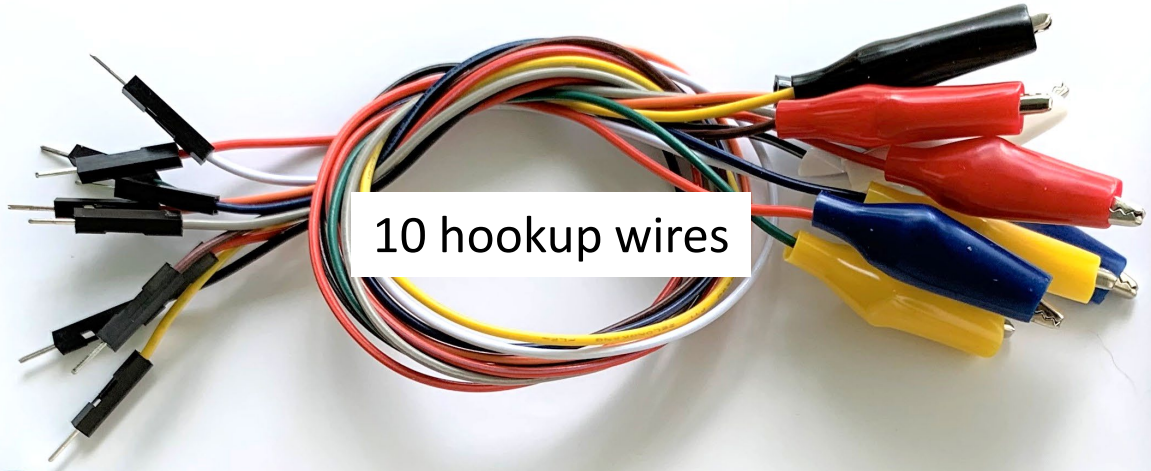
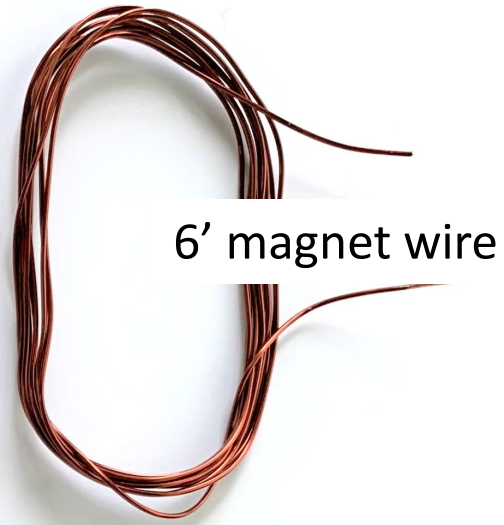
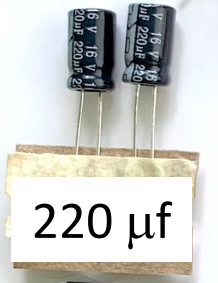
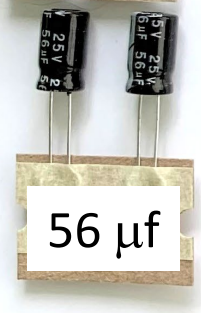
Accessory Pack for Electricity and Magnetism

