

	Autumn Term	Spring Term	Summer Term
Component	1 - The Human body	3 - Elements, mixtures and compounds	5 - Energy, forces and the structure of matter
Key Knowledge	<ul style="list-style-type: none"> Understand that the human body is composed of structures called organs, which are organised into organ systems that carry out all of the key processes of life. Understand that these systems all require energy, which is contained in food and released in the cell by respiration. The organ systems are responsible for delivering food and oxygen to the cells and taking away waste. Understand that these key processes, including reproduction, are coordinated by the nervous system and a hormone system. A healthy body can be maintained by a balanced diet, exercise and a healthy lifestyle. Understand that health can be damaged by microbes, which can cause infectious diseases. The body can defend itself against most diseases but will sometimes need drugs in order to alleviate the symptoms and speed recovery. Understand that several hormones are involved in the menstrual cycle of a woman and the uses of hormones in fertility treatment. 	<ul style="list-style-type: none"> Understand that matter is composed of tiny particles called atoms and there are about 100 naturally occurring types of atoms called elements. Elements are shown in the periodic table and are either metals or non-metals. Atoms are the building blocks for all substances. Understand that when two or more elements combine chemically a compound is produced. Different substances have different combinations of atoms joined together in different ways, which gives them different properties, such as whether they are solid, liquid or gaseous at room temperature. Many materials we use are mixtures. Understand that mixtures can be separated by processes such as filtration. Understand that mixtures can be separated by processes such as filtration. Understand the properties of metals and alloys. Understand how polymers are formed and their uses. 	<ul style="list-style-type: none"> Understand that energy can be transferred usefully, stored or dissipated, but cannot be created or destroyed. Understand that forces are pushes or pulls, and if a force causes an object to move then work is done and energy is transferred. Understand that a braking force will cause an energy transfer that makes a vehicle slow down and heats the brakes. The braking distance of a vehicle depends on many different things, such as the speed of the vehicle. Understand that energy resources available to use may be divided into renewable and non-renewable. Understand that energy can also be released from atoms, which contain smaller particles such as neutrons and protons in the nucleus, because atoms can break down to emit particles or gamma rays
Vocabulary	Cell, cell membrane, cytoplasm, nucleus, genetic, tissues, organs, organ systems, enzymes, digestion, absorbed, pulse rate, respiration, pathogen, bacteria, virus, toxin, antibody, ingest, vaccination, drug, penicillin, additive, glands, hormones, menstrual cycle, fertility, contraceptive.	Atom, particle, element, boiling point, liquid, gas, conduct, metals, melting point, solid, shiny, malleable, ductile, non-metals, brittle, compound, mixture, equation, kinetic theory, chromatography, crystallisation, filtration, distillation, solvent, ore, alloy, corrosion, polymer, biodegradable, incineration, microorganism, recycling.	Energy, energy store, energy resource chemical energy, kinetic energy, elastic potential energy, thermal energy, nuclear energy, geothermal energy absorber, conductivity, dissipated, efficiency, emitter, lubrication, matt, shiny, radiation, thermostat, nuclear reactor, radioactive, renewable, non-renewable, turbine, alpha particle, beta particle, gamma ray, ionising radiation, nucleus,

<p>Links to Primary Curriculum</p>	<p>KS1 Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</p> <p>KS2 Identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p> <p>Describe the simple functions of the basic parts of the digestive system in humans.</p> <p>Identify the different types of teeth in humans and their simple function.</p> <p>Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.</p> <p>Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</p> <p>Describe the ways in which nutrients and water are transported within animals, including humans.</p>	<p>KS1 Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock, describe the simple physical properties of a variety of everyday materials, compare and group together a variety of everyday materials on the basis of their simple physical properties</p> <p>KS2 Compare and group materials together, according to whether they are solids, liquids or gases, observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens.</p>	<p>KS2 Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object identify the effects of air resistance, water resistance and friction, that act between moving surfaces recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect.</p>
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