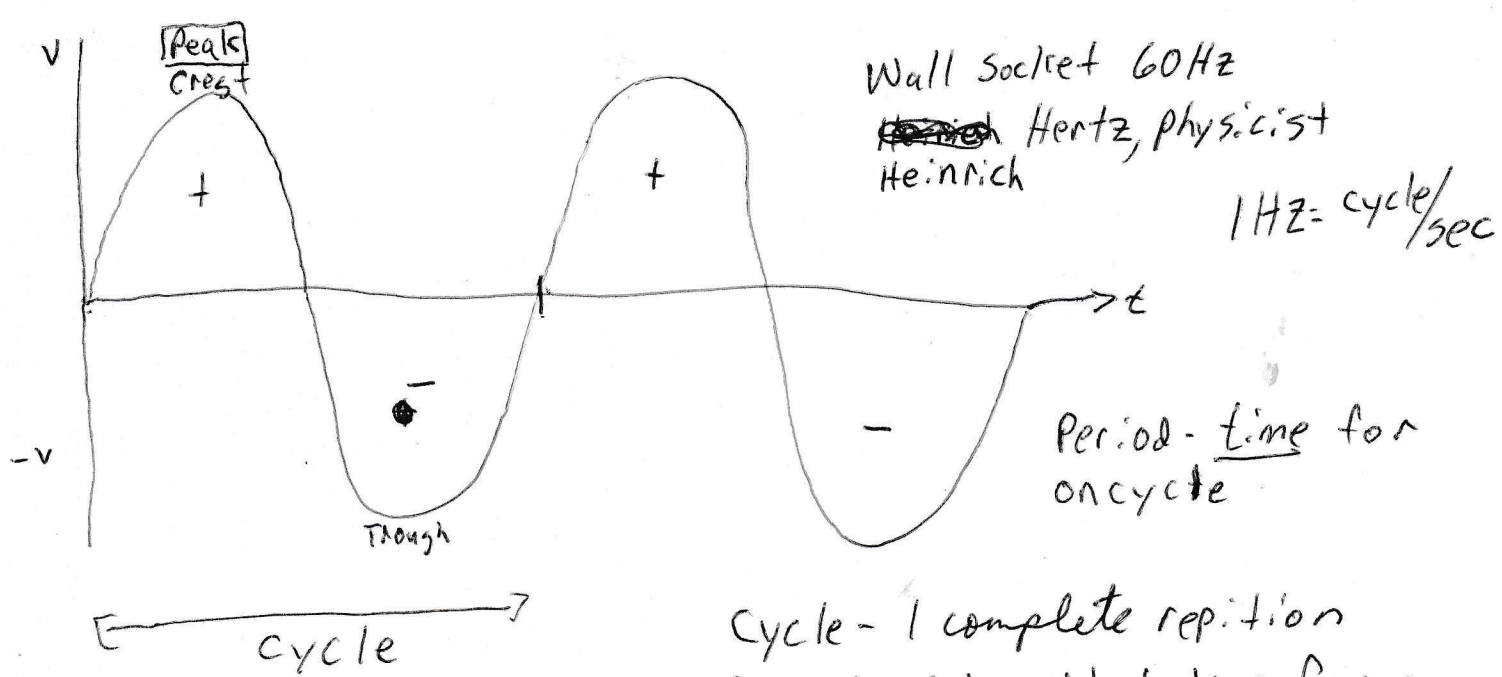
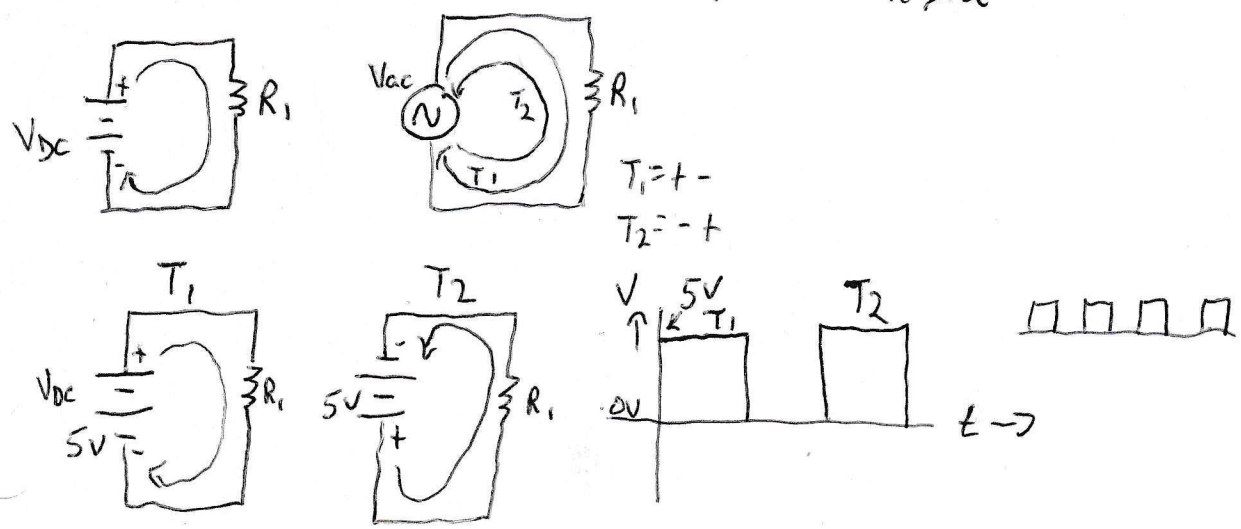


The amazing Semi Conductor / What is a Sine Wave?

