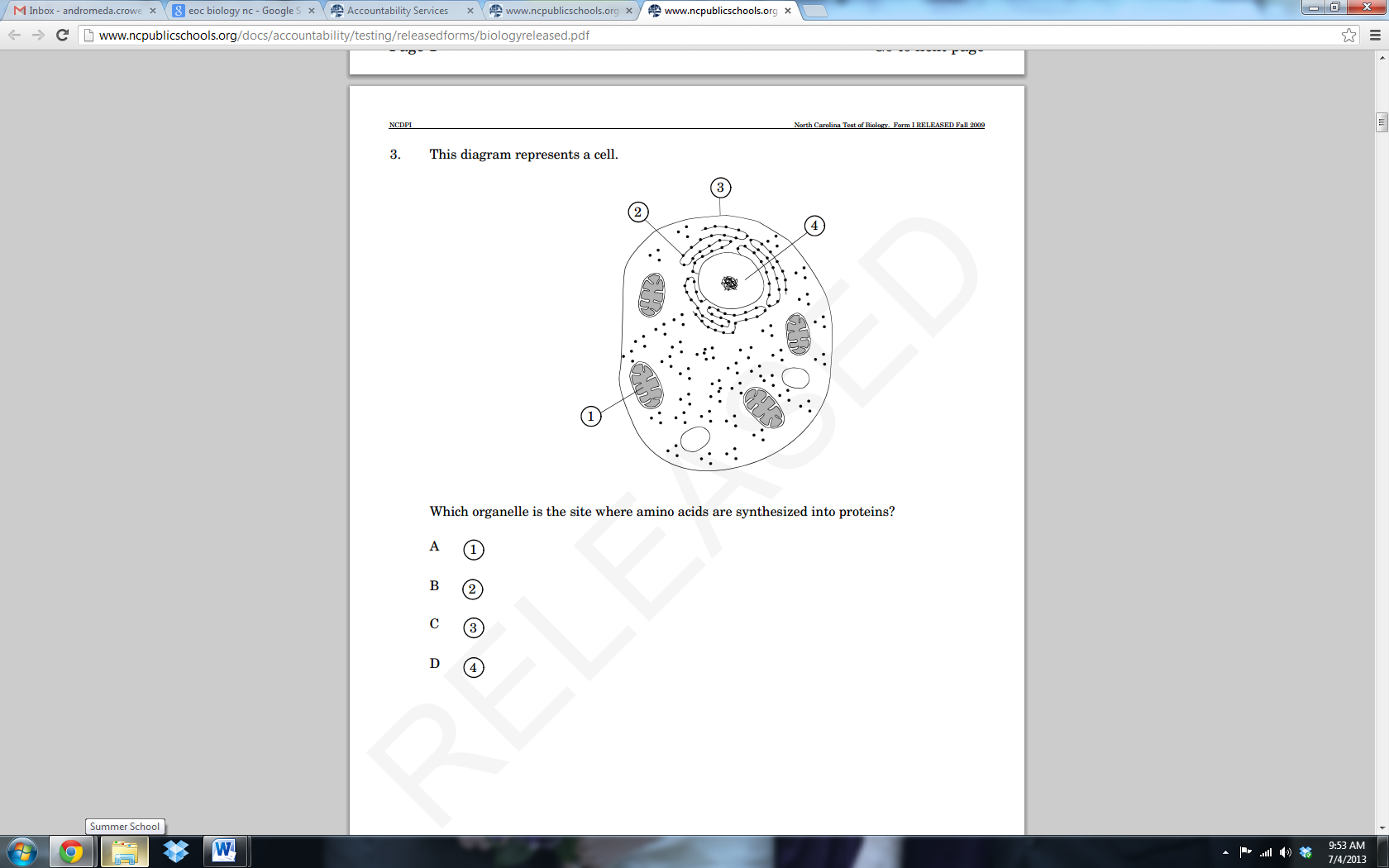
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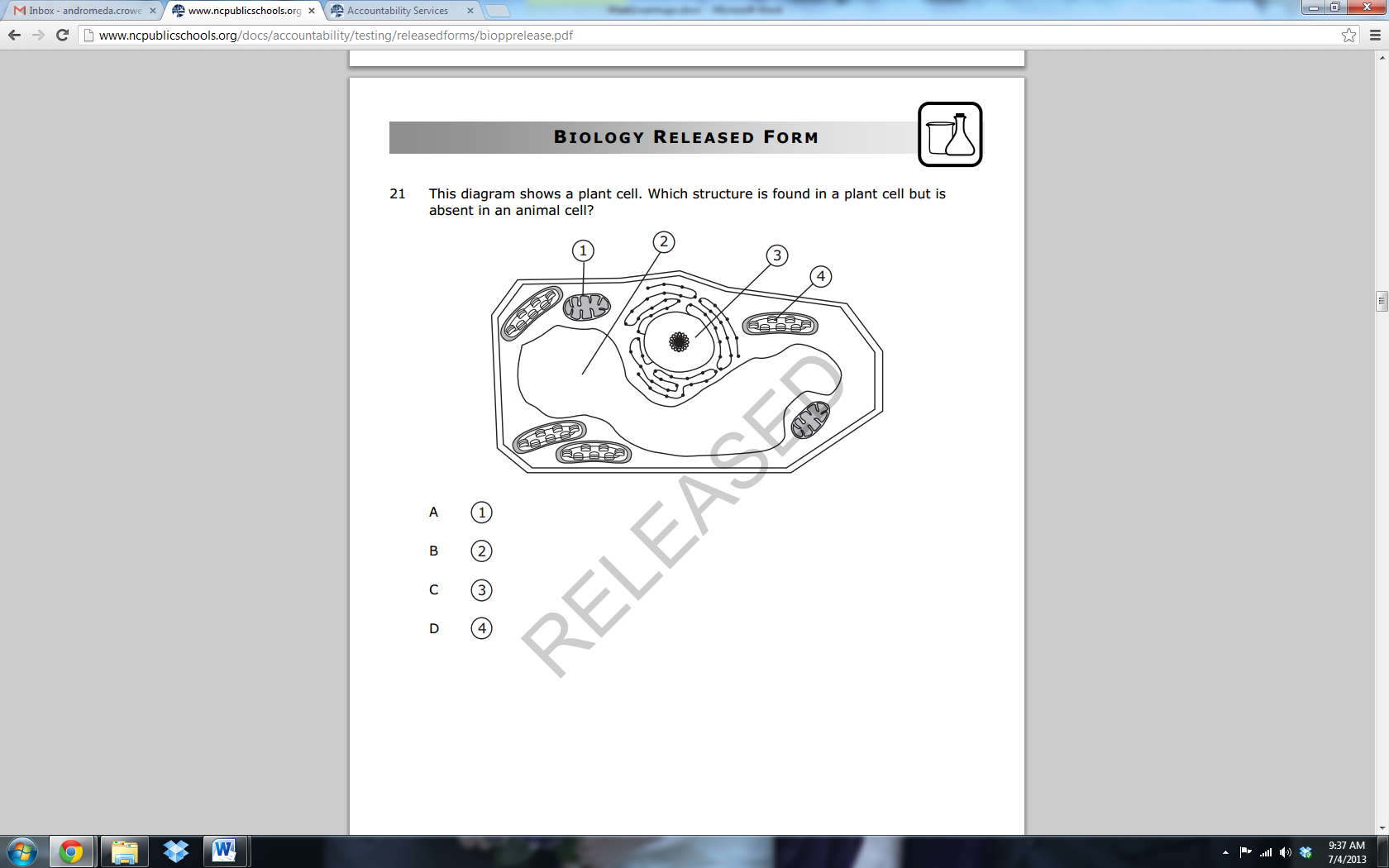
**Review Sheet: Cells**

