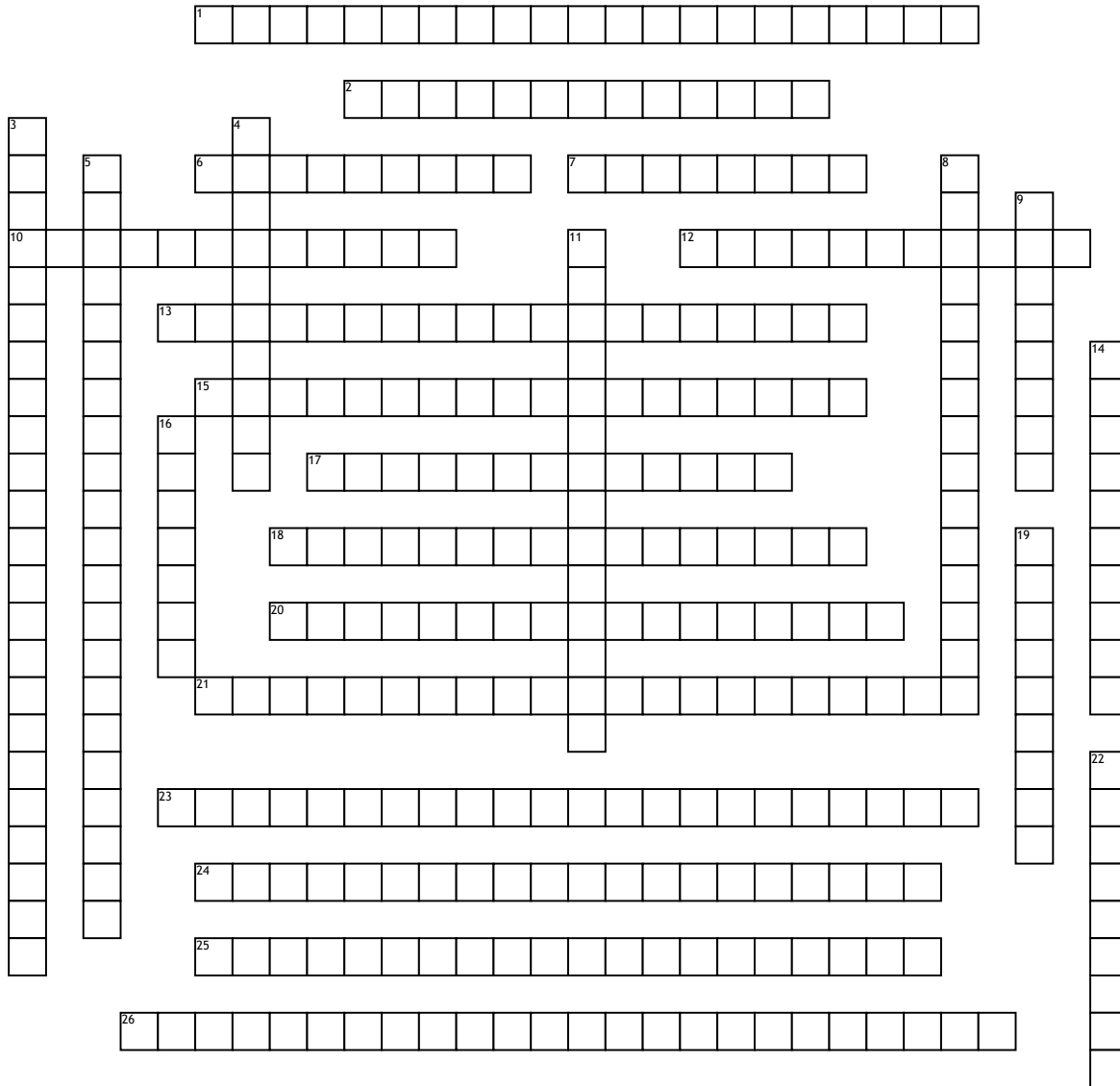


Name: _____

Date: _____

Membrane Transport



Across

1. cytoskeletal component, composed of several intertwined strands of fibrous protein, that bears tension, supports cell-cell junctions, and anchors cells to extracellular structures
2. a watertight seal between two adjacent animal cells
6. the extracellular fluid has lower osmolarity than the fluid inside the cell, and water enters the cell or the extracellular fluid has a higher concentration of water in the solution than does the cell. In this situation, water will follow its concentration gradient and enter the cell.
7. the extracellular fluid has the same osmolarity as the cell. If the osmolarity of the cell matches that of the extracellular fluid, there will be no net movement of water into or out of the cell
10. network of protein fibers that collectively maintain the shape of the cell, secure some organelles in specific positions, allow cytoplasm and vesicles to move within the cell, and enable unicellular organisms to move independently
12. channels between adjacent cells that allow for the transport of ions, nutrients, and other substances that enable cells to communicate
13. material (primarily collagen, glycoproteins, and proteoglycans) secreted from animal cells that provides mechanical protection and anchoring for the cells in the tissue
15. group of organelles and membranes in eukaryotic cells that work together modifying, packaging, and transporting lipids and proteins

17. narrowest element of the cytoskeleton system; it provides rigidity and shape to the cell and enables cellular movements

18. a naturally occurring phenomenon and does not require the cell to exert any of its energy to accomplish the movement. substances move from an area of higher concentration to an area of lower concentration.

20. The integral proteins involved in facilitated transport. They function as either channels for the material or carriers

21. area of high concentration adjacent to an area of low concentration

23. moves ions across a membrane and creates a difference in charge across that membrane, which is directly dependent on ATP.

24. allow some substances to pass through, but not others

25. materials diffuse across the plasma membrane with the help of membrane proteins. A concentration gradient exists that would allow these materials to diffuse into the cell without expending cellular energy

26. movement of material that is due to the electrochemical gradient established by primary active transport

Down

3. The combined gradient of concentration and electrical charge that affects an ion

4. the extracellular fluid having a higher osmolarity than the cell's cytoplasm; therefore, the fluid contains less water than the cell does. Because the cell has a relatively higher concentration of water, water will leave the cell.

5. Cells can also communicate with each other via direct contact

8. mechanisms require the use of the cell's energy, usually in the form of adenosine triphosphate (ATP). If a substance must move into the cell against its concentration gradient

9. Gap junctions develop when a set of six proteins (called connexins) in the plasma membrane arrange themselves in an elongated donut-like configuration called

11. hydrophilic domains exposed to the intracellular and extracellular fluids; they additionally have a hydrophilic channel through their core that provides a hydrated opening through the membrane layers

14. unicellular organism that lacks a nucleus or any other membrane-bound organelle

16. movement of water through a semipermeable membrane according to the concentration gradient of water across the membrane

19. forms a very strong spot weld between cells. It is created by the linkage of cadherins and intermediate filaments.

22. a passive process of transport. A single substance tends to move from an area of high concentration to an area of low concentration until the concentration is equal across a space