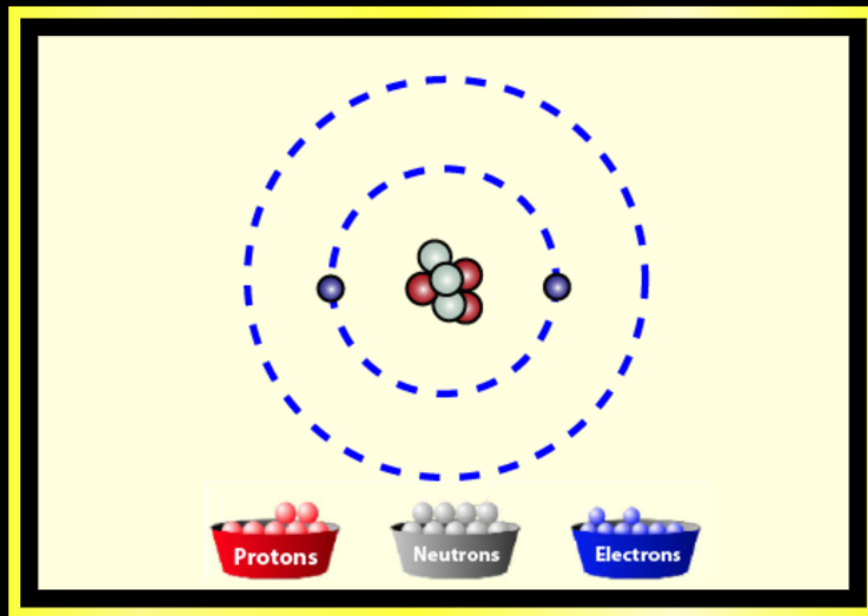
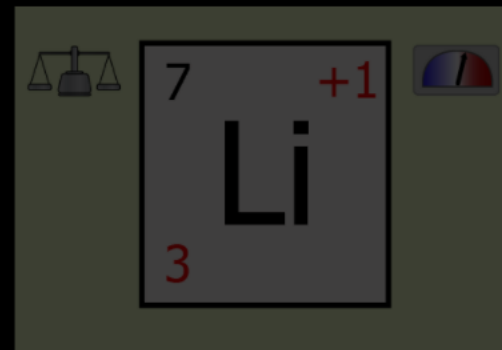


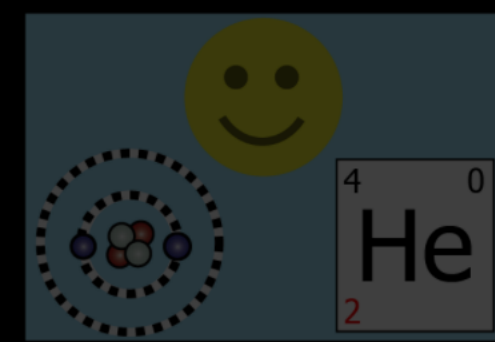
Build an Atom



Atom



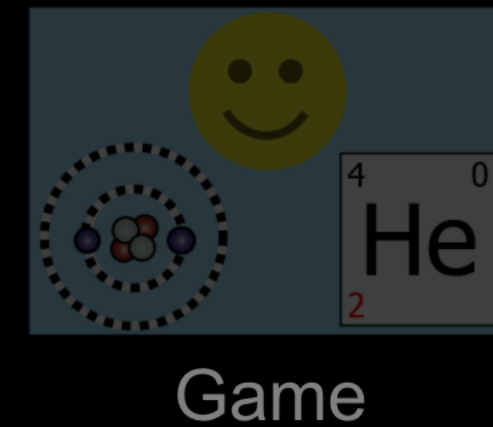
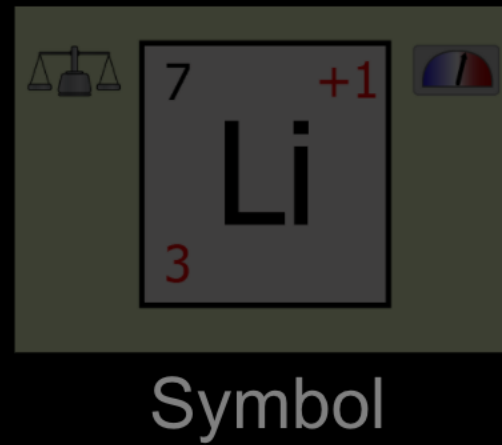
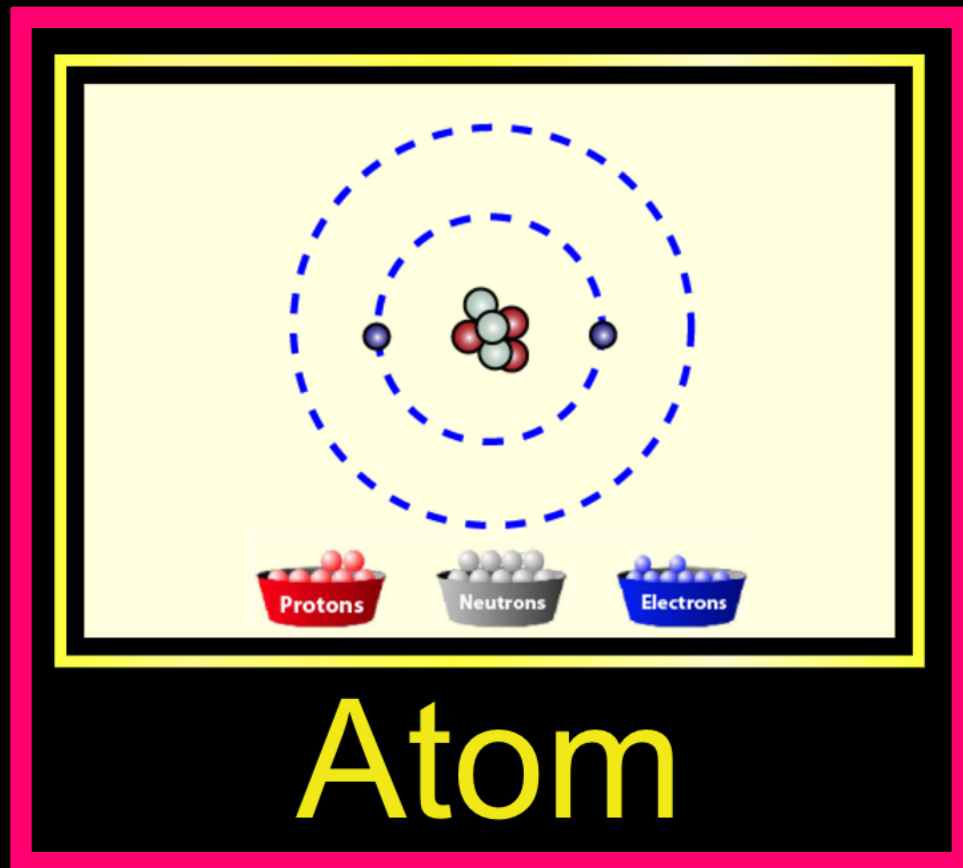
Symbol



Game

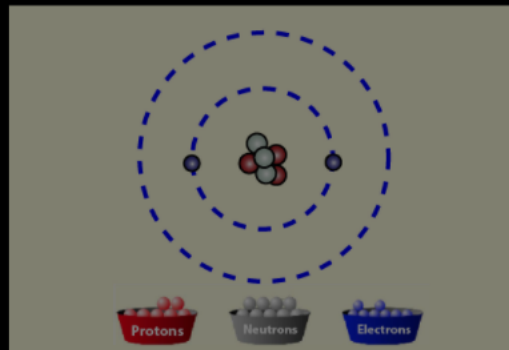
“Come explore with *Build an Atom*. It has three screens.”

Build an Atom



“Explore what makes up an atom.”

