

Name: _____

Date: _____

Metals, Nonmetals, and Metalloids

Properties of Metals (Slide 2)

- _____
- _____ melting point
- Mostly _____ or _____ in color
- Mostly _____ at room temperature – Mercury (Hg) is a liquid at room temperature
- _____ – able to be hammered into a thin sheet
- _____ – able to be drawn/pulled into a wire
- _____ of heat and electricity

Examples of Metals (Slide 3)

- _____
- _____
- _____

Properties of Nonmetals (Slide 4)

- _____
- _____ melting point
- _____ – break easily
- Not _____
- Not _____
- _____ of heat and electricity

Examples of Nonmetals (Slide 5)

- _____
- _____
- _____

Properties of Metalloids (Slide 6)

- Found on the " _____ " line on the Periodic Table of Elements
- Have _____ of both metals and nonmetals
- Can be _____ or _____
- _____ – able to conduct _____ under certain conditions

Examples of Metalloids (Slide 7)

- _____
- _____
- _____

Periodic Table (Slide 8) – Create a key and color code the Periodic Table of Elements.

1 H Hydrogen 1.00794																	2 He Helium 4.0026
3 Li Lithium 6.941	4 Be Beryllium 9.0122											5 B Boron 10.811	6 C Carbon 12.011	7 N Nitrogen 14.0064	8 O Oxygen 15.9994	9 F Fluorine 18.9984	10 Ne Neon 20.180
11 Na Sodium 22.98977	12 Mg Magnesium 24.304											13 Al Aluminum 26.981538	14 Si Silicon 28.0855	15 P Phosphorus 30.973762	16 S Sulfur 32.06	17 Cl Chlorine 35.453	18 Ar Argon 39.948
19 K Potassium 39.0983	20 Ca Calcium 40.078	21 Sc Scandium 44.955912	22 Ti Titanium 47.88	23 V Vanadium 50.9415	24 Cr Chromium 51.9961	25 Mn Manganese 54.938045	26 Fe Iron 55.845	27 Co Cobalt 58.933195	28 Ni Nickel 58.6934	29 Cu Copper 63.546	30 Zn Zinc 65.39	31 Ga Gallium 69.723	32 Ge Germanium 72.63	33 As Arsenic 74.9216	34 Se Selenium 78.96	35 Br Bromine 79.904	36 Kr Krypton 83.80
37 Rb Rubidium 85.4678	38 Sr Strontium 87.62	39 Y Yttrium 88.90585	40 Zr Zirconium 91.224	41 Nb Niobium 92.90638	42 Mo Molybdenum 95.94	43 Tc Technetium (98)	44 Ru Ruthenium 101.07	45 Rh Rhodium 101.07	46 Pd Palladium 106.42	47 Ag Silver 107.8682	48 Cd Cadmium 112.411	49 In Indium 114.818	50 Sn Tin 118.710	51 Sb Antimony 121.760	52 Te Tellurium 127.60	53 I Iodine 126.90447	54 Xe Xenon 131.29
55 Cs Cesium 132.90545	56 Ba Barium 137.327	57 La Lanthanum 138.9055	58 Ce Cerium 140.12	59 Pr Praseodymium 140.90768	60 Nd Neodymium 144.24	61 Pm Promethium (145)	62 Sm Samarium 150.36	63 Eu Europium 151.964	64 Gd Gadolinium 157.25	65 Tb Terbium 158.92534	66 Dy Dysprosium 162.50	67 Ho Holmium 164.93032	68 Er Erbium 167.256	69 Tm Thulium 168.93032	70 Yb Ytterbium 173.04	71 Lu Lutetium 174.967	
87 Fr Francium (223)	88 Ra Radium (226)	89 Ac Actinium (227)	90 Th Thorium (232)	91 Pa Protactinium (231)	92 U Uranium (238)	93 Np Neptunium (237)	94 Pu Plutonium (244)	95 Am Americium (243)	96 Cm Curium (247)	97 Bk Berkelium (247)	98 Cf Californium (251)	99 Es Einsteinium (252)	100 Fm Fermium (257)	101 Md Mendelevium (258)	102 No Nobelium (259)	103 Lr Lawrencium (262)	

Checkpoint (Slides 9-14)

Question 1: Identify 2 metals other than the ones previously listed.

