

Metal, Non-Metals, & Metalloids

The elements on the Periodic Table can be classified into three categories based on their physical properties. Elements are classified as metals, nonmetals, or metalloids. The chart below outlines three basic physical properties used to classify elements as **metals, nonmetal, and metalloids**.

Property	Metals	Non-Metals	Metalloid
Luster	High metallic luster (shiny)	Non-metallic luster (dull)	Can be shiny or dull
Malleability	Very malleable, can be hammered into thin sheets	Brittle if it is a solid.	Can be malleable or brittle.
Conductivity	Good conductors of both heat and electricity. Bright light.	Non-conductors of heat and electricity, BUT are good insulators. No light.	Partially conduct heat and electricity. Dim light. Semiconductor
Other Properties	Usually solid at room temperature, some are magnetic	Can be solid, liquid, or gas at room temperature	Solid at room temperature

Direct Observations of Elements

Sample	Malleability	Luster	Conductivity	Metal, Nonmetal, or Metalloid
aluminum	Malleable	Metallic	Good conductor	
carbon	Brittle	Dull	Poor conductor	
copper	Malleable	Metallic	Good conductor	
iron	Malleable	Metallic	Good conductor	
nickel	Malleable	Metallic	Good conductor	
lead	Malleable	Metallic	Good conductor	
sulfur	Brittle	Nonmetallic, Dull	Poor conductor	
silicon	Brittle	Metallic	Partial conductor	
tin	Malleable	Metallic	Good conductor	
zinc	Malleable	Metallic	Good conductor	

Directions:

Use the information below to color the periodic table of elements.

- Hydrogen=green,
- Boron=blue,
- Fluorine=green,
- Neon=green,
- Magnesium=yellow,
- Aluminum=yellow,
- Gallium=yellow,
- Germanium=blue,
- Arsenic=blue,
- Rubidium=yellow,
- Antimony=blue,
- Iodine=green
- Xenon=green,
- Osmium=yellow,
- Bismuth=yellow,
- Astatine=green,
- Francium=yellow
- Lanthanum=yellow,
- Uranium=yellow,
- Einsteinium=yellow,
- Nobelium=yellow

Essential Vocabulary:

element: _____

metal: _____

non-metal: _____

metalloid: _____

periodic table: _____