

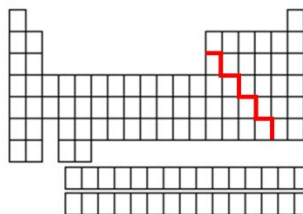
Notes: Chemistry 1.2 and 1.3: The Periodic Table

<p>Every element has its own unique symbol.</p>	<ul style="list-style-type: none"> For some elements the symbol is simply the _____ letter of the element's _____. Examples: Hydrogen = _____, Sulfur = _____, Carbon = _____ Symbols for other elements use the _____ plus one other _____ of the element's name. The first letter is _____ and the _____ letter is not. Examples: Aluminum = _____, Platinum = _____, cadmium = _____ The _____ of some symbols are not as obvious. Some elements have symbols that refer to the element's name in _____. Examples: gold = _____, lead = _____, copper = _____
<p>Who is the "Father of the Periodic Table?"</p>	<ul style="list-style-type: none"> Mendeleev was the first scientist to notice the _____ between the _____ Arranged his periodic table by _____ Said properties of _____ elements could be predicted by the _____ of elements around the missing element Predicted _____ (Al) It was later discovered that the _____ nature of the elements was associated with _____, not atomic mass Periodic means _____
<p>What is the Periodic Table?</p>	<ul style="list-style-type: none"> Column (up and down)= _____ or _____ _____ columns on the Periodic Table Row (side to side)= _____ _____ rows on the Periodic Table
<p>What does the information in the box tell me?</p>	<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 5px; margin-right: 10px;"> <p style="text-align: center;">1 H 1.008</p> </div> <div> <p>Atomic Number = # of _____</p> <p>Elemental _____</p> <p>Atomic _____ = _____ of the atom</p> <p>*if you _____, you get Atomic mass _____ (# of protons plus _____)</p> </div> </div>
<p>Types of Elements: What are Metals?</p>	<ul style="list-style-type: none"> On the _____ side of the periodic table Properties: <ul style="list-style-type: none"> Good conductors of _____ and _____ _____ in appearance (metallic!) Malleable: able to be _____ or re-shaped Ductile: able to be _____ into wire or _____ very thin (think: Aluminum foil) These are general properties; individual properties of metals will _____ Some will be better _____ or more _____ than others!
<p>Types of Elements: What are Nonmetals?</p>	<ul style="list-style-type: none"> Elements on the _____ side of the periodic table. Properties are _____ those of metals. <ul style="list-style-type: none"> Usually _____ conductors of heat and electricity _____ shiny, malleable, or ductile Most are _____
<p>Types of Elements: What are Metalloids?</p>	<ul style="list-style-type: none"> Found _____ the "stair-step line" (see next slide) Have properties of both _____ and _____ Most common metalloid is _____, which is the _____ most common element in the Earth's _____.

**Where are Metals,
Non-Metals, and
Metalloids on the
Periodic Table?**

Only _____ on the
left (metal) side →

Metals are to the _____
of the stair- step



Nonmetals are on the
_____ of the

What are Valence Electrons and Reactivity?	<ul style="list-style-type: none"> Valence electrons are the electrons _____ from the nucleus. Atoms have _____ numbers of valence electrons. Reactivity: how likely an atom is to _____ (react) with other atoms. Some elements are _____ reactive, while others almost _____ react. 	
What are the groups/families on the Periodic Table?	<ul style="list-style-type: none"> Elements on the periodic table can be grouped into _____ (or groups) based on their _____ properties. <ul style="list-style-type: none"> We call them “families” because the elements in each family are “_____.” Each family has a _____ to differentiate it from the other families in the periodic table. Elements in each family _____ differently with other elements. 	
Group 1: the Alkali Metals	<ul style="list-style-type: none"> _____ is NOT part of this family!!! Most _____ metals on the PT <ul style="list-style-type: none"> _____ : how likely an atom is to interact with other atoms Rarely found _____ (_____) in nature Form _____ with a charge of _____, have 1 _____ Soft and _____, shiny Very reactive, esp. with _____ Conduct _____ 	
Group 2: the Alkaline Earth Metals	<ul style="list-style-type: none"> Still quite _____ Form ions with a charge of _____, have _____ valence electrons White, silvery, and _____ Conduct _____ 	
Groups 3-12: Transition Metals	<ul style="list-style-type: none"> Found _____ and in _____ in nature Form ions with a charge of usually _____ but varies—usually _____ valence electrons Almost all are _____ at room temp (except _____, Hg, is a _____) Good _____ of heat and electricity. 	
Group 13: Boron Family	<ul style="list-style-type: none"> Named after the _____ element in the group (at the _____ of the column), _____ Form ions with a charge of _____, have _____ valence electrons 	
Group 14: The Carbon Family	<ul style="list-style-type: none"> Contains elements that can form _____ bonds (_____ and <u>silicon</u>) Form ions with a charge of _____ or _____, have _____ valence electrons 	
Group 15: the Nitrogen Family	<ul style="list-style-type: none"> Form ions with a charge of _____, have _____ valence electrons 	
Group 16: The Oxygen Family	<ul style="list-style-type: none"> Also known as the _____ Form ions with a charge of _____, have _____ valence electrons 	
Group 17: the Halogens	<ul style="list-style-type: none"> Most _____ Form ions with a charge of _____, have _____ valence electrons 	
Group 18: The Noble Gases (Inert Gases)	<ul style="list-style-type: none"> _____ Do not form _____! Charge is _____, have either _____ or _____ valence electrons All are _____ 	
Rare Earth Metals	<ul style="list-style-type: none"> Some are _____ The rare earths are silver, silvery-white, or gray _____. Conduct _____ Called: Lanthanides and Actinides 	
What are some trends in the periodic table?	<ul style="list-style-type: none"> Atomic size _____ as you move from left to right across the table. Atomic size _____ as you move from top to bottom of the table. The density of an element _____ from top to bottom. The element _____ has the highest known density. The most reactive elements are groups _____ and _____. The least reactive elements are in group _____. 	

