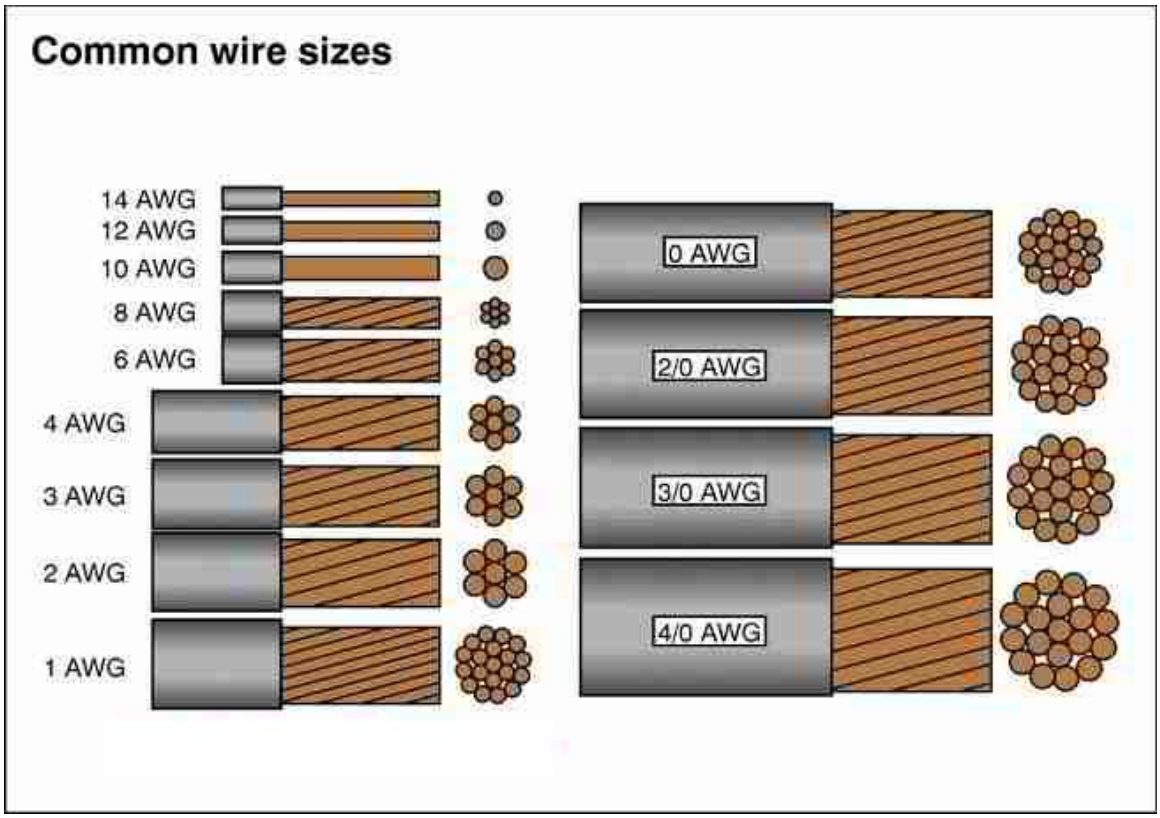
Name _____ **Date** _____

Engineering Technology Department **Period** ____

Electricity / Electronics

Wire Gauge

Wire gauge is the physical size of the wire, rated in gauge size. For instance, common sizes include 14-, 12-, 10-, 8-, 6-, and 2-gauge wire. The gauge of the wire dictates the amount of current that can safely pass through the electrical wire.



Electrical current is measured as ampacity. As a guide, #14 wire is good for 15 amps, #12 wire is good for 20 amps, #10 wire is good for 30 amps. As the number gets smaller, the size of the wire gets larger and the amount of amps it can handle also gets larger.

Wire Gauges and Uses

Wire Use	Rated Ampacity	Wire Gauge
Low-voltage Lighting and Lamp Cords	10 Amps	18 Gauge
Extension Cords	13 Amps	16 Gauge
Light Fixtures, Lamps, Lighting Runs	15 Amps	14 Gauge
Receptacles, 110-volt Air Conditioners, Sump Pumps, Kitchen Appliances	20 Amps	12 Gauge
Electric Clothes Dryers, 220-volt Window Air Conditioners, Built-in Ovens, Electric Water Heaters	30 Amps	10 Gauge
Cook Tops	45 Amps	8 Gauge
Electric Furnaces, Large Electric Heaters	60 Amps	6 Gauge
Electric Furnaces, Large Electric Water Heaters, Sub Panels	80 Amps	4 Gauge
Service Panels, Sub Panels	100 Amps	2 Gauge
Service Entrance	150 Amps	1/0 Gauge
Service Entrance	200 Amps	2/0 Gauge