

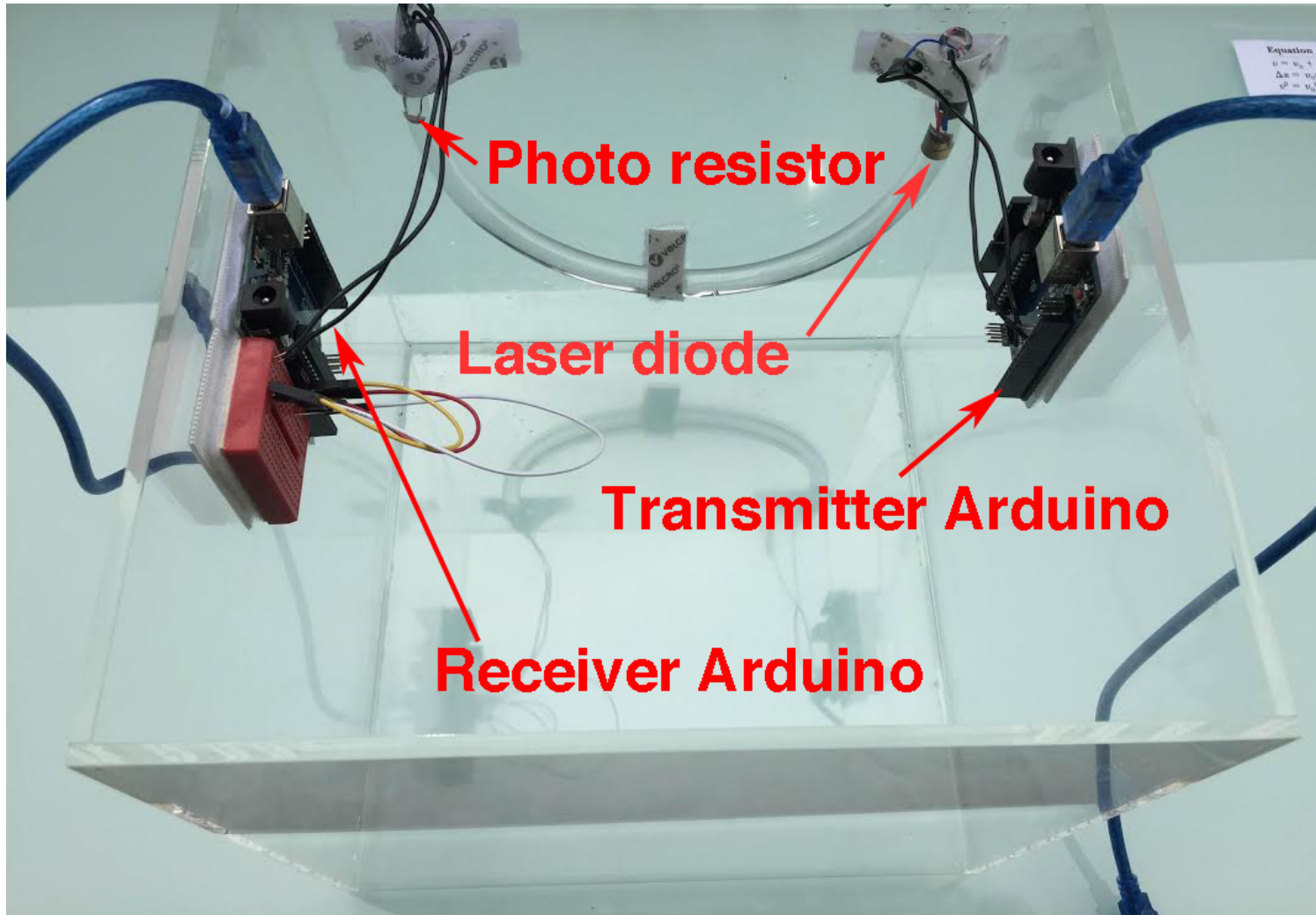
# Arduino Based Digital/Optical Communication System

