

# Fun Visual Dictionary of the Periodic Table of the Elements



## Periodically Heroic: A Fun, Visual Dictionary of the Periodic Table of the Elements by Michael Möhring

★★★★★ 5 out of 5

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The periodic table of the elements is a tabular display of the 118 chemical elements known to man. It is organized by atomic number, electron configuration, and recurring chemical properties. The periodic table has been used by chemists and other scientists for over 150 years to predict the properties of new elements and to understand the chemical reactions that occur between elements.

This fun visual dictionary of the periodic table provides detailed descriptions and images for each element. It is a great resource for students learning about chemistry, as well as for anyone who is interested in the fascinating world of elements.

## Group 1: Alkali Metals

- **Hydrogen (H):** The lightest and most abundant element in the universe. It is a colorless, odorless, and tasteless gas that is highly flammable. Hydrogen is used in a variety of applications, including fuel, fertilizer, and rocket fuel.

A standard periodic table of elements, color-coded by groups. The elements are arranged in rows and columns, with their chemical symbols and atomic numbers displayed. The table includes all elements from Hydrogen (H) to Oganesson (Og).

- **Lithium (Li):** A soft, silvery-white metal that is highly reactive. Lithium is used in batteries, alloys, and glass.

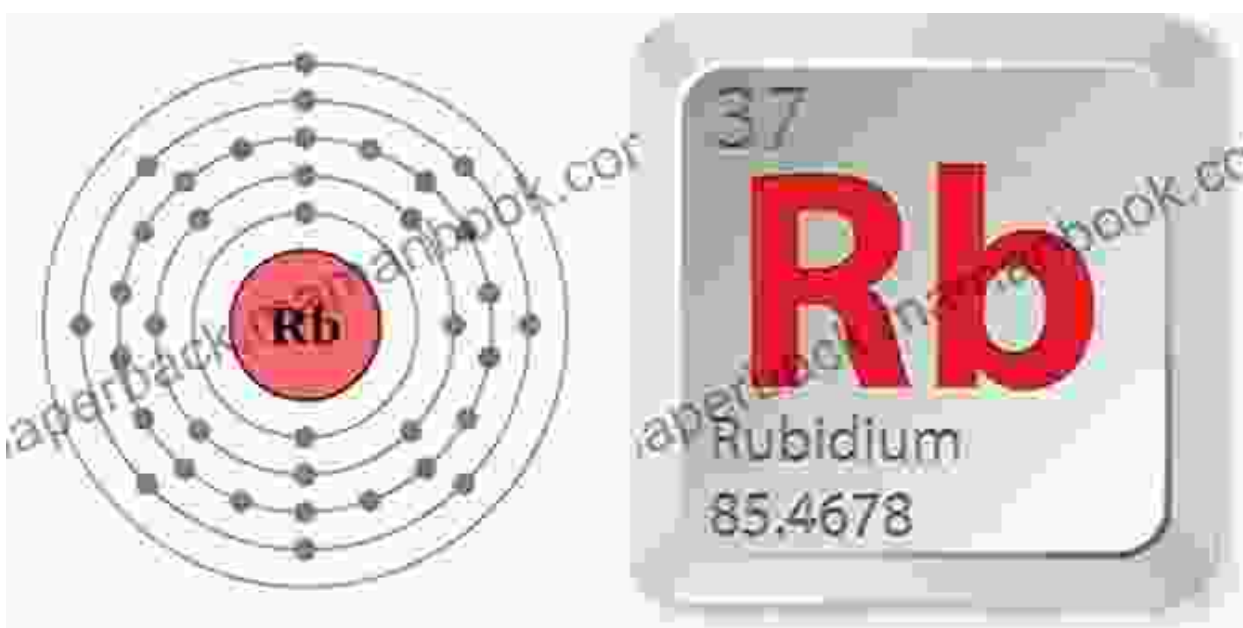
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| Li   | Be |    |    |    |    |    |    |    |    |    |    | B  | C  | N  | O  | F  | Ne |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |           |    |    |   |    |    |    |    |    |    |    |    |    |    |    |
| Mg   |    |    |    |    |    |    |    |    |    |    | Al | Si | P  | S  | Cl | Ar |    |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |           |    |    |   |    |    |    |    |    |    |    |    |    |    |    |
| Ca   | Sc | Ti | V  | Cr | Mn | Fe | Co | Ni | Cu | Zn | Ga | Ge | As | Se | Br | Kr |    |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |           |    |    |   |    |    |    |    |    |    |    |    |    |    |    |
| Sr   | Y  | Zr | Nb | Mo | Tc | Ru | Rh | Pd | Ag | Cd | In | Sn | Sb | Te | I  | Xe |    |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |           |    |    |   |    |    |    |    |    |    |    |    |    |    |    |
| Ba   |    | Hf | Ta | W  | Re | Os | Ir | Pt | Au | Hg | Tl | Pb | Bi | Po | At | Rn |    |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |           |    |    |   |    |    |    |    |    |    |    |    |    |    |    |
