

3D Atomic Model Project

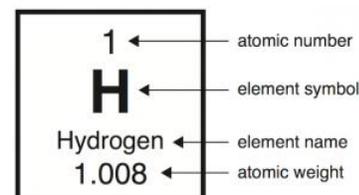
Name: _____

Due Date: January 7, 2016

Objective: Students will demonstrate their understanding of the particles in an atom by constructing an atom model at home. Students are allowed to choose between Elements 6 (Carbon) - 86 (Radon).

Requirements to receive FULL CREDIT

1. Must be turned in on time, **NO LATE WORK ACCEPTED** for full credit.
2. Model must be 3 dimensional (viewable from most angles)
3. Must include the correct amount and location of protons, neutrons, and electrons for element.
4. Model must include the required electron energy levels for the selected element with the correct number of electrons per shell level.
5. Must include a Placard representing the elements information that is provided on the Periodic Table of the Elements.
 - include the state (solid, liquid, gas) and if the element is a metal, non-metal, or metalloid
6. A "key" explaining your chosen materials on your model (protons, neutrons, and electrons)
7. A paragraph explaining some interesting information about your element. Paragraph should be at or above grade level and include relevant information about the chosen element.



Grading: The project is worth **50 points**. To receive full credit, **ALL** of the above requirements must be met with a quality effort. Missing any components listed above or making a model lacking the 3 D aspect of the project will result in a reduced score. Extra credit may be given to high quality work at the teacher's discretion. See rubric on the reverse side for grading information.

Materials: This project is to be completed at home with the use of common household materials or with inexpensive craft store materials. Use recycled materials if available. Please be creative and crafty but make something sturdy so it can be successfully transported to school to be shared and graded.

Restrictions:

- Overall size of Model can be no larger than 60cm x 60cm x 60 cm.
- Placard and Element information must be typed or neatly printed in ink.
- Models may NOT use foods that are perishable, attract ants, spoil, or create a mess in the classroom.
- All models must be complete, accurate, neat, and on time to receive full credit.

Transporting to Class: Please do not bring your project to class before the winter break. You may bring your model to class during the week of January 4- 7 (Monday - Thursday). If you are going to be out of town past the 7th, please arrange a due date with the teacher.

Name: _____ Period _____ Date _____

Assignment	Points	Poor	Average	Excellent
Construction and Design of Atomic Model	/15	0-5 points Model is 2 dimensional and sub-atomic particles are 2 D and drawn on the surface. Model is incomplete.	6 - 10 points Model is 2 dimensional but sub atomic particles are represented with 3 dimensional objects. Model is flimsy or falling apart.	11-15 points Model is 3 dimensional and sub-atomic particles are 3D as well. Model can be viewed from most angles. Model is intact and sturdy.
Accuracy of subatomic particles and electron shells	/15	0 - 5 point Particles are missing or are placed with little accuracy. Shells are not correctly shown	6 - 10 points Particles are placed accurately and are clearly represented on the model. Minor inaccuracies are noticed	11 - 15 points Particles are accurate and neatly modeled. Electron shells are correct and filled with appropriate amount of electrons.
Element Placard	/7	0-3 points Element placard is incomplete and/or written with pencil or ball point pen	4-5 points Element placard is there but is missing a few important features or is sloppy	6-7 points Element placard is complete, typed or printed with ink, and neatly displayed
Model "Key"	/5	0-1 point Key is missing or is incomplete	2-3 points Key is complete, but is sloppy or in pencil	4-5 points Key is complete, neatly printed or in Ink
Informational Paragraph	/8	0-3 points Paragraph is missing, inaccurate, below grade level or written in pencil or ball point pen	4-6 points Paragraph is complete but has grammar or spelling errors. Paragraph is at grade level and is typed or written in ink.	7-8 points Paragraph is informational and at grade level or above quality. Paragraph is typed or written neatly in ink. Paragraph is neatly displayed.

Total _____/50

Comments: