Worksheet - Chapter 5 - Atomic Structure

Atomic Theory Matching

F 1. The device which gave scientists their first image of individual atoms. (See Fig 5.3.)

D 2. He confirmed the existence of the **neutron**.

B 3. He developed the beginnings of the modern atomic theory in the 1800s.

E 4. He developed an elaborate experiment that showed that the majority of an atom is **empty space**, with the majority of its mass concentrated in a tiny **nucleus**.

A 5. He first suggested the presence of atoms and named them.

C 6. He used a **cathode ray tube** to discover **electrons**.

A. Democritus
B. John Dalton
C. J.J. Thomson
D. James Chadwick
E. Ernest Rutherford
F. Scanning Tunneling Microscope

7. See Fig. 5.2. If 100 000 000 copper atoms form a line 1 cm long, what is the diameter of a single copper atom? 1×10^{-2} m

T or F 8. There are more copper atoms in a penny than there are people on earth.

T or F 9. Atoms are so tiny, there is no way we can ever discover anything about the smaller particles which make them.

Atomic Particle Matching

C 10. Nearly weightless, with a negative charge

A 11. 1840 X the weight of an electron, positive charge

B 12. Same mass as a proton, but with no charge

C 13. They weigh 1/1840th as much as a proton.

C 14. They are deflected towards the positive plate in a cathode ray tube.

B 15. Discovered by Chadwick

C 16. Discovered by Thomson; negative charged determined by Millikan

A 17. Discovered by Goldstein

A B 18. Found in the nucleus

C 19. Found circling the nucleus in orbital clouds

B 20. All atoms except hydrogen have this particle.

A. Protons
B. Neutrons
C. Electrons