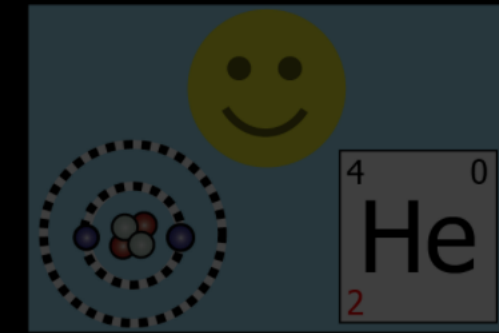
Build an Atom



Atom

A periodic table element card for Lithium (Li) with a yellow background and a pink border. The card features a central white box with 'Li' in black. Above the box is the atomic number '7' and the charge '+1'. Below the box is the atomic number '3'. To the left is a balance scale icon, and to the right is a pH indicator icon. Below the card, the word 'Symbol' is written in large yellow letters.

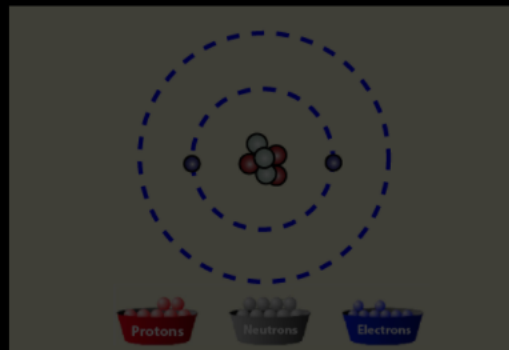
Symbol



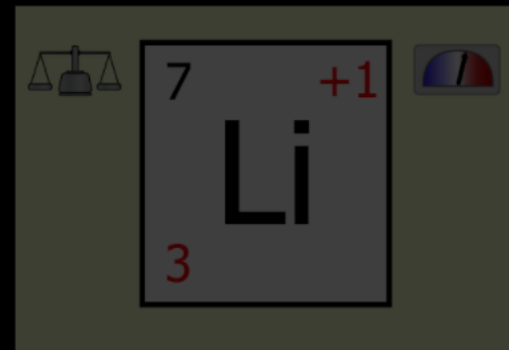
Game

“Investigate atoms and their atomic symbols.”

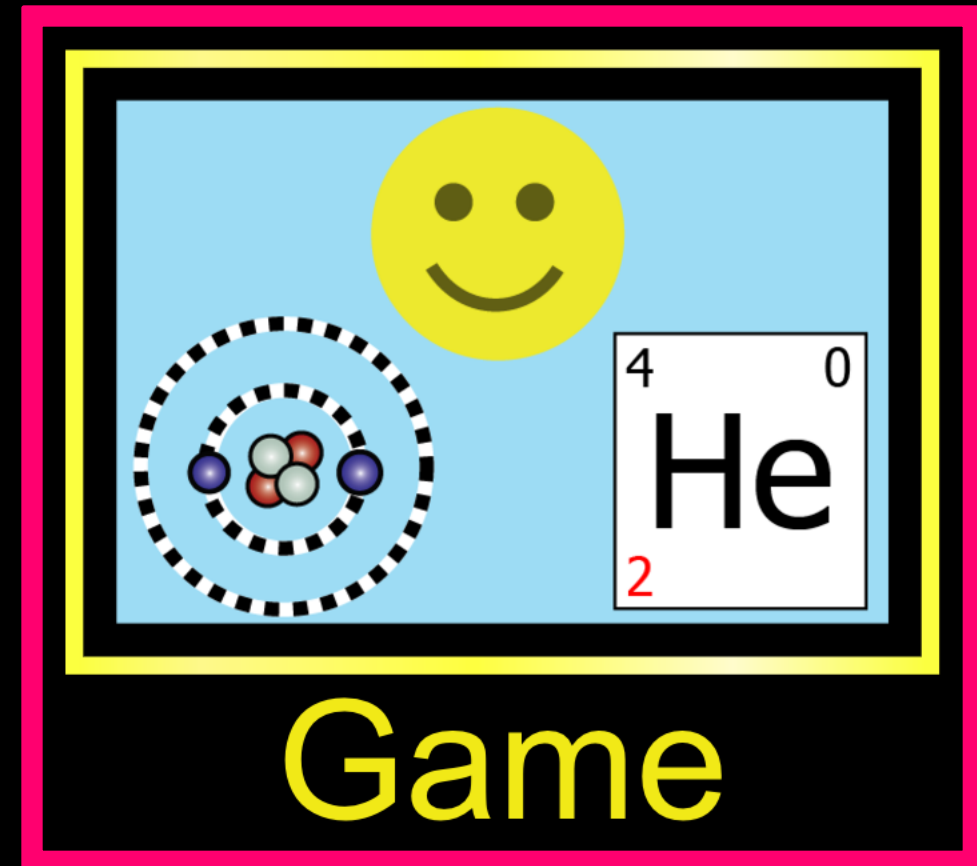
Build an Atom



Atom



Symbol

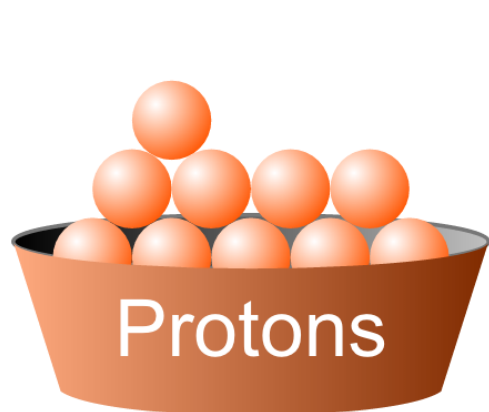
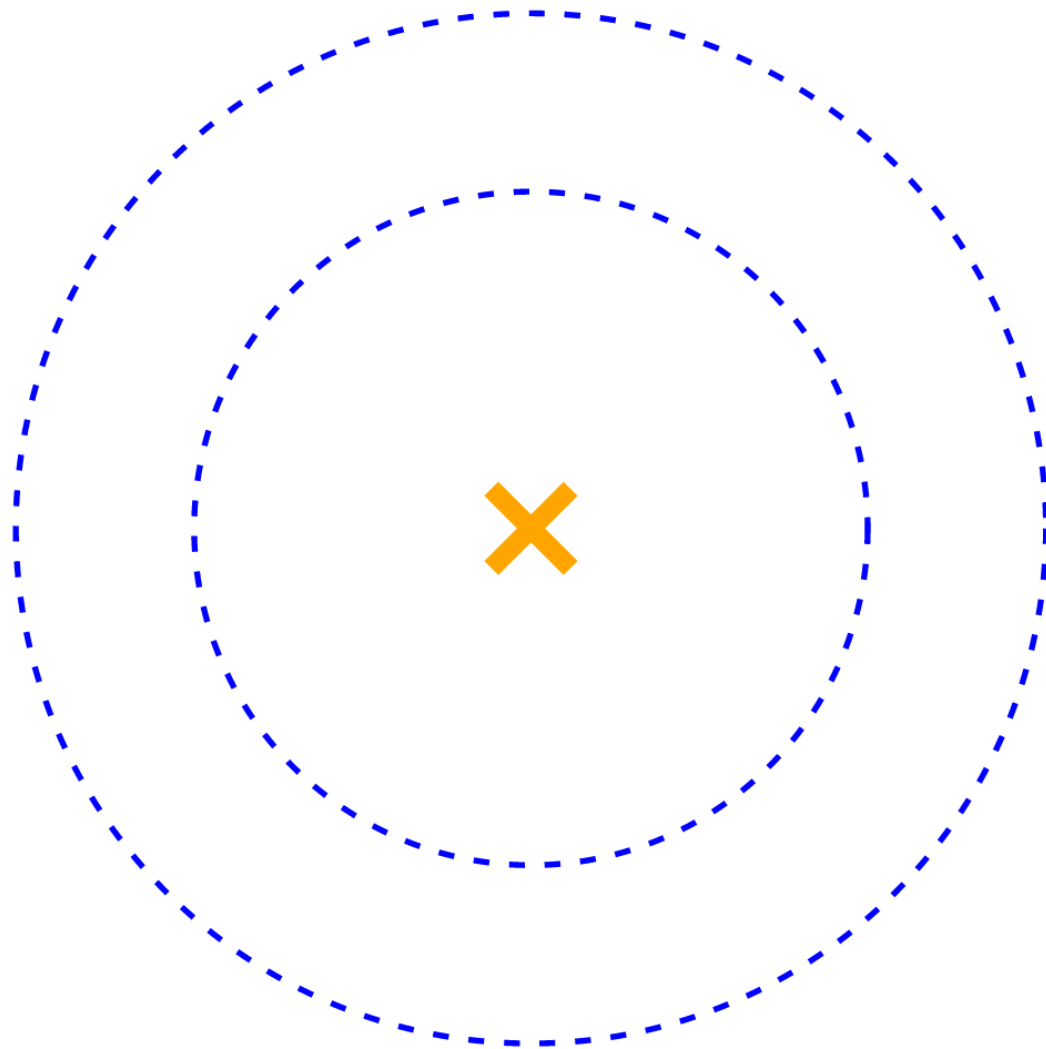


