

## Biology 20

### Lecture Quiz #1 – Introduction & Some Chemistry

Put your name and your lab day and time (T-AM, T-PM or Th)

1. A(n) \_\_\_\_\_ has characteristics that result from the organization of its \_\_\_\_\_ components .  
a) population . . . ecosystem;                      b) tissue . . . organs;  
c) organism . . . organ system;                      d) cell . . . tissues; e) molecule . . . cells.
2. Which of the following represents the correct sequence of levels in life's hierarchy, proceeding downward from an individual animal?  
a) brain, spinal cord, organ system, nerve cell, nervous tissue;  
b) organ system, population of cells, nervous tissue;  
c) organism, cardiovascular system, cardiac tissue, myocardial cell;  
d) organism, intestinal cells, digestive system, pancreas;
3. Which of the following statements characterizes a **prokaryotic cell**?  
a) The presence of mitochondria.                      b) The lack of a membrane-enclosed nucleus.  
c) The presence of a nucleus with no DNA.                      d) Having a cell wall without a cell membrane.
4. Which of the following is an example of a negative feedback system?  
a) a bird's unique structure makes flight possible;  
b) mammals lowering blood glucose levels after a meal due to increased pancreatic secretions of insulin;  
c) plants use light energy to convert water and CO<sub>2</sub> to sugar and oxygen;  
d) the transfer of the universal genetic code that is shared by all organisms.
5. The atomic mass of an element represents the total number of:  
a) protons;      b) neutrons;      c) electrons;                      d) protons + neutrons;                      e) none of these
6. One **difference** between <sup>12</sup>C and <sup>14</sup>C is that <sup>14</sup>C has:  
a) 2 more protons than <sup>12</sup>C;                      b) 2 more electrons than <sup>12</sup>C;  
c) 2 more neutrons than <sup>12</sup>C;                      d) there is not such thing as <sup>14</sup>C
7. If you orally inhaled 100 mL of helium, then you will sound like Minnie Mouse. The statement above is an example of:  
a) a hypothesis;                      b) deductive reasoning;                      c) an observation;  
d) rationalization;                      e) hum...good question.
8. Which of the following is the prediction portion of the statement? (If you orally inhaled 100 mL of helium, then you will sound like Minnie Mouse)  
a) you will sound like Minnie Mouse;                      b) you orally inhaled 100 mL of helium;                      c) Minnie Mouse inhaled helium.
8. The ability of water molecules to form **hydrogen bonds** with other water molecules is critical to:  
a) evaporative cooling of the skin surface;  
b) the movement of water from the roots of a tree to its leaves;  
c) the milder temperature of coastal regions when compared to inland areas;  
d) the ability of certain insects to walk on the surface of water;  
e) all of the above.
9. In the equation,  $2 \text{H}_2 + \text{O}_2 \rightarrow 2 \text{H}_2\text{O}$ ,  
a) H<sub>2</sub>, O<sub>2</sub> and H<sub>2</sub>O are all compounds;                      b) H<sub>2</sub>, O<sub>2</sub> and H<sub>2</sub>O are all element;                      c) H<sub>2</sub>O is a compound;  
d) H<sub>2</sub> and O<sub>2</sub> are molecules;                      e) I think there's more than one correct answer
10. What is the role of a hypothesis in the scientific method?  
a) it is the answer to a scientific question  
b) it is the control variable in the experimental design  
c) it is a question that can be tested experimentally  
d) it is a possible explanation that can be tested experimentally