



Five friends looked at a piece of aluminum foil. They wondered what they would see if they could see inside an atom of aluminum. This is what they said:

1: I think there would be a tiny, dense center surrounded by a lot of empty space where some particles are whizzing around.

2: I think there would be a large center made up mostly of empty space with particles whizzing around in it. It would be surrounded by a dense shell.

3: I think there would be all empty space with many tiny particles whizzing around through all that space.

4: I think it would look like a tiny, dense ball with tiny particles tightly packed inside it.

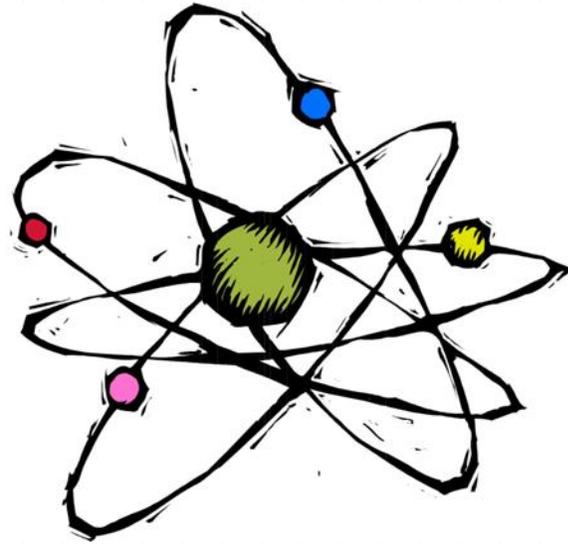
5: I think it would look like a lot of tiny balls, all touching each other with no space in between them.