A game interface with a light blue background. At the top center is a yellow smiley face. Below it is a diagram of a Helium atom with a nucleus of two protons (red) and two neutrons (blue), and two electron shells (dashed black circles) each containing two electrons (yellow). To the right of the atom is a periodic table entry for Helium (He) with atomic number 4, symbol 'He', and charge 0. The atomic number 2 is in the bottom left of the entry. The entire interface is framed by a yellow border and a pink border.

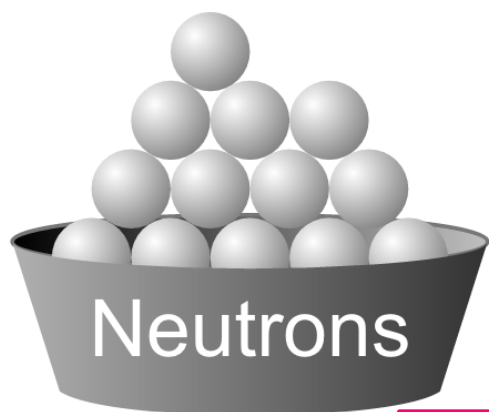
Game

“Test your knowledge of atoms and symbols.”

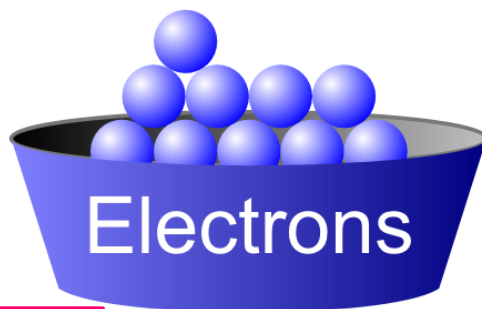
Protons:
Neutrons:
Electrons:



Protons



Neutrons



Electrons

Element

H																			He
Li	Be											B	C	N	O	F	Ne		
Na	Mg											Al	Si	P	S	Cl	Ar		
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr		
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe		
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn		
Fr	Ra	Ac	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Nh	Fl	Mc	Lv	Ts	Og		

Net Charge

Mass Number

Model:

- Orbits
- Cloud

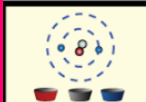
“Return to the Build an Atom home screen”

SHOW

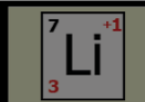
- Element
- Neutral/Ion
- Stable/Unstable



