



How to Draw an Atom: The Bohr-Rutherford Model

1. Begin by drawing a circle. The circle represents the *nucleus*.
2. Write the number of *protons* (p^+) and *neutrons* (n^0) in the nucleus circle.
3. Use bigger circles for the *electron shells* (energy levels).
4. An *electron* is shown as a small filled-in circle on the shell.
 - Always fill shells closest to the nucleus first before filling outer shells.
 - Shells do not 'exist' if they do not carry any electrons.
 - *Rules for the first 20 elements:*
 - the **first shell** closest to the nucleus can hold a maximum of **2 electrons**.
 - the **second shell** can hold a maximum of **8 electrons**.
 - the **third shell** can hold a maximum of **8 electrons**.
 - the **fourth shell** carries any **extra electrons**.

hydrogen

calcium