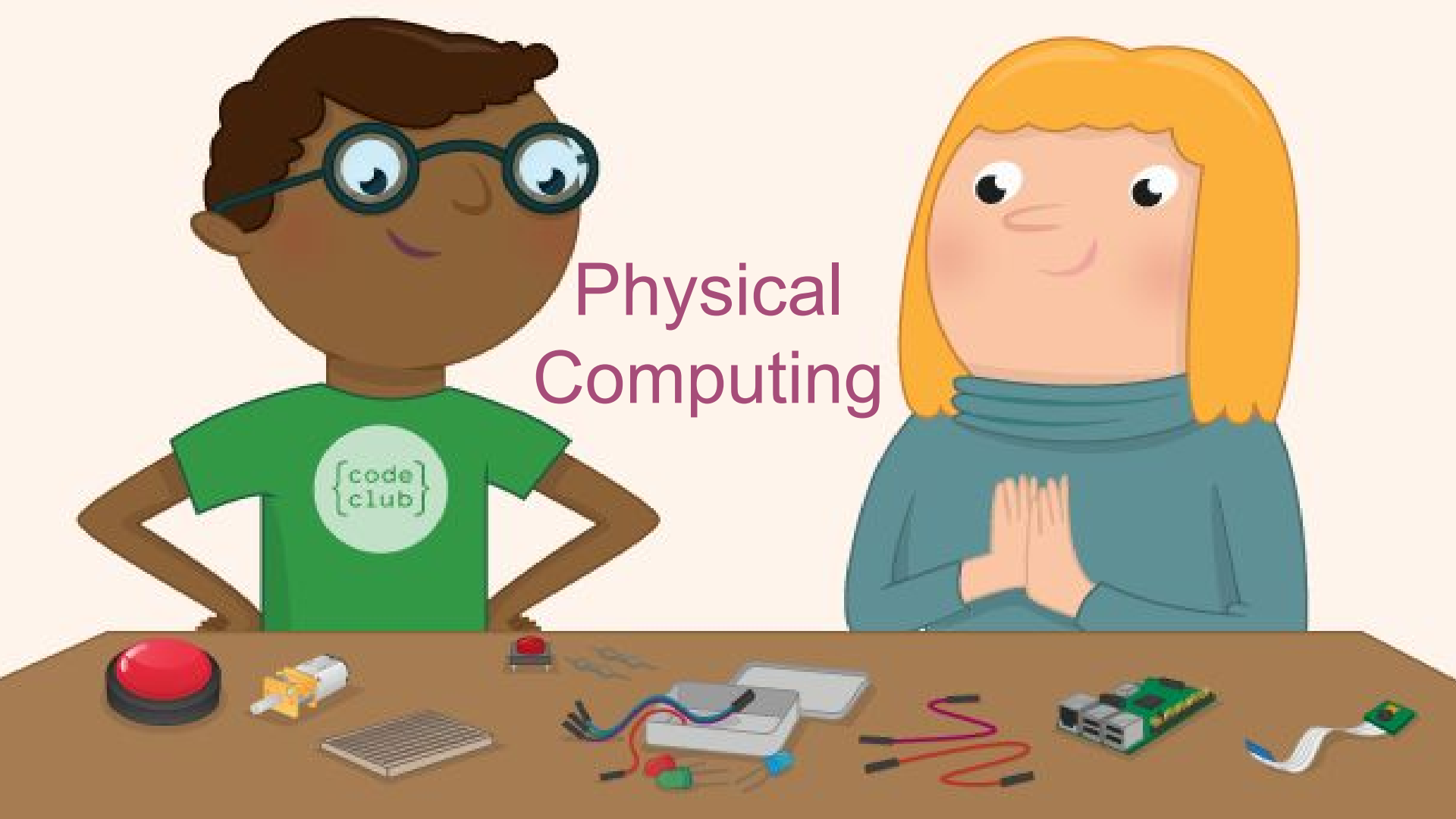
Physical Computing



GPIO Pin Out

Raspberry Pi B+ J8 Header

Pin#	NAME		NAME	Pin#
01	3.3v DC Power		DC Power 5v	02
03	GPIO02 (SDA1 , I2C)		DC Power 5v	04
05	GPIO03 (SCL1 , I2C)		Ground	06
07	GPIO04 (GPIO_GCLK)		(TXD0) GPIO14	08
09	Ground		(RXD0) GPIO15	10
11	GPIO17 (GPIO_GEN0)		(GPIO_GEN1) GPIO18	12
13	GPIO27 (GPIO_GEN2)		Ground	14
15	GPIO22 (GPIO_GEN3)		(GPIO_GEN4) GPIO23	16
17	3.3v DC Power		(GPIO_GEN5) GPIO24	18
19	GPIO10 (SPI_MOSI)		Ground	20
21	GPIO09 (SPI_MISO)		(GPIO_GEN6) GPIO25	22
23	GPIO11 (SPI_CLK)		(SPI_CE0_N) GPIO08	24
25	Ground		(SPI_CE1_N) GPIO07	26
27	ID_SD (I2C ID EEPROM)		(I2C ID EEPROM) ID_SC	28
29	GPIO05		Ground	30
31	GPIO06		GPIO12	32
33	GPIO13		Ground	34
35	GPIO19		GPIO16	36
37	GPIO26		GPIO20	38
39	Ground		GPIO21	40

