Biology 2 Essay, Research Paper

BIOLOGY 2 1. ORAGANELLES2. TYPES OF CELLS3. OSMOSIS/ DIFFUSION4. CELL THEORY 1. ORGANELLES• small structures embedded in the cytoplasm• e.g. plastids, vacuoles, mitochondria, lysosomes, centrosomes, endoplasmic reticulum (e.r.) 2. TYPES OF CELLS A. Prokaryotic Cells • 3.5 billion yrs old• 1st organisms to exist in the biosphere a. Kingdom Eubacteria• pathogenic (disease- causing organisms)• unicellular• photosynthetic, chemosynthetic• anaerobic b. Kingdom Archaea• Can be found in ocean vents, human intestine• Not Photosynthetic, therefore heterotrophic (dependent on other organisms for food)• Anaerobic B. Eukaryotic Cells ORGANELLE FUNCTION1. Endoplasmic reticulum (ER) – connects the nuclear membrane and cell membrane at several points2. Plastid – holds pigments3. Lysosomes – contains enzymes that promote the breakdown of organic compounds4. Microfilaments – cause cytoplasms to moveORGANELLES FUNCTION5. mitochondrion – center of respiration cells; release energy that supports cell activity

6. Centrioles – functions in cell reproduction; not found in plant cells7. Golgi Bodies/ Apparatus – rich in fatty materials; make up cell glands8. Ribosomes – rich in DNA molecules; sites where protein molecules are built 3. OSMOSIS/ DIFFUSION Osmosis- Diffusion of water molecules in a semi-permeable membraneDiffusion- the movement of molecules from a greater concentration to a lesser concentration EXPERIMENT:1. Osmosis – petri dish A : potato with water- petri dish B : potato with salt solution MASS DISH A (water) DISH B (salt water)Before 15.3 g 18.3 gAfter 15.5 g 17.1 gGained/lost mass gained lostMovement of water molecules Inward movement Outward movement 2. Diffusion- 50 mL beaker half-full of water (solvent: dissolving agent)- 2 drops of Potassium Permanganate (solute: substance being dissolved)- observe movement of molecules as they mix \*\*\*potassium permanganate mixed in a swirling, spiral motion it turned pinkish-purple and after a while, you could not distinguish solute from solvent (even distribution of molecules) 4. CELL THEORY1. All living things are made up of cells2. All cells come from pre-existing cells3. Cells are the fundamental unit of all living things