Build an Atom



Atom



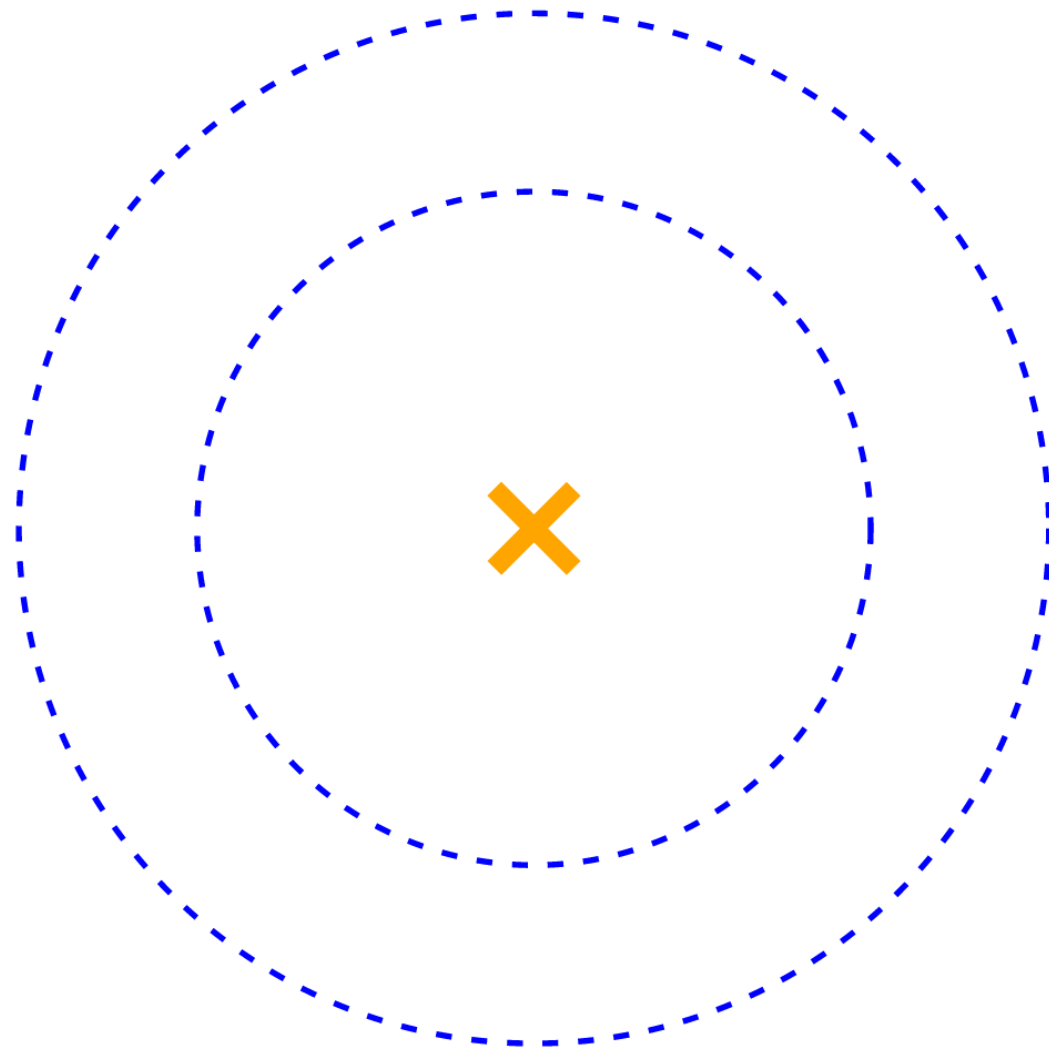
Symbol



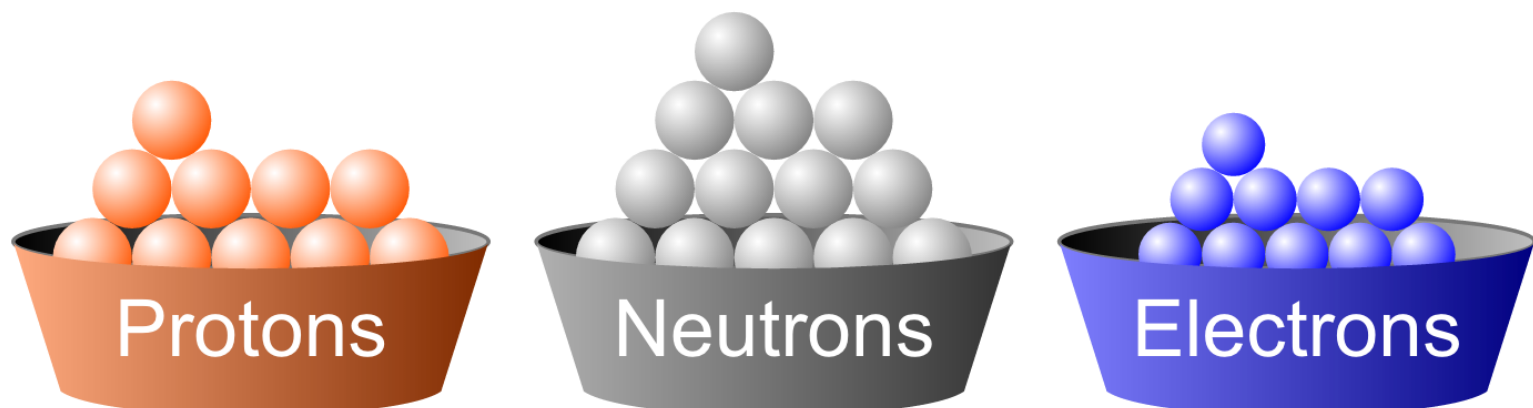
Game

PHET

Protons:
Neutrons:
Electrons:



Model:
 Orbits
 Cloud



Element

H																He	
Li	Be											B	C	N	O	F	Ne
Na	Mg											Al	Si	P	S	Cl	Ar
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
Fr	Ra	Ac	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Nh	Fl	Mc	Lv	Ts	Og

Net Charge

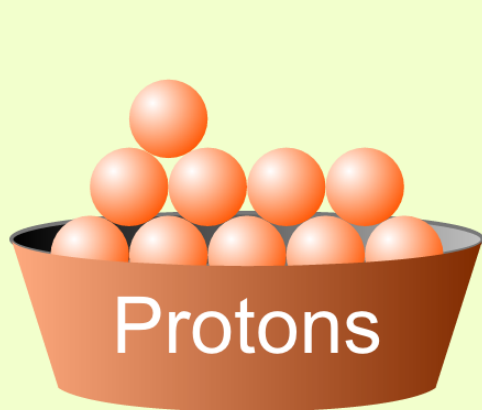
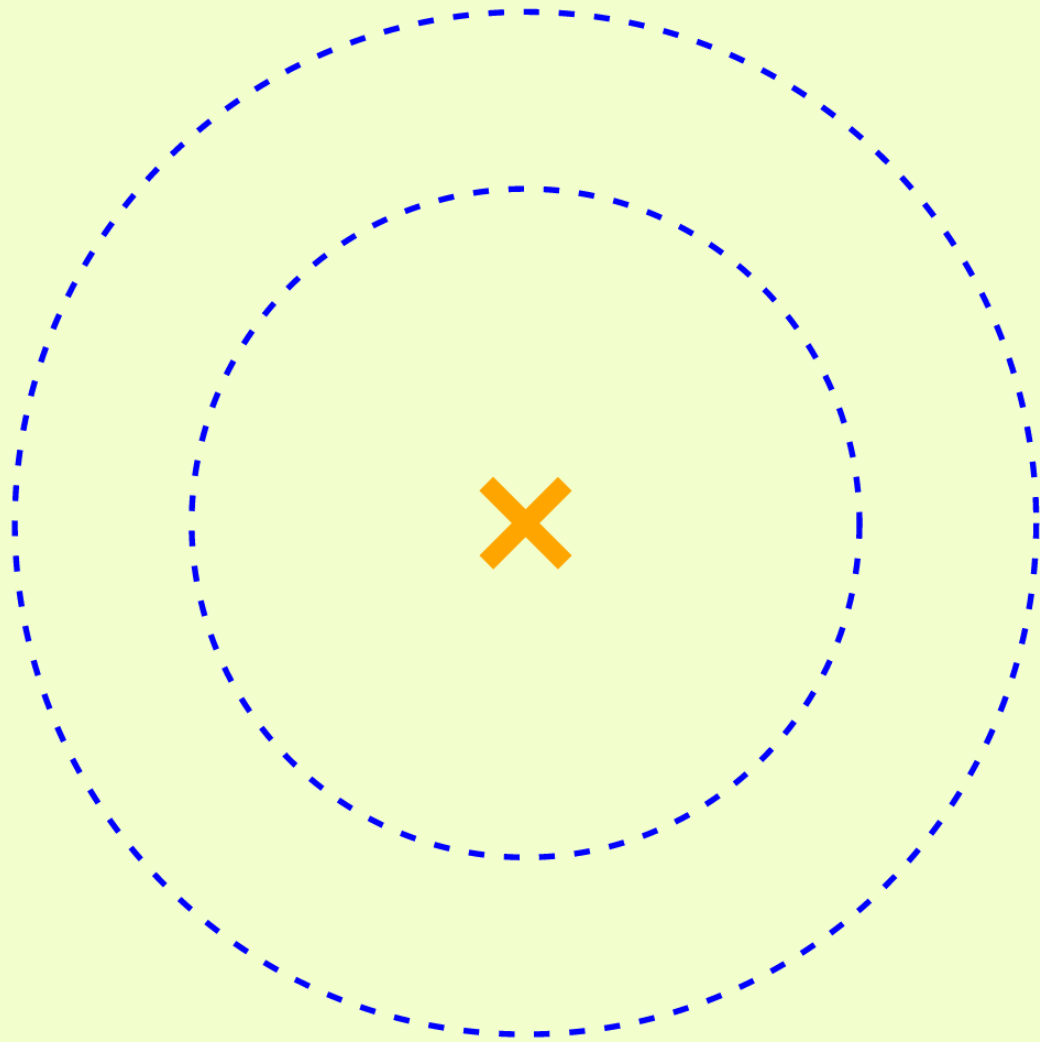
Mass Number

“Explore what makes up an atom.”

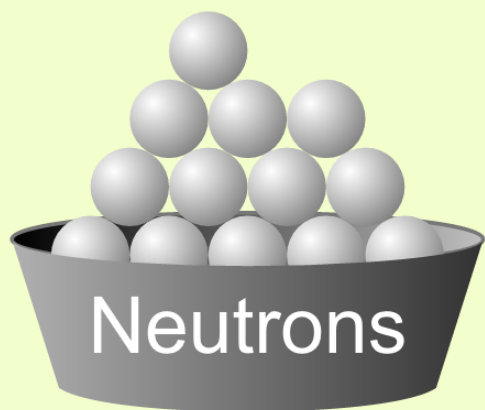
- SHOW**
- Element
 - Neutral/Ion
 - Stable/Unstable



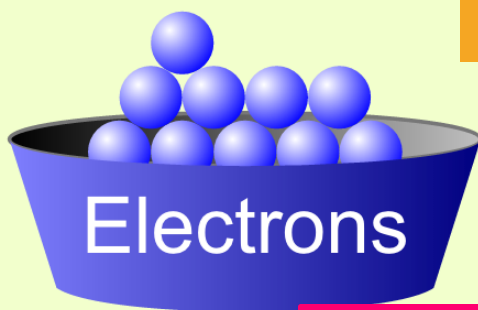
Protons:
Neutrons:
Electrons:



Protons



Neutrons



Electrons

Element

H																			He	
Li	Be																			Ne
Na	Mg																			Ar
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr			
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe			
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn			
Fr	Ra	Ac	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Nh	Fl	Mc	Lv	Ts	Og			

