

# The Periodic Table of the Elements, in Pictures

Periods	Alkali Metals Group 1	Alkali Earth Metals Group 2	Transition Metals										Boron Group 13	Carbon Group 14	Nitrogen Group 15	Oxygen Group 16	Halogens Group 17	Noble Gases Group 18												
1	H Hydrogen	He Helium											B Boron	C Carbon	N Nitrogen	O Oxygen	F Fluorine	Ne Neon												
2	Li Lithium	Be Beryllium											Al Aluminum	Si Silicon	P Phosphorus	S Sulfur	Cl Chlorine	Ar Argon												
3	Na Sodium	Mg Magnesium											K Potassium	Ca Calcium	Sc Scandium	Ti Titanium	V Vanadium	Cr Chromium	Mn Manganese	Fe Iron	Co Cobalt	Ni Nickel	Cu Copper	Zn Zinc	Ga Gallium	Ge Germanium	As Arsenic	Se Selenium	Br Bromine	Kr Krypton
4	Rb Rubidium	Sr Strontium	Y Yttrium	Zr Zirconium	Nb Niobium	Mo Molybdenum	Tc Technetium	Ru Ruthenium	Rh Rhodium	Pd Palladium	Ag Silver	Cd Cadmium	In Indium	Sn Tin	Sb Antimony	Te Tellurium	I Iodine	Xe Xenon												
5	Cs Cesium	Ba Barium	Rare Earth Metals										Tl Thallium	Pb Lead	Bi Bismuth	Po Polonium	At Astatine	Rn Radon												
6	Fr Francium	Ra Radium	Actinide Metals										Superheavy Elements																	
7	radioactive, never found in nature, no uses except atomic research																													
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**Hydrogen** belongs to no definite group. It forms compounds by either donating an electron like an alkali metal or accepting an electron like a halogen.

**Alkali Metals** are very reactive and readily form compounds but are not found free in nature. They form salts and alkali (acid-neutralizing) compounds such as baking soda. In pure form, they are very soft metals which catch fire on contact with water.

**Alkali Earth Metals** are reactive and readily form compounds but are not found free in nature. Their oxides are called **alkali earths**. In pure form, they are soft and somewhat brittle metals.

**Rare Earth Metals** are all soft metals. They are chemically similar to scandium and yttrium and are difficult to separate from each other.

**Actinide Metals** are all radioactive heavy metals. They are used mainly for their radioactive properties.

**Radioactivity.** Atoms with the same number of protons but different numbers of neutrons are called isotopes. Some isotopes are stable; others are radioactive — their nuclei eventually disintegrate. The radioactive half-life is the time for half the nuclei to disintegrate. On this chart, an element is called long-lived if the half-life of any of its isotopes is more than one year; otherwise it is called short-lived.

What is the last human-made element? For up-to-date information, search the web for "periodic table".

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