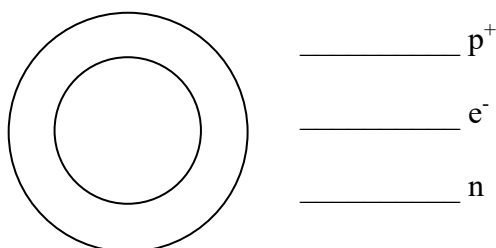


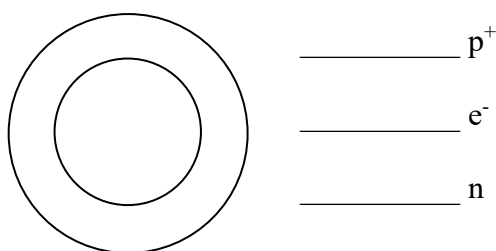
3. Click on the reset button.
Expand the 'Net Charge' menu by clicking the green + on the right side of the boxes.
Add 10 protons to the nucleus.

- (a) What element are you representing? _____
- (b) Using your periodic table, how many neutrons should you add? _____
- (c) Fix the atom so it's a neutral atom. What did you do to achieve this?

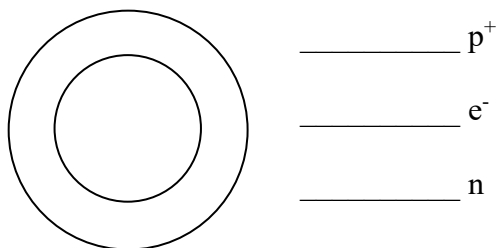
- (d) Draw what you see on your screen and fill in the number of protons, electrons, and neutrons (subatomic particles).



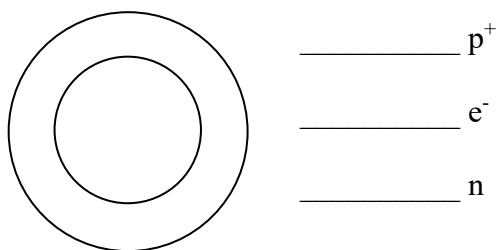
- (e) Remove enough subatomic particles to make O²⁻.
Draw what you have on the screen and fill in the number of subatomic particles.



- (f) Remove enough subatomic particles to make N³⁻.
Draw what you have on the screen and fill in the number of subatomic particles.

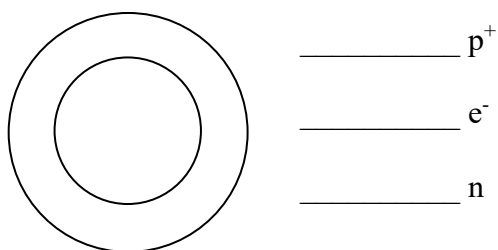


- (g) Remove enough subatomic particles to make F^- .
Draw what you have on the screen and fill in the number of subatomic particles.

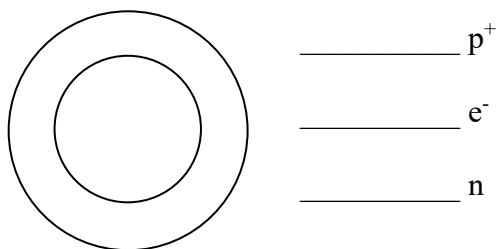


4. The following ions cannot be drawn with the simulation.

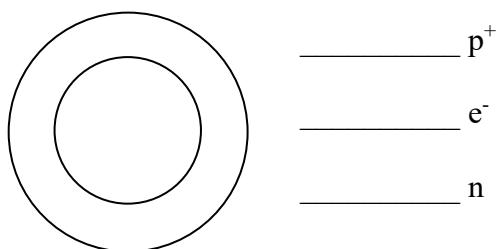
- (a) Draw the diagram for Al^{3+} and fill in the number of subatomic particles.



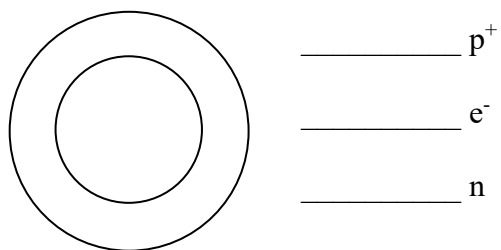
- (b) Draw the diagram for Mg^{2+} and fill in the number of subatomic particles.



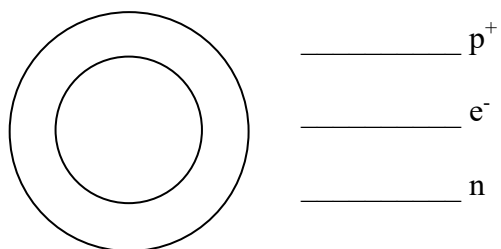
- (c) Draw the diagram for Na^+ and fill in the number of subatomic particles.



(d) Draw the diagram for S^{2-} would look like. Fill in the number of subatomic particles.



(e) Draw the diagram for Ca^{2+} ? Fill in the number of subatomic particles.



5. From this exercise, make a conclusion about why elements make the ions they do.