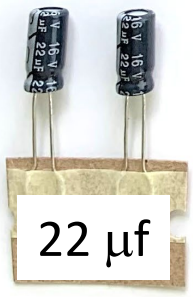

iOLab
Accessory Pack for Electricity & Magnetism
macmillan learning


10 hookup wires


6’ magnet wire


220 µf

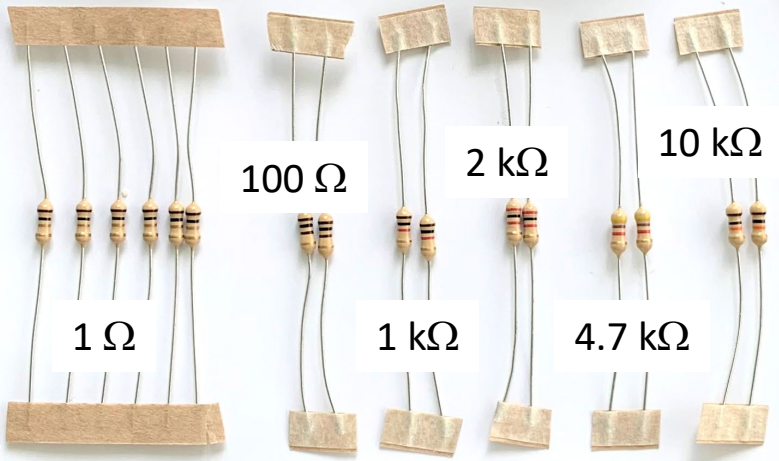

56 µf


22 µf

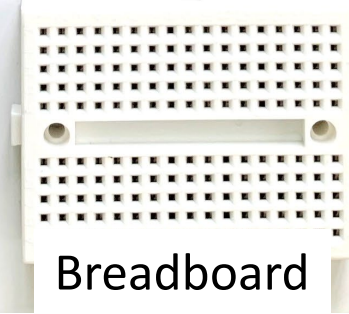

Red
LED


Green
LED


Si diodes


1 Ω
100 Ω
1 kΩ
2 kΩ
4.7 kΩ
10 kΩ

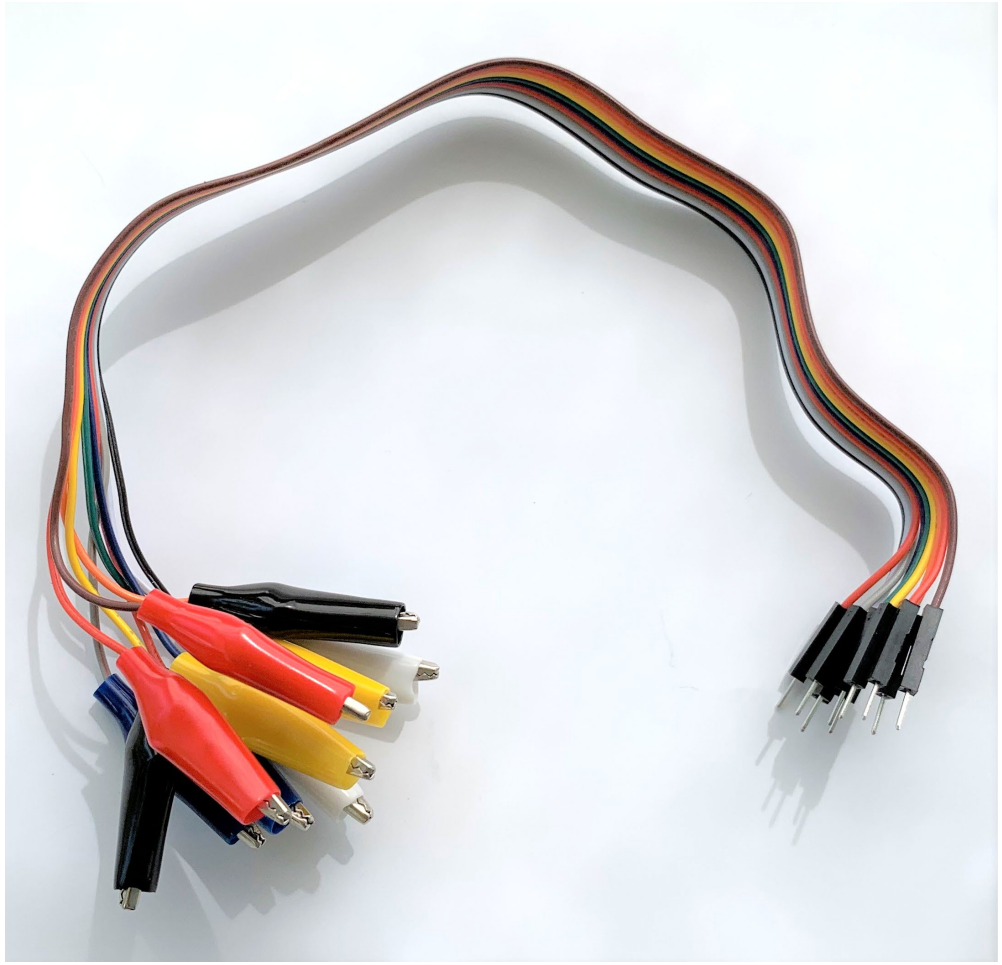

100 mH

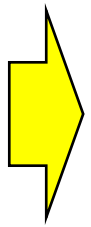

Breadboard


Magnet


2 Polarizing
sheets

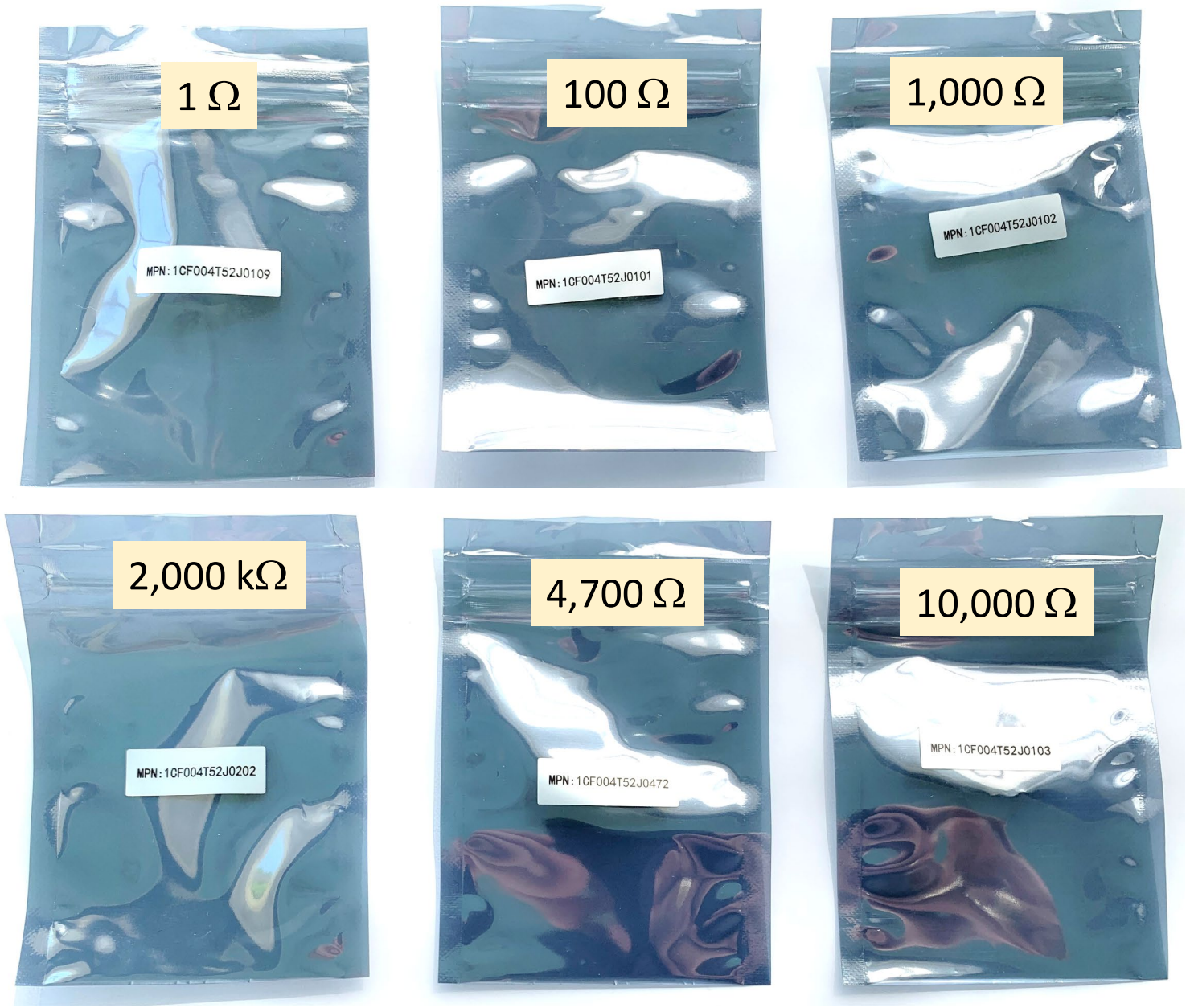
Wires

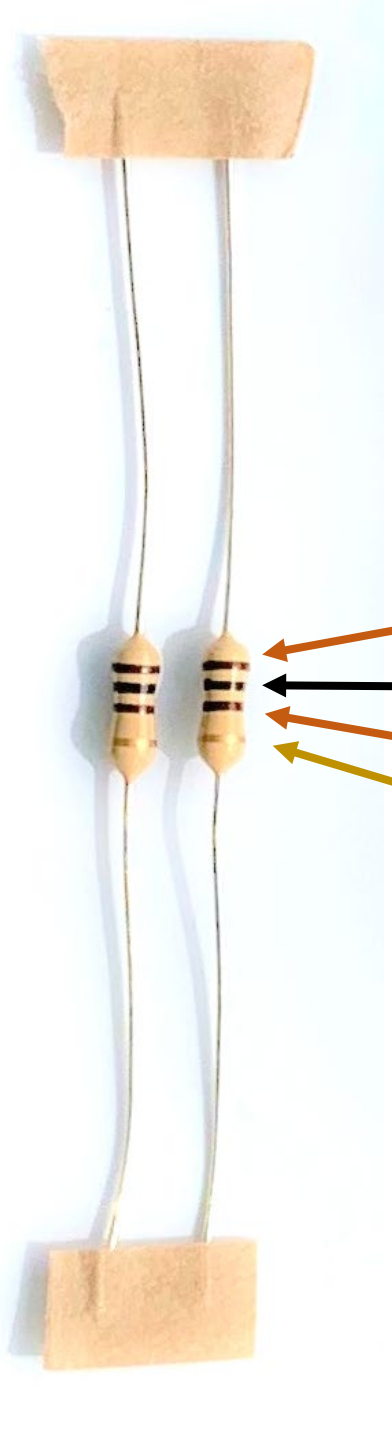




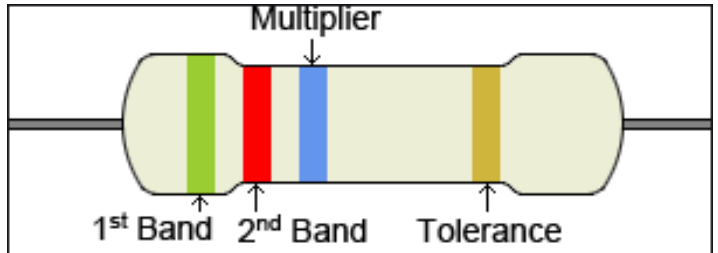
Peel apart to use individual wires

Resistors

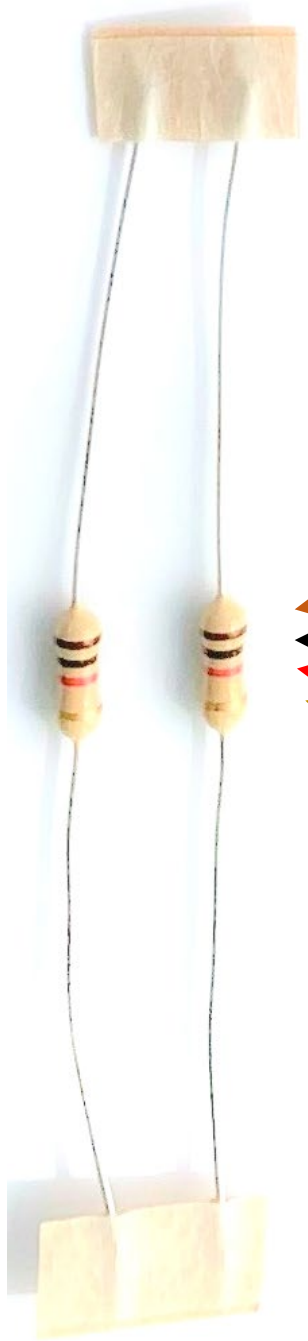

1 Ω
MPN: 1CF004T52J0109
100 Ω
MPN: 1CF004T52J0101
1,000 Ω
MPN: 1CF004T52J0102
2,000 kΩ
MPN: 1CF004T52J0202
4,700 Ω
MPN: 1CF004T52J0472
10,000 Ω
MPN: 1CF004T52J0103



100 Ω

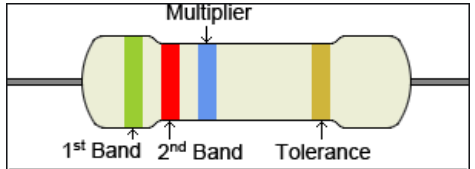


Color	1st, 2nd Band Significant Figures	Multiplier	Tolerance
Black	0	× 1	
Brown	1	× 10	±1% (F)
Red	2	× 100	±2% (G)
Orange	3	× 1K	±0.05% (W)
Yellow	4	× 10K	±0.02% (P)
Green	5	× 100K	±0.5% (D)
Blue	6	× 1M	±0.25% (C)
Violet	7	× 10M	±0.1% (B)
Grey	8	× 100M	±0.01% (L)
White	9	× 1G	
Gold		× 0.1	±5% (J)
Silver		× 0.01	±10% (K)



1000 Ω

Brown
Black
Red
Gold



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White	9	× 1G	
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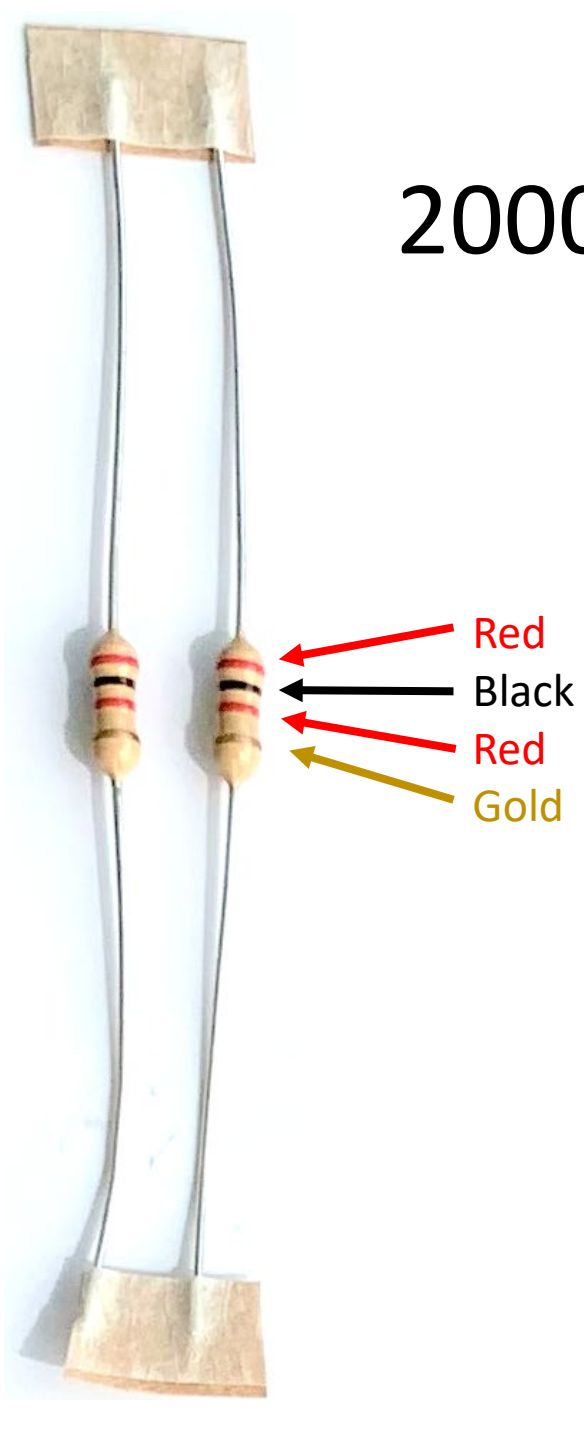
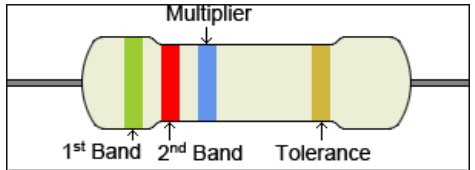
Silver		× 0.01	±10% (K)



