

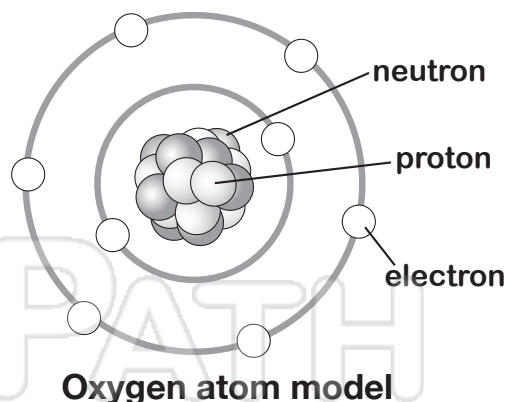


Elements & the Periodic Table

Name _____ Class _____ Date _____

Elements are the basic building blocks of **matter**. Each element is made up of one type of **atom** which determines its properties. Each element is represented by a unique **chemical symbol**.

The **Periodic Table** groups elements in an organized fashion. Elements in each **column** have similar chemical properties. Elements in each **row** are arranged according to the number of **protons** (**atomic number**).



The **Periodic Table** groups elements in an organized fashion.

8

Atomic number
(number of protons)

Each unique

n of
the



PREVIEW

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1	1	H	Hydrogen
2	3	Li	Lithium
3	11	Na	Sodium
4	19	K	Potassium
5	37	Rb	Rubidium
6	55	Cs	Cesium
7	87	Fr	Francium

88	89	Ac	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Nh	Fl	Mc	Lv	Ts	Og
Radium	Actinium	Rutherfordium	Dubnium	Seaborgium	Bohrium	Hassium	Meitnerium	Darmstadtium	Roentgenium	Copernicium	Nihonium	Flerovium	Moscovium	Livermorium	Tennesine	Ognesson	

← Period

↑ increasing atomic number

→ increasing atomic number

58	59	60	61	62	63	64	65	66	67	68	69	70	71
Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu
Cerium	Praseodymium	Neodymium	Promethium	Samarium	Europium	Gadolinium	Terbium	Dysprosium	Holmium	Erbium	Thulium	Ytterbium	Lutetium

90	91	92	93	94	95	96	97	98	99	100	101	102	103
Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr
Thorium	Protactinium	Uranium	Neptunium	Plutonium	Americium	Curium	Berkelium	Californium	Einsteinium	Fermium	Mendelevium	Nobelium	Lawrencium

Elements in each **column** or **group** have similar **chemical properties**.

Elements in each **row** or **period** are arranged according to the number of **protons**. The number of protons (**atomic number**) increases from left to right.

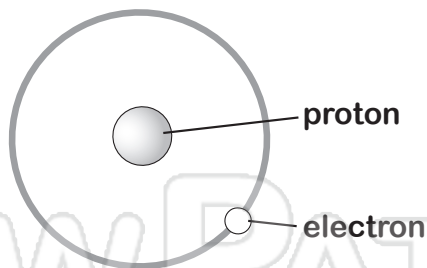


Elements & the Periodic Table

Name _____ Class _____ Date _____

A **column** of elements in the **Periodic Table** is known as a **group** or **family**.

Hydrogen is set apart from the rest of the elements because of its **unique properties**. It is the most abundant element in our universe.



Group 1: Alkali Metals

These metals are very reactive which are only found in **compounds**.

Group 2: Alkaline Earth Metals

These metals are fairly reactive, **conduct electricity** and are only found in **compounds**. Magnesium and calcium are the two most common elements in the earth's crust.



Group 3

These are the hardest, most brittle elements.

Group 4: Aluminum

Carbon and silicon are the most abundant elements in the earth's crust.

Group 5: Nitrogen

Group 6

Oxygen makes up about 20% of the air in our atmosphere. It is necessary for most living things on Earth.

Group 17: Halogens

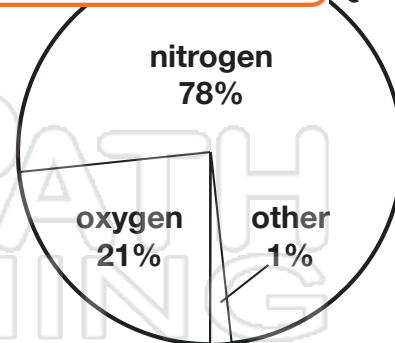
Halogens are very reactive nonmetals which are only found in **compounds**.

