLEEP	AISEN
nFAULT	BISEN

ICM20948 pimoroni.com
X→Y→Z

2-6V
SDA
SCL
INT
GND

VDD (2.8V out)
VIN (2.6–5.5V)
GND
SDA
SCL
XSHUT
GPIO1

VDD (2.8V out)
VIN (2.6–5.5V)
GND
SDA
SCL
XSHUT
GPIO1

Artemis Nano

9 TX1 10 RX1 11 SCK 12 MOSI 13 A14 A15 A16 3V3 RST GND VIN MISO

8 SCL3 7 SDA3 6 A5 4 A3 A2 A1 A0 + PSWC

17/SDA2
18/SCL2
GND

Lab 3: Sensors (pre-lab)

Think about the placement of components and batteries