2000 Ω



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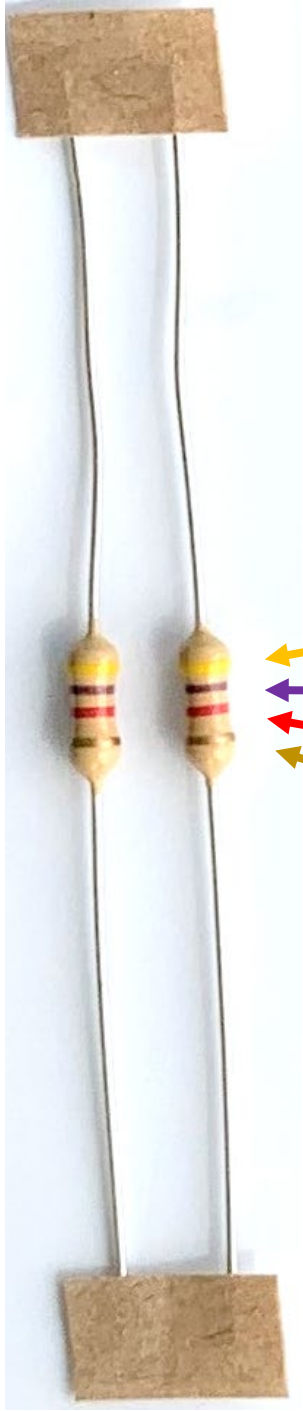
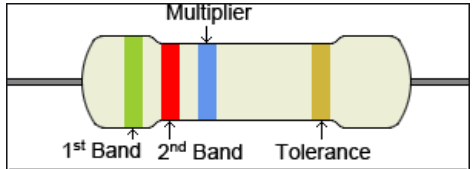
Gold		× 0.1	±5% (J)
Silver		× 0.01	±10% (K)



4700 Ω

Yellow
Purple
Red
Gold



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Gold		× 0.1	±5% (J)
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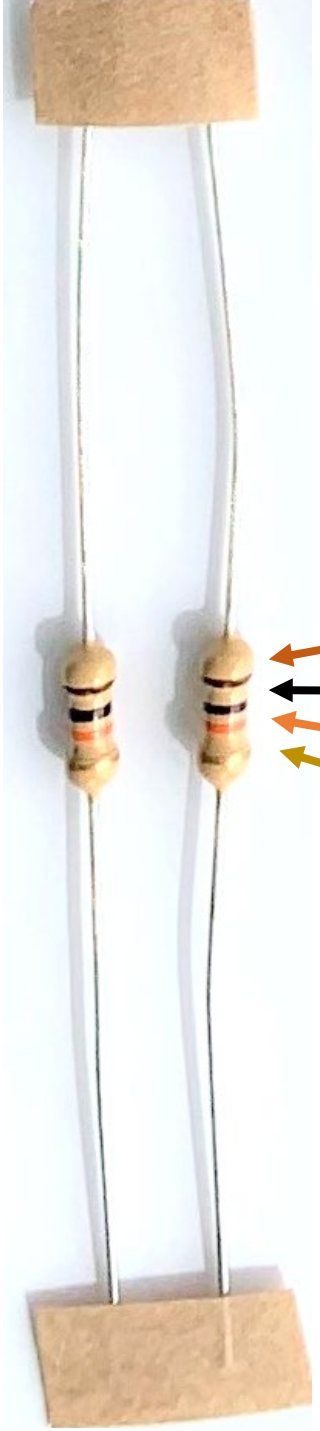
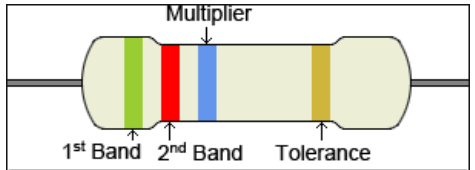


10000 Ω

(pack contains 12 of these starting in spring 2021)

Brown
Black
Orange
Gold



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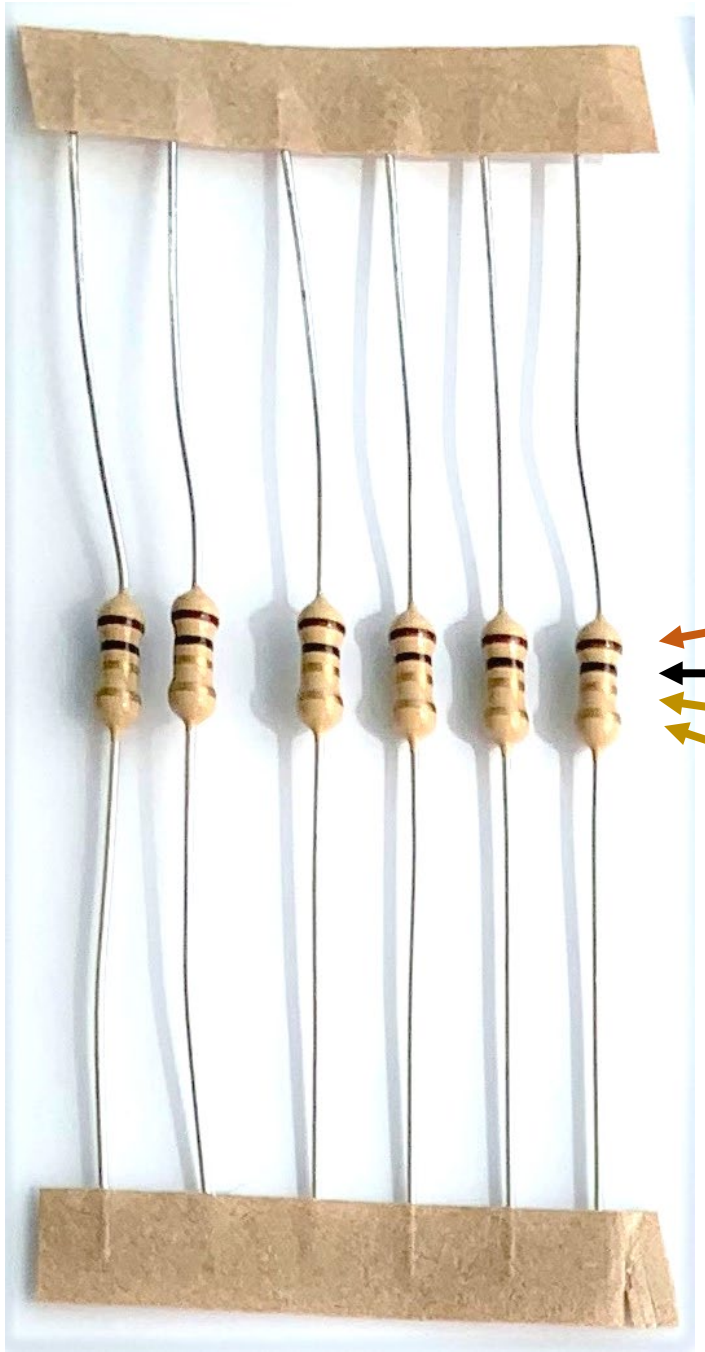
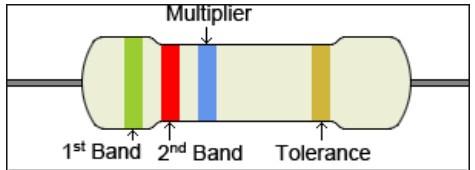