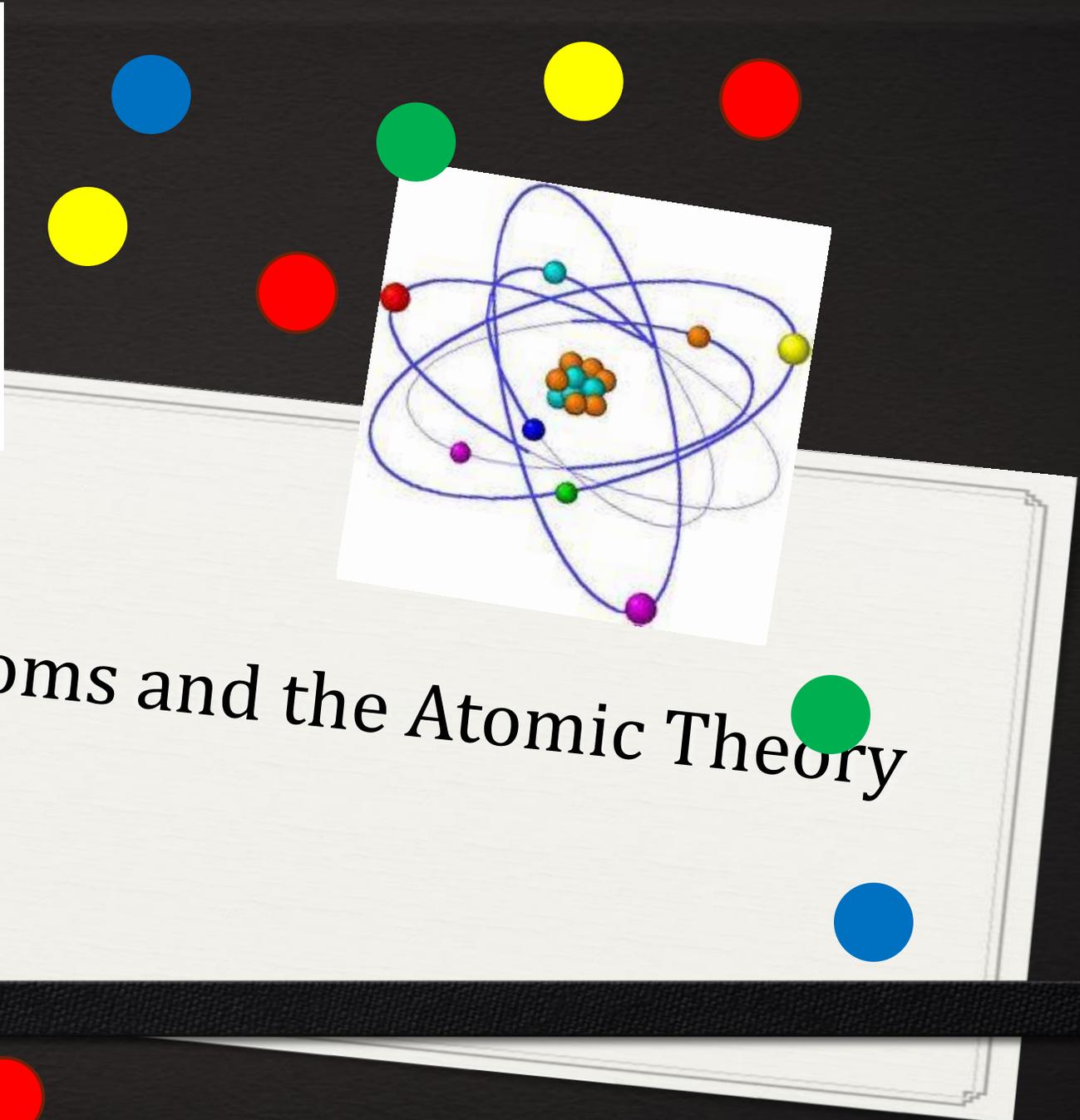
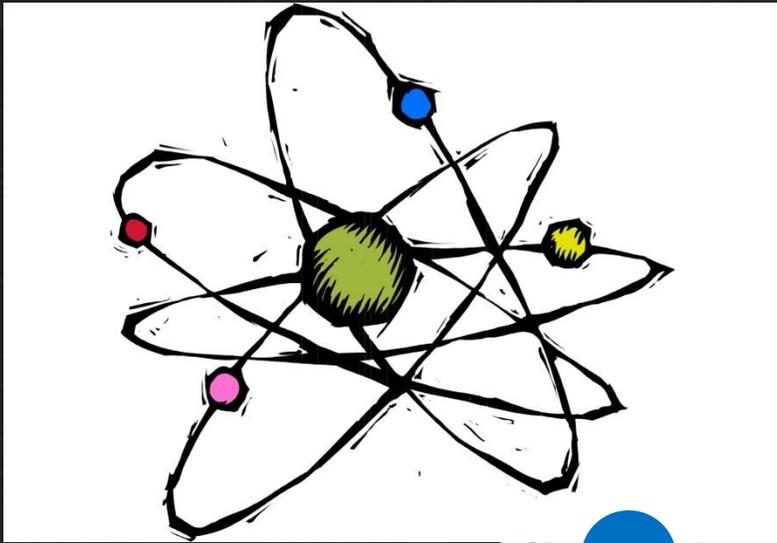
Choose the friend you agree with and explain why you agree.



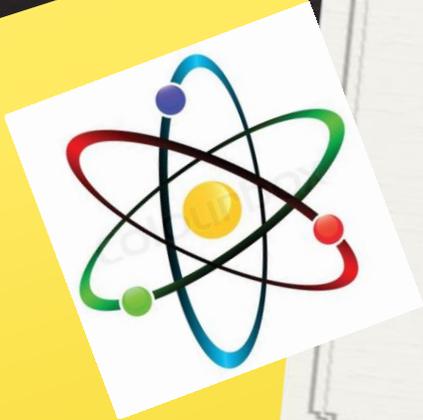
Engage

o Symphony of Science: What our World is Made of?



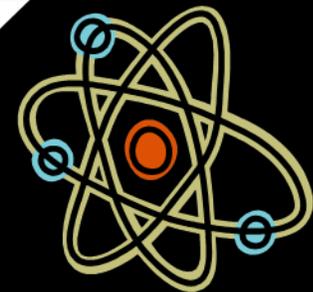


Atoms and the Atomic Theory



Atoms

- Remember that matter is anything that takes up space and has mass. All matter is made of atoms.
- **Atoms are the smallest particle into which an element can be divided and still be the same substance.**

