

YOUTH ART PROJECT FOR:

# THE ATOM

## OBJECTIVE

Students will learn the structure of the atom as well as the parts of the atom.

Set up/prep time:

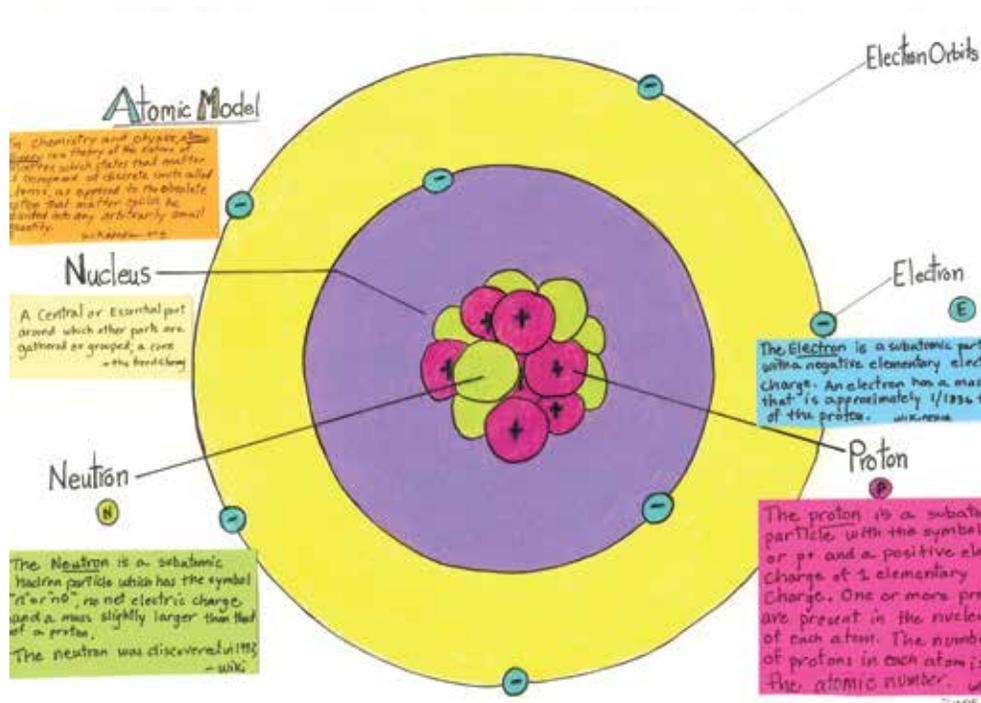
**30 minutes**

Activity time:

**2-3 hours**

Materials Needed:

**Pencil, eraser, compass, black fine point marker, definitions for parts of the atom**





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## COMMON CORE STATE STANDARD

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CCSS.ELA-Literacy.RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

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## PRE LESSON ASSESSMENT

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Do a pre-lesson assessment to determine what knowledge the students already have about the atom.

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## VOCABULARY

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Atom, Electron, Proton, Neutron, Nucleus

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## RELEVANT RESOURCES

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### Content

[http://wiki.answers.com/Q/Who\\_discovered\\_the\\_atom](http://wiki.answers.com/Q/Who_discovered_the_atom)  
<http://www.universetoday.com/82128/parts-of-an-atom/>  
<http://scienceforkids.kidipede.com/chemistry/atoms/>

### Art

<http://www.universetoday.com/82128/parts-of-an-atom/>  
<http://redwood.colorado.edu/jkb/legorobots/images/img91.gif>  
<http://www.aircraftengineer.info/wp-content/uploads/2013/04/structure-of-an-atom.gif>

### Students will engage in:

- Listening
- Speaking
- Reading
- Writing
- Partner Work
- Cooperative Learning
- Whole Group Instruction
- Visuals
- Hands on
- Technology Integration
- A Project
- Centers
- Simulations
- Activities

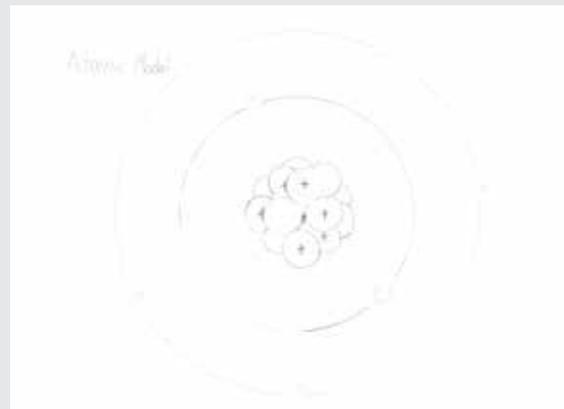
*“The unleashed power of the atom has changed everything save our modes of thinking and we thus drift toward unparalleled catastrophe.”*  
-Albert Einstein