1 Ω



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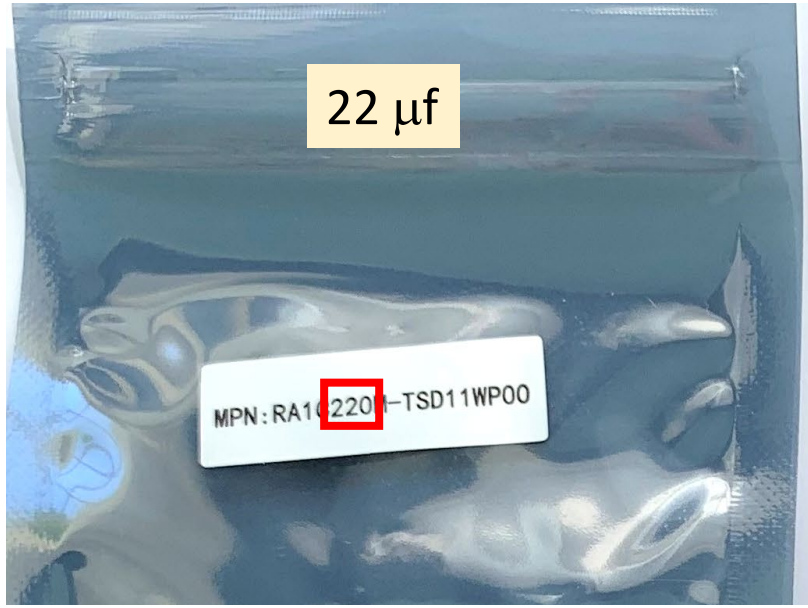
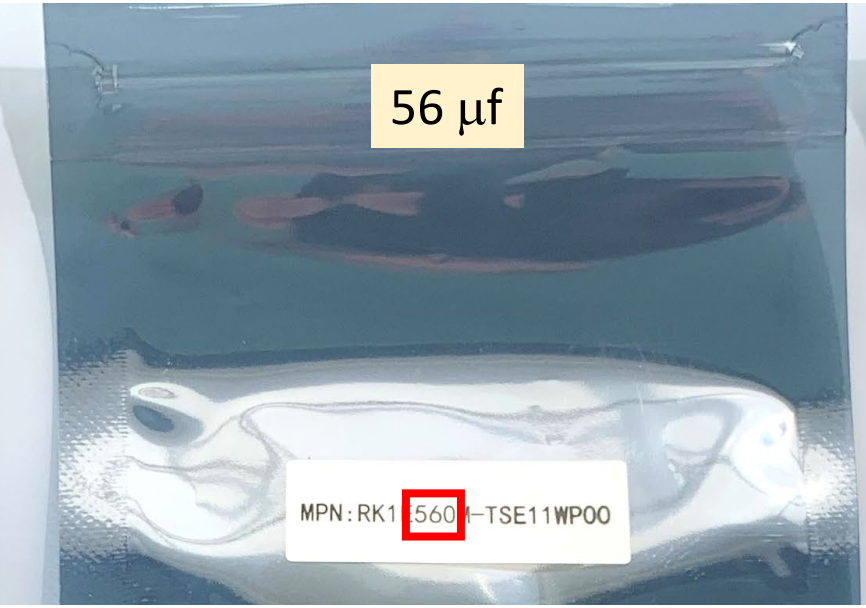
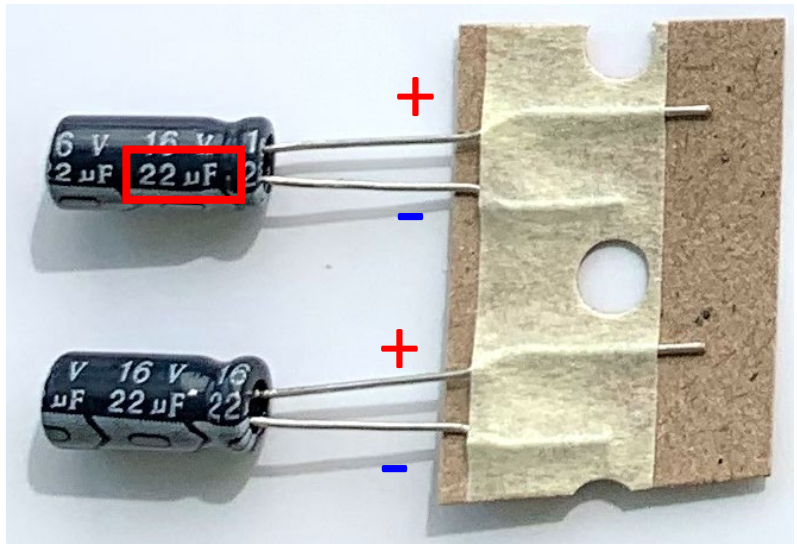
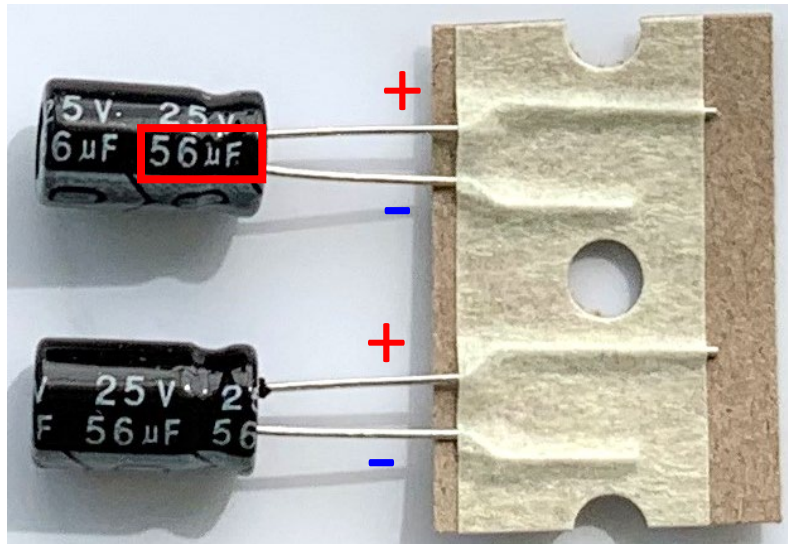
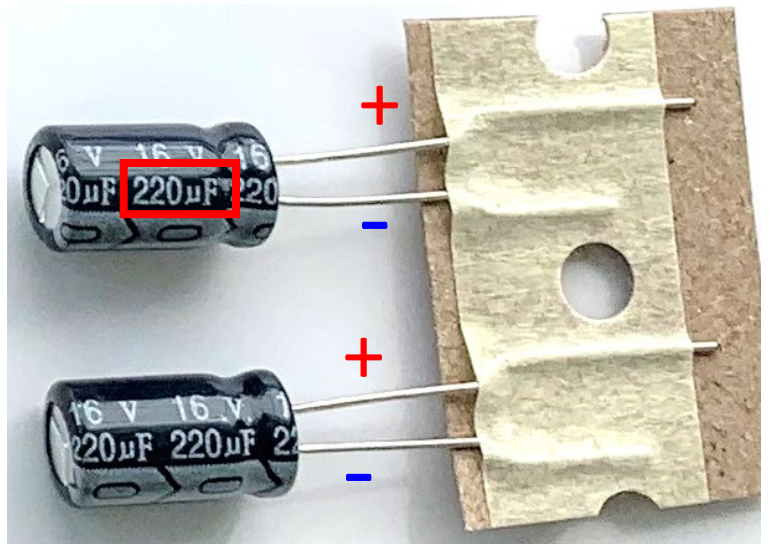
Capacitors



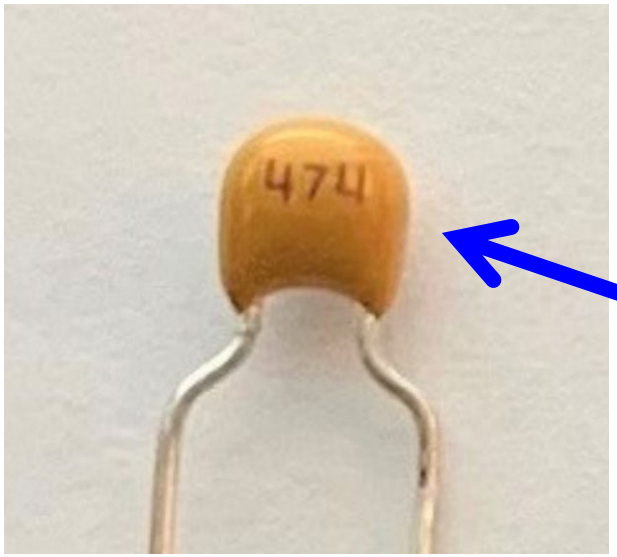


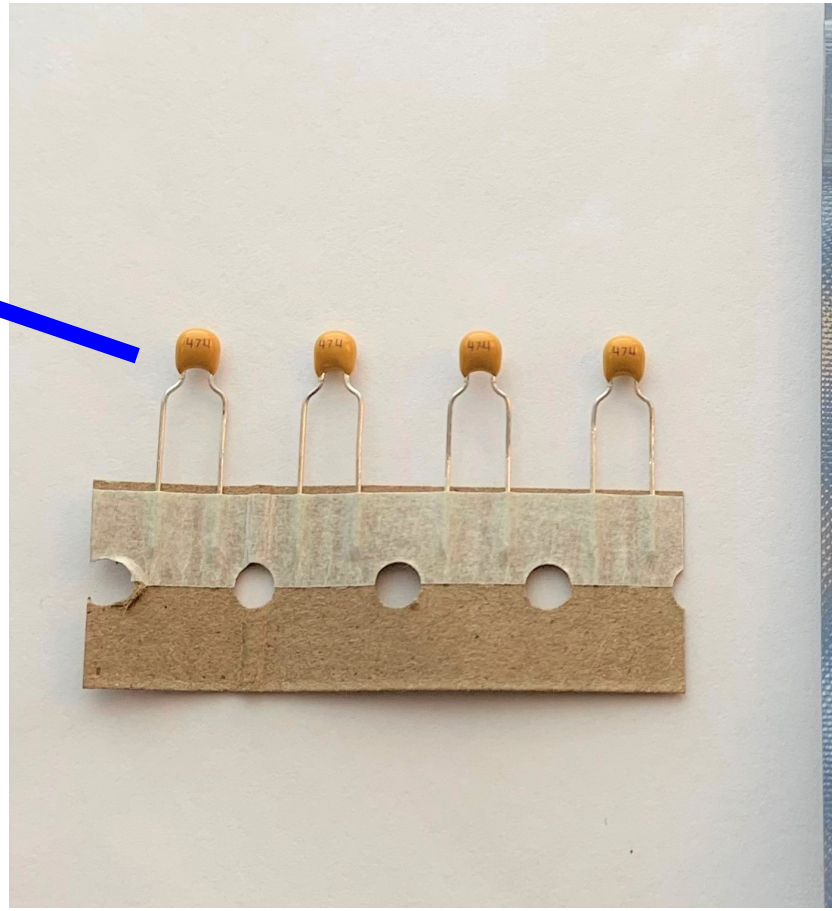






New capacitors (spring 2021)

