

Practice – History of Atomic Theory

Key 09-10 AP1

Answer the following:

- Why do scientists sometimes need to use models to help them study things?
 Models allow scientists to study things that are too large, too small, too dangerous and/or too hard to see.
- Give three examples of things scientists would probably need to make models of to properly study.

- 1.) Sun 2.) Solar System 3.) Earth's core

- Why do you think it is important to construct models that are accurate (a true reflection of reality)?

An accurate model allows for accurate predictions.

- Briefly summarize what each of the following people(s) contributed to our understanding of matter.

Person(s)	Contribution to Our Understanding of Matter
Greek Philosophers	Matter is made of elements.
Democritus	Matter is made of tiny particles w/ different types of particles for different types of matter.
Antoine Lavoisier	Matter is neither created nor destroyed.
Joseph Proust	Elements in compounds always exist in specific proportions (ratios)
John Dalton	All matter is made of indivisible, indestructible atoms. Compounds are combos of these atoms; chem rxns are rearranging of atoms

- Briefly summarize what each of the following people contributed to our understanding of atomic structure.

Person(s)	Contribution to Our Understanding of Atomic Structure
John Dalton	Atoms are small indestructible/indivisible spheres.
J.J. Thomson	Atoms are made of even smaller particles called electrons stuck in a uniform positive "pudding".
Ernest Rutherford	Atoms have a positive nucleus made of $p^+ + n^0$ w/ the e^- orbiting @ great distances from this nucleus.

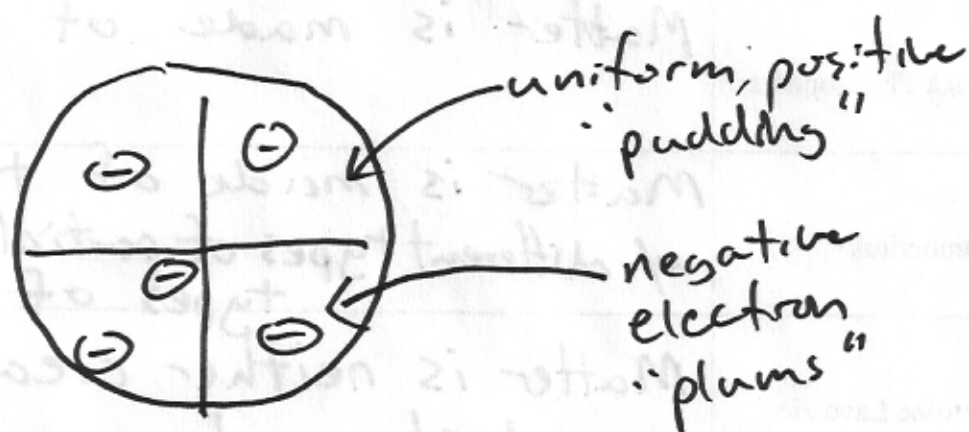
6. Briefly summarize the cathode ray experiment J.J. Thomson ran.

Thomson observed a ray of particles emitted through a cathode tube. Since a magnet bent them he found they were charged. Since a (+) charged plate attracted them, he found they were

7. Briefly summarize the gold foil experiment Ernest Rutherford ran.

Rutherford shot alpha particles @ gold atoms. Since most passed through, he found atoms were mostly empty space. Since some were deflected, he found there was a positive dense core. (-) charged.

8. Draw and label a picture of the "Plum Pudding" model of the atom proposed by J.J. Thomson.



9. Draw and label a picture of the "Planetary" model of the atom proposed by Ernest Rutherford.