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Gallagher, Samuel J. Konkol

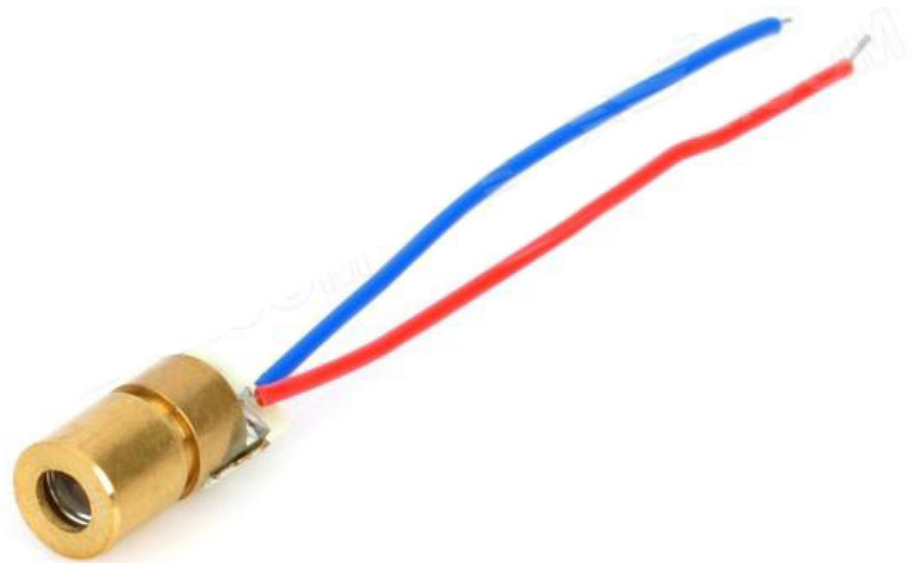
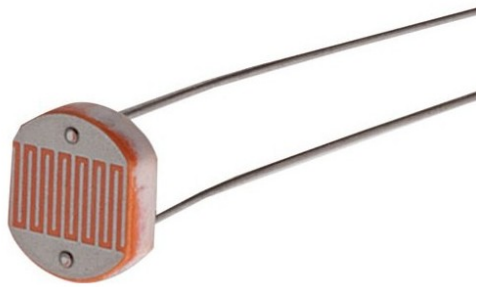
Socrates Preparatory School

[www.socprep.org](http://www.socprep.org)