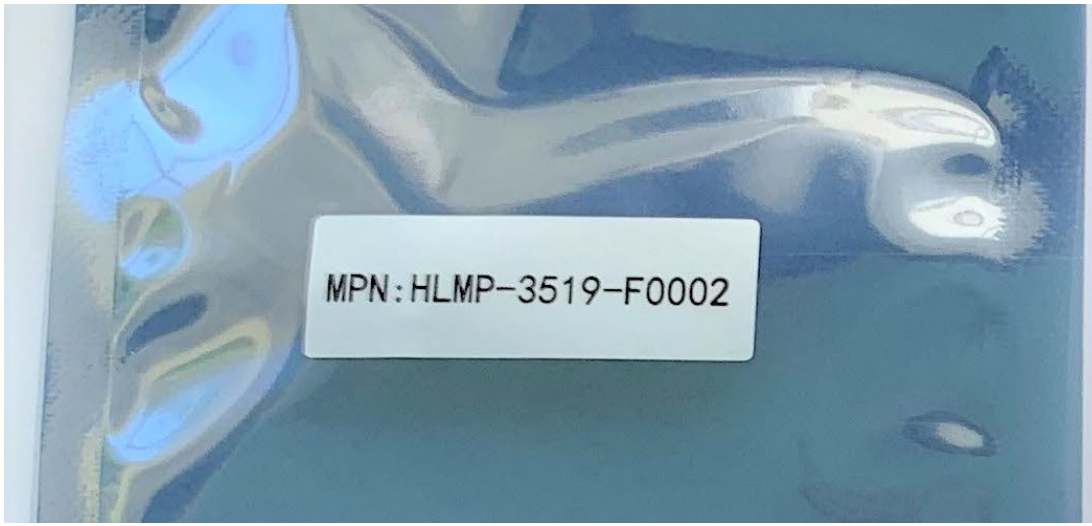




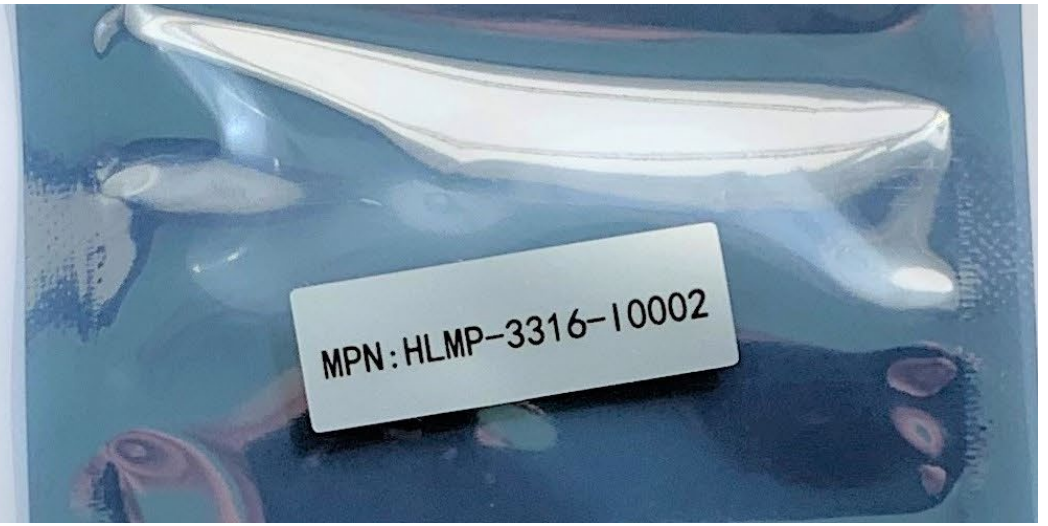
New audio cable (spring 2021)

Light Emitting Diodes (LED's)

