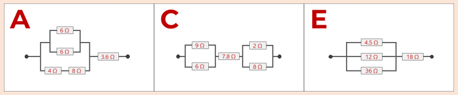
Circuit Virtual Escape Room Map ~ [4-Player]

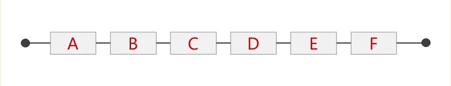
Welcome Player 1… *You must work with your team to earn your reward* *Your clues interact, and you cannot afford* *To leave groupmates behind or sit silently staring* *This is time for unmuting and time for screen sharing.* *This escape room requires your circuitry smarts* *You will face separate doors and will have unique parts* *Of the overall challenge. It will test your persistence* *As you calculate voltage, current, power, resistance* *Make sure that you're careful and read all the text* *When your team is all ready, you can start - just click "Next"*	*Welcome Player 2…* *You must work with your team to earn your reward* *Your clues interact, and you cannot afford* *To leave groupmates behind or sit silently staring* *This is time for unmuting and time for screen sharing.* *This escape room requires your circuitry smarts* *You will face separate doors and will have unique parts* *Of the overall challenge. It will test your persistence* *As you calculate voltage, current, power, resistance* *Make sure that you're careful and read all the text* *When your team is all ready, you can start - just click "Next"*	*Welcome Player 3…* *You must work with your team to earn your reward* *Your clues interact, and you cannot afford* *To leave groupmates behind or sit silently staring* *This is time for unmuting and time for screen sharing.* *This escape room requires your circuitry smarts* *You will face separate doors and will have unique parts* *Of the overall challenge. It will test your persistence* *As you calculate voltage, current, power, resistance* *Make sure that you're careful and read all the text* *When your team is all ready, you can start - just click "Next"*	*Welcome Player 4…* *You must work with your team to earn your reward* *Your clues interact, and you cannot afford* *To leave groupmates behind or sit silently staring* *This is time for unmuting and time for screen sharing.* *This escape room requires your circuitry smarts* *You will face separate doors and will have unique parts* *Of the overall challenge. It will test your persistence* *As you calculate voltage, current, power, resistance* *Make sure that you're careful and read all the text* *When your team is all ready, you can start - just click "Next"*
Door #1			
The resistor shown below has a 3-watt power rating *From this published limit, find volts by calculating* *Maximum voltage for the resistance shown by colors* *Too bad your data's scrambled, compare lists with all the others*	*The resistor shown below has a 3-watt power rating* *From this published limit, find volts by calculating* *Maximum voltage for the resistance shown by colors* *Too bad your data's scrambled, compare lists with all the others*	*The resistor shown below has a 3-watt power rating* *From this published limit, find volts by calculating* *Maximum voltage for the resistance shown by colors* *Too bad your data's scrambled, compare lists with all the others*	*The resistor shown below has a 3-watt power rating* *From this published limit, find volts by calculating* *Maximum voltage for the resistance shown by colors* *Too bad your data's scrambled, compare lists with all the others*
			
Resistance = 3 Ω	Resistance = 75 Ω	Resistance = 10 Ω	Resistance = 56 Ω
Brown – Black – Black Mass: 15 g Diameter: 5.5 mm Length: 15.0 mm Resistance: 10 Ω Power Rating: 3 W Operating Temperature: -55°C ~ 235°C https://www.digikey.com/en/products/detail/stackpole-electronics-inc/RSMF3JT10R0/1695561	**Orange – Black – Gold** Mass: 15 g Diameter: 5.5 mm Length: 15.0 mm Resistance: 3 Ω Power Rating: 3 W Operating Temperature: -55°C ~ 235°C https://www.digikey.com/en/products/detail/stackpole-electronics-inc/RSMF3JT3R00/1695451	**Green – Blue – Black** Mass: 15 g Diameter: 5.5 mm Length: 15.0 mm Resistance: 56 Ω Power Rating: 3 W Operating Temperature: -55°C ~ 235°C https://www.digikey.com/en/products/detail/stackpole-electronics-inc/RSMF3JT56R0/1695611	**Purple – Green – Black** Mass: 15 g Diameter: 5.5 mm Length: 15.0 mm Resistance: 75 Ω Power Rating: 3 W Operating Temperature: -55°C ~ 235°C https://digikey.com/en/products/detail/stackpole-electronics-inc/RSMF3JT75R0/1695621
3 V	**15 V**	**5.477 V (5.4-5.5)**	**12.961 V (12.9-13.0)**

Door #2

Equivalence means the result is the same
When grouping resistors with a new labeled name
Parallel or series, affects how they add
Find the parts of the whole or you'll wish that you had