# Hardware Setup



# Laser Diode & Photo Resistor

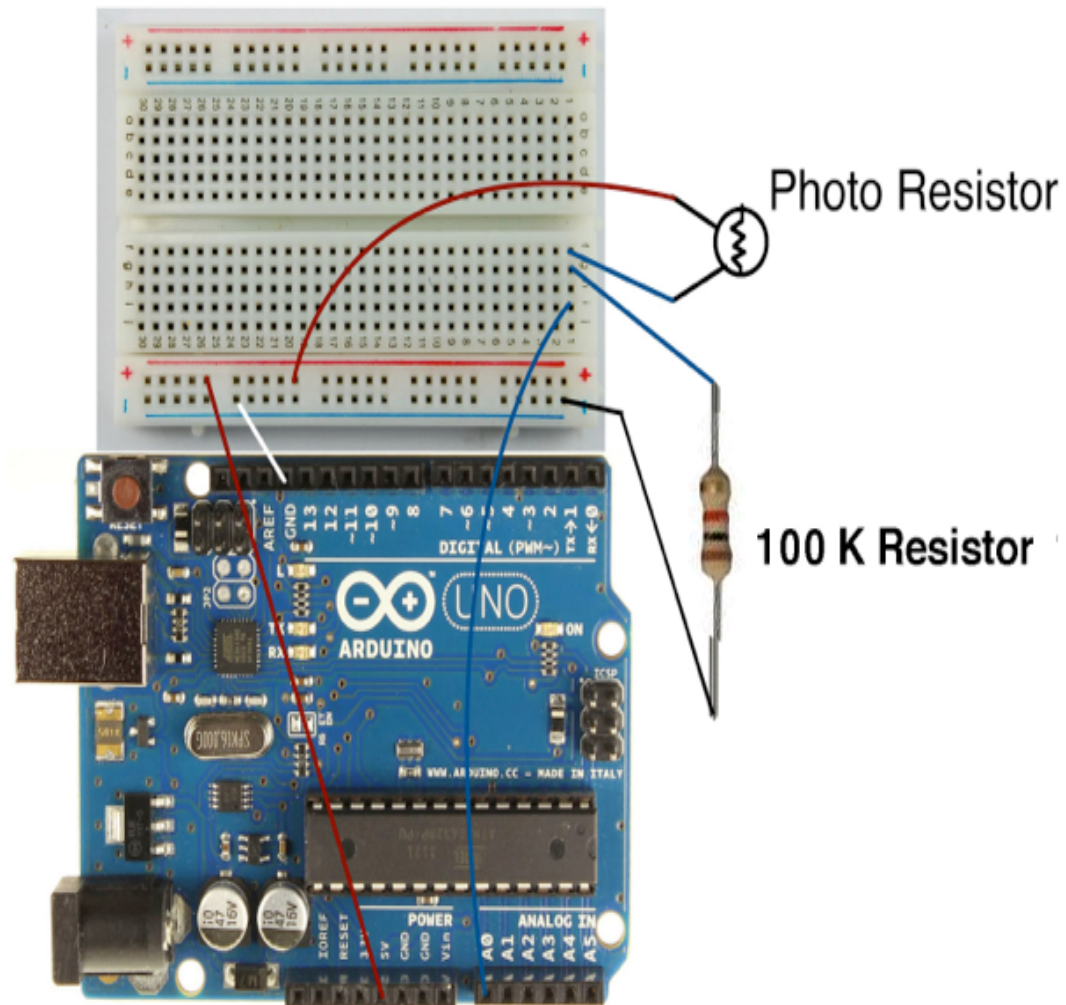


# Optical Fiber Materials

