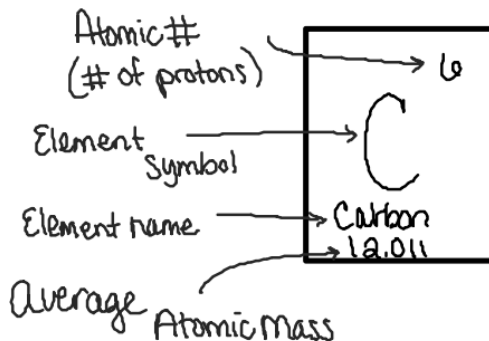


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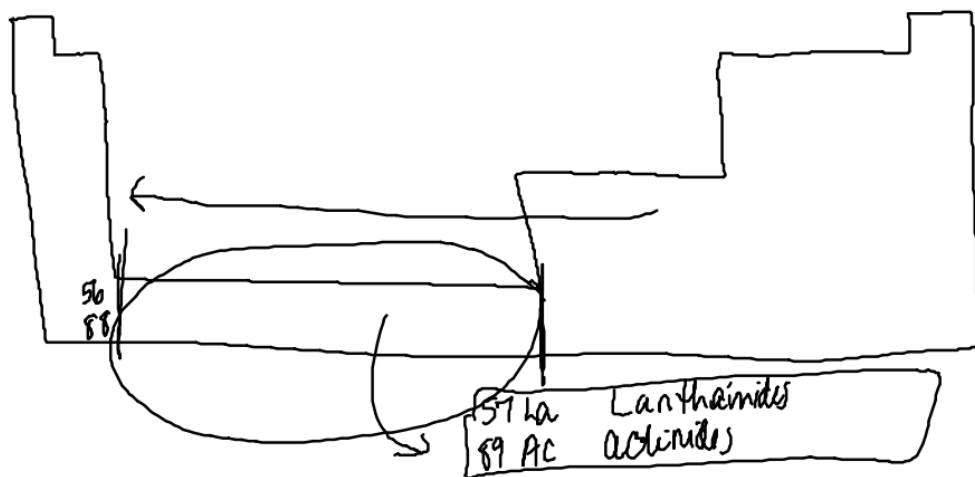
The Periodic Table

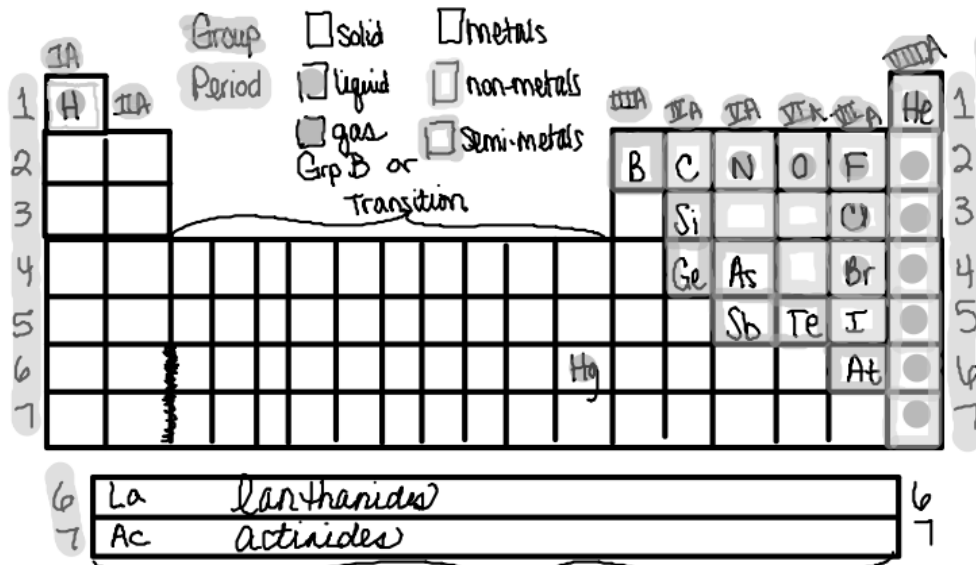
D. Mendeleev - invented the periodic table.

He organized the elements by increasing atomic mass. He even left room for missing elements.



H. Moseley - he changed the arrangement to increasing atomic # (# of protons). **Modern Periodic Law**
an element's behavior is a result of their atomic #.





Group# = the # of valence e⁻

Period# = # of energy levels.

Metal:

- ① shiny/luster
- ② some are magnetic
- ③ conductive for heat + electricity
- ④ ductile
- ⑤ malleable

Non-Metal

- ① not conductive
- ② hard & brittle
- ③ facets/cleavage lines

**Semi-Metal
Metalloids**

- ① they share properties of both metals + non-metals
- ② conductive only at high temperatures.

Transition + Inner Transition

There is an incomplete filling of the inner energy levels.

Families - groups of

atoms with similar characteristics

IA - **Alkali Metals**

- ① highly reactive
- ② reacts strongly w/ H₂O

IIA - **Alkaline Earth Metals**

- ① reactive

VIIA - **Halogens**

- ① highly reactive non-metals

VIIIA - **Noble gases**

- ① non-reactive
inert

6 La Lanthanides 6
7 Ac Actinides 7

inner transition