Part I: Write the name of the organelle beside the description of its function.

1. “control room”, houses the DNA and controls the cell \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Jelly-like substance the organelles “float” around in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. “security fence”, supports the cell (plant cells only) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. “warehouse”, stores waste, water, and cellular materials \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Controls the movement of materials into and out of the cell \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Contains the nucleus and controls transport into/out of nucleus \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. “blueprints”, Contains the hereditary information and instructions for protein synthesis \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. “rooftop garden”, gathers solar energy to make food (sugars), only in plants \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. “packaging facility”, transports proteins out of the cell \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
10. “assembly line workers”, make proteins \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
11. “generator”, takes food and converts it into energy the cell can use \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
12. “Assembly line”, moves cellular products through the cell \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Part II: General Cell Questions

1. Are all cells the same? Provide an example to support your answer.
2. How do cells become specialized?
3. Do all cells in the same organism have the same DNA?
4. Name three ways that plant and animal cells are different and three ways they are similar.
5. Name three ways that prokaryotic and eukaryotic cells are different and three ways they are similar.
6. Give an example of a prokaryote and a eukaryote.
7. List these terms from the simplest to the most complex organization: organism, organ, tissue, cell, organ system.
8. Label the following cell diagrams:

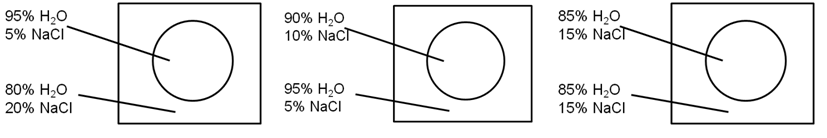


Part III: Cell Membranes

1. What macromolecules compose the cell membrane?
2. Which macromolecule composes the bilayer? Give an example.
3. Which macromolecule assists in transport of molecules? Give an example.
4. Which macromolecule assists in cell-cell recognition? Give an example.
5. What does hydrophobic mean? Hydrophilic?
6. Draw a picture of a phospholipid and label the hydrophobic and hydrophilic sides.

Part IV: Cell Transport

1. What factors can make diffusion go faster?
2. Why would osmosis and diffusion be known as “passive” transport?
3. What is the direction molecules move for active transport? (with or against the concentration gradient?)
4. What is the direction molecules move for passive transport (osmosis and diffusion)?
5. How is osmosis a special case of diffusion?
6. What would happen to a human blood cell placed in pure (distilled) water? Placed in salt water?
7. Although animal cells burst in hypotonic situations, plant cells don’t. What do they have that prevents bursting?
8. Why is it good that the cell membrane is semi-permeable?
9. If a substance must travel against its concentration gradient, what method of transport is likely going to be used?
10. What types of substances use endo/exocytosis?
11. Draw arrows on these diagrams to show the direction of water movement. Label each as isotonic, hypertonic, or hypotonic.



Part V: Vocabulary List (define any words you don’t know!)

|  |  |  |
| --- | --- | --- |
| 1. Diffusion 2. Solute 3. Passive Transport 4. Active transport 5. Homeostasis 6. Concentration Gradient 7. DNA 8. Cell 9. Protein 10. Nucleic Acid 11. Eukaryote | 1. Osmosis 2. Hypertonic 3. Hypotonic 4. Isotonic 5. Endocytosis 6. Exocytosis 7. Semi-permeable 8. Cell Membrane 9. Cell Wall 10. Amino Acid 11. Cell Theory 12. Robert Hooke | 1. Nucleus 2. Mitochondria 3. Chloroplast 4. Ribosome 5. ER 6. Golgi Body 7. Vacuole 8. Lysosome 9. Plant 10. Animal 11. Prokaryote 12. FREE SPACE |