

MODEL OF AN ATOM

****Record all answers on a separate sheet of notebook paper. You may write on the back of the notebook paper.**

OBJECTIVE: Mimic the actions of scientists in discovering the structure of the atom. Make indirect observations to determine the identity of unknown objects.

PROCEDURE: Obtain a "mystery atom" and make observations using the instructions below. NEVER use your eyes to observe the items in your mystery atom!

Step 1: RATTLE IN CAN – *Rattle the items inside your mystery atom and make observations to determine their properties/identity.*

- 10 total observations, at least ONE must be quantitative

Step 2: FEEL THROUGH SOCK – *Keeping the sock closed, look away and gently pour the items from the can into the top part of the sock so that you can feel the items through the sock. DO NOT LOOK AT THE ITEMS OR SOCK. Use only what you feel to make observations to determine their properties/identity.*

- 15 total observations, at least THREE must be quantitative

Step 3: FEEL INSIDE CAN - *Open the end of the sock and insert the hand you DO NOT write with into the sock to feel the items inside your atom. Make observations to determine their properties/identity.*

- 20 total observations, at least FIVE must be quantitative

OBSERVATIONS: On your notebook paper, label each step/procedure and draw a new Data Table using the model below. Draw a separate Data Table for each step.

- NUMBER your observations in your table and LIST them down, not across. Do not write them in a paragraph.
- You will need to make the tables larger to fit your observations.
- Be careful to enter your observations in the correct column.
- Below each data table, based on your observations, draw the objects and, if possible, identify them. (You must draw the items for steps 2 and 3, but drawing for step 1 is optional.)
- You may write on the back of the paper.

Sample Data Table

Step ____: _____	
QUALITATIVE	QUANTITATIVE
1.	1.
2.	2. (etc.)
3.	
4. (etc.)	
*Based on your observations, draw the objects and, if possible, identify them. (You must draw the items for steps 2 and 3, but drawing for step 1 is optional.)	

CONCLUSION: After you have finished the last step, untie the end of the sock and pour the items from your atom out onto your desk. Take the can out of the sock to make sure you didn't miss anything. Answer the questions below on your notebook paper. Skip a line between each question.

1. What were the actual items?
2. How accurate were you? Did you find everything? Why or why not?
3. Explain how through this activity you fulfilled the objective. (Hint – go back and read the objective!)

CLEAN UP: Put ALL your items back into the can and put the can inside the sock. Return it to the front lab station.