

6.36 b  $n=5 \rightarrow n=2$  emit E

$$E = R_H \left( \frac{1}{n_i^2} - \frac{1}{n_f^2} \right)$$

$$= 2.18 \times 10^{-18} \left( \frac{1}{5^2} - \frac{1}{2^2} \right)$$

$E = 4.58 \times 10^{-9} \text{ J}$

$$E = hf$$

$$f = \frac{E}{h} = \frac{-4.58 \times 10^{-19}}{6.63 \times 10^{-34}} = 6.9 \times 10^{14} \text{ sec}^{-1}$$


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 $c = f\lambda$ 

$$\lambda = \frac{c}{f} = \frac{3 \times 10^8}{6.9 \times 10^{14}} = 4.34 \times 10^{-7} \text{ m}$$

Nov 4-7:50 AM

Housing electrons  $\rightarrow$  Aufbau principle

SOLID NUCLEUS  $\rightarrow$  Really tiny (Rutherford's Gold Foil Expt)

electrons in energy levels around the nucleus.

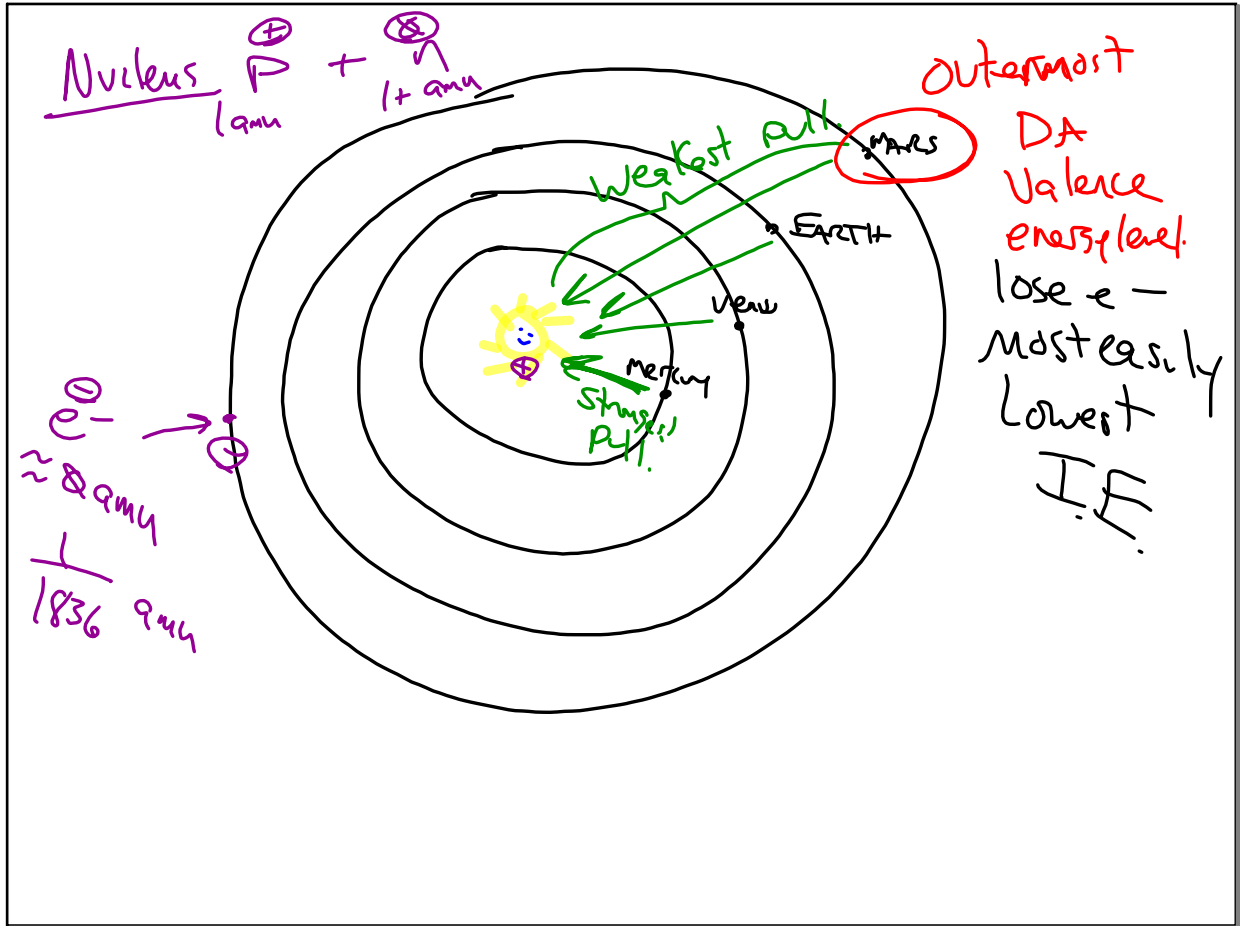
each period on PT represents the START of a new energy level