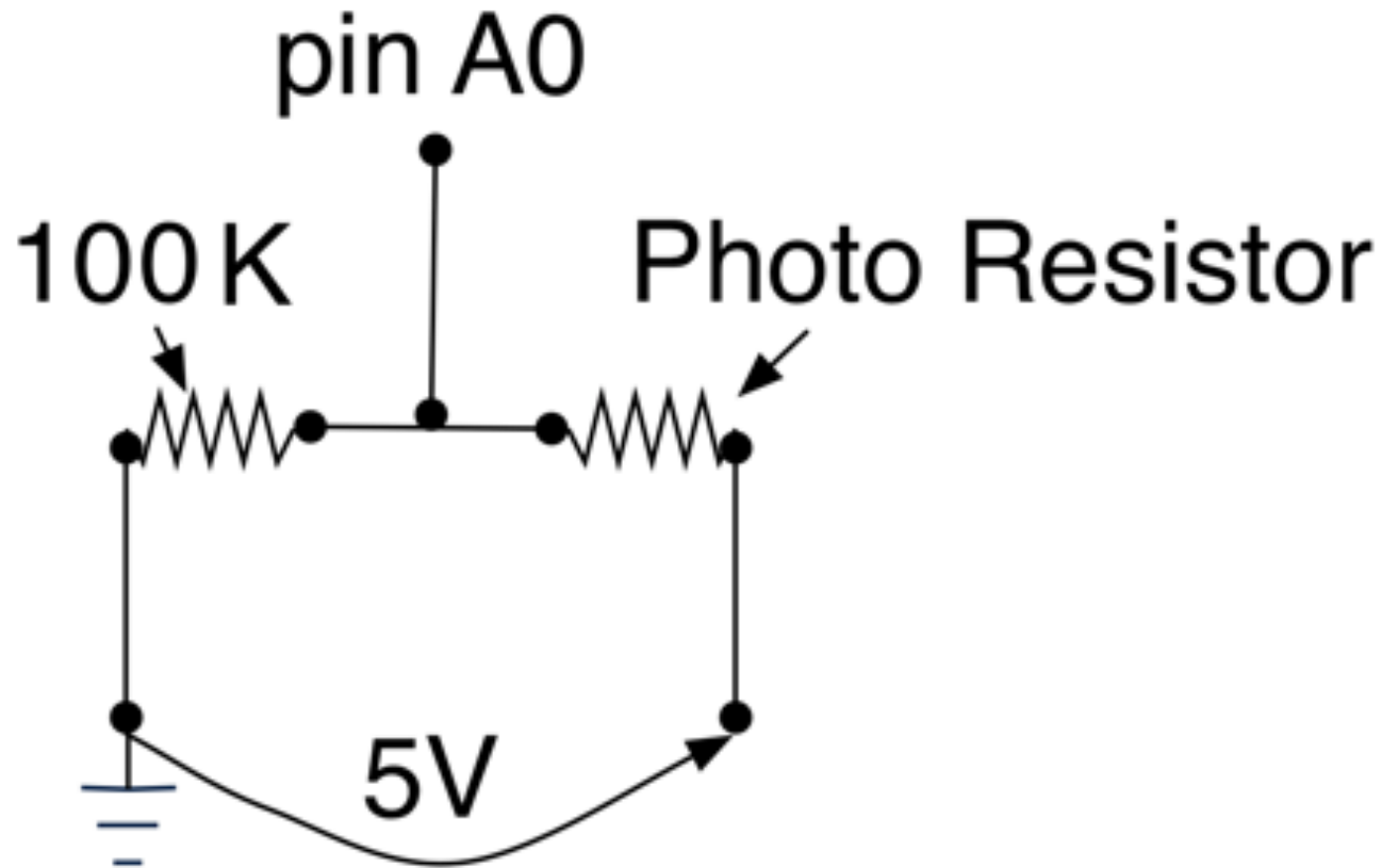
<i>Material</i>	<i>Index of refraction</i>
Water	1.33
Glass	1.49 – 1.93
Vinyl acetate	1.47
Mineral oil	1.34



