

Biochemistry Test Outline (Life Sciences 11)

SUMMARY:

1. **Not tested:** biological levels of organization
2. What does polarity mean? What are the consequences of the fact that water is polar?
3. What are 3 other reasons why water is essential to living things?
4. What is diffusion? What direction will a molecule diffuse?
5. Define and draw an image demonstrating a membrane that is: permeable, impermeable, selectively permeable.
6. Compare and contrast diffusion with osmosis.
7. Explain the meaning of the words: isotonic, hypertonic, hypotonic. Draw diagrams to show your understanding of these words.
8. How will an animal cell behave in an isotonic, hypertonic, or hypotonic solution? Compare this with the behaviour of a plant cell.
9. Compare and contrast passive transport with active transport. What are 3 ways a cell will engage in passive transport (hint: look at the summary slide)? How does a cell engage in active transport?
10. Give examples of proteins involved in passive transport and active transport. Include their names and a brief description of what these proteins do.

STRUCTURE OF TEST:

100% multiple choice, most likely approximately 35 questions

VOCABULARY:

(Disclaimer: This is not meant to be an exhaustive list. Vocabulary words may appear on the test that are not in this list.)

- Polar
 - o Charge
 - o Negative
 - o Positive
 - o Electron
- Hydrogen bond
- Universal solvent
- Cohesion
- Adhesion
- Capillary action

- Surface tension
 - o Surface area
- Chemical reactions (be familiar with examples)
- Density
- Heat capacity
- Solution
 - o Solute
 - o Solvent
- Concentration
 - o High concentration
 - o Low concentration
 - o Concentrated
 - o Dilute
 - o Concentration gradient
- Permeability
 - o Permeable
 - o Impermeable
 - o Selectively permeable (semipermeable)
- Osmosis
 - o Isotonic
 - o Hypertonic
 - o Hypotonic
- Cell structures:
 - o Cell membrane
 - o Cytoplasm
 - o Cell wall
 - o Vacuole
- Plant cell
- Animal cell
- Passive transport
 - o Diffusion
 - o Facilitated diffusion
- Active transport
- Transport protein
 - o Carrier protein
 - GLUT1
 - o Channel protein
 - Aquaporin
 - o Pump (also known as “protein pump”)
 - Proton pump
 - Sodium-potassium pump

VOCABULARY NOT TESTED

- Shriveled, normal, lysed, plasmolysed, flaccid, turgid, turgor pressure

PRIMARY STUDY MATERIAL:

- Biochemistry Powerpoint + sources listed on powerpoint (especially crash course video)
- In-class notes
- Textbook section 5-4 (pg 99-104)