Name:	

Equivalent Resistance Lab Activity SPH4C

Materials: Several resistors of varying resistance, a digital ohmmeter or multimeter, tape

		4 B	and Resistors
BAND 1	BAND 2	BAND 3 MULTIPLIER	BAND 4 TOLERANCE
0 BLACK 1 BROWN 2 RED 3 ORANGE 4 YELLOW 5 GREEN 6 BLUE 7 VIOLET 8 GRAY 9 WHITE	0 BLACK 1 BROWN 2 RED 3 ORANGE 4 YELLOW 5 GREEN 6 BLUE 7 VIOLET 8 GRAY 9 WHITE	BLACK X 1 BROWN X10 RED X 100 ORANGE X 1,000 YELLOW X 10,000 GREEN X 100,000 BLUE X 1,000,000 SILVER X .01 GOLD X .1	NONE + or - 20% SILVER + or - 10% GOLD + or - 5% RED + or - 2% BROWN + or - 1%

	_					
1	Solooto	rociotor	Write down	the colour	anda an	the register.

What is its resistance according to the colour code?
Test its resistance using the digital ohmmeter or multimeter.
What is its resistance according to the meter?
Is this within the indicated tolerance?
13 tills within the indicated tolerance:

2. Select a different resistor. Write down the colour code on the resistor:

What is its resistance according to the colour code? _____

Test its resistance using the digital ohmmeter or multimeter.

What is its resistance according to the meter? _____

Is this within the indicated tolerance? _____

3.	Tape the resistors together so that they are in series.
	What do you expect the equivalent resistance to be? (Show your work.)
	Test the equivalent resistance using the digital ohmmeter or multimeter.
	What is the equivalent resistance according to the meter?
4.	Tape the resistors together so that they are in parallel.
	What do you expect the equivalent resistance to be? (Show your work.)
	Test the equivalent resistance using the digital ohmmeter or multimeter.
	What is the equivalent resistance according to the meter?
Repea	at Steps 1 – 4 using two different resistors again:
5.	Select a resistor. Write down the colour code on the resistor:
	What is its resistance according to the colour code?
	Test its resistance using the digital ohmmeter or multimeter.
	What is its resistance according to the meter?
	Is this within the indicated tolerance?

6.	elect a different resistor. Write down the colour code on the resistor:		
	What is its resistance according to the colour code?		
	Test its resistance using the digital ohmmeter or multimeter.		
	What is its resistance according to the meter?		
	Is this within the indicated tolerance?		
7.	Tape the resistors together so that they are in series.		
	What do you expect the equivalent resistance to be? (Show your work.)		
	Test the equivalent resistance using the digital ohmmeter or multimeter.		
	What is the equivalent resistance according to the meter?		
8.	Tape the resistors together so that they are in parallel.		
	What do you expect the equivalent resistance to be? (Show your work.)		
	Test the equivalent resistance using the digital ohmmeter or multimeter.		
	What is the equivalent resistance according to the meter?		

Now you have 4 resistors you can arrange in different configurations. As an example, refer to the diagram at right.		
Design 3 different configurations using	at least three resistors in each.	
Diagram each configuration below, c resistance (show your work again!), equivalent resistance using the meter.		
Diagram 1:	Expected equivalent resistance:	
	Actual equivalent resistance:	
Diagram 2:	Expected equivalent resistance:	
	Actual equivalent resistance:	
Diagram 3:	Expected equivalent resistance:	
	Actual equivalent resistance:	