Question 2: Identify 2 nonmetals other than the ones previously listed.

Question 3: Identify 2 metalloids other than the ones previously listed.

Question 4: Why do you think many kitchen cooking utensils are made out of metal?

Question 5: Is Aluminum a metal, nonmetal, or metalloid? Explain.



METALS, NONMETALS, AND METALLOIDS

Matter is made up of 3 main groups



Metals 

Metalloids



Non-Metals 

high metallic _____
(_____)

Very _____, can
be _____ into
thin _____

Good _____
of both _____
and _____

Bright _____

Usually _____
at room _____

some are _____

can be _____ or _____

can be _____
or _____

partially conduct

_____ and _____

_____ light

_____ at room

Non-metallic _____
(_____)

_____ if a
Solid

Poor _____
of _____ and
electricity, but
are good

No _____

can be _____,
_____ or _____
at room _____

Name: _____

Metals, Nonmetals, and Metalloids - Crossword Puzzle

Complete the crossword puzzle below.

The crossword puzzle grid consists of 16 numbered starting points for words. The grid is as follows:

- 1: Down, 10 letters
- 2: Down, 10 letters
- 3: Across, 7 letters
- 4: Down, 10 letters
- 5: Across, 8 letters
- 6: Down, 10 letters
- 7: Down, 10 letters
- 8: Across, 10 letters
- 9: Across, 7 letters
- 10: Across, 10 letters
- 11: Down, 10 letters
- 12: Down, 10 letters
- 13: Across, 4 letters
- 14: Down, 10 letters
- 15: Across, 6 letters
- 16: Across, 8 letters

Word Bank:

- Boron
- Ductility
- Iron
- Metals
- Metalloids
- Carbon
- Hydrogen
- Periodic Table
- Maleability
- Density
- Element
- Conductivity
- Nonmetals
- Luster
- Silicon
- Copper

Across	Down
3. Elements are found on the left side of the staircase (zigzag line) of the periodic table.	1. A pure substance containing only one type of atom.
5. The only nonmetal element on left side of the periodic table.	2. A property that defines how an element reflects light from its surface.
8. Elements that have properties of both metals and nonmetals.	4. The ability of a substance to conduct electrical current.
9. A nonmetal element that has the chemical symbol "C".	6. The ability of a substance to be pounded into thin sheets.
10. An organized arrangement of elements according to their atomic number.	7. A metal element that has the chemical symbol "Cu".
13. A metal element that has the chemical symbol "Fe".	11. Elements are found on the right side of the staircase (zigzag line) of the periodic table.
15. A metalloid element that has the chemical symbol "B".	12. A property that describes the amount of matter in a certain volume.
16. The ability to be pulled into thin wires without breaking.	14. A metalloid element that has the chemical symbol "Si".



Whodunnit?



Name: _____

Six contestants on a reality TV show were stunned to find their lowest scoring colleague was "injured." They must figure out the crime before the bell rings. The question is *Whodunnit?* And how... The Player, Last Known Whereabouts and Method that are left unaccounted for -- is the solution.

1.	2.
3.	4.
5.	6.
7.	8.
9.	10.

Who is the "Criminal"?

(The three boxes left unchecked will reveal the crime. If you cannot figure it out, you may be next.)

The Players

Professor Astro	<input type="checkbox"/>
Mrs. Bio	<input type="checkbox"/>
Mr. Chem	<input type="checkbox"/>
Dr. Earth	<input type="checkbox"/>
Coach Physics	<input type="checkbox"/>
Miss Zoo	<input type="checkbox"/>

The Last Known Whereabouts

Atrium	<input type="checkbox"/>
Gym	<input type="checkbox"/>
Kitchen	<input type="checkbox"/>
Library	<input type="checkbox"/>
Movie Theater	<input type="checkbox"/>
Pool	<input type="checkbox"/>

The Method

Chemical Poisoning	<input type="checkbox"/>
Cougar Attack	<input type="checkbox"/>
Electrocution	<input type="checkbox"/>
Fallen Object	<input type="checkbox"/>
Stubbed Toe	<input type="checkbox"/>
Venomous Bite	<input type="checkbox"/>