- Part 1 - PN Junctions
- Part 2 - What is a transistor
- Part 3 - Sine Waves

- Direct Current D.C. Thomas Edison
Nikola Tesla



Wall socket $\frac{1}{60}$ sec

$f = \text{Hz}$

~~scribbles~~

$T = \frac{1}{f} = \frac{1}{60}$
 $f = \frac{1}{T}$

Cycle - 1 complete repetition
Period - time it takes for one complete cycle

$f = 60 \text{ Hz}$
 $\rightarrow \approx 0.0167 \text{ s} \rightarrow f = \frac{1}{T} = \frac{1}{0.0167 \text{ s}} = 60 \text{ Hz}$

59.88 Hz

The amazing Semiconductor / What is a sine wave?

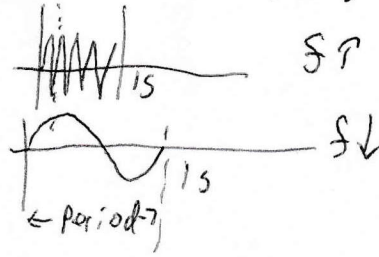
Higher the f , Shorter period

Lower f : longer period

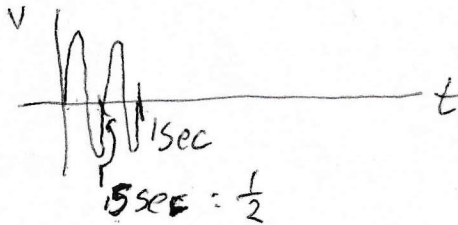
$$2 \text{ cycles/s} = 2 \text{ Hz}, \quad f = \frac{1}{T}$$

$$1 \text{ Hz} = \frac{1 \text{ cps}}{1}$$

$$T = \frac{1}{f}$$



~~4 Hz~~ =
 $\text{Hz} = \frac{2 \text{ cps}}{1} = 2 \text{ Hz}, \quad T = \frac{1}{2 \text{ Hz}} = .5 \text{ sec} = \frac{1}{2} \text{ sec}$



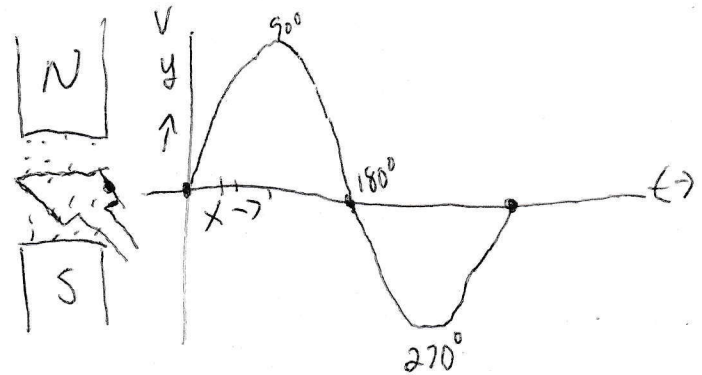
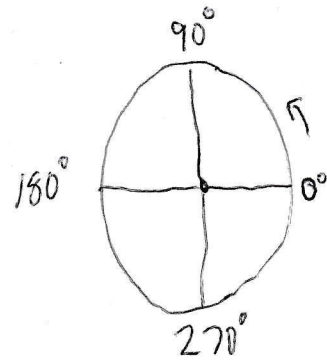
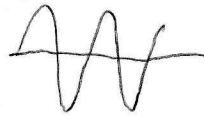
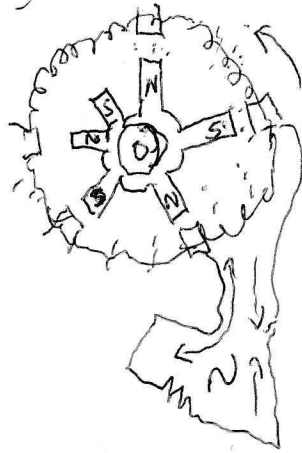
Freq - How many cycles happen every second

Period - How long does a cycle take.

The amazing Semiconductor / What is a sign wave?

(3)

LAB



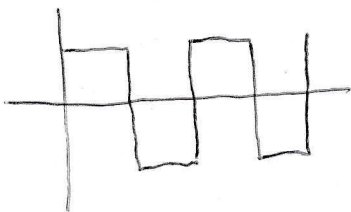
Sine Waves can also be Generated electronically!

Sine wave
 $y = \sin(x)$

Sine Wave



Square Wave



Saw tooth Wave

