Basic Math Instruction:

Resistance of a metal = resistivity \* length of wire / area of wire

Area = pi\*(radius)^2

Function:

Function (metal\_resistance) = calcResistence(metal\_resistivities, wire\_length\_in\_m, wire\_radius);

Variables:

metal\_examples = [silicon copper aluminum gold];

metal\_resistivities = [.0023 .000000017 .0000000282 .0000000244];

wire\_length\_in\_m  = [1 5 25 50];

wire\_diam\_in\_mm = [1 2 3 4];

wire\_diam\_in\_m = wire diam\_in\_mm/1000;

wire\_radius = wire\_diam\_in\_m/2;

area\_of\_wires = pi\*((wire\_radius)^2);

metal\_resistance = (metal\_resistivities) \* ((wire\_length\_in\_m)/(area\_of\_wires));