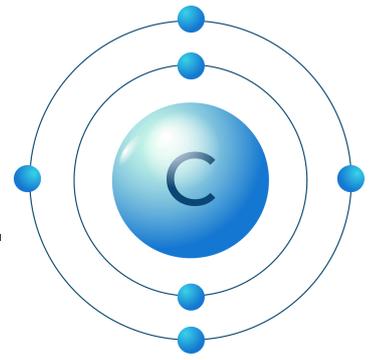




STEM Activity



Build a Carbon Atom Model

Objective

To create a three-dimensional model that shows the structure of a carbon atom including protons, neutrons, and electrons.

Materials

- Small foam balls or clay pieces for protons
- Small foam balls or clay pieces for neutrons
- Small beads or smaller clay pieces for electrons
- Toothpicks or small sticks
- Two circular wires or cardboard rings for electron shells
- Glue or tape
- Markers for labeling

Instructions

- Take six foam or clay pieces and label them as protons.
- Take another six pieces and label them as neutrons.
- Place all twelve pieces together to form the nucleus at the center. Fix with glue if needed.
- Prepare two circular rings to represent the electron shells.
- Attach two electrons on the first shell.
- Attach four electrons on the second shell.
- Connect the shells around the nucleus using toothpicks or tape.
- Adjust the model so that it clearly shows the nucleus and the arrangement of electrons.

Challenge Questions

- What does the nucleus of the carbon atom contain?
- Why does carbon have electrons arranged in two shells?
- How does the arrangement of electrons relate to the chemical properties of carbon?

