

The Periodic Table

Read from **Lesson 3: Elements and Compounds** in the **Chemistry Tutorial Section, Chapter 2** of **The Physics Classroom**:
Part a : [The Periodic Table of Elements](#)

Group ▶	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Period ▼																			
Nonmetals	1 H																	2 He	Noble gases
Metals	3 Li	4 Be	Transition metals (sometimes excl. group 12)										5 B	6 C	7 N	8 O	9 F	10 Ne	
	11 Na	12 Mg	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	13 Al	14 Si	15 P	16 S	17 Cl	18 Ar	
	19 K	20 Ca	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr	
	37 Rb	38 Sr	71 Lu	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe	
	55 Cs	56 Ba	La to Yb	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn	113 Nh	114 Fl	115 Mc	116 Lv	117 Ts	118 Og				
	87 Fr	88 Ra	Ac to No	103 Lr	104 Rf	105 Db	106 Sg	107 Bh	108 Hs	109 Mt	110 Ds	111 Rg	112 Cn	113 Nh	114 Fl	115 Mc	116 Lv	117 Ts	118 Og
Lanthanides	57 La	58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu	64 Gd	65 Tb	66 Dy	67 Ho	68 Er	69 Tm	70 Yb					
Actinides	89 Ac	90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 Bk	98 Cf	99 Es	100 Fm	101 Md	102 No					

Image credit https://commons.wikimedia.org/wiki/File:Colour_18-col_PT_with_labels.png

The periodic table is an ordered arrangement of all elements in the known universe. Elements are arranged based on their physical and chemical properties. The periodic table is arranged by rows and columns. There are **seven** rows or **periods** and there are **eighteen** columns or **groups (families)** on the periodic table.

Elements can be organized into three groups: **metals**, **nonmetals**, and **metalloids**. Metals and nonmetals are separated by a zigzag line that begins near boron and aluminum and goes diagonally downward to the right.

Most elements are metals and are located to the left side of the zigzag line. **Metals** are solids that have luster, are ductile and malleable, and are good conductors of heat and electricity.

Nonmetals are found on the right side of the zigzag line on the periodic table. Nonmetals are gases or brittle solids, can be a variety of colors, and are poor conductors of heat and electricity.

Metalloids are found on either side of the zigzag line. They are semi-metallic or semi-conductors. Metalloids are a blend of properties of both metals and nonmetals.

Questions about the Periodic Table

- True or False. An element like sodium, element #11, would most likely be a gas at room temperature.
 - True
 - False

The Chemistry of Matter

- If the above statement is true, then give another example of an element most likely to be a gas at room temperature. If the above statement is false, then explain why it is false.
- An element can be hammered into a flat sheet and is a good conductor of heat. Your lab partner thinks it could be found in Group 18. Explain why your lab partner is correct or incorrect.
- Find element #32 on the periodic table. What are some of the characteristics of this element based on its location on the periodic table?
- Answer the following questions about the periodic table to obtain clues about the words hidden in the word search. Letters to spell out each word are used once. Words will zigzag around the puzzle and all letters will be used.

An ordered arrangement of elements

The most common phase of matter of metals.

A characteristic of metals that means able to be drawn out into a thin wire.

Another name for a semiconductor.

A nonmetal found in period 3 and group 17

Another term for the eighteen columns on the periodic table

O	I	D	B	L	E
L	L	A	G	R	E
E	T	A	T	O	N
M	O	C	U	P	I
D	I	D	I	S	R
I	R	I	T	D	O
L	E	L	C	U	L
O	S	P	E	C	H