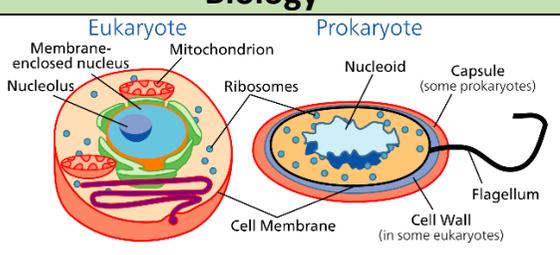
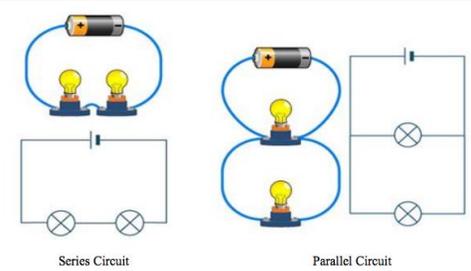


Biology		Chemistry	Physics
1	 <p>Eukaryote Membrane-enclosed nucleus Nucleolus Mitochondrion Ribosomes Cell Membrane</p> <p>Prokaryote Nucleoid Capsule (some prokaryotes) Flagellum Cell Wall (in some eukaryotes)</p>	<p>Metals form giant structures in which electrons in the outer shells of the metal atoms are free to move. The metallic bond is the force of attraction between these free-moving (delocalised) electrons and positive metal ions. Metallic bonds are strong, so metals can maintain a regular structure and usually have high melting and boiling points.</p>	 <p>Series Circuit</p> <p>Parallel Circuit</p>
2	<p>Diffusion is the movement of a substance from an area of high concentration to an area of low concentration. Diffusion happens in liquids and gases because their particles move randomly from place to place. Diffusion is an important process for living things; it is how substances move in and out of cells</p>	<p><u>Properties of metals</u>; High melting points, good conductors of electricity, good conductors of heat, high density, malleable, ductile.</p>	<p>$V = I \times R$</p> <p>Potential difference (V) = Current (A) x Resistance (Ω)</p>
3	<p>Osmosis is the diffusion of water molecules, from a region where the water molecules are in higher concentration, to a region where they are in lower concentration, through a partially permeable membrane.</p>	<p>Giant covalent substances have many atoms joined together by covalent bonds. Diamond, graphite and graphene are forms of carbon with different giant covalent structures.</p>	<p><u>Resistance</u> is a measure of the opposition to current flow in an electrical circuit. Resistance is measured in ohms, symbolized by the Greek letter omega (Ω). Ohmic conductors have a constant resistance</p>
4	<p>Active transport is the movement of dissolved molecules into or out of a cell through the cell membrane, from a region of lower concentration to a region of higher concentration. The particles move against the concentration gradient, using energy released during respiration.</p>	<p><u>Diamond</u> is a giant covalent structure in which: Each carbon atom is joined to four other carbon atoms by strong covalent bonds The carbon atoms form a regular tetrahedral network structure There are no free electrons</p>	<p><u>Static electricity</u> A build-up of static is caused by friction. Electrons are scraped off leaving materials electrically charged. When lots of static builds up in one place, it often ends with a spark or a shock as they finally move.</p>
5		<p><u>Graphite</u> has a giant covalent structure in which: Each carbon atom forms three covalent bonds with other carbon atoms The carbon atoms form layers of hexagonal rings There are no covalent bonds between the layers There is one non-bonded – or delocalised electron from each atom</p>	

Quiz Time

Week 1 Quiz

1. Describe the differences between Eukaryotic and Prokaryotic cells?
2. Draw and label a series circuit
3. Draw and label a parallel circuit
4. In which circuit is current always the same in the circuit?
5. Describe metallic bonding

Week 4 Quiz

1. Describe the term active transport
2. Describe the structure of Diamond
3. What particle moves due to friction in the build-up of static electricity
4. Draw and label 5 electrical symbols
5. Compare the differences between diffusion and active transport

Week 2 Quiz

1. Describe the term diffusion
2. Identify 3 properties of metals
3. What is the equation that links Potential Difference, Resistance and Current
4. Identify where diffusion takes place in the human body?
5. What happens to voltage in a parallel circuit?

Week 5 Quiz

Week 3 Quiz

1. Describe the term osmosis?
2. Describe the term diffusion?
3. Describe the term resistance?
4. What is the unit for resistance?
5. Describe the structure of graphite

Week 6 Quiz