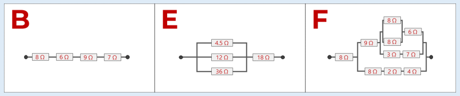


6 Ω	13 Ω	21 Ω

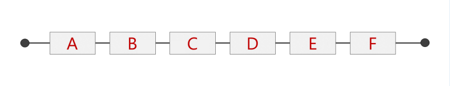


105 Ω

Equivalence means the result is the same
When grouping resistors with a new labeled name
Parallel or series, affects how they add
Find the parts of the whole or you'll wish that you had



30 Ω	21 Ω	15 Ω



105 Ω

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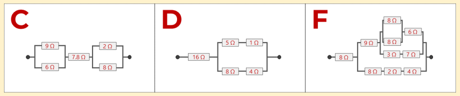
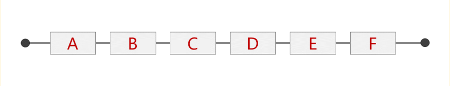
Find the parts of the whole or you'll wish that you had



13 Ω	20 Ω	15 Ω



105 Ω

Equivalence means the result is the same
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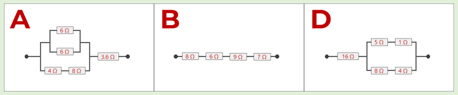
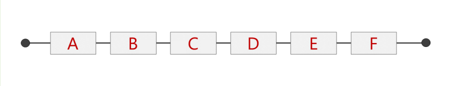


6 Ω	30 Ω	20 Ω

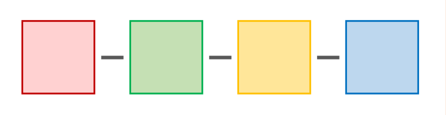


105 Ω

Door #3

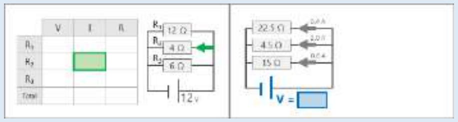
Circuits are simply complete paths around
For electrons to flow as components compound
The electrical properties, junctions, and loops
Will help find the colors as you work with your groups

6 Ω	3 A

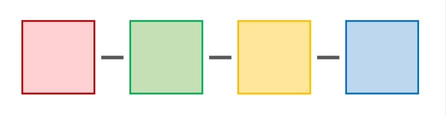


6389

Circuits are simply complete paths around
For electrons to flow as components compound
The electrical properties, junctions, and loops
Will help find the colors as you work with your groups



3 A	9 V



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For electrons to flow as components compound
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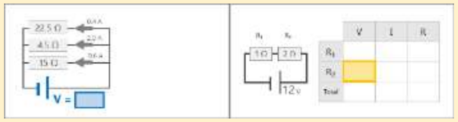
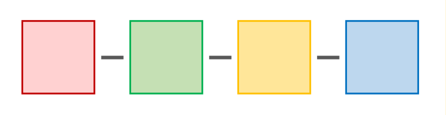


9 V	8 V



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For electrons to flow as components compound
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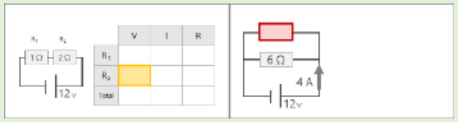
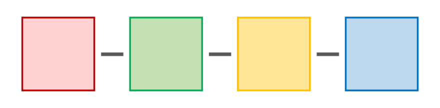


8 V	6 Ω



6389

Door #4

This next door is different -- it's kind of a maze
You're all an electron that can move different ways
At each junction, one person is given a clue
Take their advice or be back for round two.