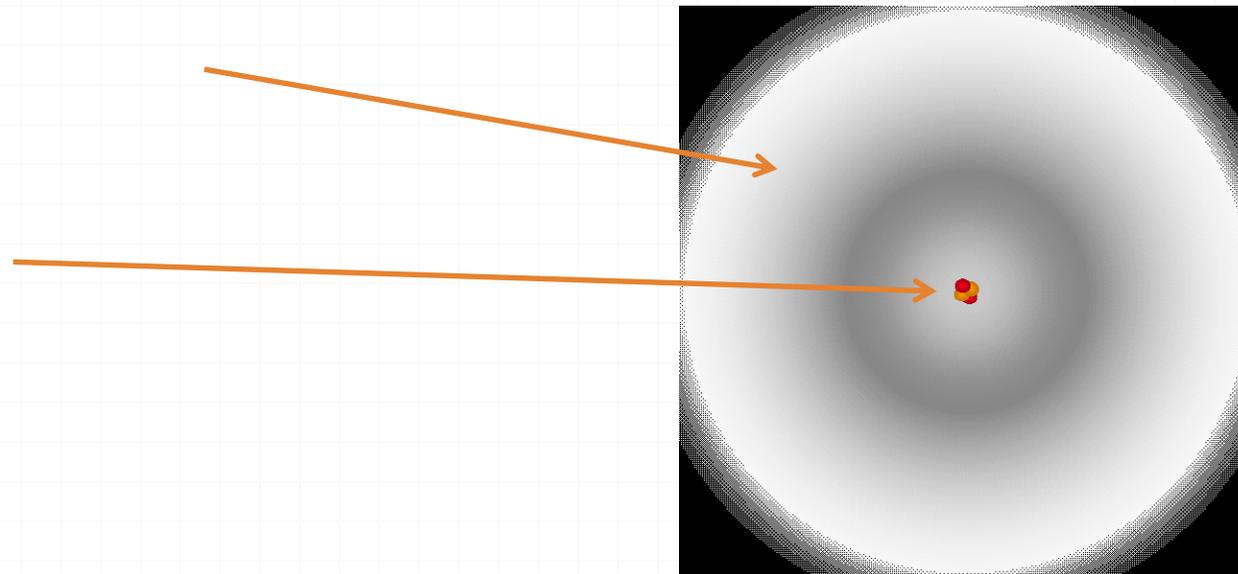


Atomic Structure

There are two basic parts in every atom:

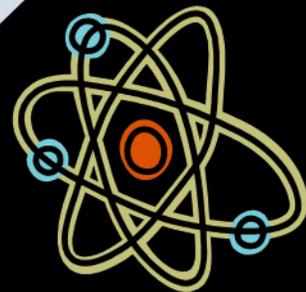
**Electron Cloud
or Shell**

Nucleus



Parts of an ATOM

	Charge	Location
Proton	Positive (+)	Nucleus or "Core"
Neutron	No Charge or neutral (0)	Nucleus or "Core"
Electron	Negative (-)	Electron Cloud



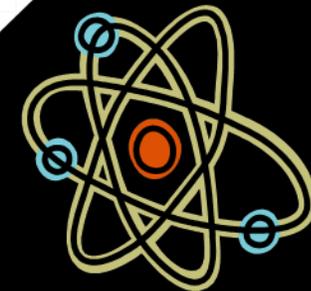
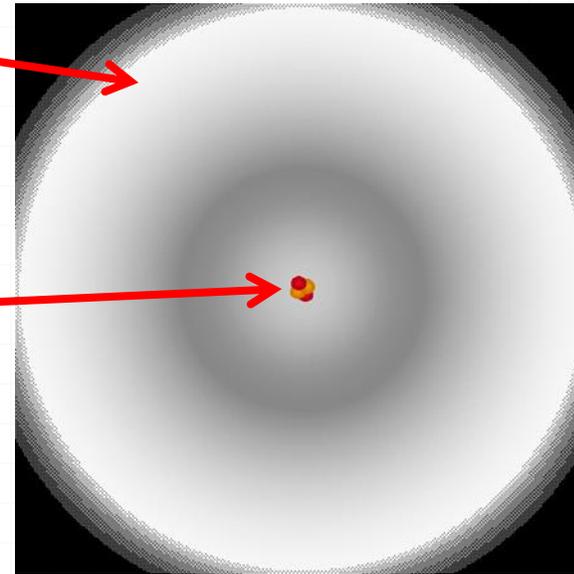
Subatomic Particles