Group 18: Noble Gases

Noble gases are **unreactive nonmetals** which are colorless and odorless at room temperature. Some of these gases are used to make **"neon" lights**.

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Elements & the Periodic Table

Name _____ Class _____ Date _____

Use a reference to color metals **blue**, metalloids **orange** and nonmetals **green**.

		← increasing atomic number					
Group	1	2	3	4	5	6	7
Period	1 H Hydrogen	2 Li Lithium	3 Be Beryllium	4 B Boron	5 C Carbon	6 N Nitrogen	7 O Oxygen
Period	8 F Fluorine	9 Ne Neon	10 Na Sodium	11 Mg Magnesium	12 Al Aluminum	13 Si Silicon	14 P Phosphorus
Period	15 S Sulfur	16 Cl Chlorine	17 Ar Argon	18 K Potassium	19 Ca Calcium	20 Sc Scandium	21 Ti Titanium
Period	22 V Vanadium	23 Cr Chromium	24 Mn Manganese	25 Fe Iron	26 Co Cobalt	27 Ni Nickel	28 Cu Copper
Period	29 Zn Zinc	30 Ga Gallium	31 Ge Germanium	32 As Arsenic	33 Se Selenium	34 Br Bromine	35 Kr Krypton
Period	36 Rb Rubidium	37 Sr Strontium	38 Y Yttrium	39 Zr Zirconium	40 Nb Niobium	41 Mo Molybdenum	42 Tc Technetium
Period	43 Ru Ruthenium	44 Rh Rhodium	45 Pd Palladium	46 Ag Silver	47 Cd Cadmium	48 In Indium	49 Sn Tin
Period	50 Hg Mercury	51 Tl Thallium	52 Pb Lead	53 Bi Bismuth	54 Po Polonium	55 At Astatine	56 Rn Radon
Period	57 La Lanthanum	58 Ce Cerium	59 Pr Praseodymium	60 Nd Neodymium	61 Pm Promethium	62 Sm Samarium	63 Eu Europium
Period	64 Gd Gadolinium	65 Tb Terbium	66 Dy Dysprosium	67 Ho Holmium	68 Er Erbium	69 Tm Thulium	70 Yb Ytterbium
Period	71 Lu Lutetium	72 Hf Hafnium	73 Ta Tantalum	74 W Tungsten	75 Re Rhenium	76 Os Osmium	77 Ir Iridium
Period	78 Pt Platinum	79 Au Gold	80 Hg Mercury	81 Tl Thallium	82 Pb Lead	83 Bi Bismuth	84 Po Polonium
Period	85 At Astatine	86 Rn Radon	87 Fr Francium	88 Ra Radium	89 Ac Actinium	90 Th Thorium	91 Pa Protactinium
Period	92 U Uranium	93 Np Neptunium	94 Pu Plutonium	95 Am Americium	96 Cm Curium	97 Bk Berkelium	98 Cf Californium
Period	99 Es Einsteinium	100 Fm Fermium	101 Md Mendelevium	102 No Nobelium	103 Lr Lawrencium	104 Rf Rutherfordium	105 Db Dubnium
Period	106 Sg Seaborgium	107 Bh Bohrium	108 Hs Hassium	109 Mt Meitnerium	110 Ds Darmstadtium	111 Rg Roentgenium	112 Uue Ununbium
Period	113 Nh Nihonium	114 Fl Flerovium	115 Mc Moscovium	116 Lv Livermorium	117 Ts Tennessine	118 Og Oganesson	119 Uuh Ununennium

