First and Ten (1-5)

Grade: "grade"
Subject: AP Review Ch. 1-5
Date: "date"

1. So, all in all, how were your first couple of days of school?
   A. Tolerable
   B. Wanted to go home and crawl under a rock
   C. You know, it wasn't that bad, glad to see my friends
   D. I think it is going to be a pretty good year

2. Which sequence represents the correct order of increasing complexity in living systems?
   A. cell, molecule, organ, tissue
   B. organ, tissue, cell molecule
   C. molecule, cell, tissue, organ
   D. cell, organ, tissue, molecule

3. The ultimate source of energy in any ecosystem is/are
   A. the green plants
   B. the sun
   C. fungi
   D. animals

4. What class are we?
   A. primata
   B. homo sapien
   C. animalia
   D. mammalia

5. What domain are we in?
   A. Eucarya
   B. Protista
   C. Archaea
   D. Primates
   E. Fungi

Can you name this math teacher? (Picture from a teacher gathering...)

May 07, 2011
6. Classification involves
   A. similarities
   B. evolutionary history
   C. Neither A or B
   D. Both A and B

7. Information collected during scientific inquiry is called
   A. interesting
   B. conclusions
   C. observations
   D. data

8. How many neutrons are found in Calcium?
   - 20
   - Ca
   - 40.08

9. How many electrons in calcium?
   - 20
   - Ca
   - 40.08

10. How many electrons in the first level?
    - 20
    - Ca
    - 40.08

11. How many electrons are in an atom of chlorine?
    - 17
    - Cl
    - 35.45
    - Round down to 35
12 How many neutrons in chlorine?

[Image: 17 Cl 35.45] round down to 35

13 How many electrons in chlorine's second level?

[Image: 17 Cl 35.45] round down to 35

14 In the third level?

[Image: 17 Cl 35.45] round down to 35

15 How many more electrons would it like?

[Image: 17 Cl 35.45] round down to 35

16 Atoms of an element that have the same number or protons but different numbers of neutrons are ___, while molecules that share electrons is called ____ bonding

A ions, ionic
B ions, covalent
C isotopes, ionic
D isotopes, covalent

17 Ionic bonding involves

A loss of electrons
B gain of electrons
C attraction of opposite charges
D All of these are correct
18. Carbon can engage in 
   A. only ionic bonds  
   B. only covalent bonds with hydrogen  
   C. four covalent bonds  
   D. only bonds with oxygen

19. Which of these ions is important for acid-base balance? 
   A. K+  
   B. Na+  
   C. Cl-  
   D. H+

20. Which of these best describes the changes that occur when a solution goes from pH 5 to pH 8? 
   A. The hydrogen ion concentration decreases as the solution goes from acidic to basic.  
   B. The hydrogen ion concentration increases as the solution goes from basic to acidic.  
   C. The hydrogen ion concentration decreases as the solution goes from basic to acidic.

21. Carbon can engage in 
   A. only ionic bonds  
   B. only covalent bonds with hydrogen  
   C. four covalent bonds  
   D. only bonds with oxygen

22. Which organelle is the powerhouse of the cell? 
   A. nucleus  
   B. chloroplast  
   C. mitochondria  
   D. E.R.  
   E. golgi apparatus  
   F. cell wall  
   G. cell membrane  
   H. lysosome  
   I. vacuoles  
   J. ribosomes

23. Which organelle determines what goes in and out of the cell? 
   A. nucleus  
   B. chloroplast  
   C. mitochondria  
   D. E.R.  
   E. golgi apparatus  
   F. cell wall  
   G. cell membrane  
   H. lysosome  
   I. vacuoles  
   J. ribosomes
24 Which organelle processes, packages and distributes?
A nucleus
B chloroplast
C mitochondria
D E.R.
E golgi apparatus
F cell wall
G cell membrane
H lysosome
I vacuoles
J ribosomes

25 Which organelle is the stomach of the cell?
A nucleus
B chloroplast
C mitochondria
D E.R.
E golgi apparatus
F cell wall
G cell membrane
H lysosome
I vacuoles
J ribosomes

26 Which organelle supports, protects and is permeable to gases and water?
A nucleus
B chloroplast
C mitochondria
D E.R.
E golgi apparatus
F cell wall
G cell membrane
H lysosome
I vacuoles
J ribosomes

27 Which organelle is the control center of the cell?
A nucleus
B chloroplast
C mitochondria
D E.R.
E golgi apparatus
F cell wall
G cell membrane
H lysosome
I vacuoles
J ribosomes

28 Which organelle compartmentalizes the cell, it is called rough if it has ribosomes?
A nucleus
B chloroplast
C mitochondria
D E.R.
E golgi apparatus
F cell wall
G cell membrane
H lysosome
I vacuoles
J ribosomes

