

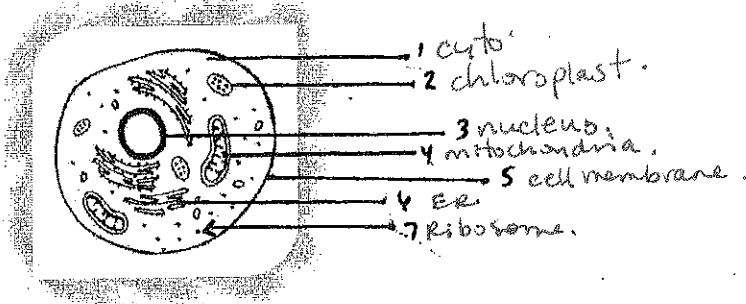
Review Guide for Test: Review of Biology 1

1. List the hierarchy of life. Starting with an atom.

atom, molecule, organelle, cell, organism, population, community, ecosystem, biome, biosphere, \_\_\_\_\_, \_\_\_\_\_.

*tissue, organ system*

2. Identify the following organelles and write the function of each organelle.



3. List 5 of the characteristics of life.

- a. homeostasis
- b. evolve
- c. Respond
- d. cells made up of
- e. needs energy

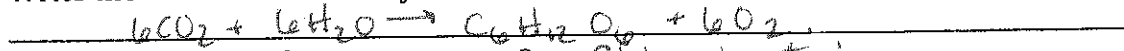
4. The cell membrane is made up of 2 layers of phospholipids. The phospholipid is made up of a polar heads, these are water loving, and a non-polar tail, that repels water.

5. The cell membranes allows some things like gases and water to move freely as needed but keeps most large items out of the cell until needed.

6. Where does crossing over occur? Prophase I

7. Ecology is the study of HOW living things live TOGETHER.

8. Write the formula for Photosynthesis.

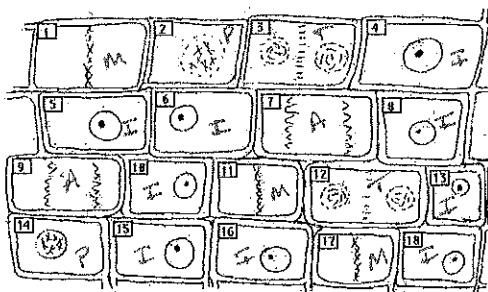


a. Where does this process occur? Chloroplast

9. If you were looking at 2 cells. What would you be looking for to see if one of them was a eukaryotic cell? nucleus.

10. What are some differences between Passive and Active transport? Passive - Energy, low to high.

11. Using the image of the onion root cells, can you identify the cell that is in Interphase, Prophase, metaphase, anaphase, and telophase.

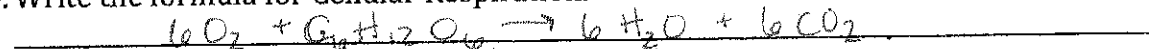


I  
P  
M  
A  
T

12. Mitosis is the production of two daughter cells that are (genetically identical, genetically different). Meiosis is the production of two cells that are (genetically identical, genetically different)

13. In a human, a diploid has 46 chromosomes and a haploid cell has 23.

14. Write the formula for Cellular Respiration.



a. Where does it occur? Mitochondria

b. What process occurs if there is not oxygen present? Fermentation

15. During which phase is a cell plate produced? cytokinesis.

16. DNA → RNA → Amino Acids → Proteins.

17. Elephants are normally hairy (HH, Hh). On a rare occasion you will come across an elephant that has very little hair (hh).

a. Genotype for heterozygous hairy elephant. \_\_\_\_\_

b. An elephant that is heterozygous for hair reproduces with an elephant that has very little hair. What are the phenotypic ratios of the offspring they could produce?

c. What does it mean if they are "carrying a gene of recessive trait"? hetero

18. Are all mutations bad? No.

19. What is the difference between meiosis and mitosis?

4 haploid → 2 daughter diploid

20. DNA is the cell's instruction for making proteins.

21. DNA is normally loose, but coils together to make chromosomes.

22. Replicate the following DNA strand: ATTGCCATA TAA CGG TAT.

23. Transcribe the following DNA strand: AGGCCTTATAG UCCGGAUAUC

24. When we are talking about evolution, if an organism can survive, they can rep. thus producing offspring.

25. A mutation is any change in the DNA sequence that changes the RNA, the amino acid, and the resulting protein.

26. What is recombinant DNA? differs

27. Hybrids, like a liger are often infertile because diff species.

28. Selective breeding can produce things like purebreds, fruits, and hybrids. (give any 3 example)

29. What is the difference between predation and competition?

pred diff species

30. List some examples of abiotic factors? soil, water, and temp.

a. Biotic? bugs, trees, and humans.

1 egg  
3 polar bodies