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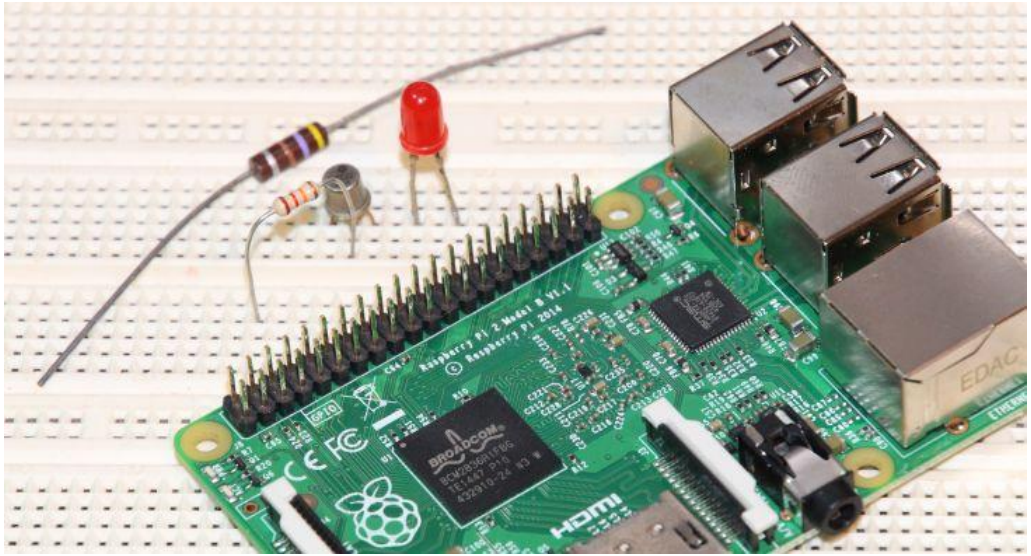
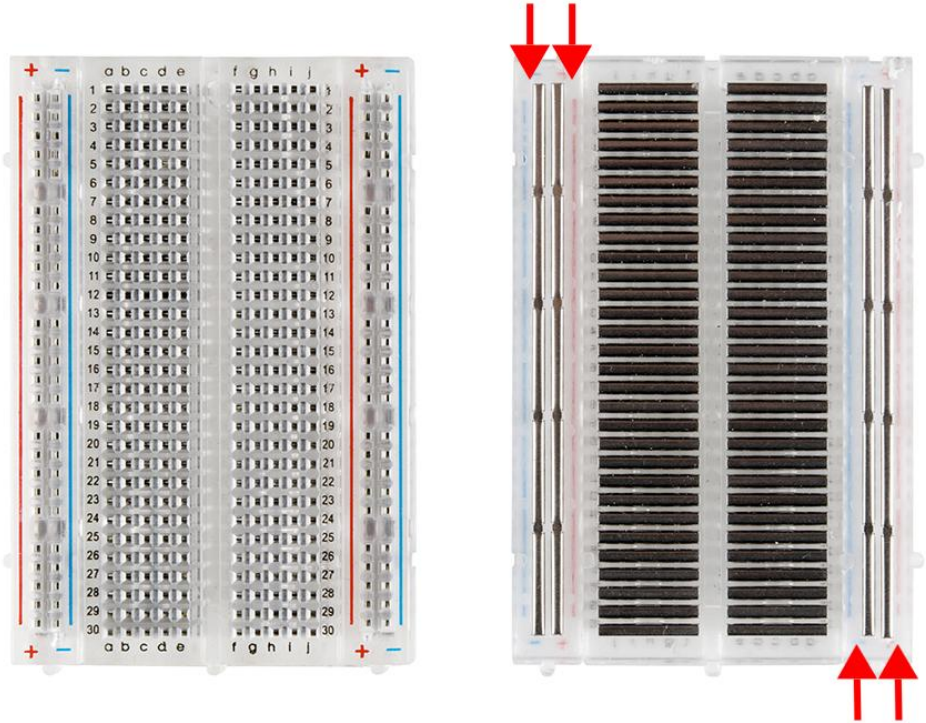
http://www.element14.com



Breadboard Connections

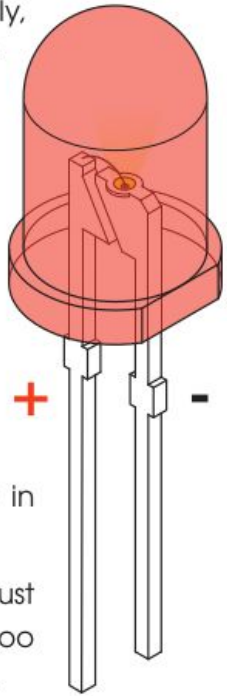


LED

A Light Emitting Diode (LED) is a type of diode that, when connected correctly, produces light. Being a type of diode, it only permits current to flow one way through itself. This means that power must flow from the anode (the positive pin) to the cathode (the negative pin).

The anode can be identified as the longer leg of the LED (the cathode has a shorter leg). The cathode can also be found by feeling the LED body for a slightly flattened edge (as seen in the diagram on the right).

One thing to remember is that a LED must have a resistor in series to prevent too much current from destroying the LED.



Traffic Lights Worksheet using gpiozero

https://gpiozero.readthedocs.org