Symbol

0

0

0

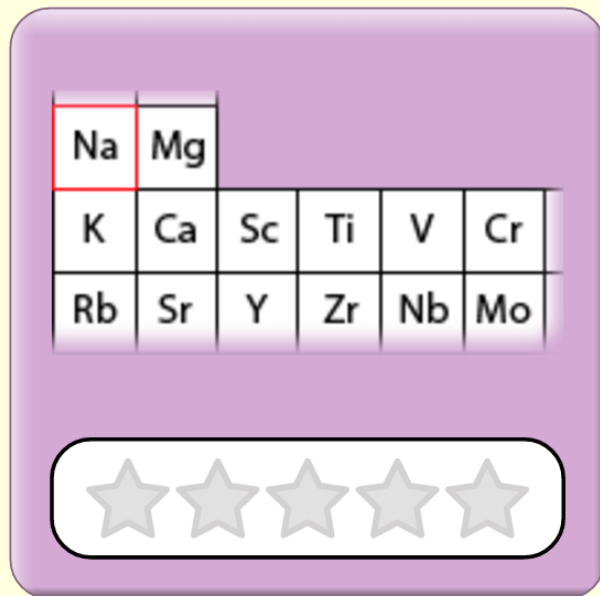
- Model:**
- Orbits
 - Cloud

“Investigate atoms and their atomic symbols.”

- Element
- Neutral/Ion
- Stable/Unstable



Choose Your Game!

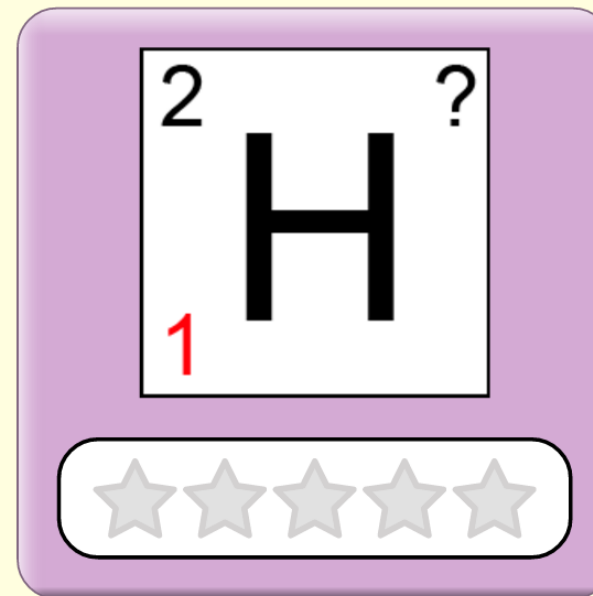


Na Mg
K Ca Sc Ti V Cr
Rb Sr Y Zr Nb Mo

★ ★ ★ ★ ★



★ ★ ★ ★ ★



2 ?
H
1

★ ★ ★ ★ ★

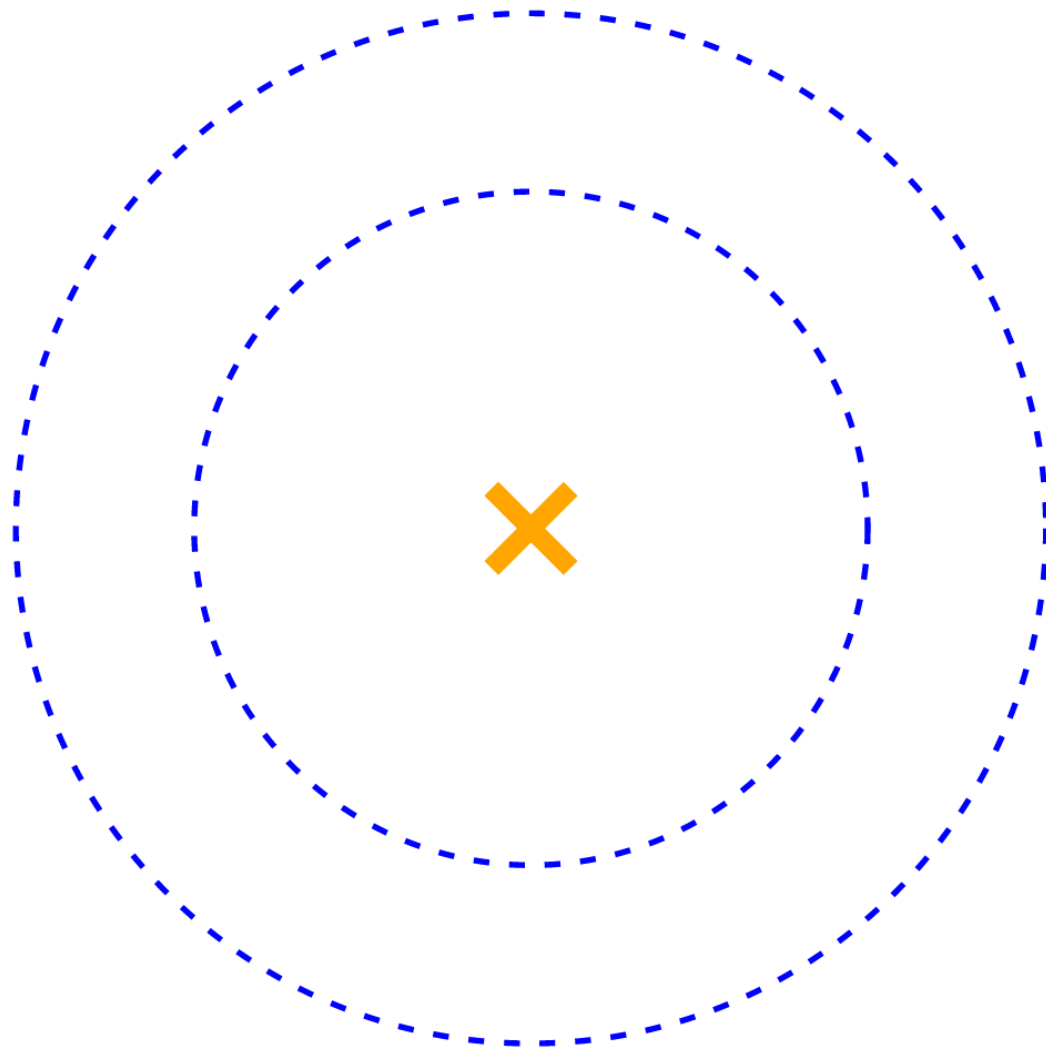


★ ★ ★ ★ ★

“Test your knowledge of atoms and symbols.”



Protons:
Neutrons:
Electrons:



Element

H																			He
Li	Be											B	C	N	O	F	Ne		
Na	Mg											Al	Si	P	S	Cl	Ar		
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr		
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe		
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn		
Fr	Ra	Ac	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Nh	Fl	Mc	Lv	Ts	Og		

