

Learning Target	Use as many of these vocabulary terms as possible
<p>Explain why the special properties of water make it essential for life, including:</p> <ul style="list-style-type: none"> • polarity, hydrogen bonding, cohesive and adhesive behavior, ability to moderate temperature, universal solvent behavior, and expansion upon freezing 	<ul style="list-style-type: none"> • Adhesion / Cohesion • Hydrogen bond Polar molecule Solute / Solvent • Specific heat
<p>Explain how the structure of an organelle is directly related to its function in the cell, for example:</p> <ul style="list-style-type: none"> • folding of the endoplasmic reticulum increases available surface area for protein packaging and transport. • total available energy within a cell is dependent upon the number of mitochondria present, i.e. muscle cells have many mitochondria 	<ul style="list-style-type: none"> • Barrier • Boundary • Membrane-bound • Organelle • Surface Area
<p>Explain why cells are limited in size in terms of nutrient and waste transport:</p>	<ul style="list-style-type: none"> • Active transport • Concentration gradient • Hypertonic • Hypotonic • Isotonic • Endocytosis • Exocytosis • Fluid • Mosaic • Model • Osmosis • Passive transport • facilitated diffusion • simple diffusion • Phospholipid • Selective permeability • Pinocytosis • Phagocytosis
<p>Explain how new cells are created through mitosis</p>	<ul style="list-style-type: none"> • Binary fission • Cancer • Cell cycle • Crossing over • Cytokinesis • Diploid • Gap 1 (G1) • Gap 2 (G2) • Haploid • Mitosis (M)

	<ul style="list-style-type: none"> • Reduction division • Somatic cell • Synthesis (S)
<p>Explain why there are similarities in the genetic code of different organisms.</p> <ul style="list-style-type: none"> • most organisms share a common ancestry and the process of inheritance carries traits from generation to generation 	<ul style="list-style-type: none"> • Anticodon • Base pairing rules • Chromosomes • Codon • DNA • Double helix • Gene expression • Genes • Genetic code • Genotype • Hydrogen bond • Messenger • RNA • Mutation • Insertion • Deletion • Point mutation • Frame-shift mutation • Silent mutation • Nucleotide • Phenotype • Protein synthesis • Replication • Ribosomal RNA • RNA • Transcription • Transfer RNA • Translation
<p>Explain how transcription and translation result in the expression of genes</p>	<ul style="list-style-type: none"> • Anticodon • Base pairing rules • Chromosomes • Codon • DNA • Double helix • Gene expression • Genes • Genetic code • Genotype • Hydrogen bond • Messenger • RNA • Mutation • Insertion

	<ul style="list-style-type: none">• Deletion• Point mutation• Frame-shift mutation• Silent mutation• Nucleotide• Phenotype• Protein synthesis• Replication• Ribosomal RNA• RNA• Transcription• Transfer RNA• Translation
<p>Explain how abiotic factors in an aquatic system affect biotic factors.</p> <ul style="list-style-type: none">• abiotic factors may include- depth, latitude, temperature, underwater topography (caves and corals), light, proximity to land, pH, oxygen, carbon dioxide, nitrogen, and phosphorous	<ul style="list-style-type: none">• Abiotic• Aquatic• Biotic• Community• Ecology• Ecosystem• Salinity• Topography