29 Which organelle converts light energy into carbohydrates?
A nucleus
B chloroplast
C mitochondria
D E.R.
E golgi apparatus
F cell wall
G cell membrane
H lysosome
I vacuoles
J ribosomes
<table>
<thead>
<tr>
<th>Question</th>
<th>Option A</th>
<th>Option B</th>
<th>Option C</th>
<th>Option D</th>
<th>Option E</th>
<th>Option F</th>
<th>Option G</th>
<th>Option H</th>
<th>Option I</th>
<th>Option J</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 Which organelle is the multipurpose organelle, stores, transports and support?</td>
<td>nucleus</td>
<td>chloroplast</td>
<td>mitochondria</td>
<td>E.R.</td>
<td>golgi apparatus</td>
<td>cell wall</td>
<td>cell membrane</td>
<td>lysosome</td>
<td>vacuoles</td>
<td>ribosomes</td>
</tr>
<tr>
<td>31 Which structure is the site of protein synthesis?</td>
<td>nucleus</td>
<td>chloroplast</td>
<td>mitochondria</td>
<td>E.R.</td>
<td>golgi apparatus</td>
<td>cell wall</td>
<td>cell membrane</td>
<td>lysosome</td>
<td>vacuoles</td>
<td>ribosomes</td>
</tr>
<tr>
<td>32 Carrier proteins are ____ in their action.</td>
<td>specific</td>
<td>not specific</td>
<td>involved in diffusion</td>
<td>none of the above</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>33 Cholesterol is found in the ___ of ___ cells.</td>
<td>cytoplasm, plant</td>
<td>plasma membrane, animal</td>
<td>plasma membrane, plant</td>
<td>None of these are correct</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34 When mixed together, water is a ___, and dye is a ___.</td>
<td>solute, solvent</td>
<td>solvent, solvent</td>
<td>solute, solute</td>
<td>solvent, solute</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>35 The hypotonic solution contains the most solutes.</td>
<td>True</td>
<td>False</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
36. When a cell is placed in a hypertonic solution,
   A. solute exits the cell to equalize the concentration on both sides of the plasma membrane.
   B. water exits the cell toward the area of higher solute concentration.
   C. water enters the cell toward the area of higher solute concentration.
   D. solute exits and water enters the cell.
   E. Both a and c are correct.

37. Which of these are methods of endocytosis?
   A. phagocytosis
   B. pinocytosis
   C. receptor-mediated
   D. All of these are correct.

38. Pumps used in active transport are made of
   A. sugars
   B. proteins
   C. lipids
   D. cholesterol

39. Pickles appear wrinkled and shriveled because they have been placed in a(n) ___ solution.
   A. hypertonic
   B. hypotonic
   C. isotonic
   D. basic

1. Consider this reaction: \( A + B \rightarrow C + D + \text{energy} \)
   A. This reaction is exergonic
   B. An enzyme could still speed up this reaction
   C. ATP is not needed to make the reaction go
   D. A and B are reactants; C and D are products
2. **The active site of an enzyme (MAP)**
   - A: is similar to that of any other enzyme
   - B: is the part of the enzyme where its substrate can fit
   - C: can be used over and over again
   - D: is not affected by environmental factors, such as pH and temperature

3. **If you want to increase the amount of product per unit time of an enzymatic reaction, do not increase (MAP):**
   - A: the amount of substrate
   - B: the amount of enzyme
   - C: the temperature somewhat
   - D: the pH

4. **An allosteric site on an enzyme is (MAP):**
   - A: the same as the active site
   - B: nonprotein in nature
   - C: where ATP attaches and gives up its energy
   - D: often involves feedback inhibition

5. **Oxidation (MAP):**
   - A: is the opposite of reduction
   - B: sometimes uses NAD+
   - C: is involved in cellular respiration
   - D: occurs when ATP goes to ADP + P

6. **The first part of photosynthesis requires...**
   - A: membranes
   - B: water
   - C: light
   - D: all of the above

7. **The primary pigment used in photosynthesis is chlorophyll.**
   - True
   - False
8 What color does the pigment chlorophyll NOT absorb?

A blue
B green
C red
D purple
E yellow
F violet

9 Carrots are orange because they "absorb" orange wavelengths of light.

True
False

10 The thylakoid membranes form green stacks (like pancakes) called grana within the chloroplast.

True
False

11 Which phases of photosynthesis form molecules of glucose?

A The Light Reaction
B The Dark Reaction: Calvin Cycle
C Both reactions
D Neither reaction

12 Substrate-level phosphorylation takes place in (MAP):

A glycolysis and the citric acid cycle
B the electron transport chain and the prep reaction
C glycolysis and the electron transport chain
D the citric acid cycle and the prep reaction

