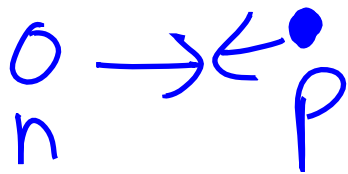
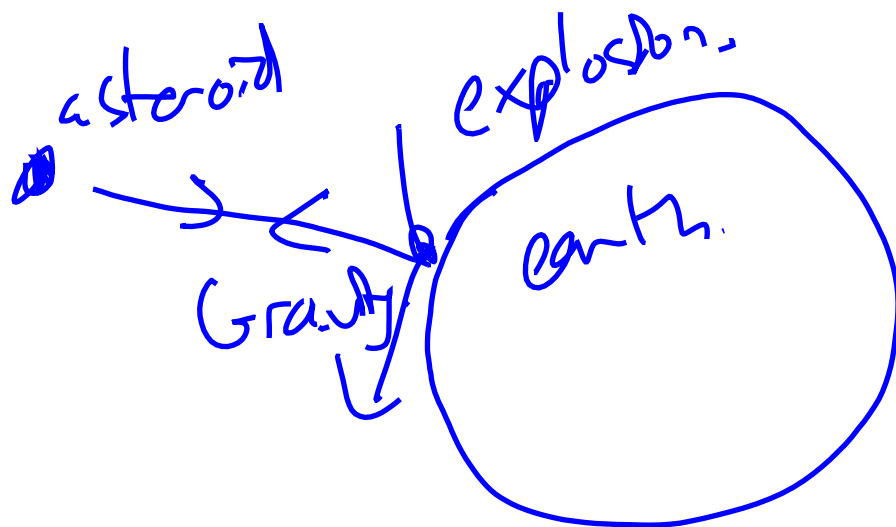


# Lecture 10

## Binding energy.

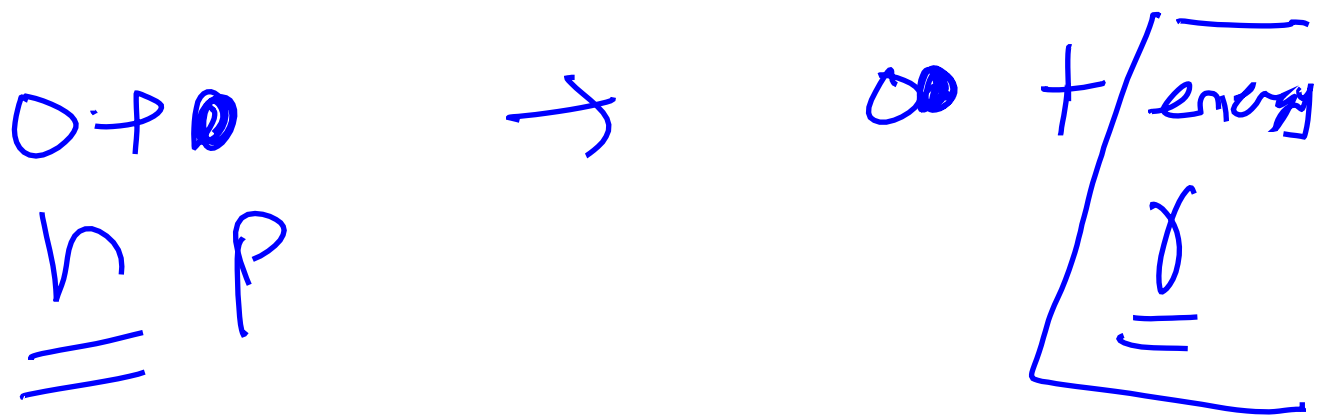


$\bullet$  deuteron.



Heavy  
water.