This next door is different -- it's kind of a maze
You're all an electron that can move different ways
At each junction, one person is given a clue
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This next door is different -- it's kind of a maze
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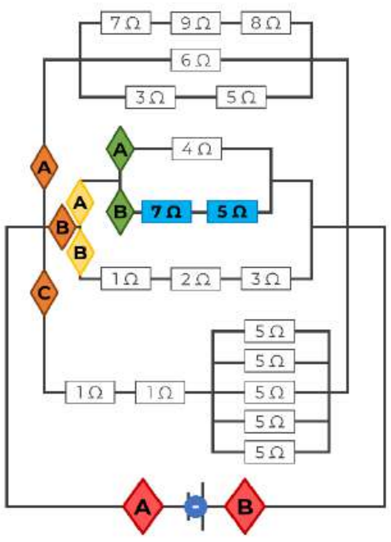	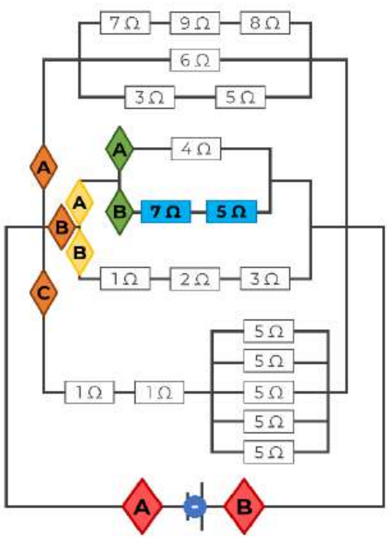	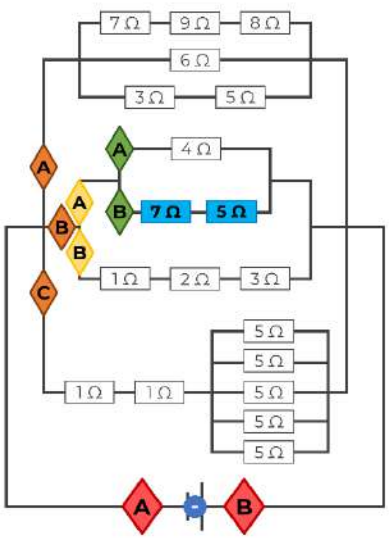	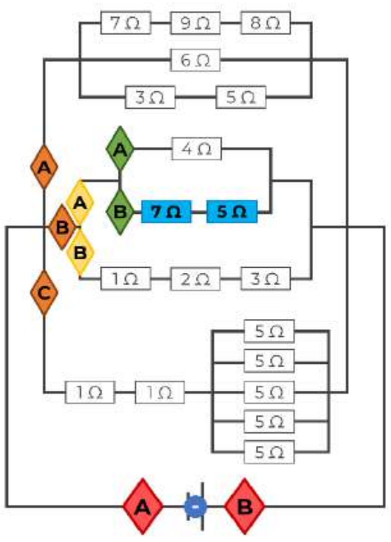
You must know the charge that electrons all carry Since “like repels like” as discussed In schematics we know that the batteries can vary But the long line is always the plus	A	A	A
B	With where you sit now there are multiple “halls” They are labeled with A, B, and C Pick the branch where resistance is smallest in all To make the right choice of these three	B	B
A	A	Each choice that you see has three different resistors Connected in two different ways Pick the one where the current ain’t the same for all sisters And you’ll continue to move through this maze	A
B	B	B	The voltage that’s used is the same for each path But in one the flow is much slower The current is found with quite simple math Is the slow one the upper or lower?
When this mess of a circuit is connected and flowing The voltage supplied is eighteen Which resistor to choose? The key is in knowing Where “ten and a half” volts are seen	7 Ω	7 Ω	7 Ω
Door #5			
You reach in your backpack and pull out a wire *To get through this next door, you'll see I require* *The name of the metal, and for your calculation* *Each member has some of the right information*	*You reach in your backpack and pull out a wire* *To get through this next door, you'll see I require* *The name of the metal, and for your calculation* *Each member has some of the right information*	*You reach in your backpack and pull out a wire* *To get through this next door, you'll see I require* *The name of the metal, and for your calculation* *Each member has some of the right information*	*You reach in your backpack and pull out a wire* *To get through this next door, you'll see I require* *The name of the metal, and for your calculation* *Each member has some of the right information*

Material	Resistivity
Silver	1.59×10^{-8} Ωm
Copper	1.68×10^{-8} Ωm
Gold	2.44×10^{-8} Ωm
Aluminum	2.65×10^{-8} Ωm
Tungsten	5.6×10^{-8} Ωm
Iron	9.71×10^{-8} Ωm
Platinum	1.06×10^{-7} Ωm
Manganin	4.82×10^{-7} Ωm
Lead	2.2×10^{-7} Ωm
Mercury	9.8×10^{-7} Ωm
Nichrome	1.0×10^{-6} Ωm
Constantan	49×10^{-8} Ωm
Quartz (fused)	7.5×10^{-17} Ωm

The spool of wire is labeled “200 ft”. Convert this into meters.	You hook up the wire to a potential difference of 3 volts and measure 5.83 A with an ideal ammeter.	What is the cross-sectional area of the wire? Complete the missing value rounded to 2 decimal places	$\rho = \frac{RA}{L}$ Resistivity is a property that can help define the material
60.96 m	**0.515 (0.514-0.515)**	**1.26×10^{-5} (1.25-1.26)**	
What is the wire made of?	What is the wire made of?	What is the wire made of?	What is the wire made of?
Platinum	**Platinum**	**Platinum**	**Platinum**