Max #e<sup>-</sup> per energy level (n)

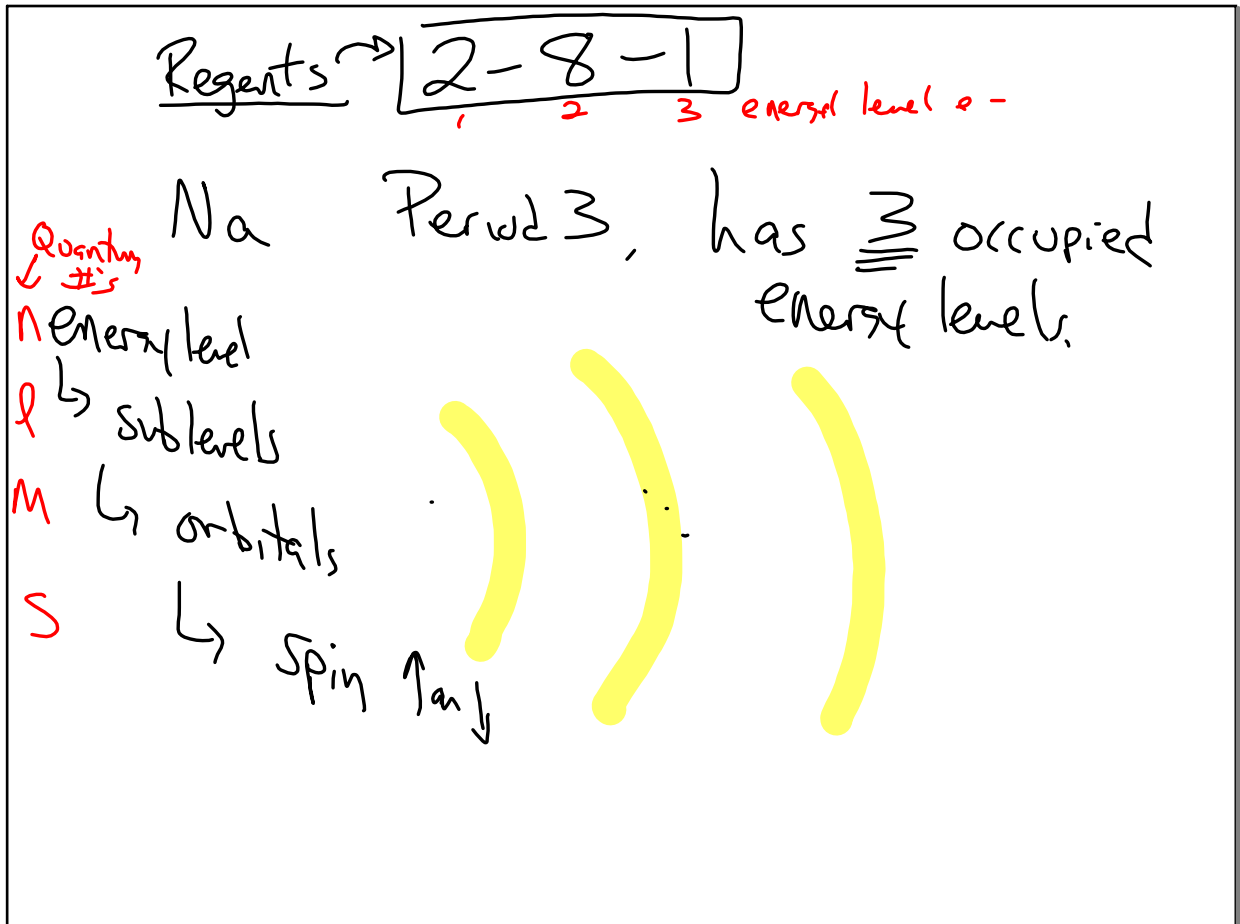
$2n^2$

$2, 8, 18, 32$   