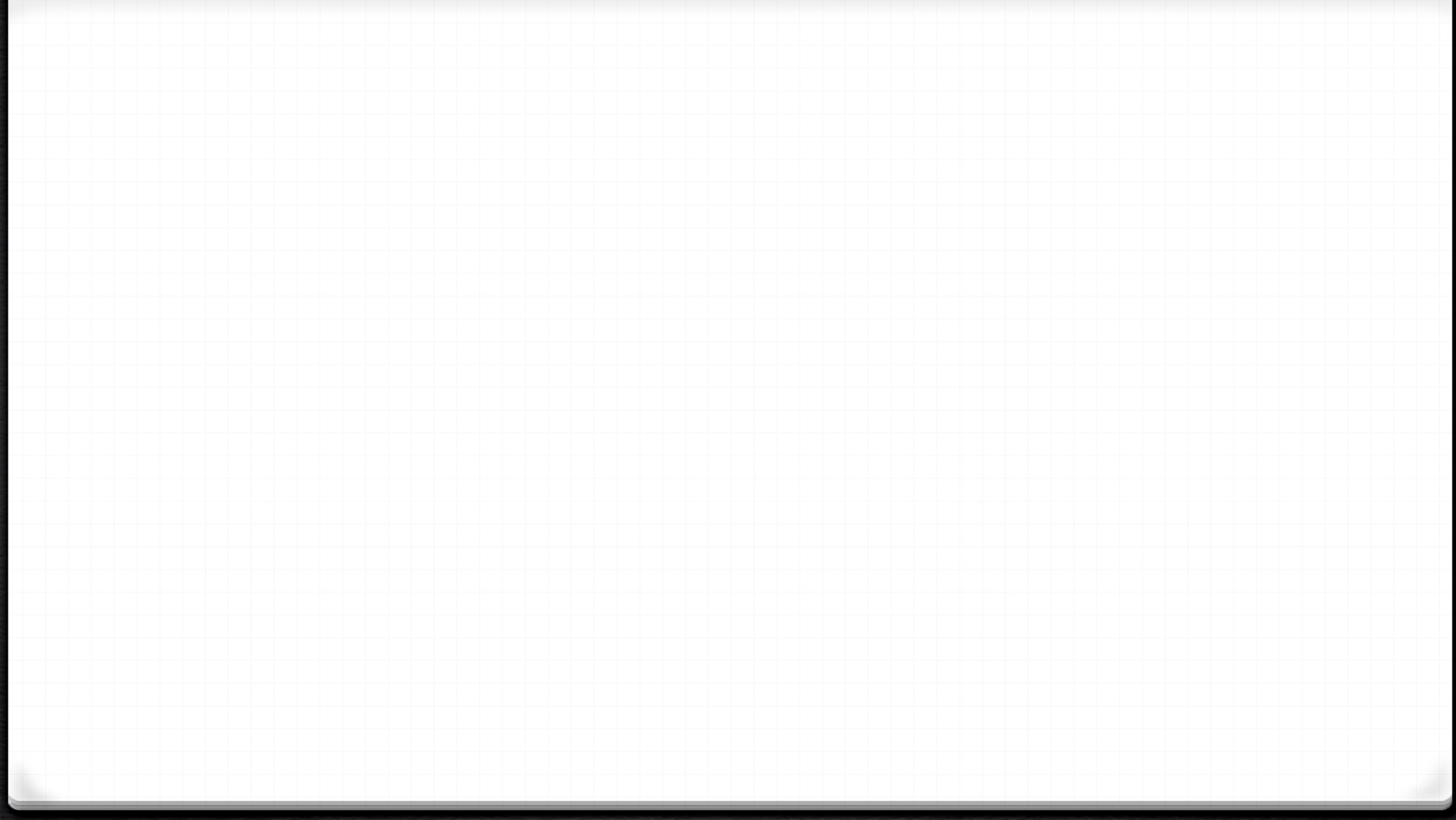
Electron Cloud:

- Electrons orbit the nucleus.

