

Pcomp
week 2, class 3 (sort of)

Review

What is Physical Computing?

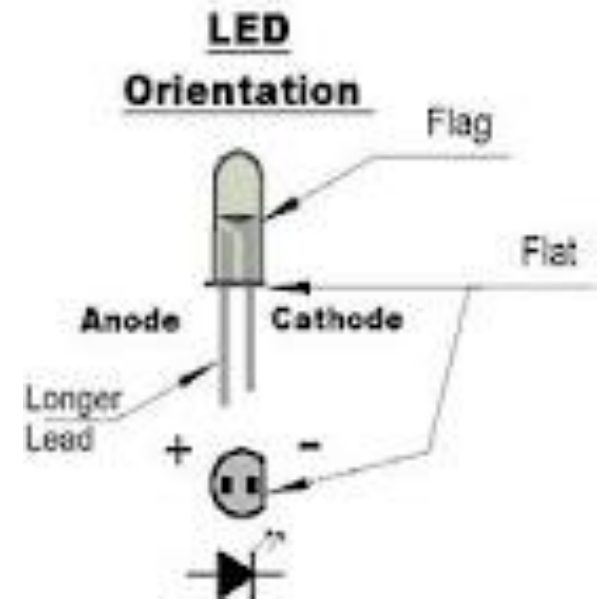
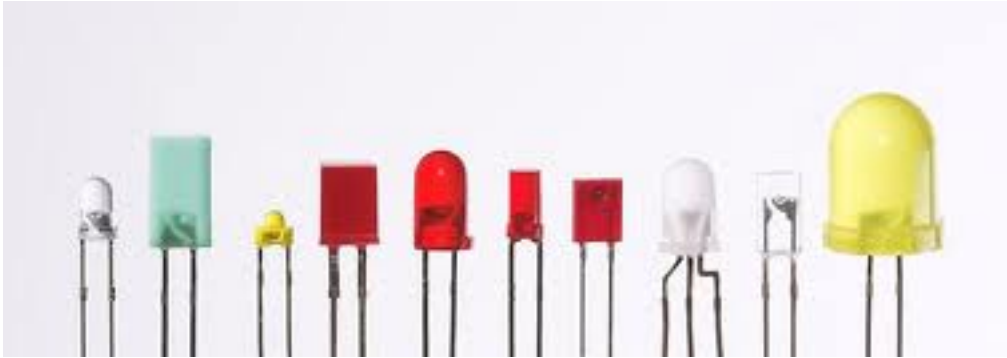
Batteries