PREVIEW

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		← increasing atomic number					
Group	1	2	3	4	5	6	7
Period	8 F Fluorine	9 Ne Neon	10 Na Sodium	11 Mg Magnesium	12 Al Aluminum	13 Si Silicon	14 P Phosphorus
Period	15 S Sulfur	16 Cl Chlorine	17 Ar Argon	18 K Potassium	19 Ca Calcium	20 Sc Scandium	21 Ti Titanium
Period	22 V Vanadium	23 Cr Chromium	24 Mn Manganese	25 Fe Iron	26 Co Cobalt	27 Ni Nickel	28 Cu Copper
Period	29 Zn Zinc	30 Ga Gallium	31 Ge Germanium	32 As Arsenic	33 Se Selenium	34 Br Bromine	35 Kr Krypton
Period	36 Rb Rubidium	37 Sr Strontium	38 Y Yttrium	39 Zr Zirconium	40 Nb Niobium	41 Mo Molybdenum	42 Tc Technetium
Period	43 Ru Ruthenium	44 Rh Rhodium	45 Pd Palladium	46 Ag Silver	47 Cd Cadmium	48 In Indium	49 Sn Tin
Period	50 Hg Mercury	51 Tl Thallium	52 Pb Lead	53 Bi Bismuth	54 Po Polonium	55 At Astatine	56 Rn Radon
Period	57 La Lanthanum	58 Ce Cerium	59 Pr Praseodymium	60 Nd Neodymium	61 Pm Promethium	62 Sm Samarium	63 Eu Europium
Period	64 Gd Gadolinium	65 Tb Terbium	66 Dy Dysprosium	67 Ho Holmium	68 Er Erbium	69 Tm Thulium	70 Yb Ytterbium
Period	71 Lu Lutetium	72 Hf Hafnium	73 Ta Tantalum	74 W Tungsten	75 Re Rhenium	76 Os Osmium	77 Ir Iridium
Period	78 Pt Platinum	79 Au Gold	80 Hg Mercury	81 Tl Thallium	82 Pb Lead	83 Bi Bismuth	84 Po Polonium
Period	85 At Astatine	86 Rn Radon	87 Fr Francium	88 Ra Radium	89 Ac Actinium	90 Th Thorium	91 Pa Protactinium
Period	92 U Uranium	93 Np Neptunium	94 Pu Plutonium	95 Am Americium	96 Cm Curium	97 Bk Berkelium	98 Cf Californium
Period	99 Es Einsteinium	100 Fm Fermium	101 Md Mendelevium	102 No Nobelium	103 Lr Lawrencium	104 Rf Rutherfordium	105 Db Dubnium
Period	106 Sg Seaborgium	107 Bh Bohrium	108 Hs Hassium	109 Mt Meitnerium	110 Ds Darmstadtium	111 Rg Roentgenium	112 Uue Ununbium
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Elements & the Periodic Table

Name _____ Class _____ Date _____

Complete the graphic organizer. For boxes that are not labeled, provide both appropriate labels and details.



NEWPATH
LEARNING

make up

Elements



PREVIEW

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such as

such as



Elements & the Periodic Table

Answer Key

1	2	3	4	5	6	7	
1 H Hydrogen		3 Li Lithium	4 Be Beryllium	11 Na Sodium	12 Mg Magnesium	19 K Potassium	37 Rb Rubidium
		21 Sc Scandium	22 Ti Titanium	23 V Vanadium	24 Cr Chromium	39 Y Yttrium	55 Cs Cesium
		40 Zr Zirconium	41 Nb Niobium	42 Mo Molybdenum	72 Hf Hafnium	73 Ta Tantalum	87 Fr Francium
		74 W Tungsten	77 Co Cobalt	78 Ni Nickel	79 Cu Copper	80 Zn Zinc	88 Ra Radium
		81 Tl Thallium	82 Pb Lead	83 Bi Bismuth	84 Po Polonium	85 At Astatine	89 Ac Actinium
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		97 Bk Berkelium	98 Cf Californium	99 Es Einsteinium	100 Fm Fermium	101 Md Mendelevium	102 No Nobelium
		103 Lr Lawrencium					

Group

Period

Background Color

- metal
- metalloid
- nonmetal

increasing atomic number

PREVIEW

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14	15	16	17	18
6 C Carbon	7 N Nitrogen	8 O Oxygen	9 F Fluorine	10 Ne Neon
14 Si Silicon	15 P Phosphorus	16 S Sulfur	17 Cl Chlorine	18 Ar Argon
32 Ge Germanium	33 As Arsenic	34 Se Selenium	35 Br Bromine	36 Kr Krypton
50 Sn Tin	51 Sb Antimony	52 Te Tellurium	53 I Iodine	54 Xe Xenon
82 Pb Lead	83 Bi Bismuth	84 Po Polonium	85 At Astatine	86 Rn Radon
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increasing atomic number

Use a reference to color metals blue, metalloids orange and nonmetals green.



Elements & the Periodic Table

Answer Key Example

Complete the graphic organizer. For boxes that are not labeled, provide both appropriate labels and details.

Periodic Table
chart used to organize
elements according to
properties

make up

Elements



NEW PATH LEARNING

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PREVIEW

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