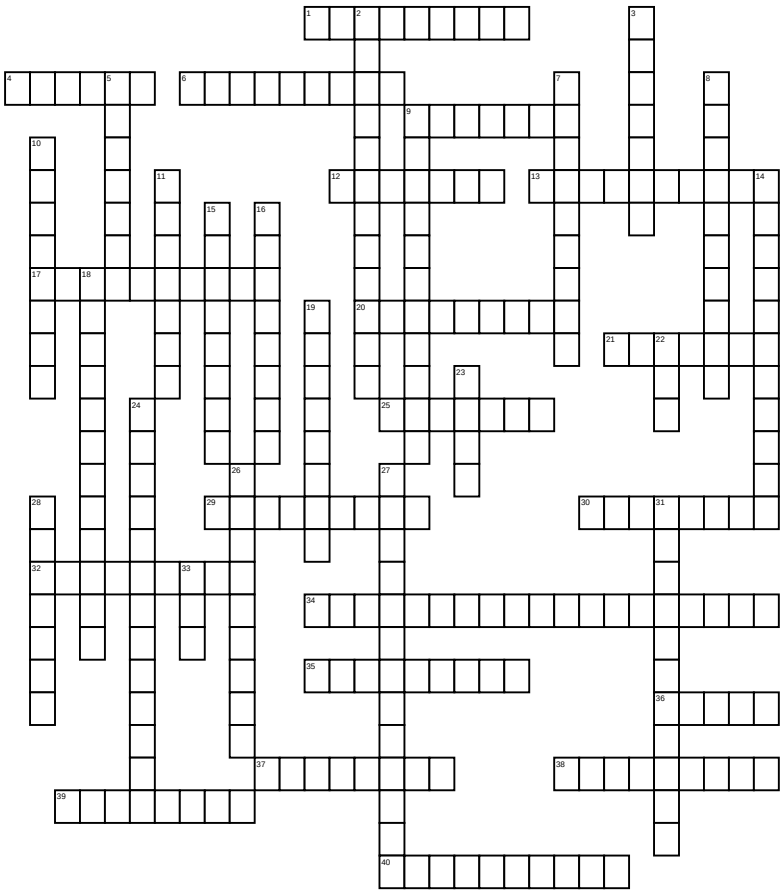

**ACROSS**

**1** A _____ solution has the lower osmotic pressure of two fluids. The term also describes a cell environment with a lower concentration of solutes than the cytoplasm of the cell.

**4** _____ transport is the mediated transport of biochemicals, and other atomic/molecular substances, across a membrane which specifically requires the expenditure of cellular energy to move molecules against a gradient.

**6** _____ is the sponteneous net movement of particles from an area of high concentration to an area of low concentration.

**9** _____ transport means moving biochemicals and other atomic or molecular substances across membranes in a process that does not require chemical energy.

**12** Sodium _____s are integral membrane proteins that conduct sodium ions through a cell's plasma membrane.

**13** A _____ is a chemical compound possessing both hydrophilic and hydrophobic properties.

**17** A _____ cell environment has a higher concentration of solutes than inside the animal or plant cell.

**20** Sodium/_____-ATPase is an enzyme located in the plasma membrane of virtually every human cell and is common to all cellular life. It helps maintain cell potential and regulate cellular volume.

**21** _____ active transport is directly coupled to ATP cleavage to transport molecules across a membrane.

**25** A lipid _____ is a membrane or zone of a membrane composed of lipid molecules two molecules thick, a structure which is a critical component of all biological membranes.

**29** In _____ active transport there is no direct coupling of ATP. Instead the energy derives from the electrochemical potential difference created by pumping ions out of the cell.

**30** _____ junctions are protein complexes that occur at cell-cell junctions in epithelial tissues. They are usually more basal than tight junctions.

**32** A second _____ system is a method of cellular signalling where the signalling molecule does not enter the cell but instead utilizes a cascade of events to transduce the signal into a change inside the cell.

**34** _____ is a phospholipid which is a major constituent of cell membranes. It is such a major component of lecithin that in some contexts the terms are used as synonyms.

**35** Membrane _____ is the electrical voltage across a plasmalemma.

**36** _____ junctions, or zonula occludens, are the closely associated areas of two cells whose membranes join together forming a virtual impermeable barrier to fluid.

**37** A _____ membrane protein is a protein molecule, or assembly of proteins, that is permanently attached to the biological membrane.

**38** _____ channels are the most common type of ion channel, forming pores selective for that ion spanning cell membranes.

**39** Transmembrane _____s are integral membrane proteins that bind to a signalling molecule or sometimes to a pair of such molecules on one side of the membrane and initiate a response on the other side.

**40** _____ is the process by which a cell directs secretory vesicles to the cell membrane and releases their contents.

**DOWN**

**2** _____s are a class of lipids, and a major component of all biological membranes, along with glycolipids, cholesterol and proteins.

**3** _____ pressure is the hydrostatic pressure produced by a solution in a space divided by a semipermeable membrane due to a differential in the concentrations of solute.

**5** _____-gated calcium channels are a group of ion channels found in excitable cells such as neurons, glial cells, muscle cells, etc.

**7** A _____, also known as macula adherens, is a cell structure specialized for cell-to-cell adhesion.

**8** _____ membrane proteins are proteins that adhere only temporarily to the biological membrane with which they are associated.

**9** _____ is a form of endocytosis in which small particles are brought into the cell suspended within small vesicles which subsequently fuse with lysosomes.

**10** _____ is a protein that is the major constituent of the 'coat' of the coated pits and coated vesicles formed during endocytosis of materials at the surface of cells.

**11** _____-gated potassium channels are transmembrane channels specific for potassium and sensitive to changes in the cell's membrane potential.

**14** _____ is a process whereby cells absorb material from the outside by engulfing it with their cell membrane.

**15** A cell _____ is one of a variety of types of structures consisting of protein complexes that provide contact between neighbouring cells, between a cell and the extracellular matrix, or participate in building up the paracellular barrier of epithelia.

**16** A _____ is a protein on the cell membrane, within the cytoplasm, or within the cell nucleus that binds to a specific ligand, such as a neurotransmitter, hormone, or other substance, and initiates a cellular response.

**18** _____ is the cellular process of engulfing solid particles by the cell membrane to form an internal phagosome, or food vacuole.

**19** The cell _____ is a semipermeable lipid bilayer found in all cells.

**22** _____ channels are pore-forming proteins that help to establish and control the small voltage gradient across the plasma membrane of all living cells.

**23** A cell _____ is a fairly rigid layer surrounding the cells of plants, bacteria, archaea, fungi, and algae, located external to the cell membrane, which provides the cell with structural support, protection, and acts as a filtering mechanism.

**24** A _____ membrane is a membrane which will allow certain molecules or ions to pass through it by diffusion and occasionally specialized facilitated diffusion.

**26** The _____ pathway is a series of steps a cell uses to move proteins out of the cell.

**27** A _____ protein is a protein that spans the entire biological membrane.

**28** _____ is the spontaneous net movement of water across a partially permeable membrane from a region of high solvent potential to an area of low solvent potential, up a solute concentration gradient.

**31** Receptor-mediated _____ is a process by which cells internalize molecules into a cell by the inward budding of plasma membrane vesicles which contain proteins with receptor sites specific to the molecules being internalized.

**33** A _____ junction or nexus is a junction between certain animal cell-types that allows different molecules and ions, mostly small intracellular signaling molecules, to pass freely between cells.