13 The greatest contributor of electrons to the electron transport chain is

A oxygen
B glycolysis
C the citric acid cycle
D the prep reaction
E fermentation
14 Which of these is not true of fermentation?
   A net gain of only 2 ATP
   B occurs in cytoplasm
   C NADH donates electrons to electron transport chain
   D begins with glucose
   E carried on by yeast

15 How many ATP molecules are usually produced per NADH?
   A 1
   B 3
   C 10
   D 36
   E 38

16 How many NADH molecules are produced during the complete breakdown of one molecule of glucose?
   A 5
   B 6
   C 10
   D 30
   E 38

17 Which are possible products of fermentation? (MAP)
   A lactic acid
   B glucose
   C alcohol
   D carbon dioxide
   E oxygen
   F acetyl CoA

18 The oxygen required by cellular respiration is reduced and becomes part of which molecule?
   A ATP
   B water
   C pyruvate
   D carbon dioxide
   E glucose

19 During what stage is the DNA replicated?
   A G1
   B G2
   C S
   D mitosis
   E cytokinesis
20. Name the stage where: chromosomes are in the middle
   A. anaphase
   B. cytokinesis
   C. Interphase: G1
   D. Interphase: G2
   E. Interphase: S
   F. metaphase
   G. prophase
   H. telophase

21. Name the stage where: proteins are being synthesized
   A. anaphase
   B. cytokinesis
   C. Interphase: G1
   D. Interphase: G2
   E. Interphase: S
   F. metaphase
   G. prophase
   H. telophase

22. Name the stage where: sister chromatids are separating
   A. anaphase
   B. cytokinesis
   C. Interphase: G1
   D. Interphase: G2
   E. Interphase: S
   F. metaphase
   G. prophase
   H. telophase

23. Name the stage where: division of the cytoplasm
   A. anaphase
   B. cytokinesis
   C. Interphase: G1
   D. Interphase: G2
   E. Interphase: S
   F. metaphase
   G. prophase
   H. telophase

24. Name the stage where: nuclear membrane breaks down
   A. anaphase
   B. cytokinesis
   C. Interphase: G1
   D. Interphase: G2
   E. Interphase: S
   F. metaphase
   G. prophase
   H. telophase

25. Name the stage where: organelles are formed
   A. anaphase
   B. cytokinesis
   C. Interphase: G1
   D. Interphase: G2
   E. Interphase: S
   F. metaphase
   G. prophase
   H. telophase
26 Name the stage where: DNA is replicated

A anaphase
B cytokinesis
C Interphase: G1
D Interphase: G2
E Interphase: S
F metaphase
G prophase
H telophase

27 Name the stage where: forming two cells, nuclear envelope reforming

A anaphase
B cytokinesis
C Interphase: G1
D Interphase: G2
E Interphase: S
F metaphase
G prophase
H telophase

28 By what process(s) will we “watch” him?

A mitosis
B meiosis
C both
D neither

29 By what process(s) is this object formed?

A mitosis
B meiosis
C both
D neither

30 Name the stage of meiosis where...sister chromatids separate

A prophase I
B prophase II
C metaphase I
D metaphase II
E anaphase I
F anaphase II
G telophase I
H telophase II

31 Name the stage of meiosis where...nuclear membrane rebuilds for the first time, two cells total

A prophase I
B prophase II
C metaphase I
D metaphase II
E anaphase I
F anaphase II
G telophase I
H telophase II
32. Name the stage of meiosis where crossing-over occurs
   A. prophase I
   B. prophase II
   C. metaphase I
   D. metaphase II
   E. anaphase I
   F. anaphase II
   G. telophase I
   H. telophase II

33. Name the stage of meiosis where four haploid cells are formed
   A. prophase I
   B. prophase II
   C. metaphase I
   D. metaphase II
   E. anaphase I
   F. anaphase II
   G. telophase I
   H. telophase II

34. Name the stage of meiosis where single chromosomes are being formed, nuclear envelope may be breaking down again
   A. prophase I
   B. prophase II
   C. metaphase I
   D. metaphase II
   E. anaphase I
   F. anaphase II
   G. telophase I
   H. telophase II

35. Name the stage of meiosis where homologous pairs are separating
   A. prophase I
   B. prophase II
   C. metaphase I
   D. metaphase II
   E. anaphase I
   F. anaphase II
   G. telophase I
   H. telophase II

36. Name the stage of meiosis where homologous pairs are in the middle
   A. prophase I
   B. prophase II
   C. metaphase I
   D. metaphase II
   E. anaphase I
   F. anaphase II
   G. telophase I
   H. telophase II

37. Name the stage of meiosis where single chromosomes are in the middle
   A. prophase I
   B. prophase II
   C. metaphase I
   D. metaphase II
   E. anaphase I
   F. anaphase II
   G. telophase I
   H. telophase II
Are you (MAP):

- glad that you just finished a massive review of the first ten chapters?
- aware that it is about 20% of the info?
- a little tired?
- ready to go home?
- proud of yourself?