Door #6

This final door's equipped with two factor authentication
To get your final clue, I need a little communication
This crazy awesome circuit gives a crucial little digit
Incorporate it wisely and you'll soon receive your ticket

This final door's equipped with two factor authentication
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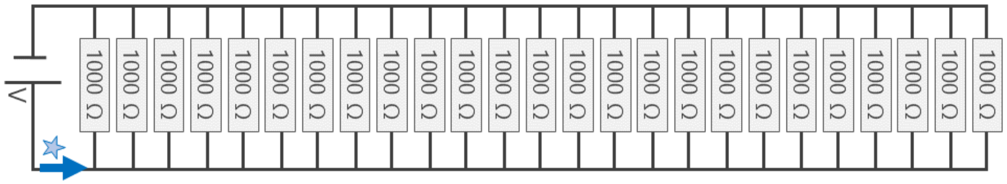


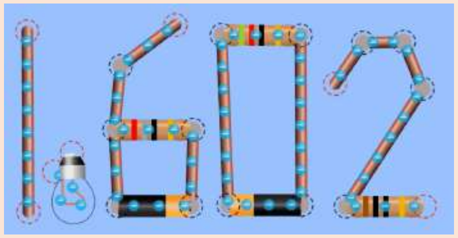
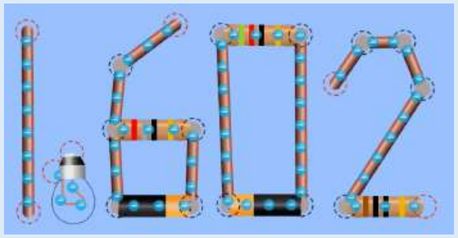
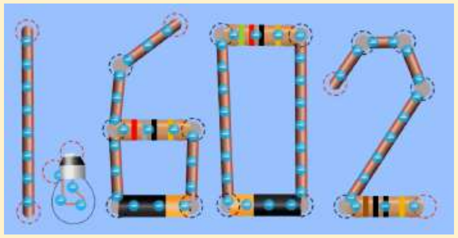
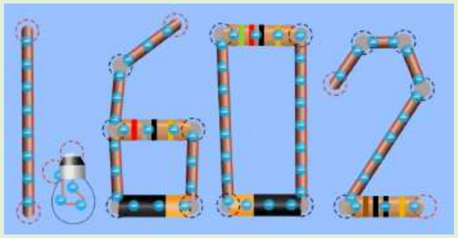
Just looking at those branches sends my mind into twisters I'll save you the counting, there are 25 resistors.	If the current is your goal, total volts is good to get It's the same amount of voltage as a standard US outlet	Send an email message if you want to move on circuitescape★@gmail.com	Someone has an address with a star in the middle Replace it with the current to receive your final riddle

Email circuitescape3@gmail.com

Your next Clue: You found circuit success since you knew where to send You must answer this riddle to get to the end	What did the announcer say when the resistor hit the baseball out of the park? _ _ _ _ _ _!!

Ohm run

CONGRATULATIONS!!

You made it to the end and the feeling is ELECTRIC! *It's clear your group is ready, you accomplished every metric* *Share this code here with your teacher to prove that you are done* *I hope this helped review things and I hope that you had fun*	*You made it to the end and the feeling is ELECTRIC!* *It's clear your group is ready, you accomplished every metric* *Share this code here with your teacher to prove that you are done* *I hope this helped review things and I hope that you had fun*	*You made it to the end and the feeling is ELECTRIC!* *It's clear your group is ready, you accomplished every metric* *Share this code here with your teacher to prove that you are done* *I hope this helped review things and I hope that you had fun*	*You made it to the end and the feeling is ELECTRIC!* *It's clear your group is ready, you accomplished every metric* *Share this code here with your teacher to prove that you are done* *I hope this helped review things and I hope that you had fun*
			

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Congratulations again!! 1.602 isn't just a random code you know. It's a reference to the elementary charge of protons on electrons (1.60217662 x 10^-19 Coulombs) Electricity all the way through :)	Congratulations again!! 1.602 isn't just a random code you know. It's a reference to the elementary charge of protons on electrons (1.60217662 x 10^-19 Coulombs) Electricity all the way through :)	Congratulations again!! 1.602 isn't just a random code you know. It's a reference to the elementary charge of protons on electrons (1.60217662 x 10^-19 Coulombs) Electricity all the way through :)	Congratulations again!! 1.602 isn't just a random code you know. It's a reference to the elementary charge of protons on electrons (1.60217662 x 10^-19 Coulombs) Electricity all the way through :)