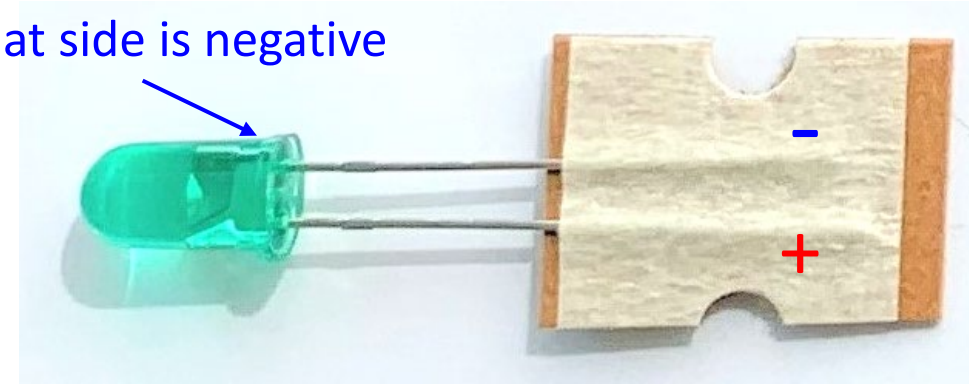
Green



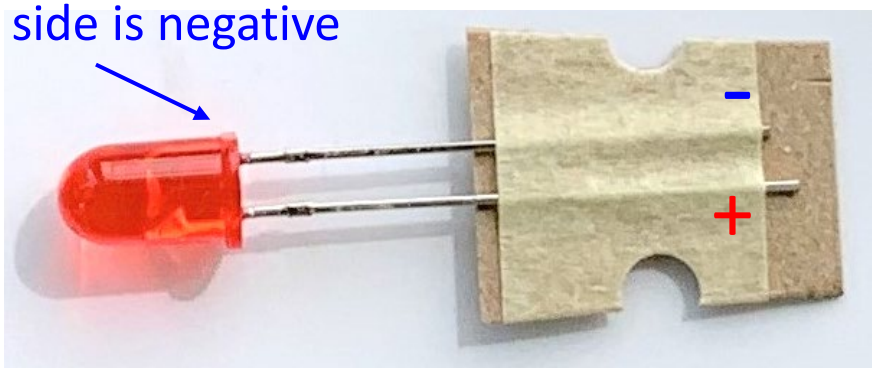
Red



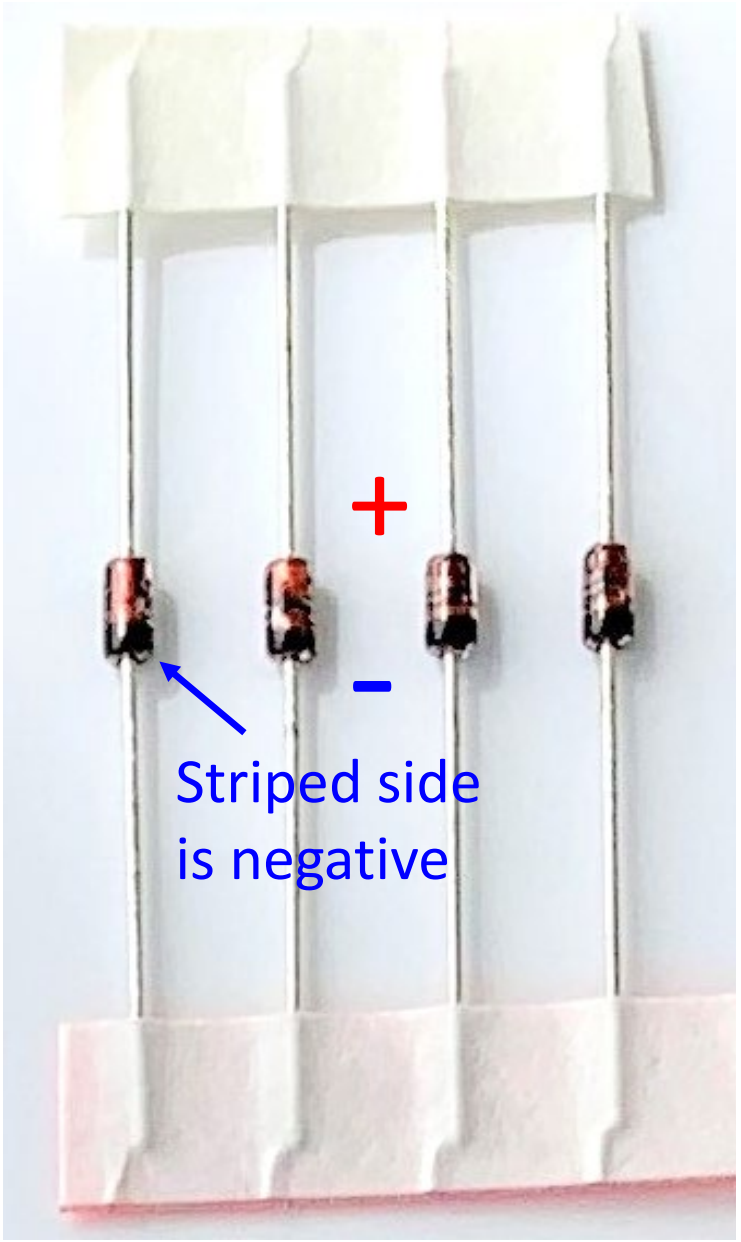
Flat side is negative



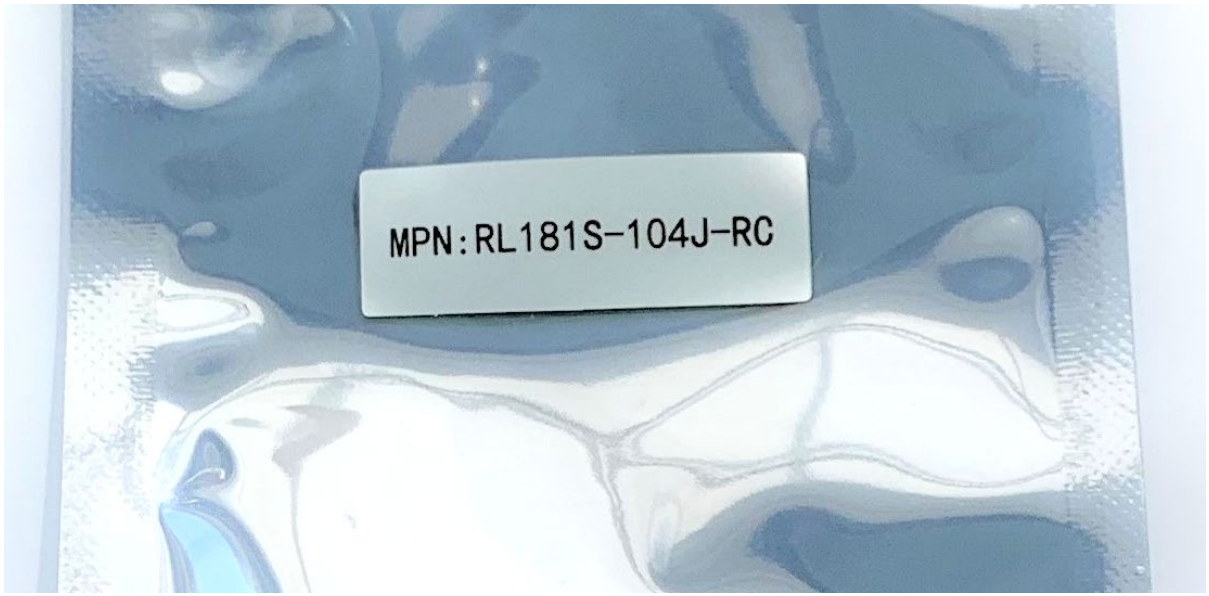
Flat side is negative

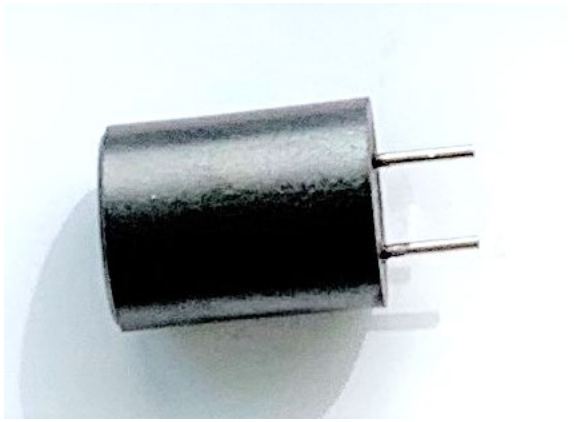


Silicon Diodes



Inductor

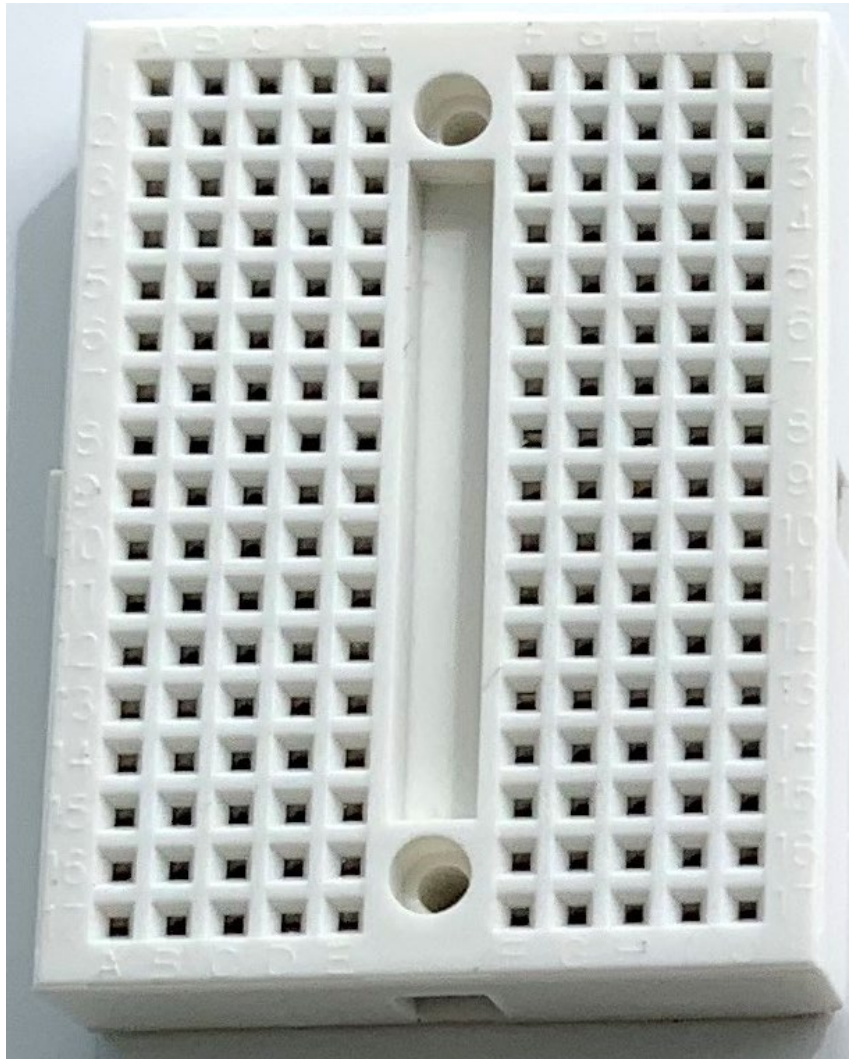


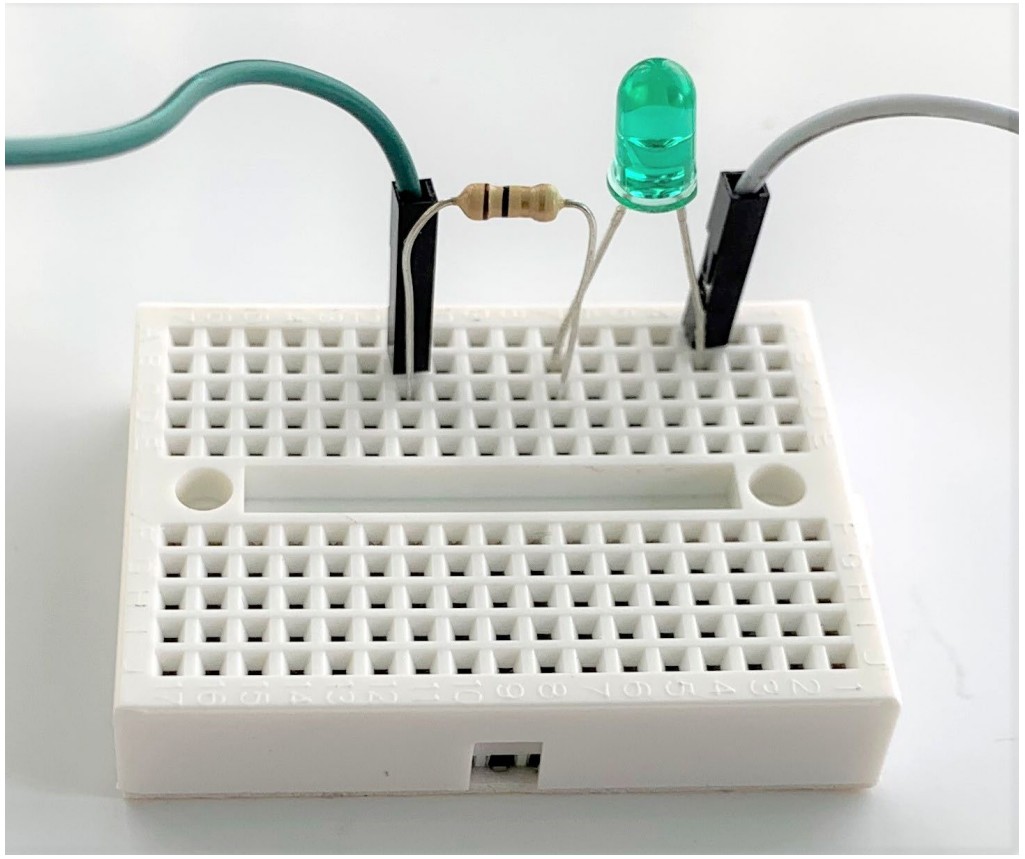


100 mH

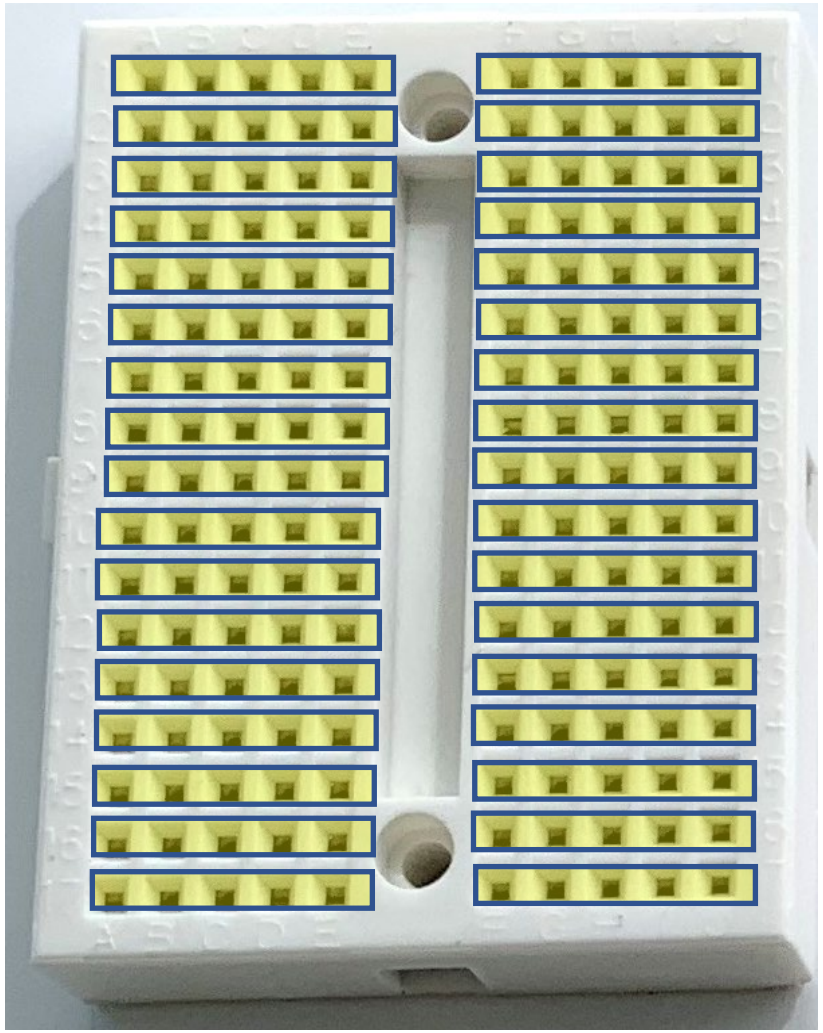
82 Ω

Breadboard

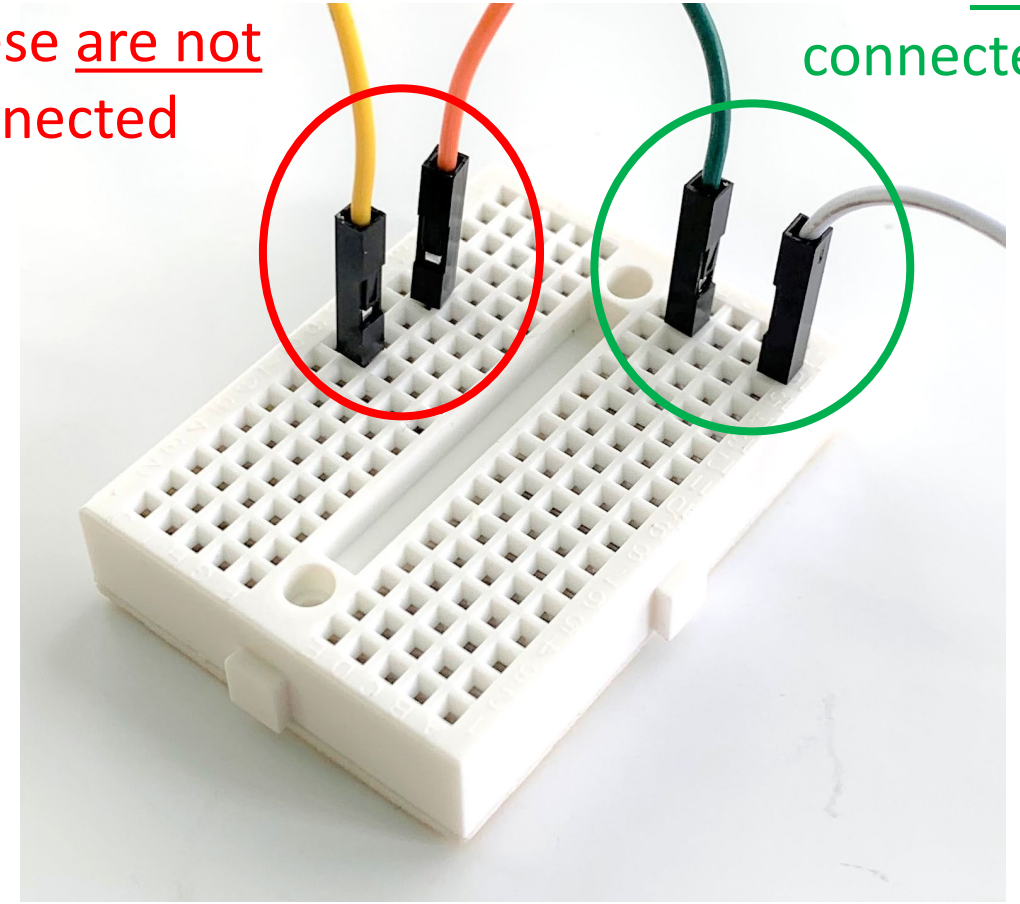




