

Modeling an Aluminum Atom....Element Assigned_____

Materials

18x18 inch sheet of poster paper

Yellow paper (neutrons)

Purple paper (protons)

Neon Pink paper (electrons)

Periodic Table (for reference)

Scissors

Ruler

Glue

Procedure

1. Cut 1 inch circles from purple paper to represent the protons. (Refer to your periodic table to figure out how many you need to cut.) Label the protons "p⁺".
2. Cut 1 inch circles from yellow paper to represent the neutrons. (Refer to your periodic table to figure out how many you need to cut.) Label the neutrons, "n⁰".
3. Place your protons and neutrons in the center of the paper to represent the nucleus. Glue the protons and neutrons so that all protons and neutrons can be counted. (It is okay to overlap them.)
4. Use a paper punch to cut small holes in the bright pink paper to represent the electrons. (Refer to your periodic table to figure out how many you need to cut.)
5. Place your electrons in the appropriate energy levels. (Refer to your notes to help you with the placement.) Allow approximately 2 inches between each energy level. If you are assigned an element that has more than 18 electrons, I need to help you with this part.
6. Label the poster with the Element Name.
7. Take ownership for your poster. (Include the name of each group member on the poster.)
8. Clean up your work area, hang your poster, complete and hand in this sheet.

Analysis

1. How many protons, neutrons, and electrons does your assigned atom have? *Answer should be 3 numbers.*
2. What is the mass number of your assigned atom?
3. Explain how your circles model a real atom.
4. Explain why your model does not accurately represent the true size and distances in an atom.