Net Charge

Mass Number

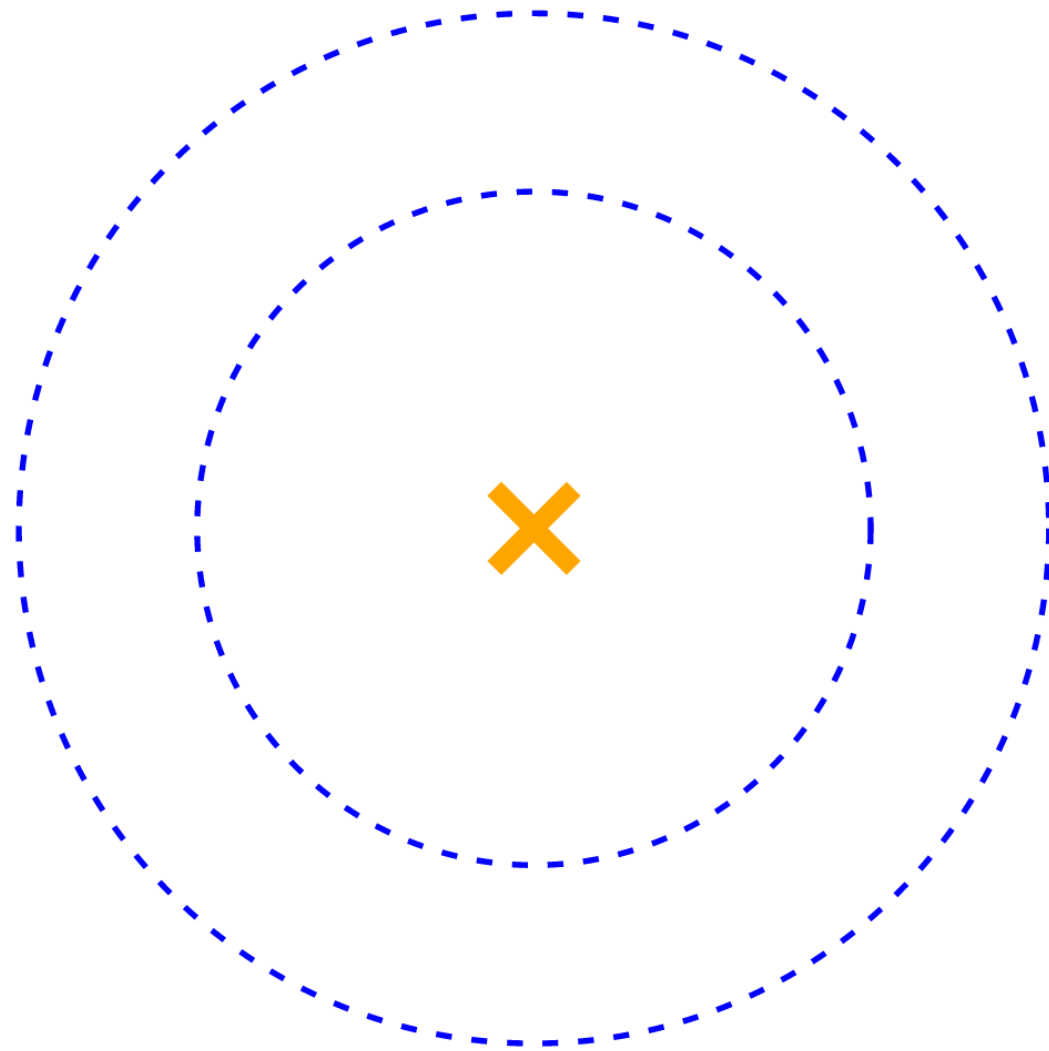
“Place protons on the atom.”

SHOW

- Element
- Neutral/Ion
- Stable/Unstable

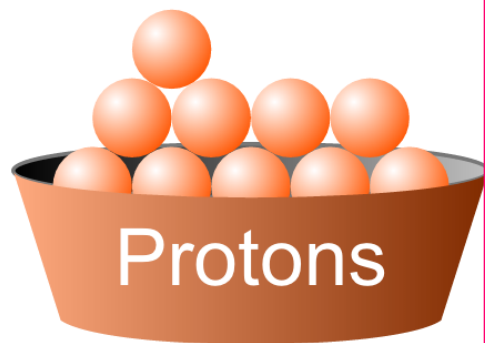


Protons:
Neutrons:
Electrons:

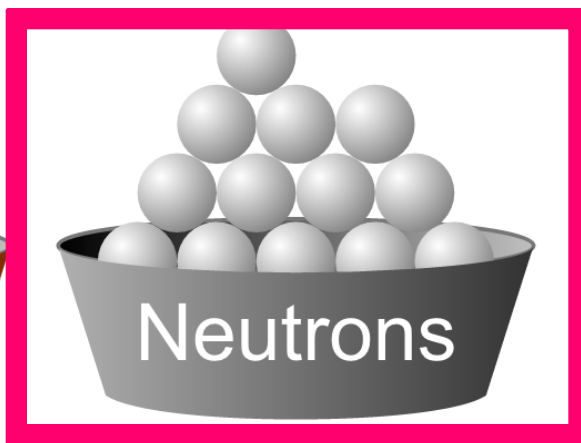


Model:

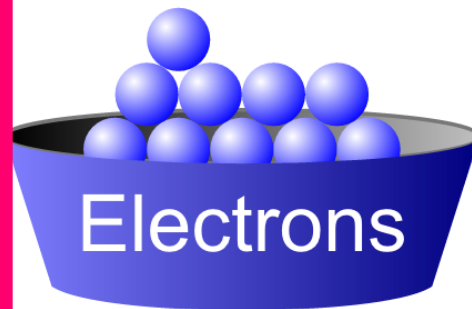
- Orbits
- Cloud



Protons



Neutrons



Electrons

Element

H																				He																	
Li	Be																				B	C	N	O	F	Ne											
Na	Mg																										Al	Si	P	S	Cl	Ar					
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr																				
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe																				
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn																				
Fr	Ra	Ac	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Nh	Fl	Mc	Lv	Ts	Og																				

Net Charge

Mass Number

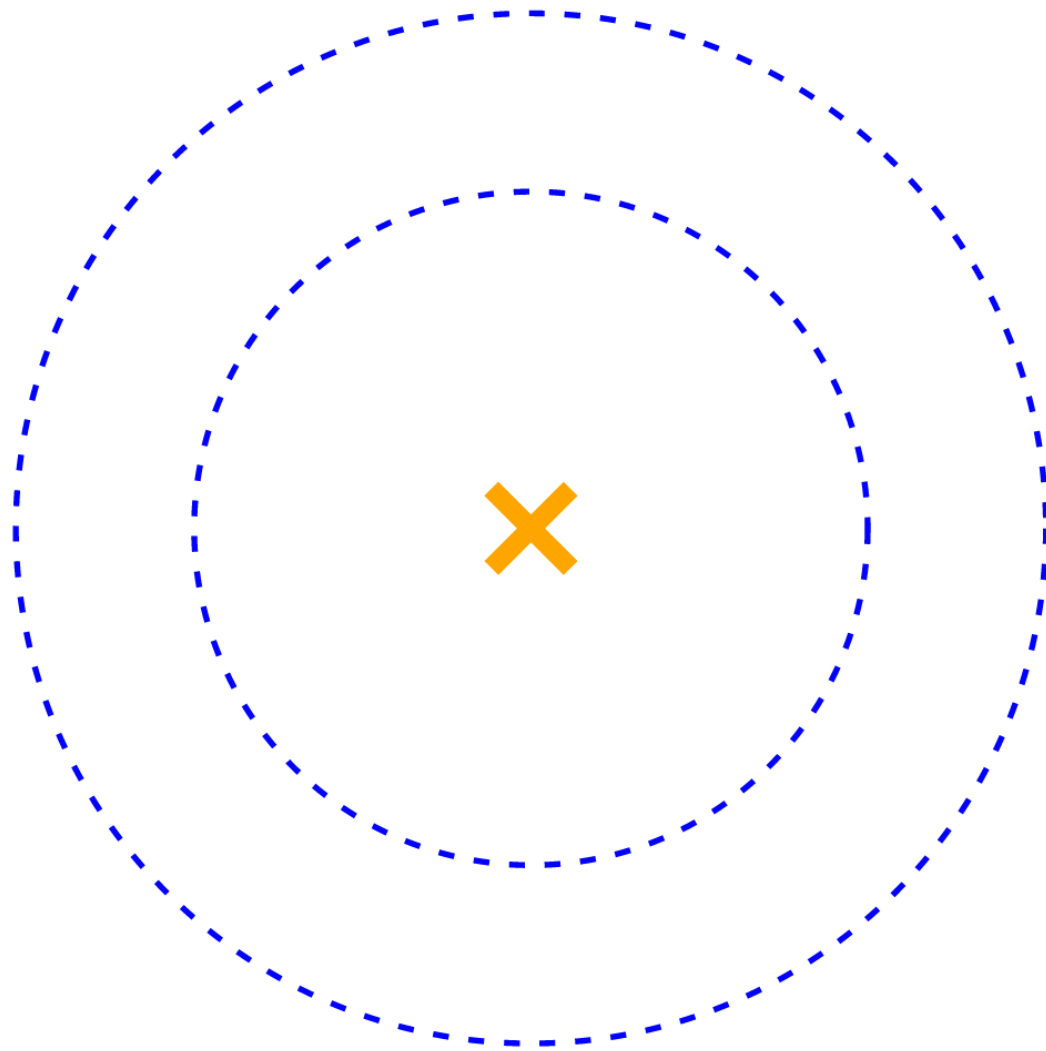
“Place neutrons on the atom.”