Max e<sup>-</sup>

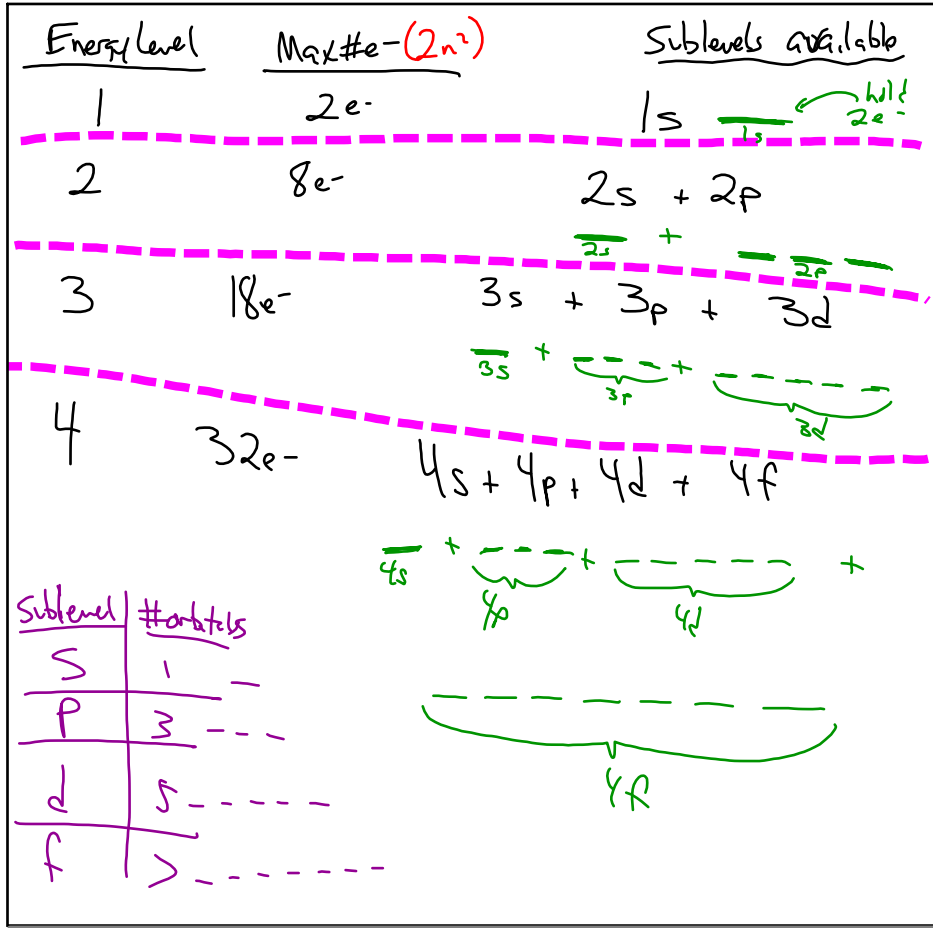
Nov 4-8:29 AM



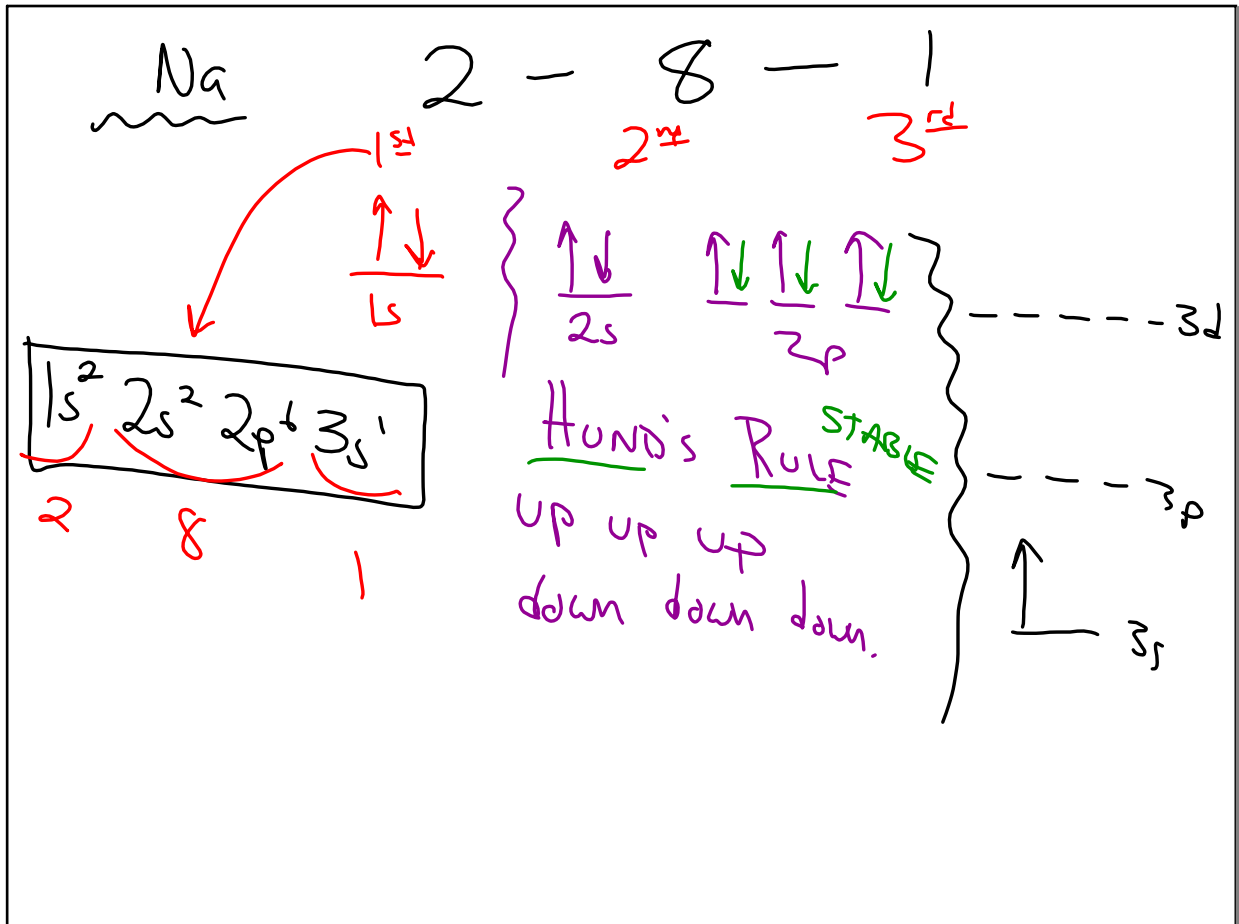