Used to make electrical connections between things pushed into the holes



The holes are electrically connected in groups of 5



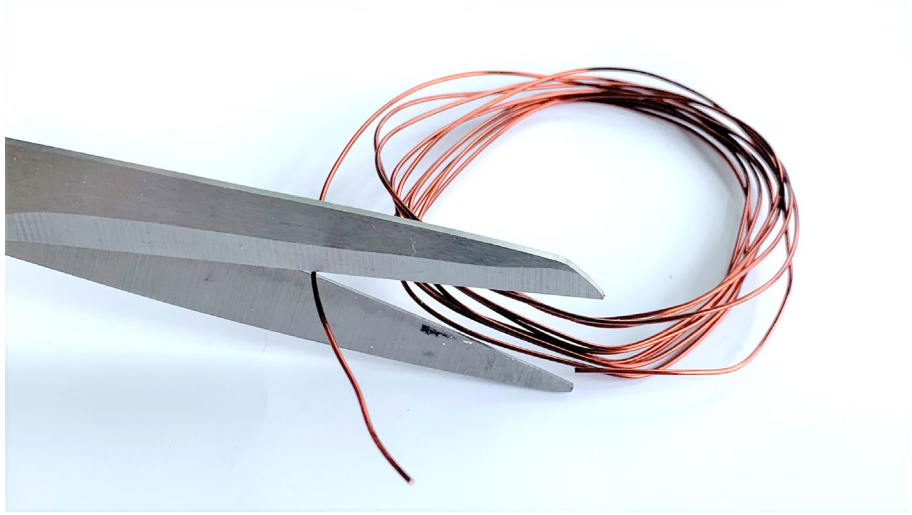
Examples

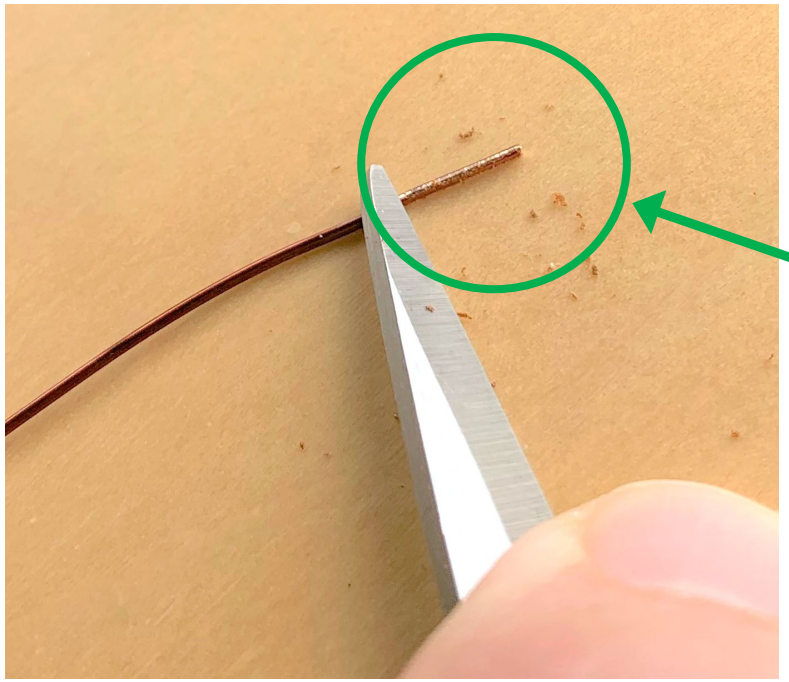
Magnet Wire

This is just a copper wire that has a thin insulating coating on its surface.

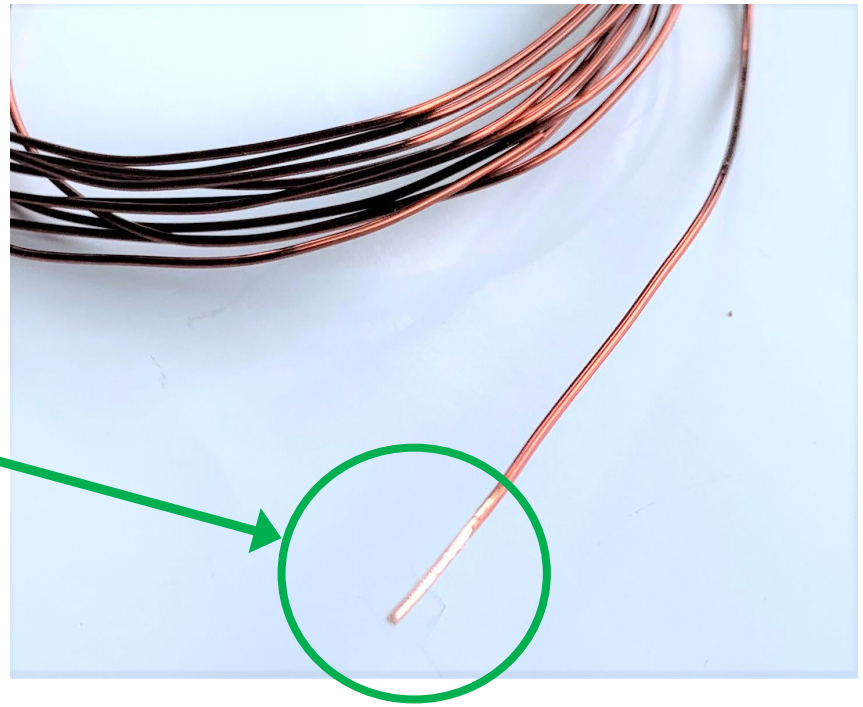
FYI: The wire is not magnetic. It has this name because it can be used to make electromagnets.

Magnet wire can be cut
with nail clippers or scissors.