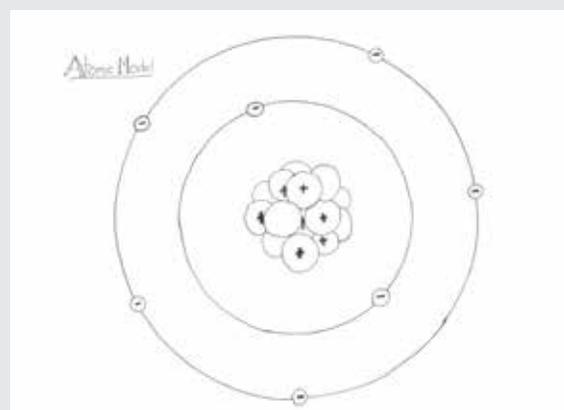
## STEP 1

Using a compass have the students draw a large circle in pencil about eight inches in diameter on a blank piece of paper. Have the students then draw a smaller circle inside the first circle drawn, the inner circle should be about four inches in diameter and also drawn lightly with pencil. Once the circles are done being drawn have the students draw a small cluster of balls in the very center of the inside circle, this cluster of balls represents the nucleus which contains both protons and electrons. Once this is done have the students draw two small circles attached to the inner circle evenly spaced, these circles will represent the electrons of an atom, have the students then draw five more electrons on the outer circle also evenly spaced. Explain to the students that the first electron shell can only hold two electrons, the second can hold eight and so forth.



## STEP 2

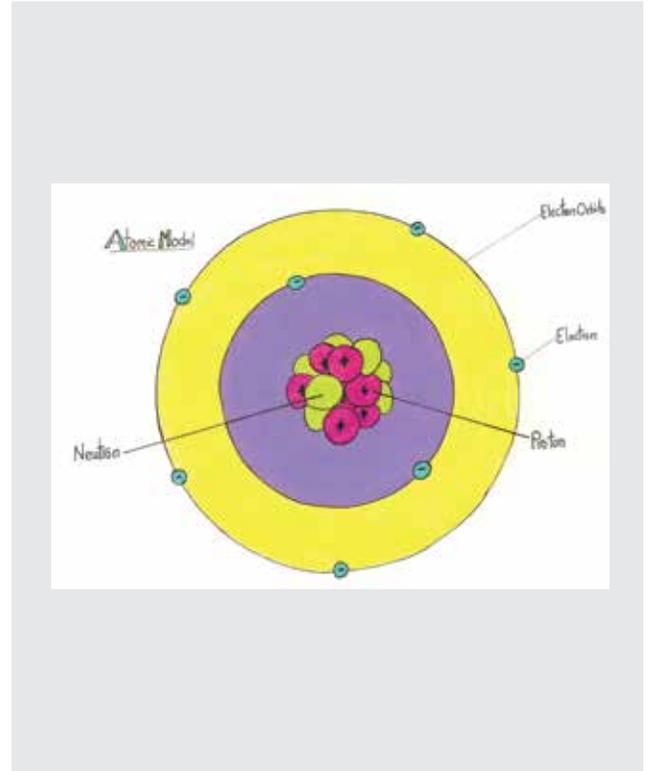
Have the students go over their artwork with a black fine point marker, erasing any pencil markings left behind. Students will then recognize the charges of each particle within the atom. Inside the nucleus are protons and neutrons. Protons carry a positive charge, to represent this have the students draw a positive (+) sign on some of the balls clustered inside the nucleus. Neutrons have a neutral or “no charge” so the students don’t need to draw a charge on them. Electrons surround the nucleus on the electron orbits, and have a negative charge; to represent the negative charge have the students draw a negative (-) sign on the surrounding electrons. Remind the students that the number of electrons is equivalent to the number of protons.





## STEP 3

After the charge of each particle has been identified have the students label their artwork. Once the artwork has been labeled have the students color their artwork as they desire, making sure all the protons are one color, electrons another, and so forth. Have the students then place sticky notes on their artwork and write the definition of each particle within the atom and the importance of the characteristics of that particle.



## POST LESSON ASSESMENT

Do a post assessment to determine what new knowledge the students have gained.

