

## Biology Clicker Questions

1. Which of the following is the common ancestor of birds and crocodiles?
  - a. Sauropods
  - b. Archeopteryx
  - c. Dinosaurs
  - d. Coelocanths
2. Are fish a monophyletic group?
  - a. Yes
  - b. No
3. Characters that have evolved independently in two separate groups are called?
  - a. Homologous characters
  - b. Analogous characters
  - c. Synapomorphies
  - d. Evolutionary innovations
4. Which molecular detail can be used to construct phylogenetic histories?
  - a. Individual nucleotides
  - b. RNA
  - c. Amino Acids
  - d. All of the Above
5. Our ancestors were fully bipedal by at least \_\_\_\_\_ million years as evidence by the Lucy skeleton.
  - a. 1.2
  - b. 2.4
  - c. 3.2
  - d. 4.4
6. Which of the following are thought to have contributed to the increase in brain size in humans?
  - a. Tool use
  - b. Social Living
  - c. Language
  - d. All of the above
7. When we compare levels of genetic variation in a contemporary African population to that of a contemporary non-African populations, we find there is
  - a. More variation in the African population
  - b. More variation in the non-African population
  - c. Equal variation in both populations
8. Why is there less genetic variation in the non-African populations?
  - a. Non-African populations represent founder events
  - b. Non-African populations have mutation rates
  - c. Non-African populations experience high rates of natural selection

## Ch. 25

1. The process of cellular respiration uses \_\_\_\_\_ and produces \_\_\_\_\_.
  - a. CO<sub>2</sub>;O<sub>2</sub>
  - b. O<sub>2</sub>;CO<sub>2</sub>
  - c. H<sub>2</sub>O;O<sub>2</sub>

2. The CO<sub>2</sub> level is \_\_\_\_\_ during winter in the northern hemisphere compared to levels in the summer.
  - a. **Higher**
  - b. The same
  - c. Lower
3. If plants consume CO<sub>2</sub> during photosynthesis, why hasn't all the atmospheric CO<sub>2</sub> been used up?
  - a. Photosynthesis also produces CO<sub>2</sub> as a product.
  - b. Respiration produces CO<sub>2</sub> as a product.
  - c. Photosynthesis and respiration use the other's products as reactants
  - d. **Both B and C**
  - e. All of the above
4. Based on the data presented is the statement "the increasing CO<sub>2</sub> content in the atmosphere is due to human activities" a correlation or is there causation?
  - a. **Correlation**
  - b. Causation
5. Which of the following things are made (in part) of carbon?
  - a. The shells of clams and other mollusks
  - b. The glucose/sugars in fruits
  - c. Limestone at the bottom of the sea
  - d. **All of the above**
  - e. None of the above
6. Which of the following process would increase atmospheric CO<sub>2</sub>.
  - a. Plate tectonics that result in formation of an ocean basin
  - b. Formation of limestone
  - c. **Volcanic eruption**
  - d. Biomineralization of selection formation

## Chapter 26

1. A scientist is comparing mRNA translation in a mouse cell and a bacterial cell. He notes that translation occurs much more quickly in the bacterial cell. Why?
  - a. The bacterial cell contains more ribosomes than the mouse cell.
  - b. The translation machinery in the mouse cell is very different from that in the bacterium.
  - c. **The lack of a definitive nucleus and nuclear membrane in the bacterium means that translation occurs faster.**
  - d. The bacterial genome contains more introns compared to that of the mouse
2. Which type of horizontal gene transfer used by bacteria involves viruses?
  - a. Conjugation
  - b. **Transduction**
  - c. Transformation
3. What limits the size of a cell?
  - a. The flexibility of the chromosomes
  - b. **The surface area to volume ratio**

- c. The number of organelles it contains
  - d. The number of ribosomes it contains
4. As part of aerobic respiration, O<sub>2</sub> is reduced and loses electrons, and glucose (C<sub>6</sub>H<sub>12</sub>O<sub>6</sub>) is oxidized and gains electrons
- a. True
  - b. **False**
5. Based on the energy and carbon sources of humans, how would humans be classified?
- a. As photoautotrophs
  - b. As photoheterotrophs
  - c. **As chemoheterotrophs**
  - d. As chemoautotrophs
6. The conversion of ammonia to nitrate is called\_\_\_\_\_.
- a. Nitrogen fixation
  - b. **Nitrification**
  - c. Anammox
  - d. Denitrification
7. Which of the following is found in both prokaryotic cells and eukaryotic cells?
- a. Nucleus
  - b. Chloroplasts
  - c. **Ribosomes**
  - d. Cell wall made of peptidoglycan
8. Which of the following statements about meiosis and mitosis is true?
- a. **Meiosis produces cells that are haploid.**
  - b. Mitosis produces cells that are haploid.
  - c. Meiosis produces cells that are diploid
  - d. Meiosis and mitosis do not describe types of cell division.
9. Which group of protists have calcium carbonate skeletons?
- a. Green algae
  - b. Opisthokonts
  - c. Microsporidia
  - d. **Red algae**
10. Which of the following groups contains the most ancestral chloroplasts?
- a. Green algae
  - b. Red algae
  - c. **Glaucoistophytes**
  - d. Streptophytes
11. Which of the following statements does **NOT** apply to simple multicellular eukaryotes?
- a. Cells adhere to one another
  - b. **Cells communicate extensively with one another**
  - c. Most cells are capable of a wide range of functions
  - d. The loss of one or more cells does not lead to death of the organism.
12. Water transport in xylem depends on
- a. Turgor pressure accumulating in the roots
  - b. Osmosis across the vessel plasma membranes