Atom in a Bag

Summary

Students will use bags of beads with know quantities of electrons, neutrons and protons to identify the element that they represent.

Time Frame

1 class periods of 90 minutes each

Group Size

Small Groups

Materials

- student sheet
  (attached)
  Ziploc baggies
  3 different bead types to symbolize protons, neutrons and electrons. Depending on the size of the atoms you wish to build, you will need 100-200 beads for each particle.
  Sharpie

Instructional Procedures

Use large red beads for protons, large white or clear beads for neutrons, and small beads of another color for electrons.

Add the appropriate number of beads to a bag so that it matches its label. For a class with 12 lab groups, you want to have at least 18 known atoms, so that each group can have 1-2 bags at a time. Keep them in a box at the front of the room and they would come exchange for another bag when they were done with the one they were working on.

If you want to extend this activity, create bags with isotopes and/or ions. Write the symbol of the isotope or ion on the bag and ask students to explain what an isotope or ion is, based on the number of particles in the bag.

Further detailed instructions are found on the student sheet attached.

Bibliography

Lesson Design by Jordan School District Teachers and Staff.

Authors

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