Atomic Theory Quiz

(see also: *Atomic Theory Quiz,* Answer Key)

1. Are atoms and elements the same thing?
   a) Yes
   b) No

2. Most things on Earth are made of
   a) only one element
   b) many atoms combined together
   c) neither

3. What are atoms made of?
   a) Lego shaped boxes
   b) subatomic particles
   c) smaller atoms
   d) scientists don't know yet

4. Which of the following parts are located inside atoms? (select all that apply)
   a) nucleus
   b) p^+
   c) e^-
   d) neutrons

5. The nucleus is made of
   a) p^+
   b) e^-
   c) e^-, p^+ and neutrons
   d) neutrons
   e) e^- and neutrons
   f) p^+ and neutrons

6. The nucleus is kept together by
   a) the Weak Force

b) the Strong Force
c) Electromagnetism
d) Static Electricity

7. The "Solar System Model" for atoms is used to simplify what concept?
   a) the nucleus
   b) the p^+ gluing to neutrons
   c) the e^- orbits

8. Which of the following particles have mass? (select all that apply)
   a) p^+
   b) neutrons
   c) e^-
   d) e^- orbits

9. Which of the following particles are mostly energy? (select all that apply)
   a) p^+
   b) neutrons
   c) e^-
   d) e^- orbits
   e) neither

10. Another name for the Strong Force is
    a) Static Charge
    b) Electromagnetism
    c) Strong Interaction
    d) Electrostatic Repulsion

11. Which combinations of particles are known to repel? (select all that apply)
    a) p^+ & neutrons
    b) p^+ & p^+
    c) e^- & e^-

d) e^- & p^+
e) e^- & neutrons

12. Which combinations of particles are known to attract? (select all that apply)
    a) p^+ & neutrons
    b) p^+ & p^+
    c) e^- & e^-
    d) e^- & p^+
    e) e^- & neutrons

13. Particles repel due to
    a) the Strong Force
    b) Electromagnetism
    c) the Weak Force

14. Which particle is neutral?
    a) p^+
    b) neutron
    c) e^-
    d) e^- orbits
    e) neither, all particles are charged

15. Which are examples of variations of the same atom? (select all that apply)
    a) Atomic Forces
    b) Electrons
    c) Isotopes
    d) Ions
    e) Atomic Bonds
    f) Protons
    g) Water molecules

16. We can tell atoms apart by the number of
    a) p^+
    b) neutrons

c) e^-
d) orbits
e) bonds

17. A mole is
a) an animal used by Chemists in experiments
b) the birthmark of a famous Chemist
c) a counter similar to: pair, dozen, baker's dozen
d) any chemical found underground

18. Use pen and paper to calculate how many moles are contained in $150.55 * 10^{25}$ atoms?
(Reminder: 1 mole is equivalent to 6.022×10^{23} pieces.)
a) 25 moles
b) 350 moles
c) 2,500 moles
d) 10,678 moles

19. Should photons be counted in moles?

a) Yes
b) No

20. What is the total count in 21 moles of photons?

a) 6.022×10^{23} photons
b) 126.5×10^{27} photons
c) 0.2868×10^{23} photons
d) 1.265×10^{25} photons

To get all the answers to this quiz grab a digital or paper copy at: https://www.amazon.com/dp/B07BR5FH29.