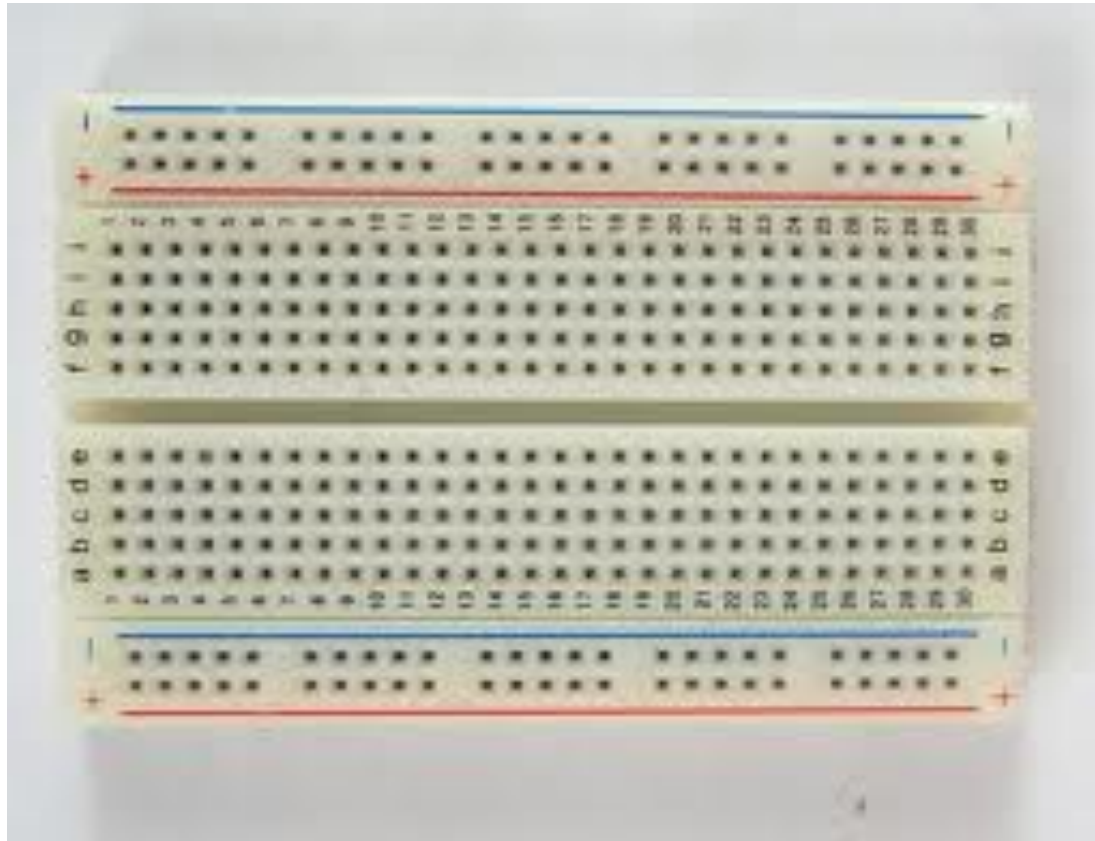
Resistor



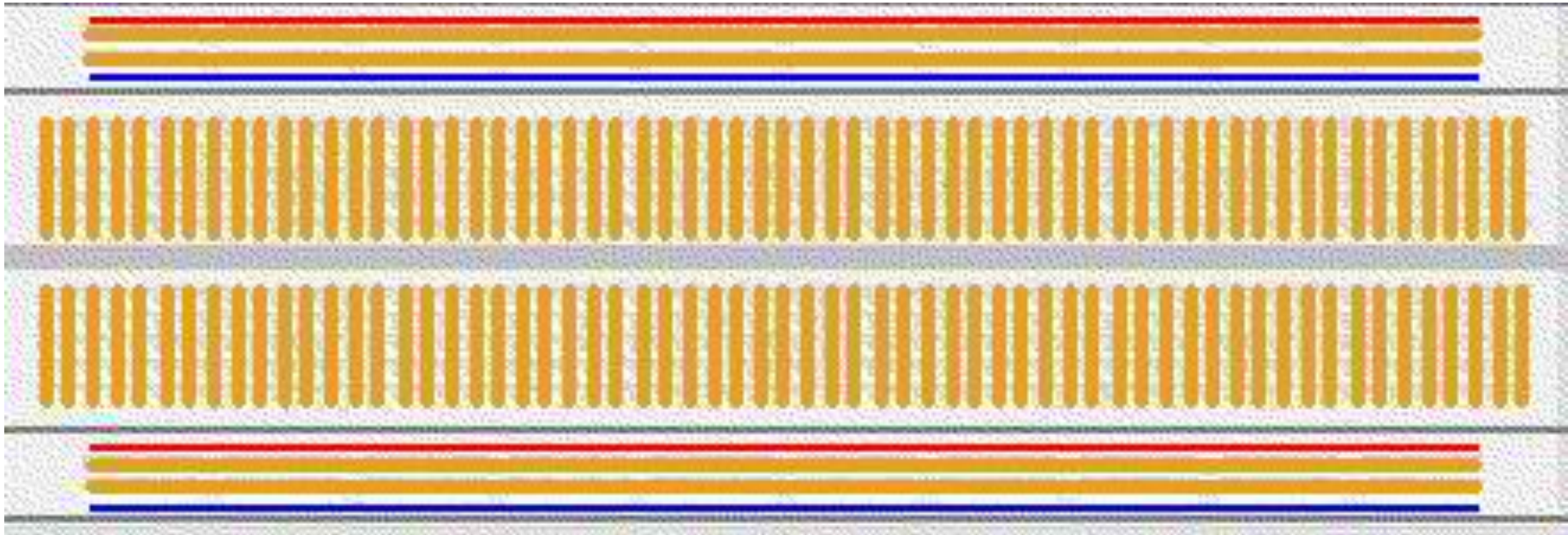
LED



Breadboard

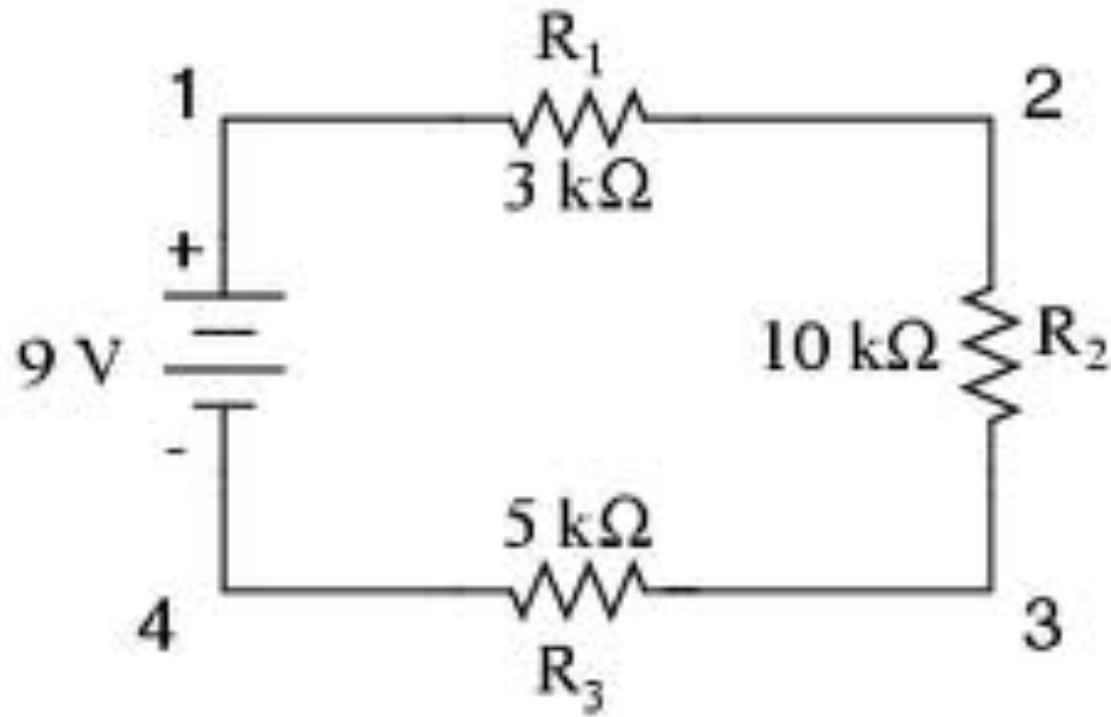


Inside a Breadboard

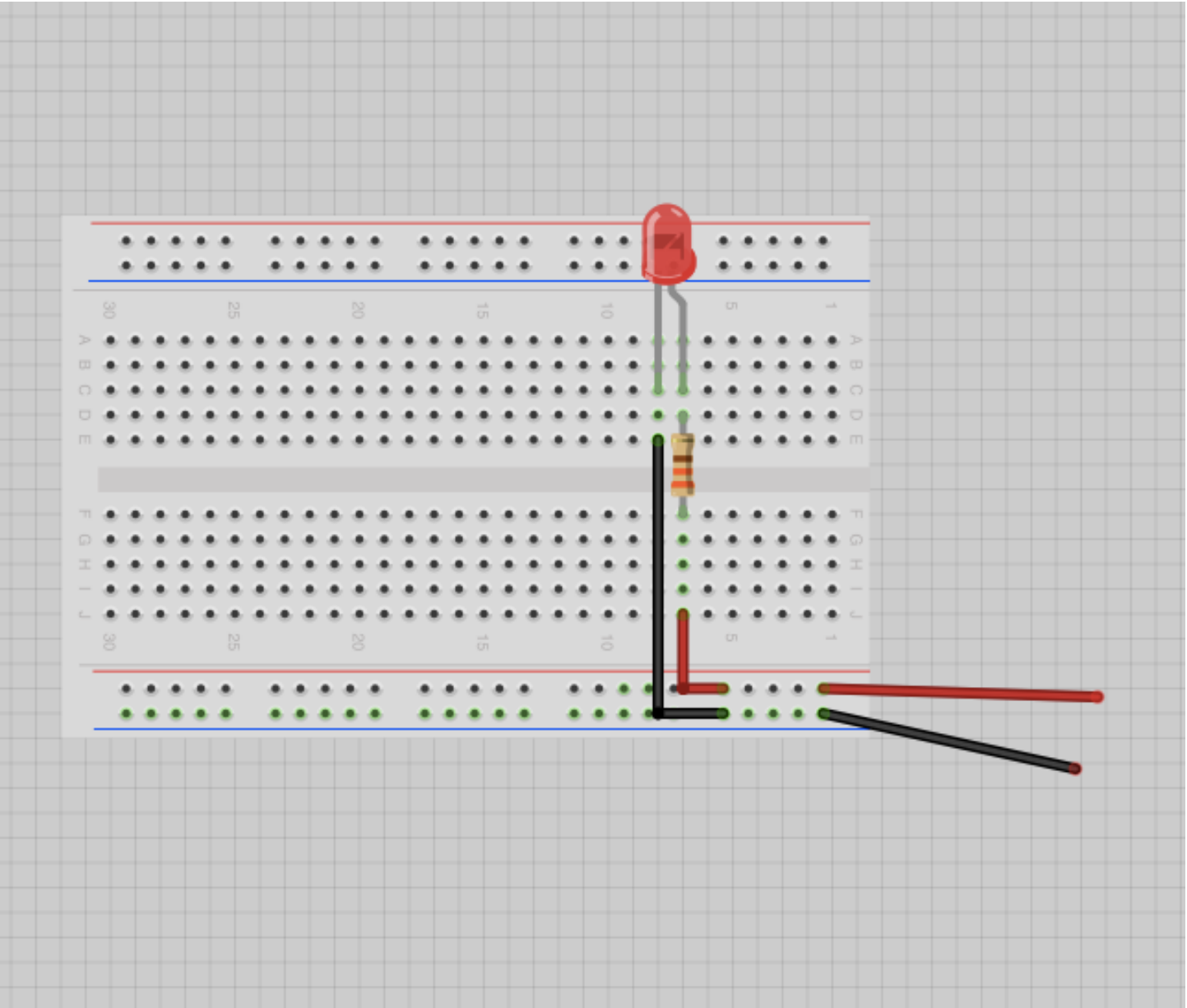