| Ra   |    | Rf | Db | Sg | Bh | Hs | Mt | Ds | Rg | Cn | Nh | Tl | Sg | Uu | Ts | Og |    |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |           |    |    |   |    |    |    |    |    |    |    |    |    |    |    |
| <table border="1"> <tr> <td>Lanthanides</td> <td>Ce</td> <td>Pr</td> <td>Nd</td> <td>Pm</td> <td>Sm</td> <td>Eu</td> <td>Gd</td> <td>Tb</td> <td>Dy</td> <td>Ho</td> <td>Er</td> <td>Tm</td> <td>Yb</td> <td>Lu</td> </tr> <tr> <td>Actinides</td> <td>Th</td> <td>Pa</td> <td>U</td> <td>Np</td> <td>Pu</td> <td>Am</td> <td>Cm</td> <td>Bk</td> <td>Cf</td> <td>Es</td> <td>Fm</td> <td>Mn</td> <td>Ug</td> <td>Lv</td> </tr> </table> |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    | Lanthanides | Ce | Pr | Nd | Pm | Sm | Eu | Gd | Tb | Dy | Ho | Er | Tm | Yb | Lu | Actinides | Th | Pa | U | Np | Pu | Am | Cm | Bk | Cf | Es | Fm | Mn | Ug | Lv |
| Lanthanides  | Ce | Pr | Nd | Pm | Sm | Eu | Gd | Tb | Dy | Ho | Er | Tm | Yb | Lu |    |    |    |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |           |    |    |   |    |    |    |    |    |    |    |    |    |    |    |
| Actinides  | Th | Pa | U  | Np | Pu | Am | Cm | Bk | Cf | Es | Fm | Mn | Ug | Lv |    |    |    |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |           |    |    |   |    |    |    |    |    |    |    |    |    |    |    |

- **Sodium** (Na): A soft, silvery-white metal that is highly reactive. Sodium is used in a variety of applications, including table salt, food preservation, and soap.

- **Potassium (K):** A soft, silvery-white metal that is highly reactive. Potassium is used in fertilizers, glass, and explosives.

A standard periodic table of elements, color-coded by groups. The elements are arranged in rows and columns, with the noble gases on the far right and the lanthanides and actinides at the bottom.

- **Rubidium (Rb):** A soft, silvery-white metal that is highly reactive. Rubidium is used in atomic clocks, lasers, and fireworks.



- **Cesium** (Cs): A soft, silvery-white metal that is highly reactive. Cesium is used in atomic clocks, lasers, and ion propulsion systems.



The image shows a standard periodic table of elements. The elements in Group 2, the Alkaline Earth Metals, are highlighted in orange. These elements are Beryllium (Be), Magnesium (Mg), Calcium (Ca), Strontium (Sr), Barium (Ba), and Radium (Ra). The rest of the periodic table is color-coded by groups: Group 1 (blue), Groups 3-10 (yellow), Groups 11-12 (green), Groups 13-18 (purple), and the Lanthanide and Actinide series (pink).

