

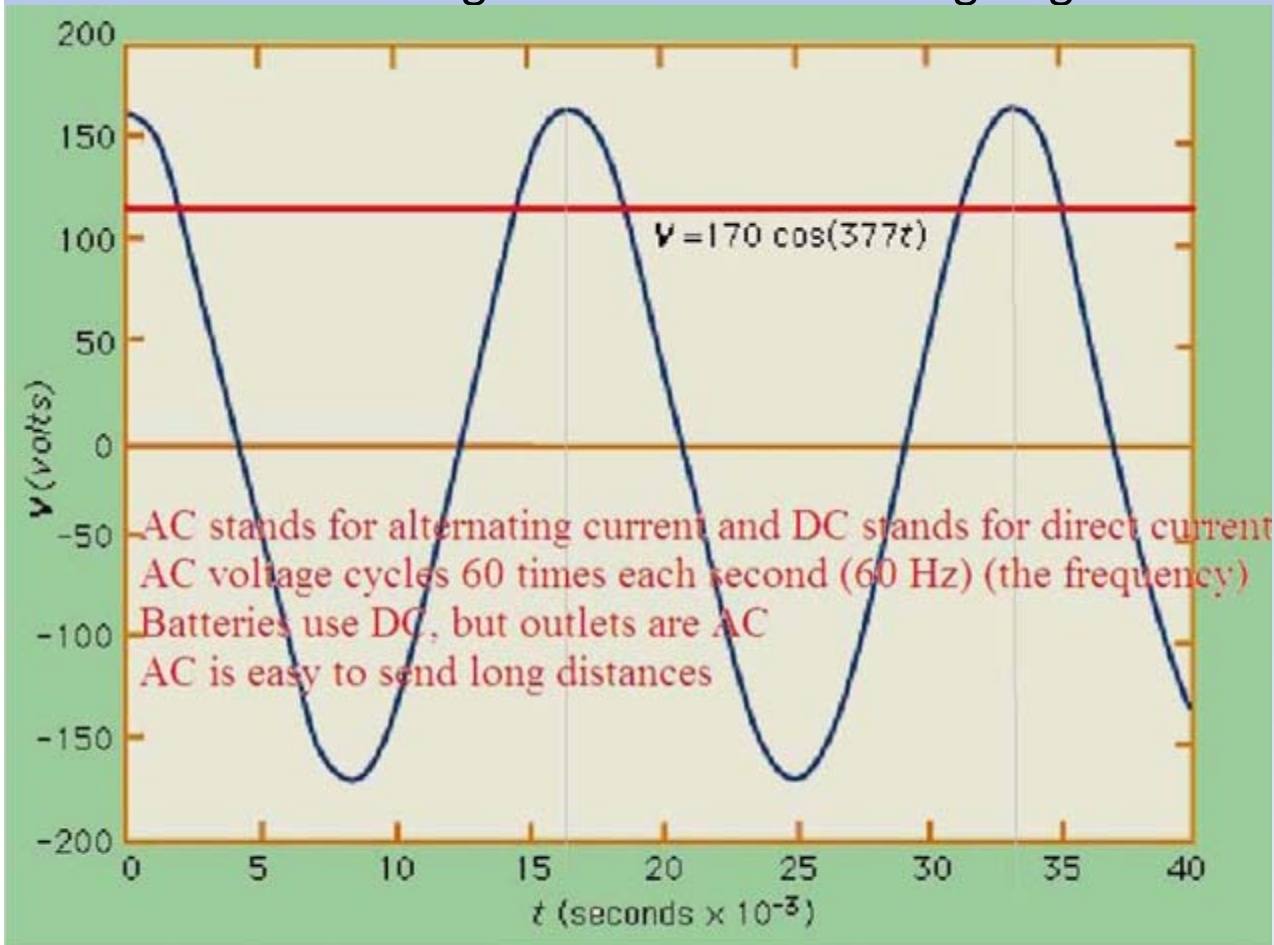
Traditional: 09-08

Themed: 06-08

AC versus DC electricity

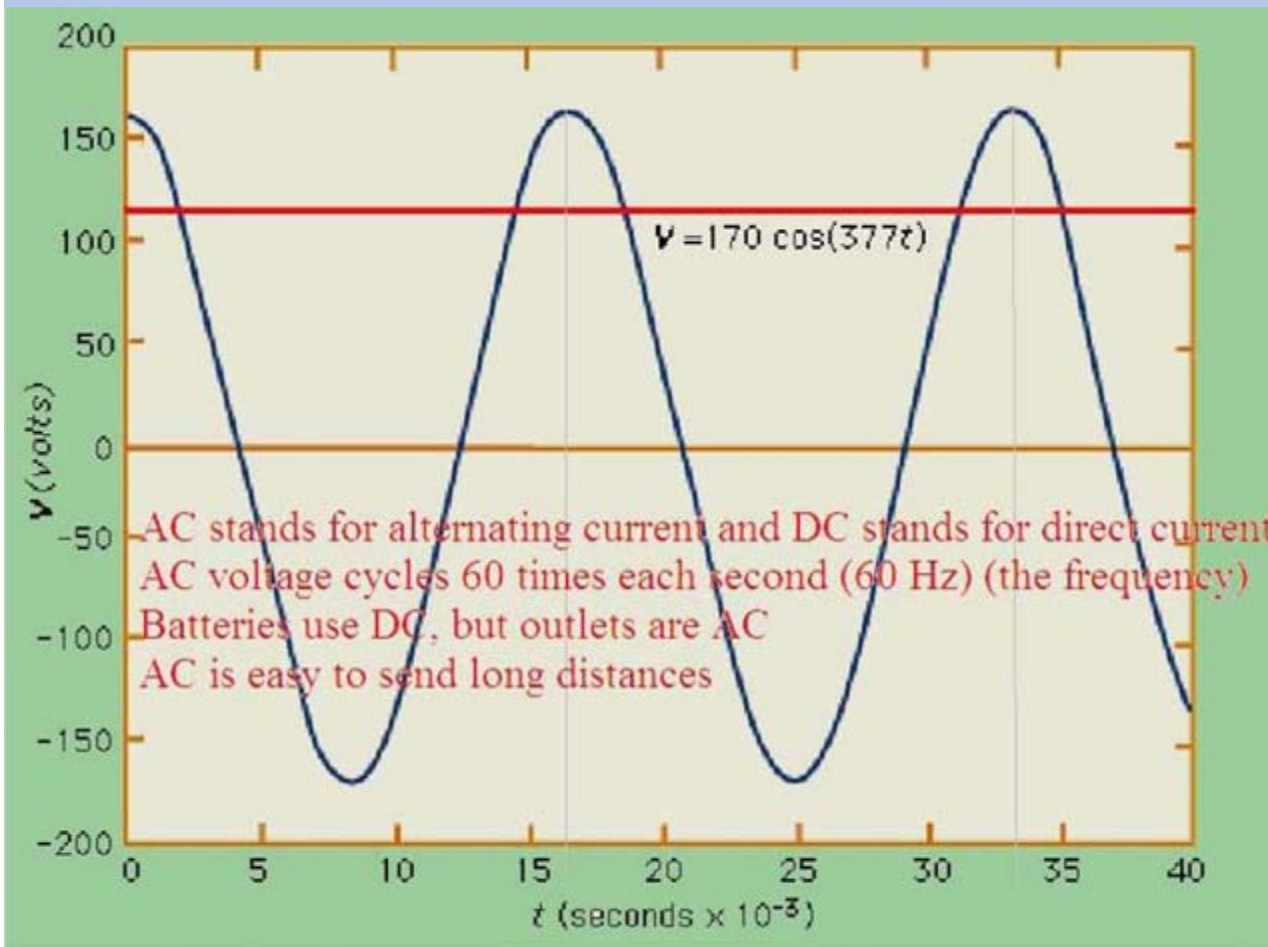
Voltage comparison of AC vs. DC

- AC voltage varies continuously at 60 Hz
 - Push charges left at 170 volts, push charges right at 170 volts, repeat
 - Electrons don't move from power company to you – Power company only swishes them back and forth for you
 - Average magnitude of voltage is 120 volts
 - Bulb burn bright whether electrons go right or left



Voltage comparison of AC vs. DC

- AC stands for **A**lternating **C**urrent
- DC stands for **D**irect **C**urrent
- Tesla and Edison battled over which to use: Tesla won



- AC can go large distances without losing much energy; DC can't....this is why Tesla won!
- North American voltage is 120 V and frequency is 60 Hz (know this!)

Electrocution dangers

- High voltage produces high current...but: Current kills, not voltage
- Static shocks have high voltage, but little current
- Human resistance varies by 100x depending on dry skin vs. wet/salty (sweating)
- Wounds have extremely low resistance (insulating skin is gone, leaving salt water body directly exposed)
- Left pocket rule (keep current from heart)

