Cell worksheet

Literature, Russian Literature

Cell Worksheet from Chaiken of Biology Cell wall cell membrane nucleus ribosome lysosome mitochondria cilia flagellum vacuoles chloroplasts 1. This organelle takes sunlight, water and carbon dioxide and can make organic food molecules and oxygen. Chloroplast 2. This organelle is constructed of cellulose and supports plant cells and prevents them from blowing up. Cellulos 3. This organelle contains enzymes for intracellular hydrolysis of food molecules. Lysosom 4. This organelle takes in food molecules and oxygen and can transfer the food energy to ATP batteries, which will eventually collision energy for chemical reactions. Products of these events are carbon dioxide and water. Mitocondria 5. These organelles are used for cell mobility. Flagella and Cilia 6. This organelle contains the genetic code to design all the cell's proteins. Nucleus 7. This organelle is a non-membrane. It is the location of amino acid dehydration synthesis. Ribosom 8a. This organelle model is described as fluid mosaic. It is composed of fluid lipids and mosaic proteins. What are two functions of mosaic proteins? Cell Membrane. Structure and Transportation. 8b. What terms implies that only certain molecules are chosen to go in and out of a cell? Permiable 8c. What kind of cells can make their own food and then eat it? Give an example. Plant Cells. Photosynthesis 8d. What kind of cells must get food to eat? Give an example. Animal cell and Fungus cell and Bacteria 8e. What kind of cells do not have any internal membrane? Give an example. Bacteria. Use as many terms as you need. Diffusion active transport osmosis uphill spontaneous Not spontaneous pump passive transport downhill 9a. Going from 80% water to 60% water. 9b. Going from a high concentration to a low concentration. 9c. Going from a high to low gradient. 9d. Going from crowded to less crowded.

10a. Going from 33% sodium to 76% sodium. 10b. Going from low concentration to high concentration. 10c. Going from a low gradient to a high gradient. 10d. Going from less crowded to more crowded. 11. My field of vision is 739 mm, under 700 power. If I change to 400 power, what is my field of vision in micrometers? Show your math work and all units. 12. Complete the chart to summarize plant cell, animal cell and virus similarities and differences. Use terms and/or diagrams and/or short phrases. | Plant | Animal | Virus | | Chloroplast | Mitocondria | DNA | | Mitocondria | DNA | | | DNA | Ribosome | | | Ribosome | | | | | | | | | | | | | | | | 13. If the total magnification of a microscope is 430X and that of the eyepiece is 10X, the magnification of the high power objective is ___________________. 14. The amount of light reaching the objective lens of a compound microscope is regulated by the ___________________. 15. For a specimen to be in focus under high power, the objective lens is closer or further from the specimen than under low power? 16. The network of transport membrane tubes in the region of the cytoplasm is called the ___________________. 17. A membrane that permits certain substances, but not others, to pass through is said to be ___________________. 18. The synthesis of proteins in the cell occurs at the ___________________. 19. The organelles that are known as the “ powerhouses of the cells" are the ___________________. 20. Paramecium, a unicellular protest, moves by means of its ___________________. 21. Digestion in the amoeba, a unicellular protest, takes place in ___________________. 22. The cell wall is composed mainly of ___________________. Is it permeable or selectively permeable? 23. 340 microns is equivalent to _________________ millimeters. 24. The sum total of all life processes is called _________________. 25. The

energy present in food molecules is released by the life process of _____. 26. If I want to look at a pencil, which microscope has the proper source of light? A) the compound microscope with its transmitted light or B) the stereomicroscope with its reflected light 27. If I want to look at a pencil, which microscope will have the best working distance? a) stereomicroscope at 20X b) stereomicroscope at 40X c) compound microscope at 100X d) compound microscope at 400X 28. An enzyme protein has just been secreted from a cell by exocytosis. Which describes the correct pathway? a) DNA, ribosome, endoplasmic reticulum, vesicle, golgi, vesicle. b) Vesicle, golgi, vesicle, endoplasmic reticulum, ribosome, DNA. c) Endoplasmic reticulum, vesicle, golgi, vesicle, DNA, ribosome. d) endoplasmic reticulum, vesicle, golgi, vesicle ribosome, DNA. 29. I am looking at a cell. When I go from 400X to 100X, I see… a) more of the cell b) less of the cell c) about the same 30. The circle indicates the position of the letter X as seen in the field of your microscope. To get the letter X in the center of the field you would move the slide a) to the left and up b) to the left and down c) to the right and up d) to the right and down 31. If the length of a paramecium measures about one-fourth of the distance across the microscopic field, and if the diameter of the field measures 1600µ, the length of the paramecium is about a) 400µ b) 0. 4µ c) 0. 016µ d) 4000µ 32. An object measures 16 mm in length. Its length can be expressed as a) 16 microns b) 160 microns c) 1600 microns d) 16, 000 microns Base your answers to questions 33 through 37 on the sketch of a cell below. [pic] (ignore structure 5, it is a nucleolus, which is trivia information for us) 33. Which structure is probably a major pathway in intracellular transport? a) 5

b) 6 c) 3 d) 7 34. Which structure is composed primarily of lipid and protein? a) 1 b) 6 c) 7 d) 4 35. Which structure is primarily concerned with the release of energy from nutrients? a) 5 b) 2 c) 3 d) 4 36. Which structure serves as the major site of protein synthesis? a) 1 b) 2 c) 3 d) 7 37. Which cell structure is composed of DNA? a) 1 b) 6 c) 7 d) 4 38. The cell theory states all of the following except a) cells have definite boundaries b) cells are units of structure c) cells arise from living cells d) cells are units of function 39. We can control the light entering the objective of the microscope by means of a) mirror and ocular b) ocular and coarse adjustment knob c) mirror and coarse adjustment knob d) mirror and diaphragm 40. Define the location of the cytoplasm 41. Define the location of the nucleoplasm 42. Define the location of the protoplasm The diagrams below are all of eukaryotic cells. Use the different cell diagram models to get use to the different way people may represent the cells. Yes, you should be able to identify all the “ know" organelle vocabulary on these cells. [pic]