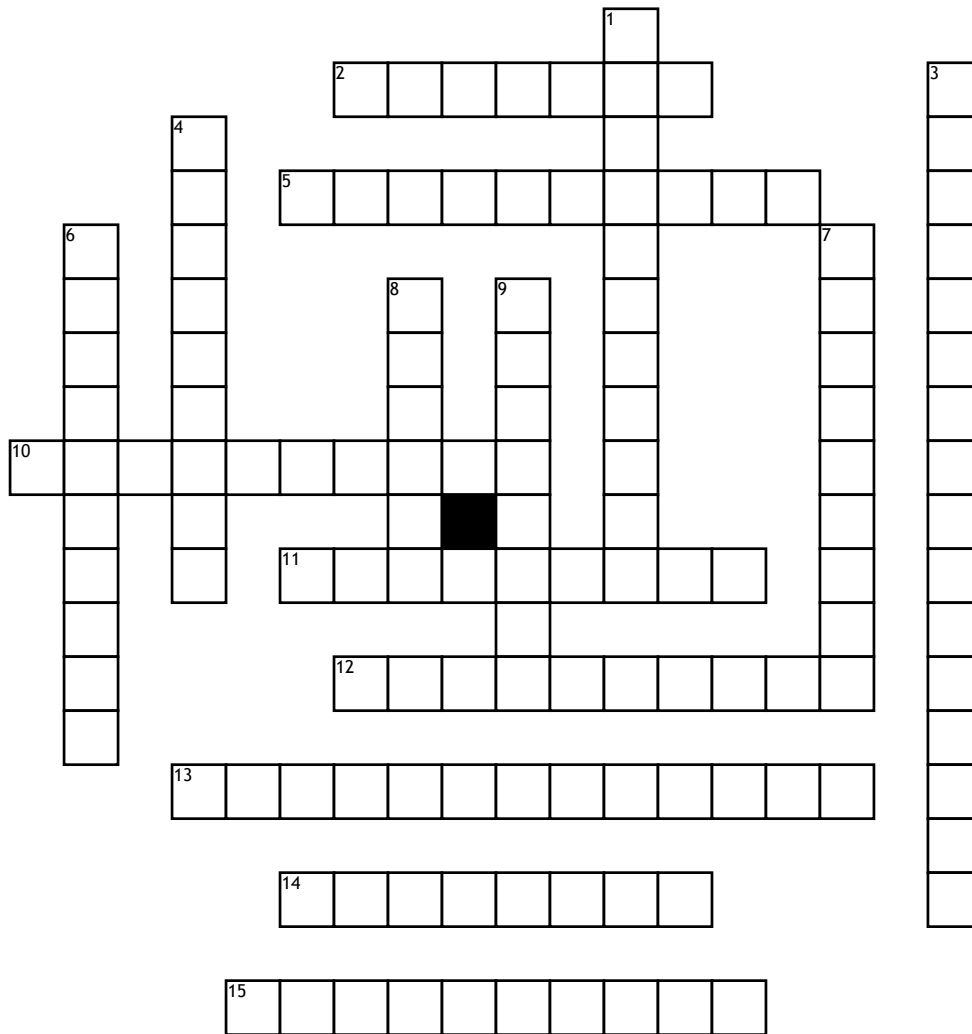


Atomic Theory Scientist



Across

2. Studied the effect of electricity on solutions.

5. Oil drop experiment determined the charge ($c=1.602 \cdot 10^{-19}$ coulomb) and the mass ($m= 9.11 \cdot 10^{-28}$ gram) of an electron.

10. Convention bitter, convention sweet, but in reality atoms and void

11. Arranged elements into 7 groups with similar properties.

12. Proposed an "atomic theory" with spherical solid atoms based upon measurable properties of mass

13. Using alpha particles discovered a neutral atomic particle with a mass close to a proton. Thus was discovered the neutron.

14. Used the idea of quanta (discrete units of energy) to explain hot glowing matter

15. Using X-ray tubes, determined the charges on the nuclei of most atoms. He wrote "The atomic number of an element is equal to the number of protons in the nucleus"

Down

1. Studied uranium and thorium and called their spontaneous decay process "radioactivity"

3. Using alpha particles as atomic bullets, proved the atoms in a piece of thin (0.00006 cm) gold foil.

4. Developed an explanation of atomic structure that underlies regularities of the periodic table of elements.

6. Studied radiations emitted from uranium and thorium and named them alpha and beta

7. Studied "canal rays" and found they were associated with the proton H^+

8. Proposed a mechanical universe with small solid masses in motion

9. Published the famous equation $E=mc^2$

Word Bank

Rutherford

Democritus

James Chadwick

Marie S. Curie

RA Millikan

Newton

HGJ Moseley

Einstein

Niels Bohr

Mendeleev

Faraday

John Dalton

JJ THOMSON

Max Plank

Ernest Rutherford