

SCIENCE EXPERIMENT

Building a Model of an Atom

with Craft Materials

Name: _____

Date: _____

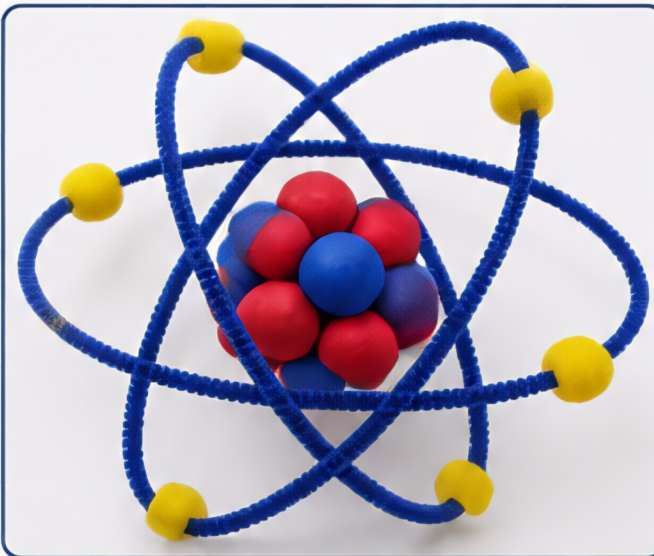
Experiment #: _____

Atoms are the building blocks of matter. In this experiment, you will build a model of an atom to help you visualize how protons, neutrons, and electrons are arranged.



MATERIALS

- Air-dry clay or play dough (different colors)
- Foam balls or pom-poms (small)
- Pipe cleaners or craft wire
- Toothpicks or small sticks
- Scissors
- Glue (optional)
- Label stickers or paper and marker



ATOM MODEL KEY

-  **Proton (+)**
Red (in nucleus)
-  **Neutron (0)**
Blue (in nucleus)
-  **Electron (-)**
Yellow (on orbits)
-  **Electron Orbit (Shell)**



PROCEDURE

1. Choose an element to model. (Example: Carbon has 6 protons, 6 neutrons, and 6 electrons.)
2. Build the nucleus.
 - Roll red clay balls for protons and blue clay balls for neutrons. Press them together in a tight cluster.
3. Create the electron orbits.
 - Bend pipe cleaners or craft wire into circles to represent electron shells.
 - Use toothpicks or small sticks to help attach the orbits around the nucleus if needed.
4. Add the electrons.
 - Place yellow pom-poms on the orbits. Space them out evenly.
5. Label your model.
 - Use label stickers or paper to identify the protons, neutrons, electrons, and orbits.
6. Check your model.
 - Make sure your model shows the correct number of protons, neutrons, and electrons for your chosen element.



OBSERVATIONS

What did you notice while building your atom model?



CONCLUSION

What did you learn about atoms from this activity?



EXTENSION

Build models of other elements. How does the number of protons, neutrons, and electrons change?



SAFETY TIPS

- Use scissors carefully.
- Do not put small craft items in your mouth.
- Clean up your workspace when finished.