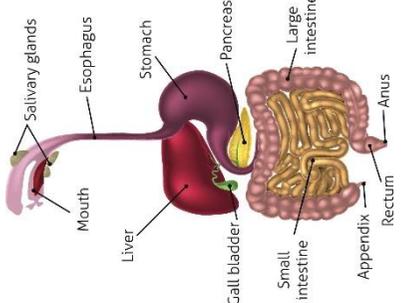




# Year 9 – Kemnal Keys



Biology	Chemistry	Physics
<p>1</p> 	<p><u>Covalent Bonding</u> When non-metal atoms bond together, they share electrons to make covalent bonds. Atoms only share electrons in their outer shell. Positively charged nuclei of bonded atoms are attracted to the shared pair of electrons by electrostatic forces, making covalent bonds very strong.</p>	<p>Speed and Velocity both measure how fast you're going, but speed is a scalar and velocity is a vector.</p> <p style="text-align: center;"><b><u>Speed = distance / time</u></b></p>
<p>2</p> <p><b>Food tests practical tests for nutrients in foods.</b></p> <p><b>Iodine</b> solution tests for <b>starch</b>. <b>Benedict's solution</b> tests for <b>reducing sugars</b> <b>Biuret's</b> tests for <b>protein</b>. <b>Ethanol</b> tests for <b>fats (lipids)</b></p>	<p><u>Properties of simple molecular substances</u> The atoms within the molecules are held together by very strong covalent bonds. By contrast, the forces of attraction between these molecules are very weak. Molecular compounds don't conduct electricity Most molecular substances are gases or liquids at room temperature Melting and boiling points are very low because of the weak intermolecular forces.</p>	<p><u>Acceleration is the rate of change of velocity.</u> Acceleration = Change in velocity / Time</p> <p>Deceleration is just negative acceleration.</p>
<p>3</p> <p><b>Enzymes</b> are catalysts produced by living things. A catalyst is a substance which increases the speed of a reaction, without being changed or used up in the reaction. Enzymes have an <u>active site</u>, with a unique shape that fits onto the substance involved in a reaction.</p>	<p><b>Monomer</b> – 'mono' means <b>one</b> and 'meros' means part <b>Polymer</b> – 'poly' means <b>many</b> and 'meros' means part We can use monomers to build a larger molecule, known as a polymer. This process is known as <u>polymerisation</u></p>	<p><b>Newtons 1<sup>st</sup> law:</b> If the resultant force on a stationary object is zero, the object will remain stationary. If the resultant force on a moving object is zero, it'll just carry on moving at the same velocity.</p>
<p>4</p> <p>Enzymes need <u>the right temperature</u>. Increasing the temperature increases the rate of reaction at first. But if it gets too hot, some of the bonds holding the enzyme together break, and the enzyme becomes <b>denatured</b>. <u>The pH affects</u> enzymes. If it is too low or too high, the active site changes shape and the enzyme becomes <b>denatured</b>.</p>	<p><u>Giant covalent structures</u> are macromolecules. All the atoms are bonded to each other by strong covalent bonds. They have very high melting and boiling points as lots of energy is needed to break the covalent bonds. They don't contain charged particles, so they don't conduct electricity.</p>	<p><b>Newtons 2<sup>nd</sup> law:</b> The acceleration of an object as produced by a net force is directly proportional to the magnitude of the net force, in the same direction as the net force, and inversely proportional to the mass of the object.</p> <p><b>Newtons 3<sup>rd</sup> law:</b> for every action (force) there is an equal and opposite reaction (force).</p>

# Quiz Time

## Week 1 Quiz

1. Identify 3 organs of the digestive system
2. Describe the role of the 3 digestive organs
3. Describe the term covalent bonding
4. Describe the difference between scalars and vectors
5. What is the equation for speed?

## Week 4 Quiz

1. Recall Newton's 2<sup>nd</sup> Law
2. Identify 2 properties of giant covalent structures
3. What 2 factors affect enzymes?
4. An enzyme doesn't die, it becomes d.....?
5. What is the equation for acceleration?

## Week 2 Quiz

1. Identify all the different food groups
2. Identify the 4 reagents used for the food test practical, and what they test for?
3. What is the equation for acceleration
4. Identify 2 properties of simple molecular substances
5. Lipids are another name for what food group?

## Week 5 Quiz

## Week 3 Quiz

1. What is an enzyme?
2. Identify the 3 enzymes used to break down Protein, Fats and Carbohydrates [from lessons]
3. Describe polymerisation
4. Recall Newton's First Law
5. Describe the journey down the digestive system

## Week 6 Quiz