Nov 4-8:43 AM



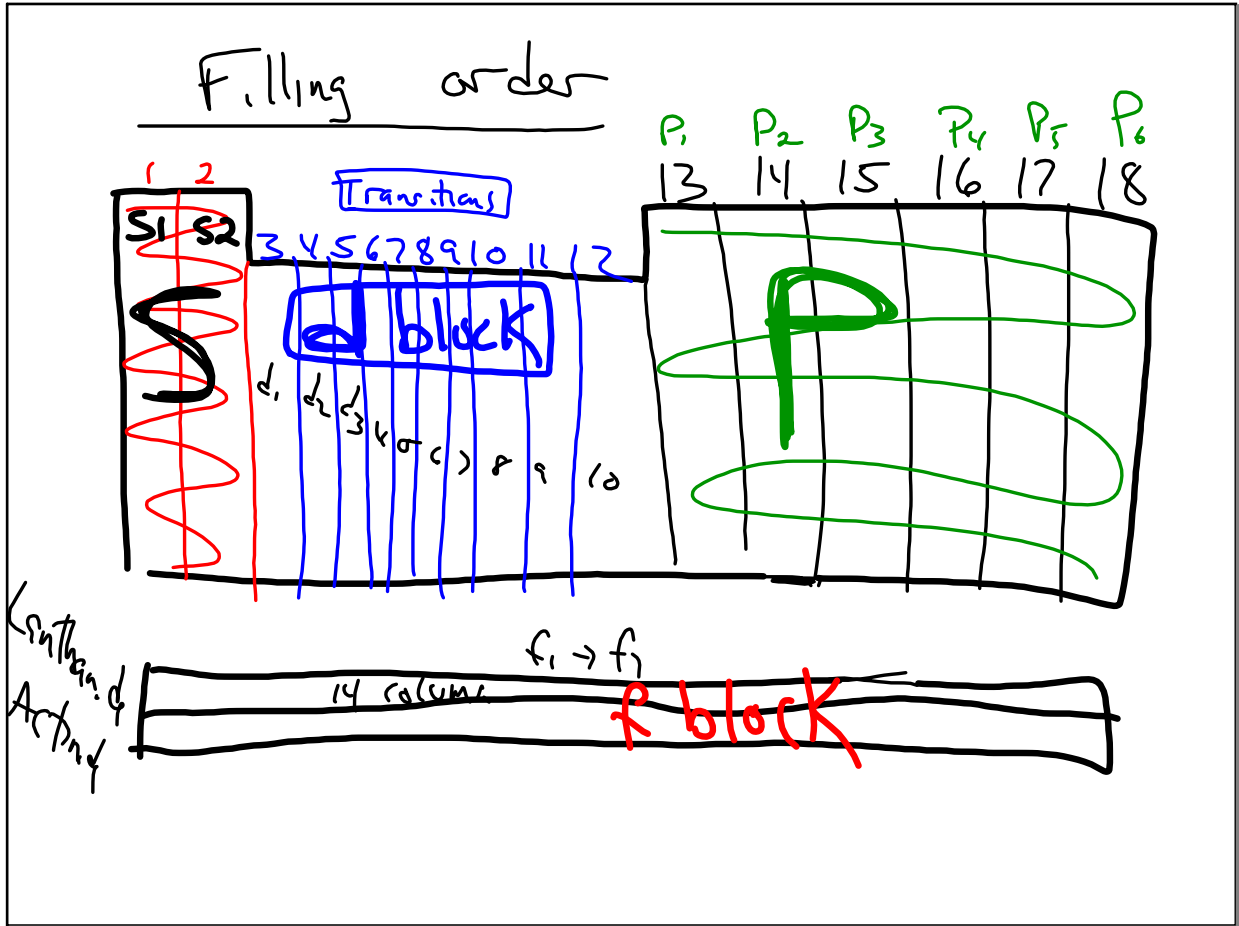
Nov 4-8:53 AM



Nov 4-8:58 AM



Nov 4-9:08 AM