# Receiver System



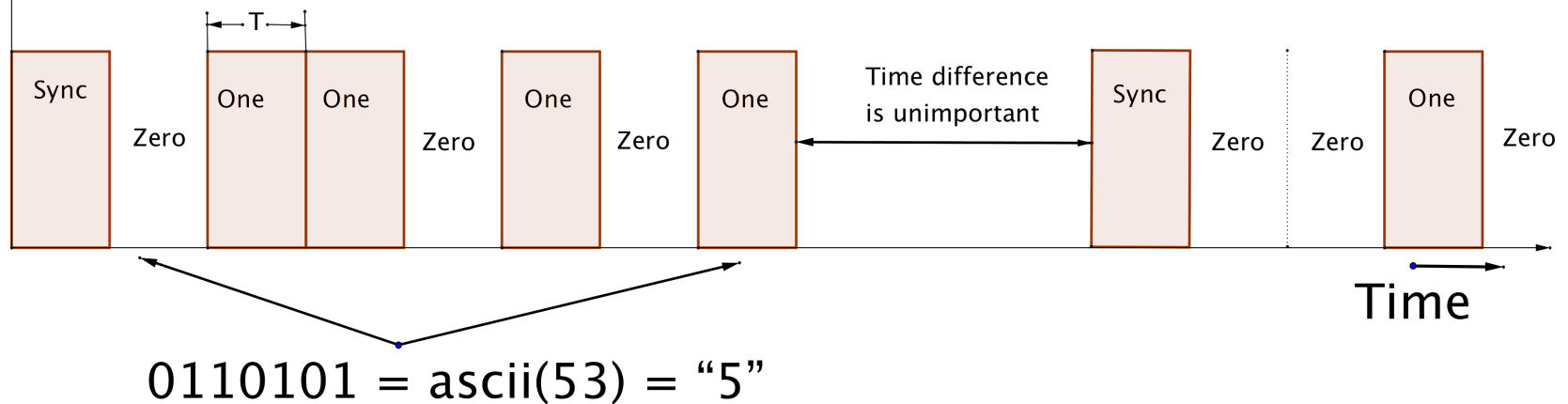
# Receiver Circuit





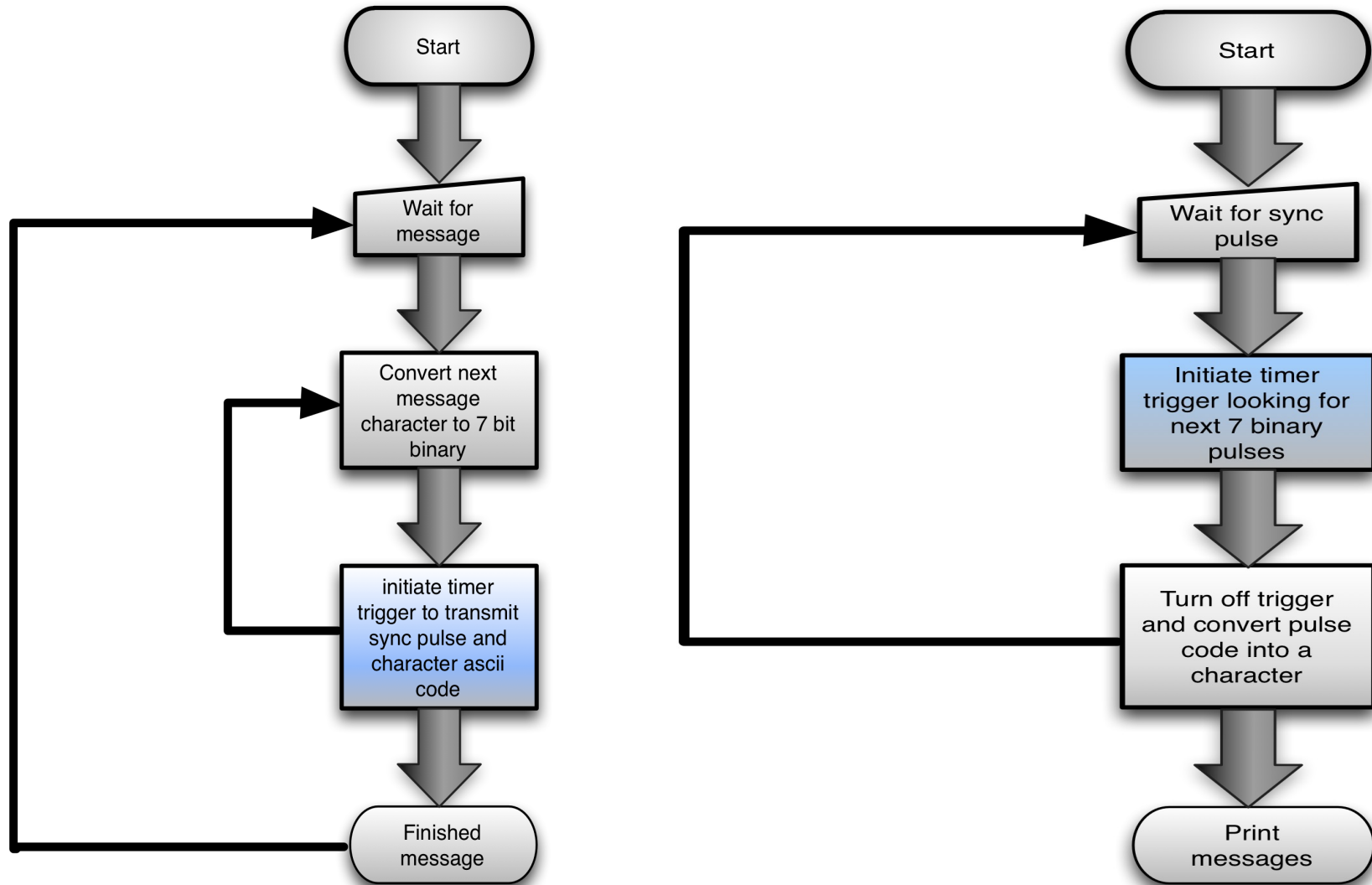
# Character Packets

Sync pulse indicates the beginning of a 7 bit character sequence  
Each pulse lasts for T seconds





# Arduino Software



Arduino



/dev/tty.usbmodem

AAPT - New Orleans, 2016, Hello World

# Download Full Description & Software

- <http://gallagher.to/AAPT-Arduino-Jan2016/>