Circuit

- Comes from the Greek word circle



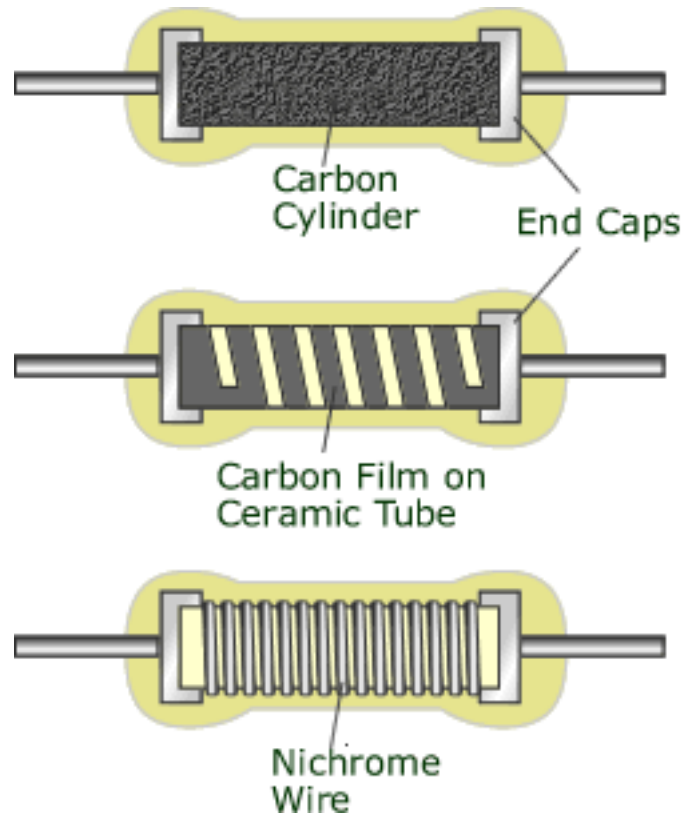
Electrons are lazy



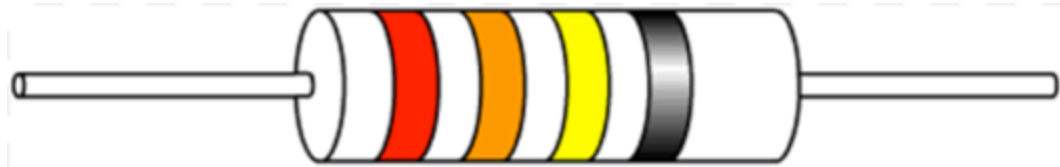
Resistor



Resistor



Resistor



	1st Digit	2nd Digit	Multiplier	Tolerance
Black	0	0	x1	
Brown	1	1	x10	
Red	2	2	x100	
Orange	3	3	x1,000	
Yellow	4	4	x10,000	
Green	5	5	x100,000	
Blue	6	6	x1,000,000	
Violet	7	7	x10,000,000	
Gray	8	8	x100,000,000	
White	9	9	-	

