Introducing the Periodic Table

Back in 1869, Russian chemist Dimitri Mendeleev organized all the known elements into a chart according to their physical and chemical properties. Today that chart is known as the Periodic Table of Elements. The periodic table organizes information about the elements and their properties.

The periodic table is made up of horizontal rows and vertical columns of boxes. Each box contains specific information about a single element. This information includes the element's name, the chemical symbol for the element, the element's atomic number and the element's atomic mass.

With your teacher label the information indicated by the arrows below. Find each on your periodic table.



Materials: Copy of the Periodic Table, colored pencils

What To Do:

- Element symbols are written with the first letter a capital letter and any other letters as lower case letters. Write the symbols for 5 different elements.
- 2. Find the numbers across the top. These vertical columns are called groups because the elements in them tend to have the same chemical and physical properties. How many groups are on the periodic table?
- 3. Find the numbers down the left side. These horizontal rows are called periods because they fall in order like a calendar. How many periods are on the periodic table?
- 4. Find the zigzag line that starts in the group 13. These seven elements (Boron, Silicon, Germanium, Arsenic, Antimony, Tellurium, Polonium) are the metalloids. They sometimes act like metals and at other times like nonmetals. Color them purple.
- 5. On the right side of the zigzag line are the nonmetals. Color them yellow.
- 6. Most of the elements are known as metals. Metals are located on the left side of the periodic table. The only element on the left side of the periodic table that is NOT a metal is hydrogen. Color hydrogen yellow.
- 7. Use a colored pencil to color the metals green. (Don't color them so dark that you can't read the information.)

- **Directions:** Find the information on your Periodic Table.
- 1. What is found in group 1 and period 4?
- 2. What is found in group 16 and period 5? _____
- 3. What is found in group 17 and period 2? _____
- 4. In what group will you find copper? _____
- 5. In what group will you find krypton? _____
- 6. In what group will you find mercury? _____
- 7. What is the symbol for copper? _____
- 8. What is the symbol for gold? _____
- 9. What is the symbol for krypton? _____
- 10. What is the symbol for mercury? _____
- 11. What is the symbol for oxygen? _____
- 12. In what period will you find gold? _____
- 13. In what period will you find silver?
- 14. In what period will you find oxygen?
- 15. In what groups will you find metalloids?
- 16. What element has the symbol H? _____
- 17. What element has the symbol He? _____
- 18. What element has the symbol Ca? _____
- 19. What element has the symbol Cl?
- 20. What element has the symbol C? _____

Directions: Do Not Glue until teacher says.

Cut out each rectangle and glue them on the page only across the top. Draw something representing each topic.

THE PERIODIC TABLE

3 KINDS OF ELEMENTS

GROUPS	
SROULD	



Name period	Name period						
EXIT TICKET	EXIT TICKET						
What's wrong with these element symbols?	What's wrong with these element symbols?						
1. CA	1. CA						
2. mg	2. mg						
3. aT	3. aT						
How should these element symbols be written?	How should these element symbols be written?						
4. CA	4. CA						
5. mg	5. mg						
6 aT	6 aT						

metalloids)

letter.

Conclusion: (capital, metals, small, symbol, nonmetals, **Conclusion:** (capital, metals, small, symbol, nonmetals, metalloids) Elements can be classified as _____, ____ Elements can be classified as _____, ____ and _____. Each element has a unique _____. and _____. Each element has a unique _____. The first letter of a symbol is always a and The first letter of a symbol is always a and the second letter of a symbol is always a the second letter of a symbol is always a letter.

			Periodic Table of the Elements						;	Atomic number 14									
			Symbol										Si						
	Group 1									Ator	nic mass	+	28.085					18	
. [1												Silicon —	j—Narr	Name			2	
1	1.008												12	14	15	16	17	4.0026	
2	Hydrogen 3	4											5	6	7	8	9	Helium 10	
	Li	Be											В	С	N	0	F	Ne	
	6.941 Lithium	9.012 Berylium											10.81 Boton	12.011 Carbon	14.007 Nitrogen	15.999 Oxygen	18.998 Fluorine	20.179 Neon	
2	Na	Mg											AI	Si	P 15	S	čí	Ar	
Ĭ	22,990 Sodium	24.305 Magnesium	3	4	5	6	7	8	9	10	11	12	26.982 Aluminum	28.086 Silicon	30.974 Phosphorus	32,066 Sultur	35.453 Chiorine	39.948 Argon	
	19	20	21	22 Ti	23 V	24	25	26 Eo	27	28 NG	29	30	31	32	33	34	35	36	
4	39.096	40.06	44,956	47.88	50.942	51,996	54.938	55.847	58.933	58.69	63.546	65.39	69.72	72.61	AS 74.922	78.96	79.904	83.80	
	Potassium 37	Calcium 38	Scandum 39	Titanium 40	Vanadium 41	Chromium 42	Manganese 43	1ton 44	Cobalt 45	Nickel 46	Copper 47	Zinc 48	Gallum 49	Comanium 50	Americ 51	Selenium 52	Bromine 53	Krypton 54	
5	Rb	Sr	Ŷ	Zr	Nb	Мо	TC	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	Ĩ	Xe	
	85.468 Rubidium	87.62 Strontum	88.906 Yittrium	91.224 Zirconium	92.906 Nibbium	95.94 Nolybdenum	(98) Technetium	101.07 Ruthenium	102.906 Fihodium	106.42 Paladum	107.868 Silver	112.41 Cadmium	114.82 Indium	118.71 Tin	121.763 Antimoty	127.60 Tellurium	126.904 lodine	131.29 Xeron	
	55 Cs	56 Ba	57 La	72 Hf	73 Ta	74 W	75 Re	76 Os	Tr	78 Pt	79 Au	80 Ha	81 TI	82 Ph	83 Bi	84 Po	85 At	86 Rn	
6	132,905	137.33	138.906	178.49	180.948	183.84	186.207	190,23	192.22	195.08	196.967	200.59	204.383	207.2	208.960	(209)	(210)	(222)	
	87	88 88	Linthinum 89	104	105	Tungsten 106	107	108	109	110	Gold	Mercury	cury Thalium Lead Bismuth Polonium Astatine Rad						
7	Fr	Ra	Ac	Rf	Db	Sg	Bh	Hs	Mt		the most	stable or most common isotope.							
	(223) Francium	226.025 Ridium	227.028 Actinium	(261) Raterlardam	(282) Dubrium	(263) Seaborgium	(262) Bohrium	(265) Hassium	(266) Meitrerium	(269)									
			'	\sim															
				\backslash	58	59 Dr	60 Nd	61 Dm	62 Sm	63 Eu	64 Cd	65 Th	66 Dv	67 Ho	68	69 Tm	70 Vh	71	
Lanthanide S			de Serie	le Series		140.908	144.24	(145)	150.36	151.97	157.25	158.925	162.50	164.930	167.26	168.934	173.04	174.967	
					Cerium 90	Preseodymium 91	Neodymium 92	Promethium 93	Samarium 94	Europium 95	Gadolinium 96	Terbium 97	Dysprosium 98	Holmium 99	Erbium 100	Thulium 101	Ytterbium 102	Lutetium 103	
Actinic			de Serie	₅ \	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr	
					232.038 Thorium	231.036 Protactinium	238.029 Uranium	237,048 Neptunium	(244) Plutonium	(243) Americium	(247) Curium	(247) Berkelium	(251) Californium	(252) Einsteinium	(257) Fermium	(258) Mondolevium	(259) Nobelium	(262) Lawrencium	