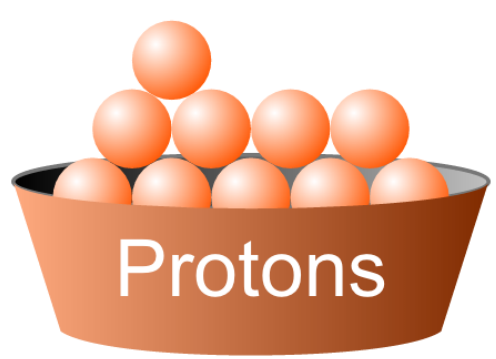
SHOW

- Element
- Neutral/Ion
- Stable/Unstable

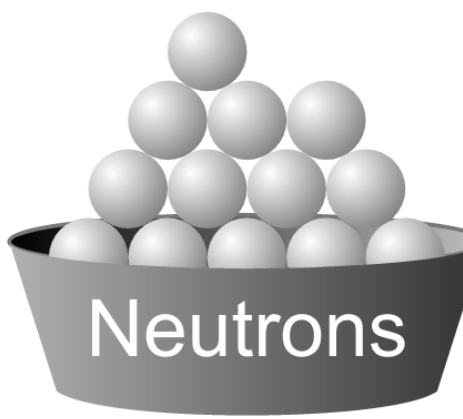


Protons:
Neutrons:
Electrons:

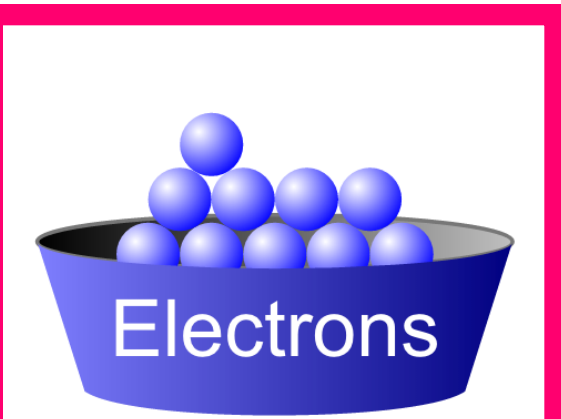




Protons



Neutrons



Electrons

Model:

- Orbits
- Cloud

Element -

H																	He				
Li	Be															B	C	N	O	F	Ne
Na	Mg															Al	Si	P	S	Cl	Ar
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr				
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe				
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn				
Fr	Ra	Ac	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Nh	Fl	Mc	Lv	Ts	Og				

Net Charge +

Mass Number +

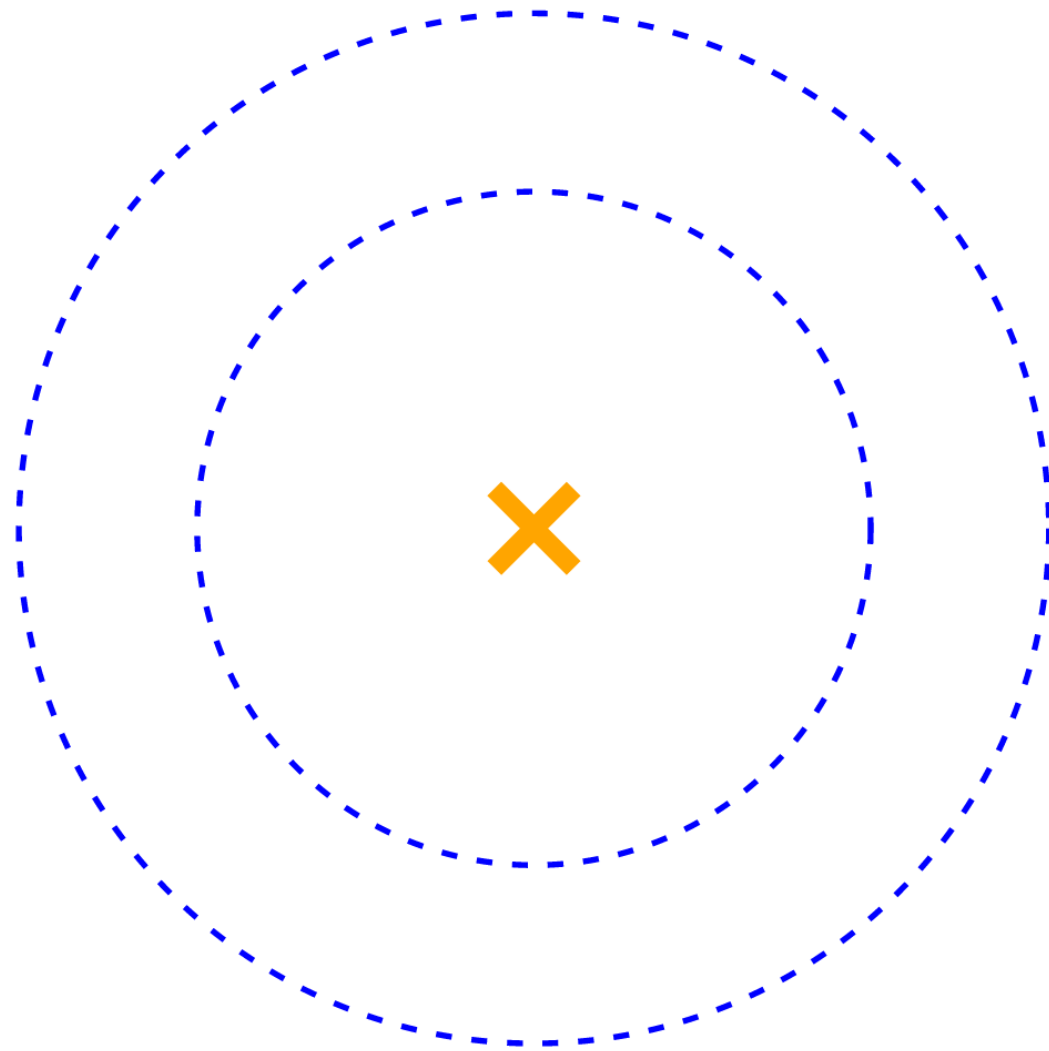
"Place electrons on the atom."

