# The Journey of Atomic Discovery

Chemistry · Practice Test · 20 Questions

**1. What is the fundamental concept that all matter is composed of tiny building blocks called atoms supported by?**

A) Magnetism
B) Diffusion
C) Combustion
D) Evaporation

**2. Which ancient civilization proposed that matter consists of small, indivisible particles?**

A) Romans
B) Egyptians
C) Greeks
D) Persians

**3. Who formulated Dalton's Atomic Theory, stating that all matter is made of minute, indivisible particles called atoms?**

A) Niels Bohr
B) John Dalton
C) Ernest Rutherford
D) J.J. Thomson

**4. William Crookes investigated using vacuum tubes, leading to the discovery of what?**

A) Protons
B) Neutrons
C) Electrons
D) Cathode rays

**5. The Maltese Cross Tube showed that cathode rays originated from which part of the tube?**

A) Anode
B) Cathode
C) Vacuum
D) Glass wall

**6. The Paddle Wheel Tube demonstrated that cathode rays possess what?**

A) Heat
B) Light
C) Energy
D) Sound

**7. Who is credited with naming the electron?**

A) J.J. Thomson
B) George Stoney
C) Robert Millikan
D) James Chadwick

**8. J.J. Thomson's experiments with cathode ray tubes proved they were attracted to a positive plate, indicating they were what kind of particles?**

A) Positively charged
B) Neutral
C) Negatively charged
D) Electrically neutral

**9. What ratio did J.J. Thomson calculate using electric and magnetic fields for the electron?**

A) Charge to mass (e/m)
B) Mass to charge (m/e)
C) Energy to mass (E/m)
D) Charge to energy (e/E)

**10. J.J. Thomson proposed the Plum Pudding Model, which suggested a spherical cloud of positive charge with what embedded within it?**

A) Protons
B) Neutrons
C) Electrons
D) Nuclei

**11. Robert Millikan conducted the Oil Drop Experiment to determine the magnitude of the charge of a single what?**

A) Proton
B) Neutron
C) Electron
D) Atom

**12. Ernest Rutherford performed the alpha particle scattering experiment, also known as the gold foil experiment, leading to the discovery of what?**

A) Electrons
B) Neutrons
C) Nucleus
D) Protons

**13. Rutherford discovered protons by bombarding lighter elements with alpha particles, observing the release of small, positively charged particles. What were these particles?**

A) Electrons
B) Neutrons
C) Alpha particles
D) Protons

**14. Niels Bohr proposed an atomic model where electrons orbit the nucleus in specific energy levels, similar to planets orbiting the sun. What is this model called?**

A) Plum Pudding Model
B) Dalton's Model
C) Rutherford Model
D) Bohr Model

**15. James Chadwick discovered the neutron by bombarding beryllium nuclei with alpha particles, releasing small, what kind of particles?**

A) Positively charged
B) Negatively charged
C) Neutral
D) Energetic

**16. What are the three main subatomic particles that compose an atom?**

A) Protons, Neutrons, and Electrons
B) Alpha, Beta, and Gamma particles
C) Quarks, Leptons, and Bosons
D) Nucleus, Shells, and Orbits

**17. Cathode rays are streams of negatively charged particles that travel in straight lines and can be deflected by electric and magnetic fields. What are these particles?**

A) Protons
B) Neutrons
C) Electrons
D) Positrons

**18. According to the Law of Conservation of Mass, in any isolated system, mass is:**

A) Created but not destroyed
B) Destroyed but not created
C) Neither created nor destroyed
D) Continuously changing

**19. The Plum Pudding Model, proposed by J.J. Thomson, was later disproven by which experiment?**

A) Oil Drop Experiment
B) Alpha particle scattering experiment
C) Vacuum tube experiment
D) Cathode ray experiment

**20. What does the 'e/m' ratio calculated by J.J. Thomson represent?**

A) The mass of the electron
B) The charge of the electron
C) The charge-to-mass ratio of the electron
D) The energy of the electron