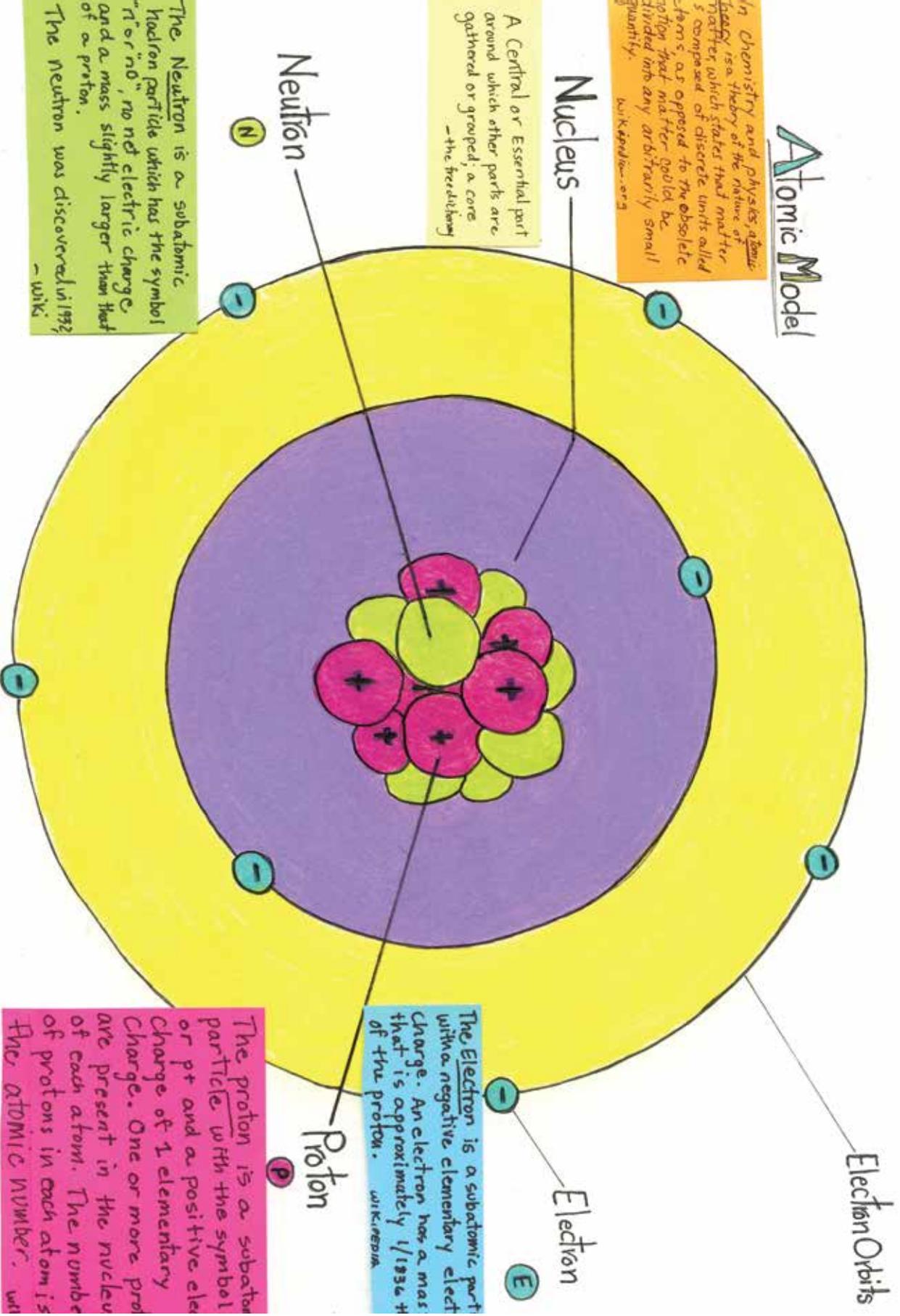


# Atomic Model

In Chemistry and physics, atomic theory is a theory of the nature of matter which states that matter is composed of discrete units called atoms, as opposed to the obsolete notion that matter could be divided into any arbitrarily small quantity. [Wikipedia.org](https://en.wikipedia.org/wiki/Atomic_theory)

A Central or Essential part around which other parts are gathered or grouped, a core - the freudology

The Neutron is a subatomic hadron particle which has the symbol "n" or "n<sup>0</sup>", no net electric charge, and a mass slightly larger than that of a proton. The neutron was discovered in 1932. - wiki



The Electron is a subatomic particle with a negative elementary electric charge. An electron has a mass that is approximately 1/1836 that of the proton. [Wikipedia](https://en.wikipedia.org/wiki/Electron)

The proton is a subatomic particle with the symbol p or p<sup>+</sup> and a positive elementary charge of 1 elementary charge. One or more protons are present in the nucleus of each atom. The number of protons in each atom is the atomic number. [Wikipedia](https://en.wikipedia.org/wiki/Proton)



Atom Model