## Group 2: Alkaline Earth Metals

- **Beryllium** (Be): A hard, silvery-white metal that is highly reactive. Beryllium is used in alloys, nuclear reactors, and aerospace

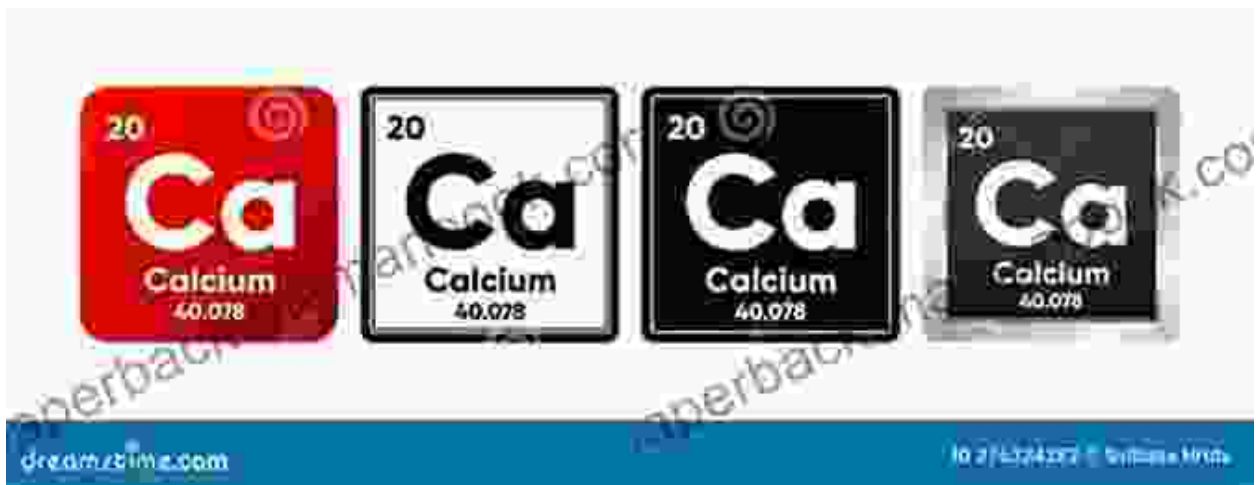
applications.

A periodic table of elements with a color-coded background. The elements are arranged in rows and columns. The colors transition from blue on the left, through yellow and green in the middle, to purple and pink on the right. The Lanthanide and Actinide series are shown as separate rows at the bottom. Magnesium (Mg) is located in the second row, second column and is highlighted in red.

- **Magnesium** (Mg): A lightweight, silvery-white metal that is highly reactive. Magnesium is used in alloys, construction materials, and pharmaceuticals.

The image shows a standard periodic table of elements. The element Calcium (Ca) is highlighted in yellow. It is located in the second column (Group 2) and the fourth row (Period 4). The atomic number 20 is visible in the top left corner of the Calcium tile.

- **Calcium** (Ca): A hard, silvery-white metal that is highly reactive. Calcium is used in bone formation, cement, and food fortification.



- **Strontium** (Sr): A soft, silvery-white metal that is highly reactive. Strontium is used in fireworks, pyrotechnics, and medical imaging.

The image shows a standard periodic table of elements. Each element is represented by a colored square containing its symbol and name. Barium (Ba) is located in the 6th period, 2nd group (alkaline earth metals) and is highlighted in red. Other elements in the same group include Strontium (Sr) and Radium (Ra). The lanthanide and actinide series are shown below the main table.

- **Barium** (Ba): A soft, silvery-white metal that is highly reactive. Barium is used in fireworks, pyrotechnics, and medical imaging.





- **Radium** (Ra): A radioactive, silvery-white metal that is highly reactive. Radium is used in medical imaging and cancer therapy.



A periodic table of elements with various elements highlighted in different colors. The colors include blue, red, orange, yellow, green, cyan, magenta, and purple. The elements are arranged in their standard periodic table layout, with the lanthanide and actinide series shown below the main body.