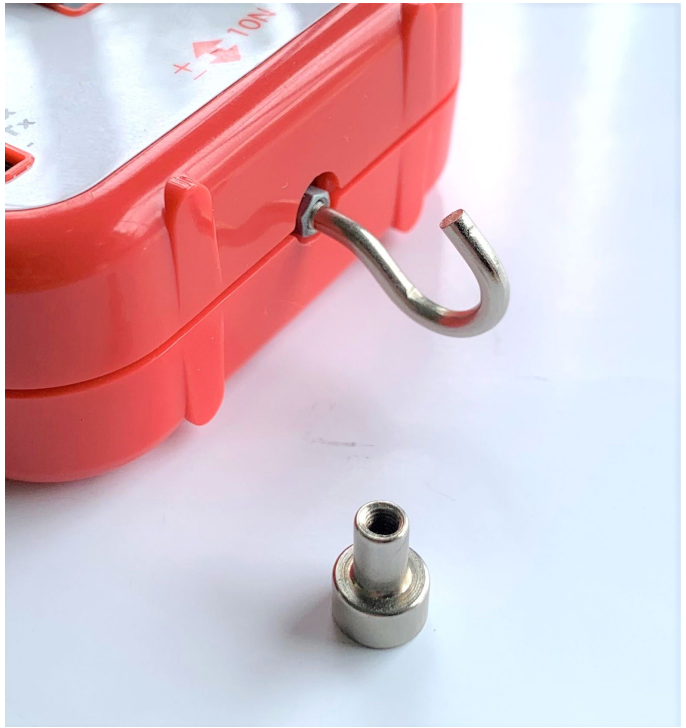
To make an electrical
connection to the wire
you need to scrape off
the insulation.



Magnet & Hook

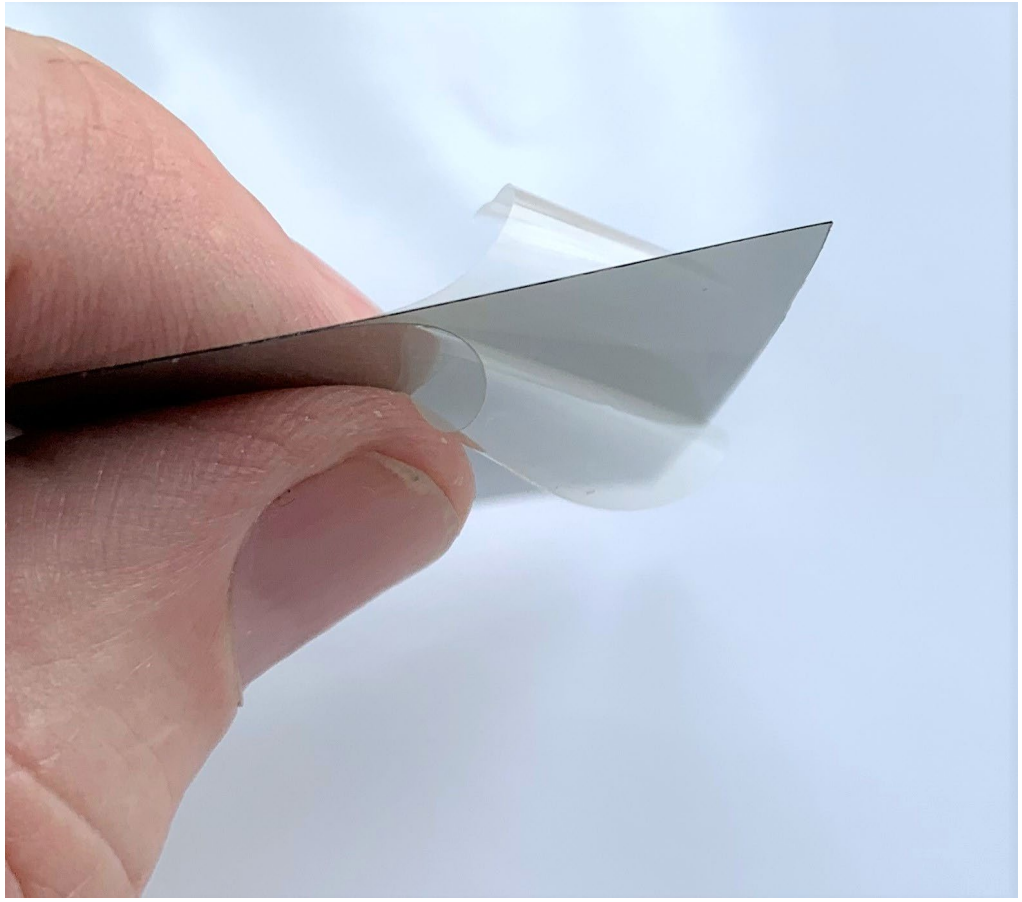
The name basically says it all.

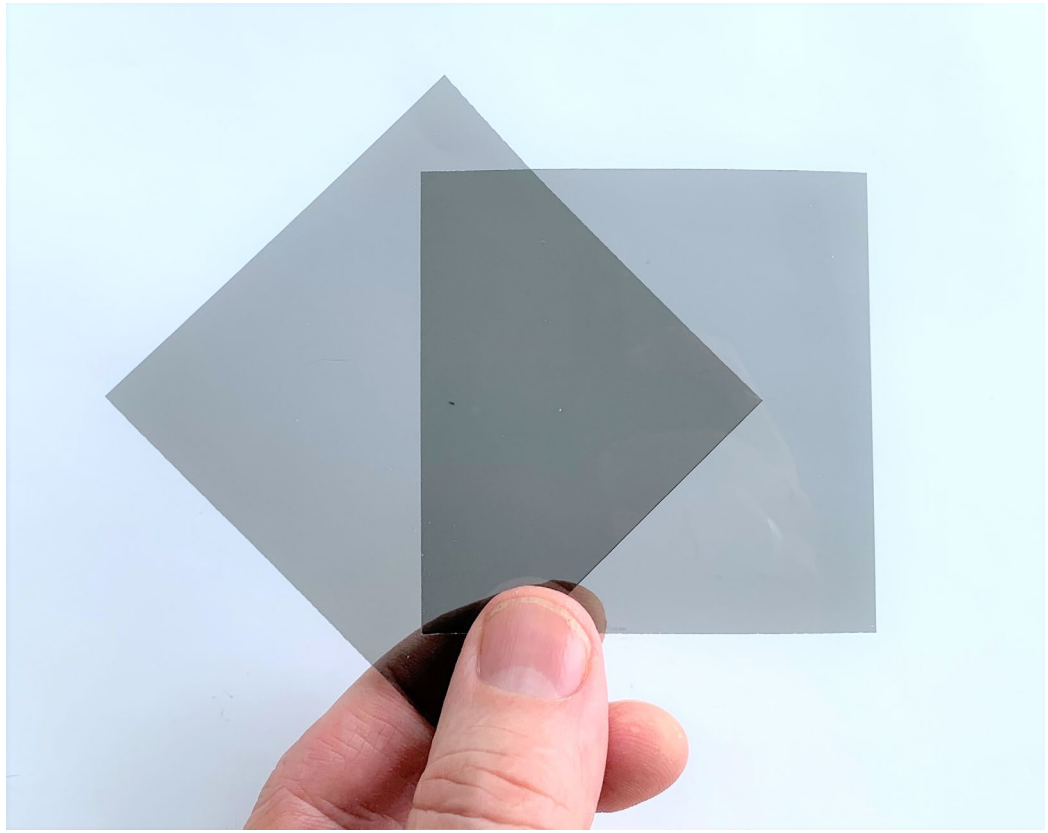
Bonus: The hook unscrews from the magnet and can be screwed into the IOLab force probe

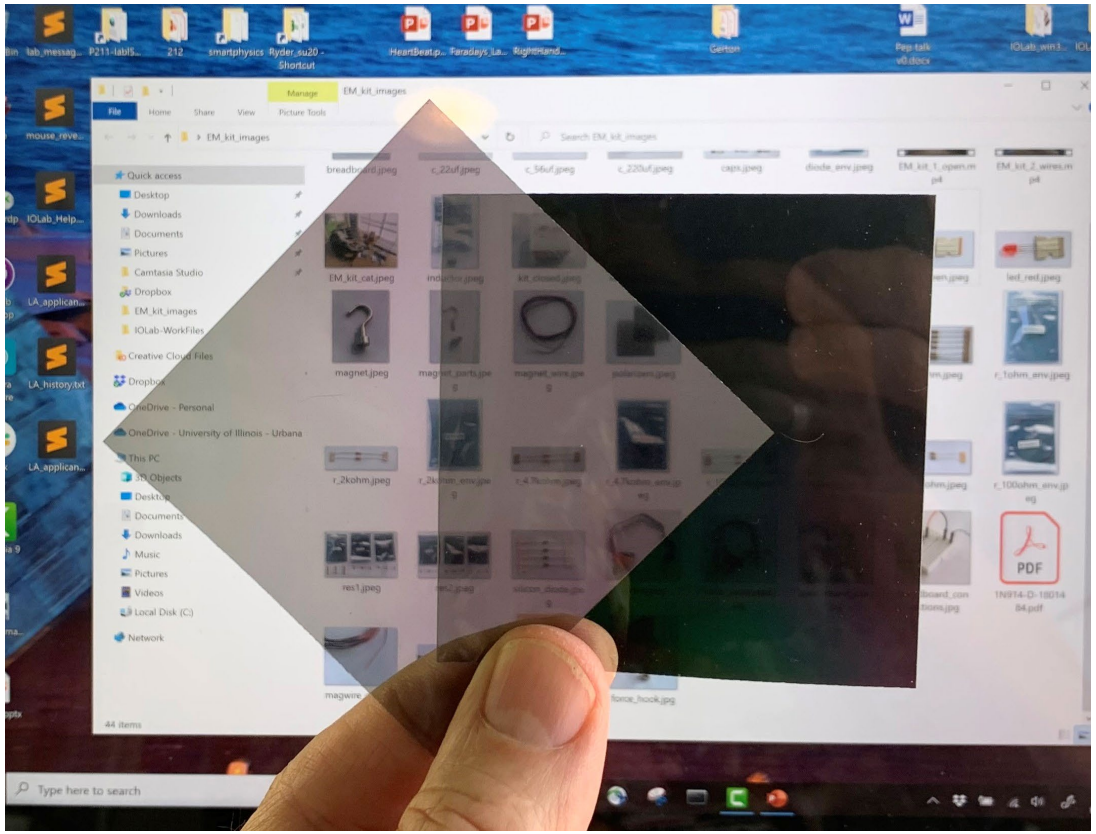


Polarizing Sheets

Each one has a protective covering on both sides that you can peel off.







Try them in different orientations in front of a window and in front of a laptop screen.