Nucleus or "Core":

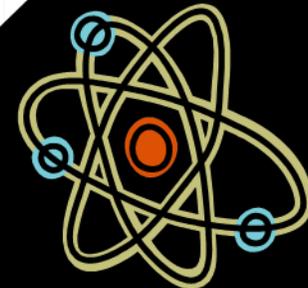
- Protons and Neutrons are found in the nucleus.





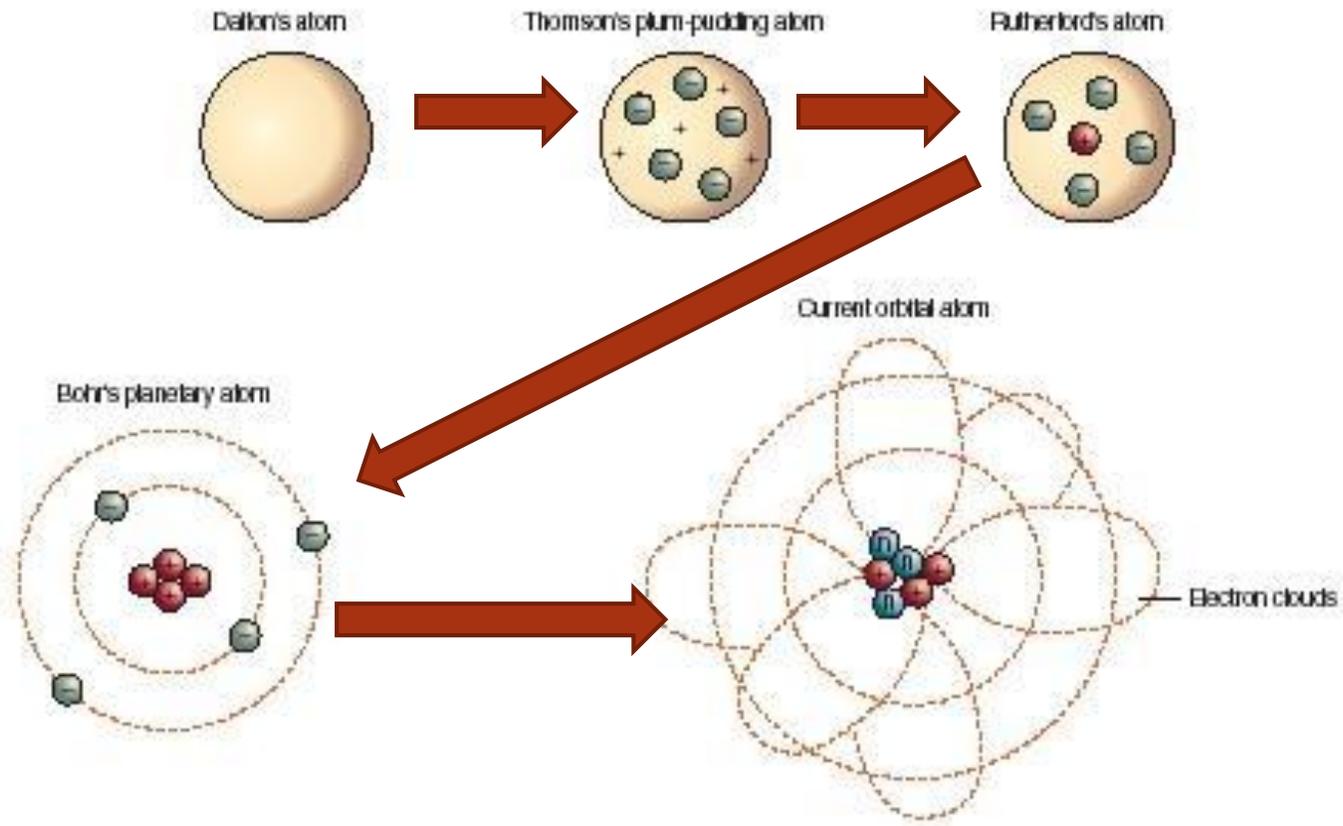
Atomic Theory

- Because we can not see atoms, we use models to teach and learn about atoms.
- The atomic theory has changed over time as new technologies have become available.
- Remember: Scientific knowledge builds on past research and experimentation.



Atomic Theory

CHANGES OVER TIME...



Basic Parts of Atoms

o <https://www.youtube.com/watch?v=o-3I1JGW-Ck>

To Recap what you just learned.....