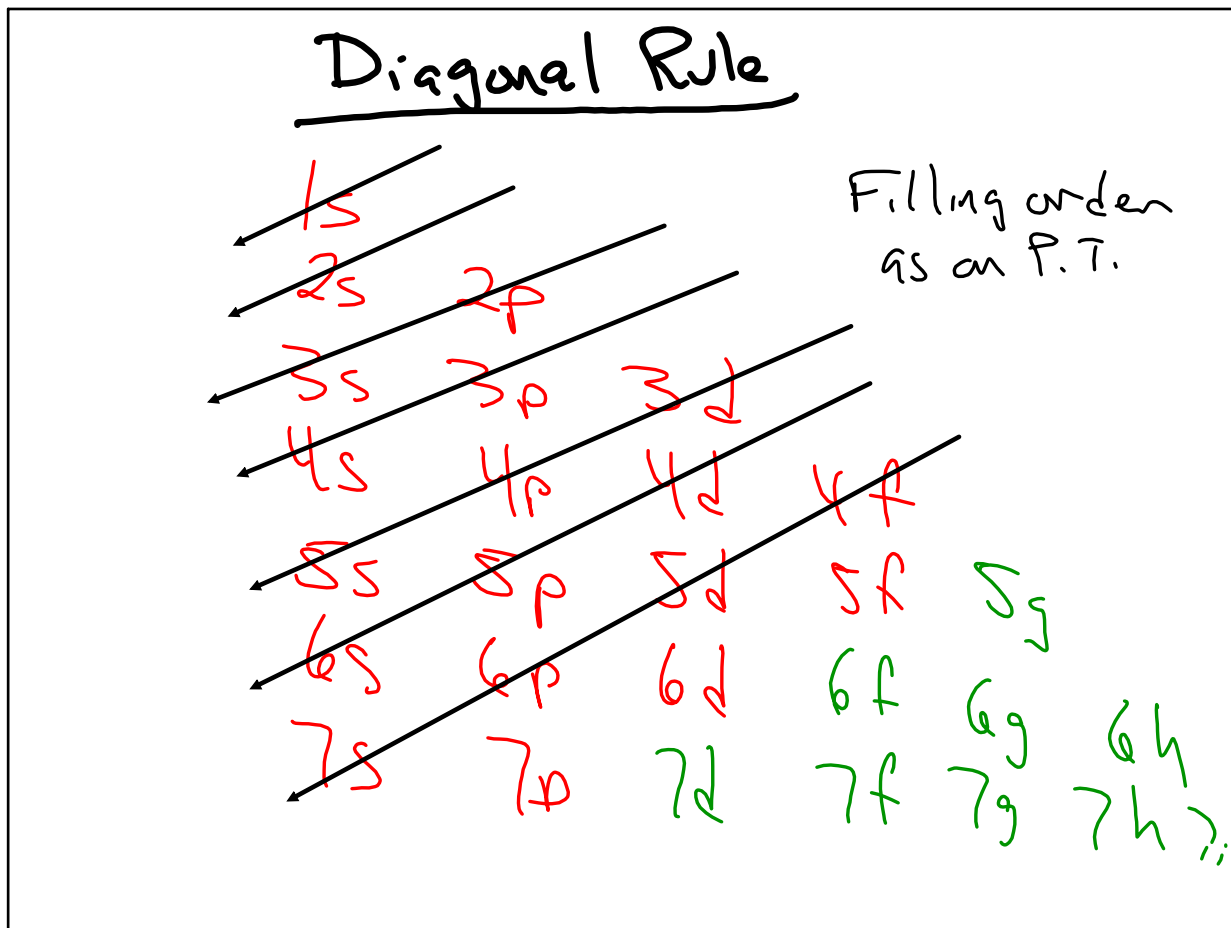
Na He-

S + P - Main group elements  
 ON TIME

d → 1 period late

f → 2 periods late

Nov 4-9:19 AM



Nov 4-9:25 AM

## Show AUFBAU für.

ALL Sp.d.f

- ① Sulfur S
- ② Manganese Mn
- ③ Iodine I

Nov 4-9:29 AM