SHOW

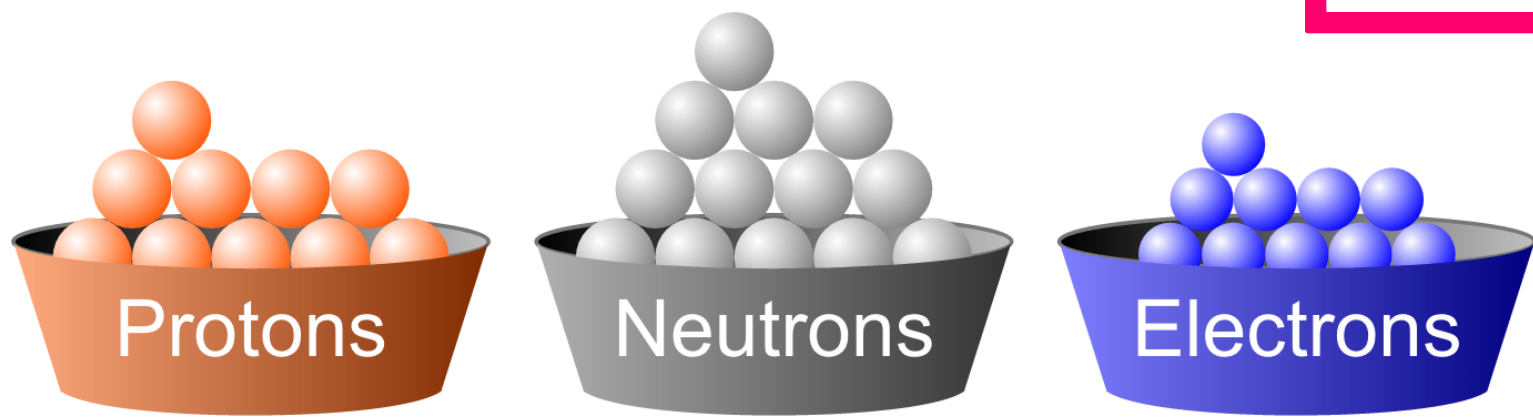
- Element
- Neutral/Ion
- Stable/Unstable



Protons:
Neutrons:
Electrons:



Model:
 Orbits
 Cloud



Element

H																			He
Li	Be												B	C	N	O	F	Ne	
Na	Mg												Al	Si	P	S	Cl	Ar	
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr		
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe		
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn		
Fr	Ra	Ac	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Nh	Fl	Mc	Lv	Ts	Og		

Net Charge

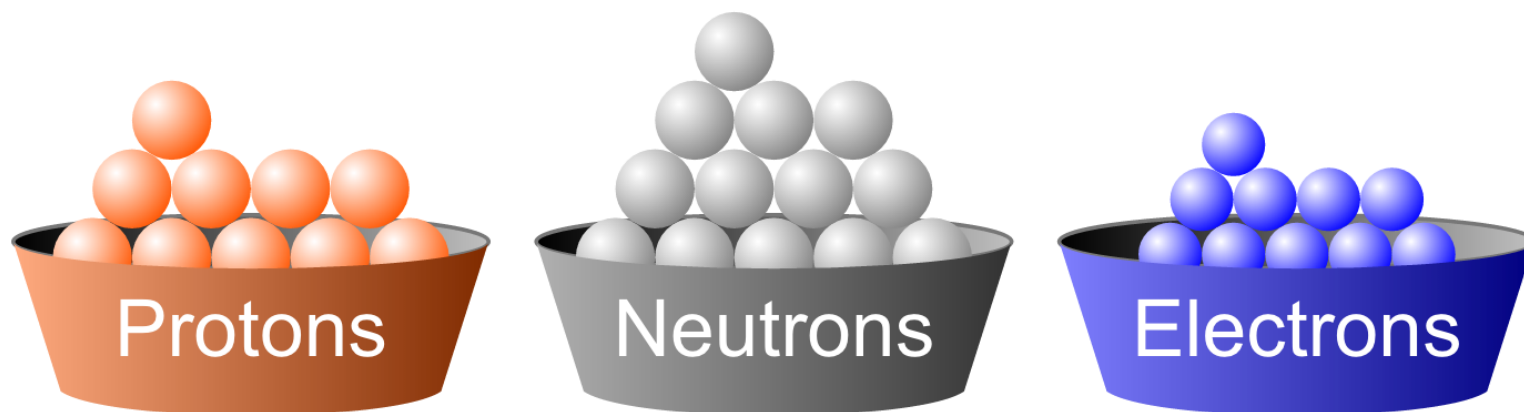
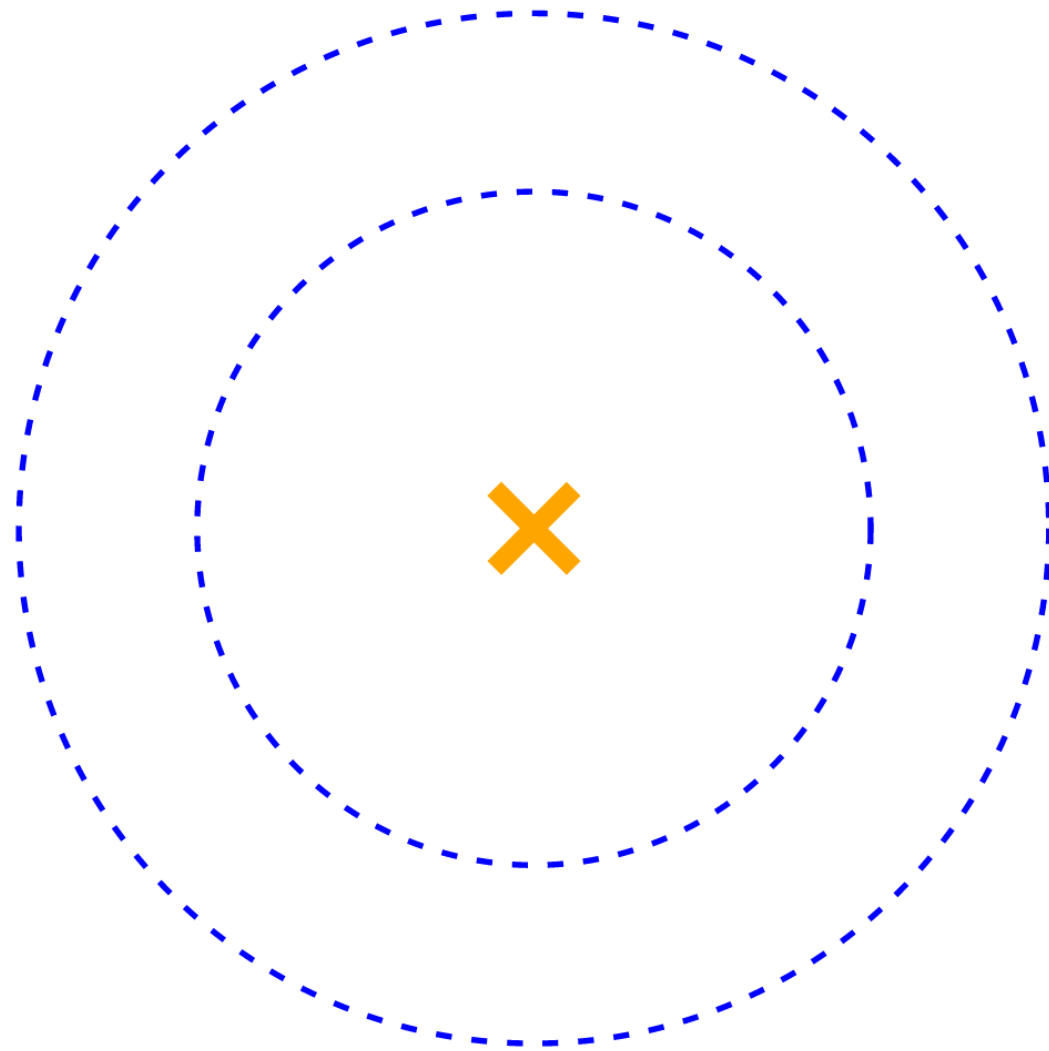
Mass Number

“Choose between orbits or a cloud model”

- SHOW**
- Element
 - Neutral/Ion
 - Stable/Unstable



Protons:
Neutrons:
Electrons:



Model:

- Orbits
- Cloud

Element

H																	He				
Li	Be															B	C	N	O	F	Ne
Na	Mg															Al	Si	P	S	Cl	Ar
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr				
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe				
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn				
Fr	Ra	Ac	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Nh	Fl	Mc	Lv	Ts	Og				

Net Charge

“Select which items you’d like to display”

Mass Number

Show

- Element
- Neutral/Ion
- Stable/Unstable