### Group 3: Transition Metals

- **Scandium** (Sc): A hard, silvery-white metal that is highly reactive. Scandium is used in alloys, high-intensity lighting, and lasers.

The image shows a standard periodic table of elements, color-coded by groups. Yttrium (Y) is located in the d-block, specifically in the 5th period and 3rd column of the transition metals. It is highlighted in yellow. The table includes elements from Hydrogen (H) to Oganesson (Og), with the lanthanide and actinide series shown below the main body.

- **Yttrium (Y):** A hard, silvery-white metal that is highly reactive. Yttrium is used in alloys, phosphors, and superconductors.



- **Lanthanum** (La): A hard, silvery-white metal that is highly reactive. Lanthanum is used in alloys, catalysts, and phosphors.



- **Actinium** (Ac): A radioactive, silvery-white metal that is highly reactive. Actinium is used in medical imaging and cancer therapy.

The image shows a standard periodic table of elements. Each element is represented by a colored box containing its symbol and name. Thorium (Th) is located in the actinide series, specifically in the second row of the actinide block, and is highlighted in yellow. The actinide block is positioned below the main body of the table, between the lanthanide and hafnium/tungsten groups.


|  |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |     |     |
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| H  |    |    |    |    |    |    |    |    |    |    |    |    |     |     |     |     | He |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |     |     |
| Li   | Be |    |    |    |    |    |    |    |    |    |    | B  | C   | N   | O   | F   | Ne |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |     |     |
| Mg   | Al |    |    |    |    |    |    |    |    |    |    | Si | P   | S   | Cl  | Ar  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |     |     |
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| Sr   | Y  | Zr | Nb | Mo | Tc | Ru | Rh | Pd | Ag | Cd | In | Sn | Sb  | Te  | I   | Xe  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |     |     |
| Ba   |    | Hf | Ta | W  | Re | Os | Ir | Pt | Au | Hg | Tl | Pb | Bi  | Po  | At  | Rn  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |     |     |
| Ra   |    | Rf | Db | Sg | Bh | Hs | Mt | Ds | Rg | Cn | Nh | Tl | Uu  | Tlv | Tlq | Uub |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |     |     |
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| La   | Ce | Pr | Nd | Pm | Sm | Eu | Gd | Tb | Dy | Ho | Er | Tm | Yb  | Lu  |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |     |     |
| Ac   | Th | Pa | U  | Np | Pu | Am | Cm | Bk | Cf | Es | Fm | Mn | Uub | Uuq |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |    |    |    |    |    |    |    |    |    |     |     |

- **Thorium** (Th): A radioactive, silvery-white metal that is highly reactive. Thorium is used in nuclear reactors and medical imaging.

**Thorium element**

|                        |                                      |                               |                                      |
|------------------------|--------------------------------------|-------------------------------|--------------------------------------|
| Atomic number          | 90                                   | Atomic mass (u)               | 232.04                               |
| Symbol                 | Th                                   | Atomic radius (van der Waals) | 237 pm                               |
| Name                   | Thorium                              | Electrons arrangement         | [Rn] 6d <sup>2</sup> 7s <sup>2</sup> |
| Electron configuration | [Rn] 6d <sup>2</sup> 7s <sup>2</sup> |                               |                                      |

Ionization energy: 6.08 eV      State: Solid  
 Electronegativity (Pauling): 1.3      Crystal structure: FCC



For all detailed facts, properties, uses and for more about the Thorium element, visit our other books.

- **Protactinium (Pa):** A radioactive, silvery-white metal that is highly reactive. Pro



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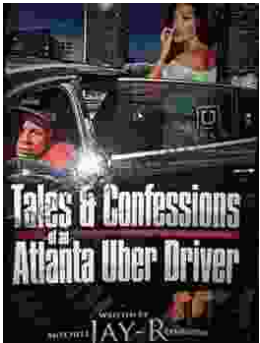
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