

The Periodic Table

Group ▶	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
Period ▼																		Noble gases		
Nonmetals	1																		2	
	H																		He	
Metals	3	4											5	6	7	8	9	10		
	Li	Be											B	C	N	O	F	Ne		
	11	12	Transition metals (sometimes excl. group 12)									13	14	15	16	17	18			
	Na	Mg											Al	Si	P	S	Cl	Ar		
	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36		
	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr		
	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54		
	Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe		
	55	56	La to Yb	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	
	Cs	Ba		Lu	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn	
	87	88	Ac to No	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	
	Fr	Ra		Lr	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Nh	Fl	Mc	Lv	Ts	Og	

Lanthanides	57	58	59	60	61	62	63	64	65	66	67	68	69	70
	La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb
Actinides	89	90	91	92	93	94	95	96	97	98	99	100	101	102
	Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	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