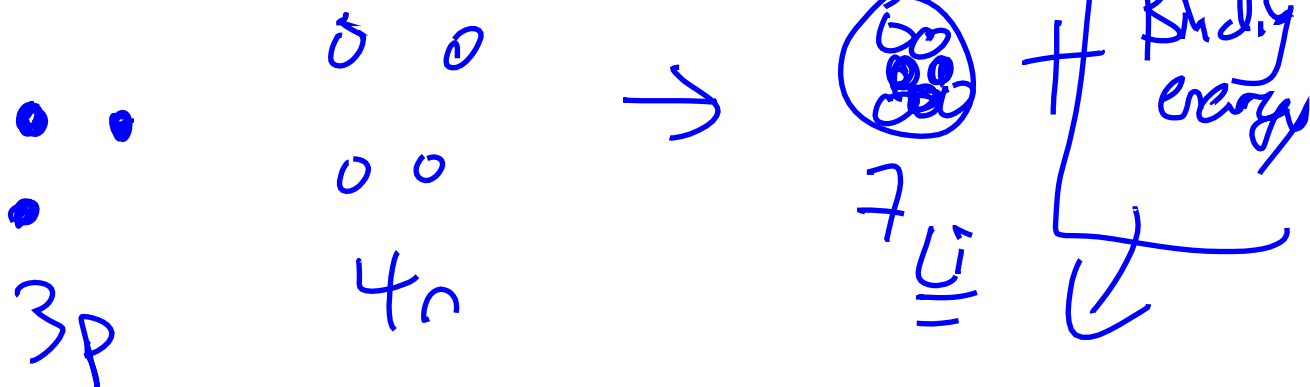




neutron capture.

mass defect  $\neq$  mass excess  
 but they are both used  
 to calc binding energy

Li-7.



What is binding energy useful

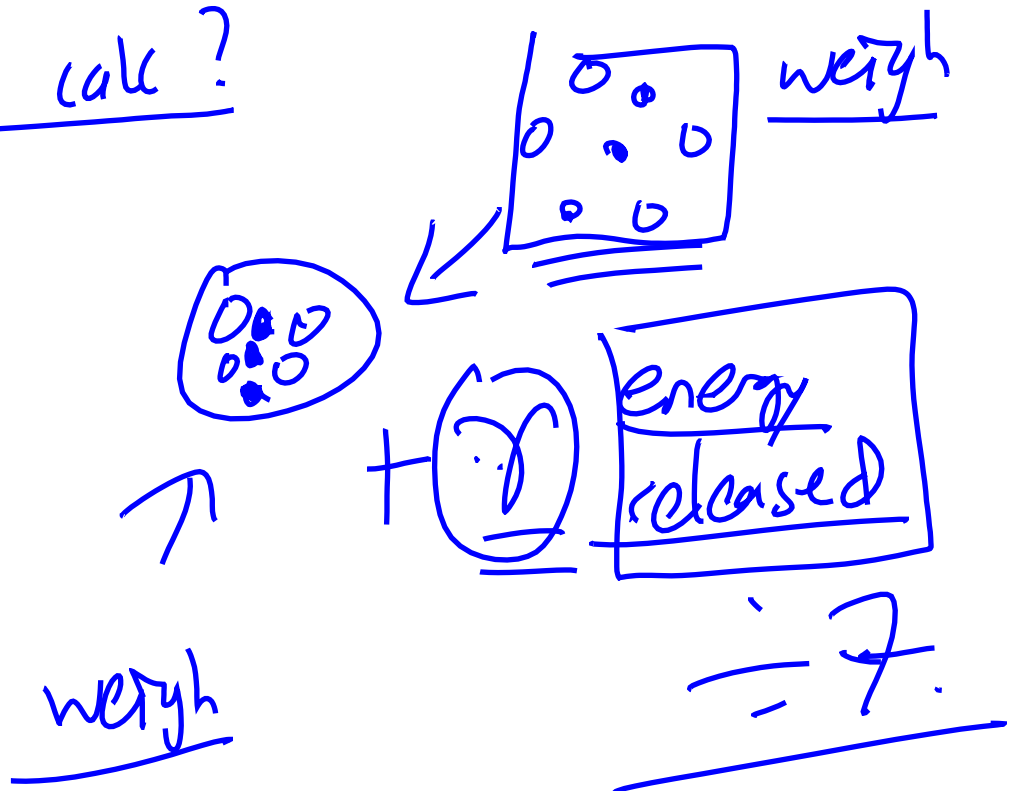
for?

Conceptually speaking BE. / nucleon.  
is useful to describe how tightly  
a nucleus is bound.

How to calc?

