



Types of Metals

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Name of Metal	Characteristics	Positives	Negatives	Common Uses
STEEL	Most common metal used, made mostly from iron, very strong, does not bend easily, dark gray color	Mass-produced because it can be made cheaply, very strong	Oxidizes with exposure to water (Rusts if left unprotected)	Skyscrapers, bulldozers, hammers, trains, railroads, stadiums
STAINLESS STEEL	Same as steel, but chromium is added to make it corrosion resistant (won't rust), silver color	Will not rust, very strong, clean surface does not hold germs	Expensive to make	Pots & pans, forks & knives, surgical instruments, dental instruments (plus the St. Louis Arch!)
ALUMINUM	Soft, bendable, lightweight, strong, non-corroding, light silver color	Cheap to make, will not rust, lightweight, easily recyclable	Soft, melts at low temperature	Aluminum foil, baseball bats, airplanes, street light poles, gutters
COPPER	Very soft, bendable, very high electrical and heat conductivity, reddish-brown color, oxidizes with exposure to air (making it green!)	Best material to conduct heat or electricity	Soft, very expensive, oxidizes in air	Electrical wires, plumbing lines (plus the outside of the Statue of Liberty!)
BRONZE	Mixture of copper and aluminum (and tin), slightly bendable, gold/yellow color	Very low metal-to-metal friction	Expensive to make, slightly soft	Sculptures, bells, Olympic medals, cymbals
TITANIUM	Very strong, hard, non-magnetic, doesn't corrode, dark silver in color, poor conductor of heat and electricity	Will not rust, the highest strength-to-weight ratio of any metal	Very expensive to make, unstable	Jet engines, missiles, implants, prostheses, aircraft carriers, submarines
ALLOYS (many types)	Combination of the above metals that take the best characteristics of each metal to make an even stronger metal	Super strong <u>or</u> strong and won't rust <u>or</u> strong and conducts heat	Made for a particular use, which might make it expensive	Space shuttle, rockets, tanks
PLASTIC (not metal)	Blended polymers, ranges from soft to hard, generally doesn't conduct heat; includes nylon, rubber, plastic, Teflon, etc.	Easily moldable into various shapes, cheap to make, easily recyclable, won't rust, lasts forever	Not as strong as metal	Toys, bottles, food packaging, tires, gutters