

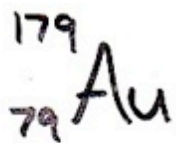
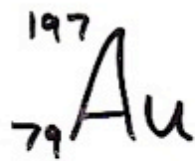
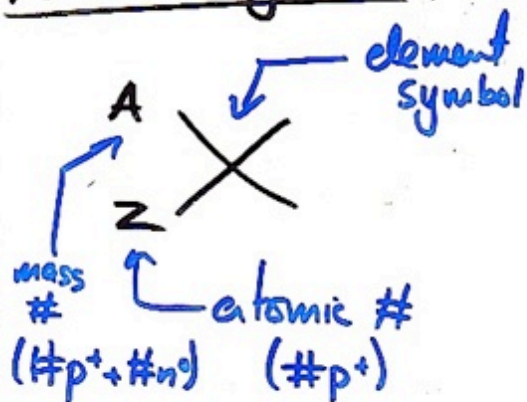
Gold-197

$$Z=79$$
$$A=197$$

Gold-179

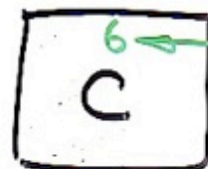
$$Z=79$$
$$A=179$$

Nuclide Symbol



Carbon-14

$$Z=6=\#p^+$$
$$A=14=\#p^++\#n^0$$



Periodic Table



$$A=14=\#p^++\#n^0$$

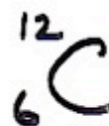
↑ ↑

6p⁺ 8n⁰

Carbon-12

$$Z=6=\#p^+$$

$$A=12=\#p^++\#n^0$$



$$A=12=\#p^++\#n^0$$

↑ ↑

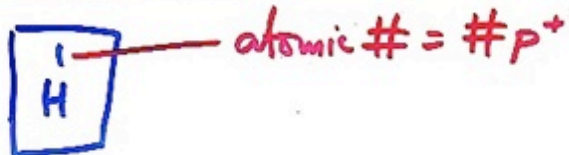
6 6n⁰

ex: 3 "common" isotopes of hydrogen.

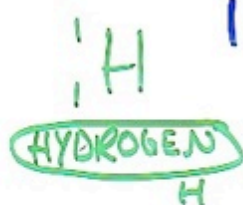
Hydrogen-1, Hydrogen-2, Hydrogen-3

Q. How many p⁺ and n⁰ are in each isotope?

Q. Write nuclide symbols...

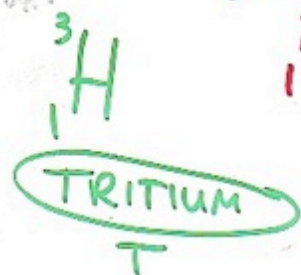


Hydrogen-1



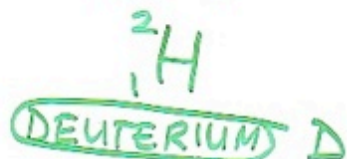
mass #
 $1 = \#p^+ + \#n^0$
 1 0

Hydrogen-3



$3 = \#p^+ + \#n^0$
 1 2

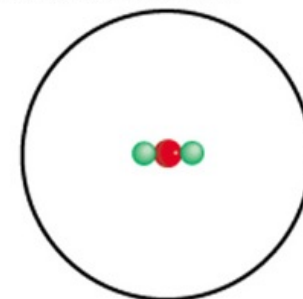
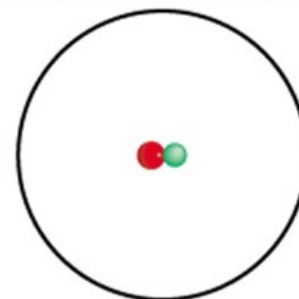
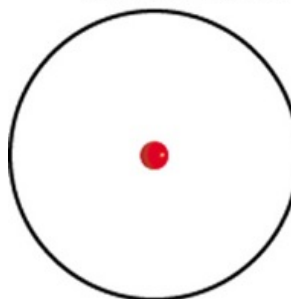
Hydrogen-2



$\#p^+ + \#n^0$
 1 1

Nuclide Symbols
 - top heavy!

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Periodic Table (PT)

atomic #
#p⁺

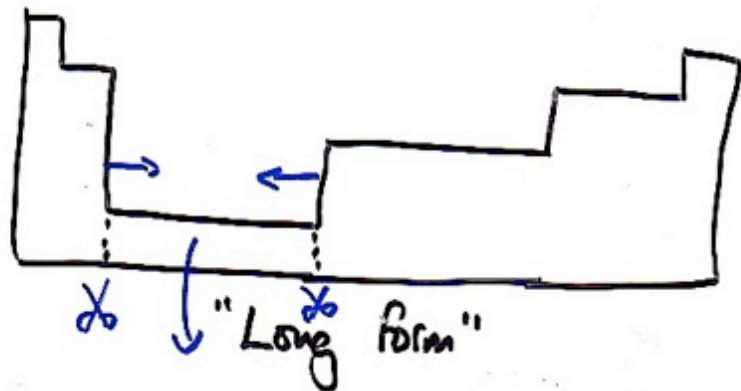
- Table of elements arranged by Z .

Horizontal rows = Periods

Vertical columns = Groups/Families

	IA	IIA							VIIA	
1	H								He	
2	Li	Be							Ne	
3	Na	Mg								
4										
5										

inner-transition metals



Elements in same (Family) group, have similar properties!!!

Group IA

Alkali Metals. Li, Na, K, Cs, Rb...

- React violently w/ H_2O , and produce a solⁿ that can neutralize acids. (Alkali solⁿ)

↑ solution.

Group IIA

Alkaline Earth Metals.

- present in many "earths".
- reacts with H_2O , and produce a solⁿ that neutralizes acids.

LHS of PT

Metals

- Shiny
- Malleable
- Ductile (wires!)
- Good conductors of heat + elec.

Non-Metals

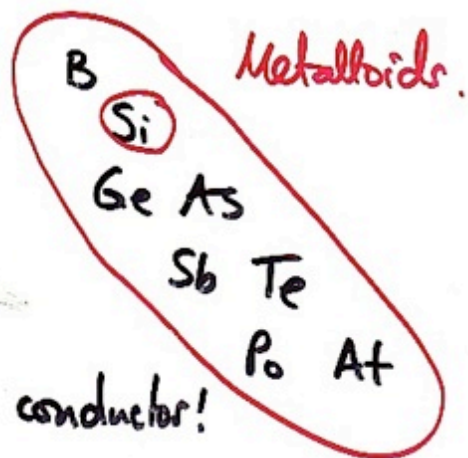
- Dull
- Brittle
- Poor conductors
- ...

silicon

Shiny

Brittle

Poor elec. conductor!



Discover of Periodic Table.

- Dmitri Mendeleev.

ARIS

Due FRI 9th 9am.

Mon: Labor Day