



# Year 7 – Kemnal Keys



Biology		Chemistry	Physics
1	<p><b>Unicellular</b> organisms consist of <b>one</b> cell such as amoeba, paramecium, euglena, bacteria, and fungi (like yeast). Unicellular organisms can cause disease and <b>food spoilage</b> but some unicellular organisms can be useful.</p>	<p>Properties of metals All metals have the same characteristics: Ductile, malleable, sonorous, shiny, strong and conduct electricity and heat</p>	<p><b>Satellites</b> – There are 2 types. Artificial are made by humans. Natural are any object that are in orbit around a larger body such as our moon. <b>Comets</b> – Collection of ice, gas and dust. <b>Asteroids</b> – Collection of rocky leftovers, floating through space. <b>Star</b> – Ball of gas held together by gravity.</p>
2	<p><b>Transpiration</b> is the movement of water through plants in from roots, out through leaves. <b>A leaf</b> with a large surface area can catch more light energy for photosynthesis <b>Stems</b> transport water (via xylem), glucose and minerals (via phloem).</p>	<p>Properties of non-metals All non-metals have the same characteristics: Dull, poor conductors of heat and electricity. Most of them are unreactive gases at room temperature.</p>	<p><b>Our Solar System</b> – Consists of a central star (The Sun) and 8 Planets orbiting (including our Earth) The planets are in this order; Mercury (Closest to the Sun)→Venus→Earth→Mars→Jupiter→Saturn→Uranus→Neptune (<u>furthest from the sun</u>). All Planets stay in Orbit because of the Suns Gravitational pull.</p>
3	<p><b>Starch</b> is the form in which plants store excess sugar. More sunlight increases rate of photosynthesis so more starch is <b>stored</b> in the plant. Iodine is a test for the presence of starch in a leaf.</p>	<p><b>The Reactivity Series + displacement reactions</b> <b>Reactivity Series:</b> By comparing the order that metals displace one another we can place them in an order of most reactive to least reactive. <b>Displacement Reactions:</b> When a reactive metal reacts with a compound of a less reactive metal, the more reactive metal ‘pushes out’- displaces the less reactive metal.</p>	<p><b>Light Year</b> – Is a unit of measurement. Is the distance light travels in 1 year. (<math>9.46 \times 10^{15}</math> km). <b>Universe</b> - The universe is all of space and time and their contents, including planets, stars, galaxies, and all other forms of matter and energy <b>Galaxy</b> – All the planets and objects that are bound gravitationally to a central star. Our Galaxy is called the Milky Way. Our Solar System is within the Milky Way Galaxy.</p>
4	<p><b>Fertilisation</b> is the fusion of male and female gametes to form a zygote. Plants can reproduce sexually or asexually. <b>Pollen</b> contains the male sex cell. The ovule contains the female sex cell. Pollinators such as bees aid in sexual <b>reproduction</b> of plants. Seeds are dispersed by wind, water, animals and expulsion.</p>	<p><b>Oxidation Reaction:</b> Oxidation is the name given to a chemical reaction where oxygen is added to a substance. E.g.: Copper + Oxygen → Copper oxide <b>Rusting</b> is an example of an oxidation reaction, where the metal reacts and produces a metal oxide (normally referred to as rust).</p>	<p><b>Contact force</b> – force that needs to be directly applied through contact from one object to another eg: Tension, Air Resistance, Push/Pull <b>Non-Contact</b> – force that is applied to an object without physical contact eg: Gravity, Magnetic, Electrostatic. The measurement of force is Newtons (N).</p>
5	<p>A <b>quadrat</b> is a portable frame used to count organisms in a set area. Daisies can be counted using a quadrat. <b>Random</b> sampling uses a random number generator to work out where to place the quadrat. Systematic sampling can be carried out along a transect.</p>	<p>We can identify different gases by using specific tests: <b>Hydrogen</b> – squeaky pop sound near a lighted splint <b>Oxygen</b> – lights a glowing splint <b>Chlorine</b> – bleaches litmus paper</p>	<p>Gravity is a non-contact force. On Earth gravity is 9.81 N/kg <b>Mass</b> – Is the amount of ‘stuff’ in an object. Mass is measured in Kilograms (kg). Mass is the same everywhere in the universe. <b>Weight</b> – Weight is the force an object has due to its Mass and Gravity. Equation for Weight: Weight (N) = Mass (kg) x Gravitational Field Strength (N/kg).</p>

# Quiz Time

## Week 1 Quiz

1. List 3 characteristics of metals
2. Identify the 2 types of satellites
3. List 2 examples of unicellular organisms
4. What is the scientific definition of a star?
5. True or False, all unicellular organism cause disease?

## Week 4 Quiz

1. Describe oxidation
2. True or False, rusting is an example of oxidation?
3. Identify a contact force.
4. Identify a non-contact force.
5. Identify 4 ways seeds are dispersed.

## Week 2 Quiz

1. What is the movement of water through plants called?
2. List 2 properties of non-metals
3. The central star in our solar system is the .....?
4. Why does a large surface area help increase photosynthesis?
5. What force keeps the planets in orbit?

## Week 5 Quiz

1. In N/kg what is the measurement for Gravity on Earth?
2. Describe the word random.
3. What piece of equipment would you use to count organisms in a set area?
4. What sound would hydrogen make near a lighted splint?
5. Describe the difference between Mass and Weight.

## Week 3 Quiz

1. What substance do you use to test for starch in a leaf?
2. What unit of measurement do we use to measure distances in space?
3. Excess sugar is stored in plants as?
4. All of space and time is called?
5. Describe the reactivity series.

## Week 6 Quiz