→ Gold=5%
Silver=10%
None=20%

Ohm's Law

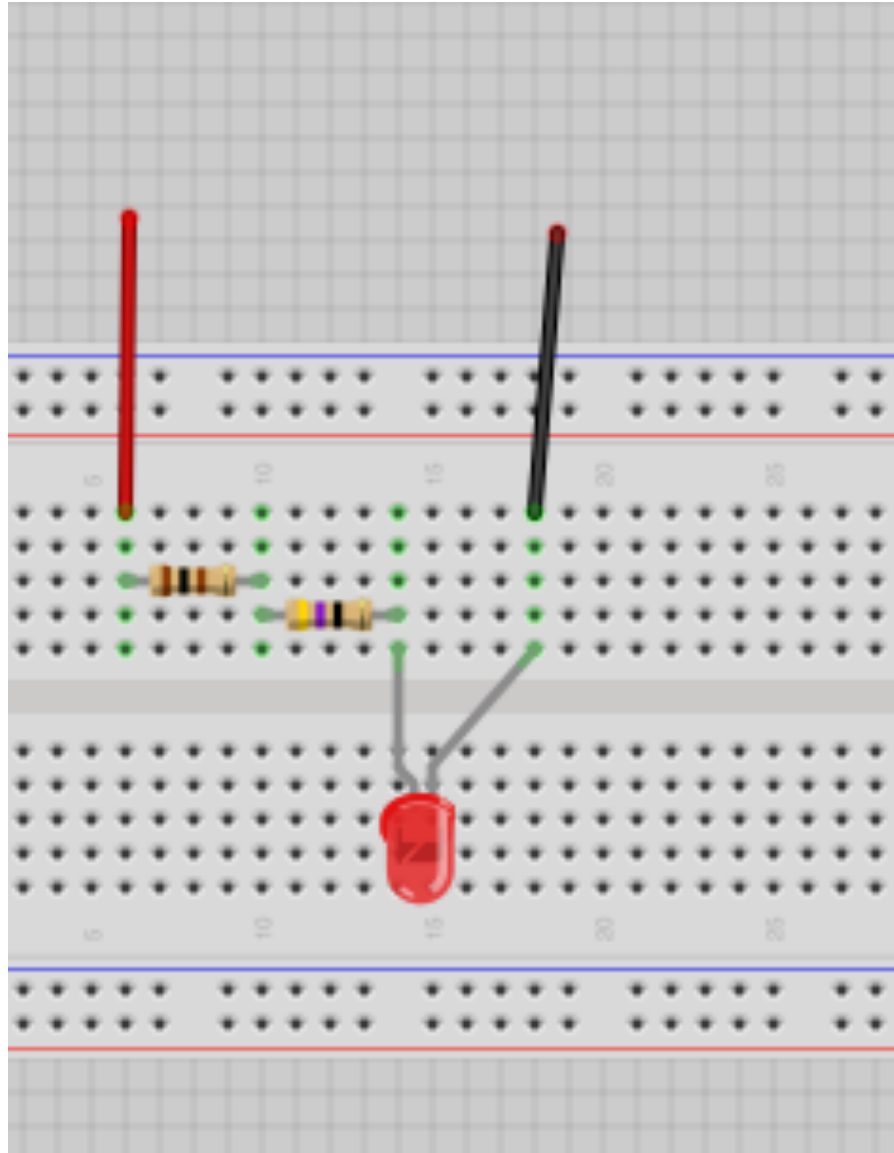
- $V = I \times R$
- $V =$ Voltage
- $I =$ Current measured in Amps
- $R =$ Resistance measured in Ohms

- Also $R = V/I$
- Also $I = V/R$

Why you care about resistance

*This is where you use a 9v to blow out an LED

Series: $R_1 + R_2 = \text{total Resistance}$



Parallel: $1/(1/R1+1/R2) = \text{total Resistance}$