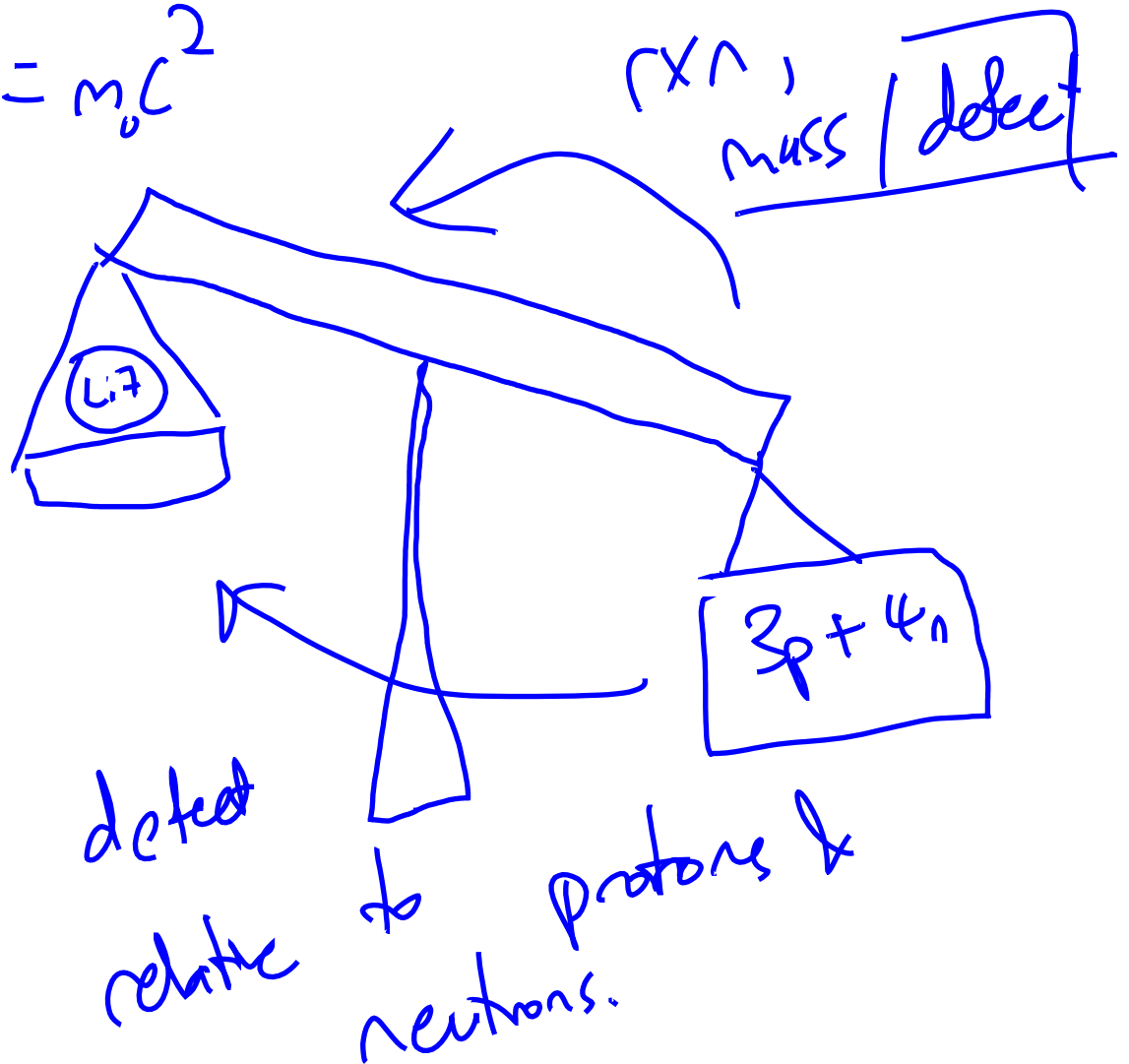
eg.

Li-7



How to measure Binding  
Energy? (BE)

$$E = mc^2$$



# Potential confusion.

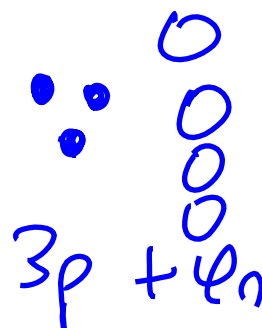
mass defect

VS mass excess.

mass  
defect.



mass  
compare w/



mass  
excess



mass  
comparison  
w/

$\frac{1}{12}$  mass  
of  ${}^{12}\text{C}$

practical way to  
calc mass excess.  
for  ${}^7\text{Li}$

a.m.u.  
 $\times$  no. of  
nucleons

$$\text{mass Li} = 7 - 7.0$$





































































































