

Lab: Electron Orbitals

PURPOSE: To observe the energy and movement of particles from nucleus outward within the electron cloud.

HYPOTHESIS: After dropping and collecting data on the three different particles than energy level # _____ will be observed as having the most particles per level.

MATERIALS: Target, beans, rice, lentils, notebook, graph paper, colored pencils, glue.

PROCEDURE:

1. Hold the beaker of particles approximately 10 inches above the target. Pour particles on bulls eye of target.
2. Remove all particles that fall outside the last energy level and return t
3. Slide particles from energy level seven to side of target. Count each of the particles and chart. Continue with level six, five, etc.

(return particles to beaker after counting)

DATA:

4. Chart all data
5. Graph results, using color pencils or designs to show different particles per level.

CONCLUSION:

1. Explain why all the particles don't fall within the same energy
2. Using information and notes you've taken on electron energy, analyze why all electrons have their own specific energy level.
3. Tell what would happen if all electrons resided in the same energy
4. Draw conclusions why most of the particles fell outside the nucleus, and why the highest number of particles fell furthest from nucleus of center of target.