

Where did Elements Come from and How are they Organized?

Mrs. Cronin

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Please take notes on underlined items.

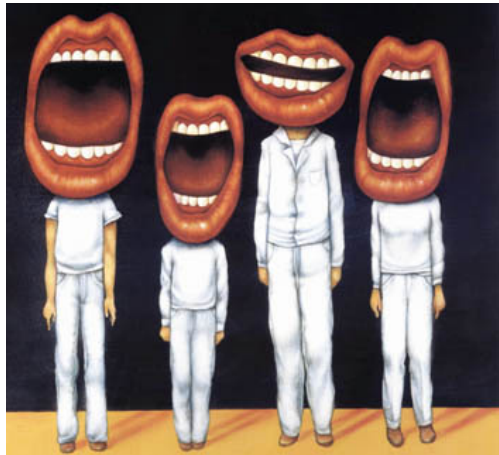
Objectives

You will be able to:

- 1) Explain how Mendeleev discovered the patterns that led to the Periodic table.
- 2) Describe how elements are arranged in the periodic table.

Where Did Elements Come From?

We keep talking about elements, the Periodic Table of Elements....but do you ever wonder where elements come from?



Discuss with your table.....1 minute

[Watch me: How are Elements Formed?](#)

Mendeleev's Periodic Table

- Mendeleev was a Russian scientist, credited with the organization of the modern periodic table.
- During Mendeleev's time, less than 70 elements had been discovered (now we have 118; some natural, some synthetic - made in the lab).

Mendeleev's Periodic Table

How did Mendeleev organize the elements?

- Mendeleev noticed that some elements have similar properties: for example both silver and copper are shiny, metal, and both tarnish.
- Mendeleev wrote each element's name, melting point, density, color, and atomic mass on index cards.

Mendeleev's Periodic Table Continued

How did Mendeleev organize the elements?

- He started playing around with organizing these cards in different manners.
- Mendeleev noticed a pattern in elements when he organized elements based on increasing atomic mass.

[Watch: The Genius of Mendeleev](#)

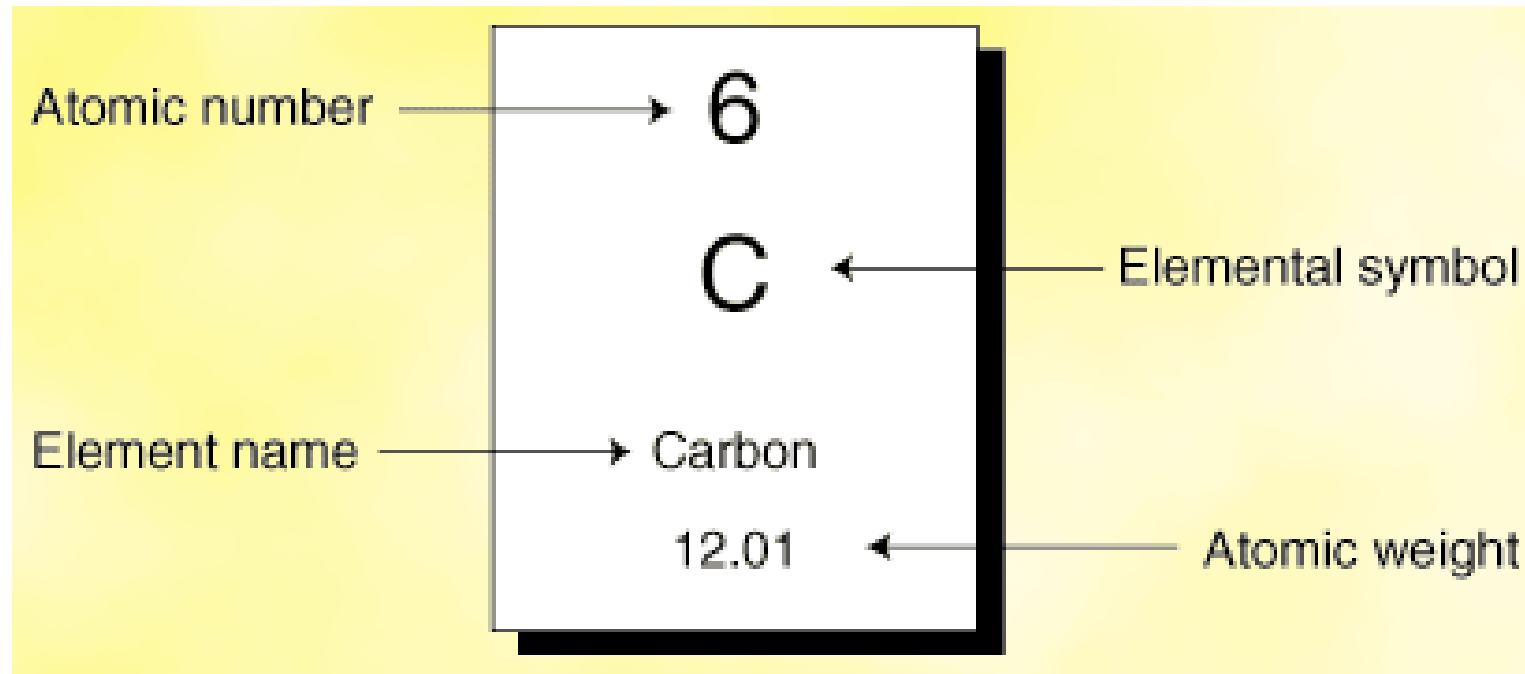
The Modern Periodic Table

- Periods: Horizontal rows on the periodic table.
 - The left side of the periodic table shows metals.
 - The right side of the periodic table shows non-metals.
 - Atomic mass increases as you go from left to right across a period.

The Modern Periodic Table

- Groups or Families: Vertical columns of the periodic table.
- Elements in a group or family have similar characteristics (example, all group 1 elements react violently with water).

What information is Found in Each Element's box?



Please Watch this Video Again

Watch this.....The Periodic Table
Overview