Carmel College Curriculum Implementation – KS 3 Long term plan Subject SCIENCE

	Year 7	Year 8	Year 9
Autumn half term 1 Sequential knowledge and skills	**Think Like a Scientist:** Develop understanding of the nature, processes, and methods of science through different types of scientific enquiry that help to answer questions about the world. **Particle model:** solids, liquids & gases; properties; chocolate and changing state; modelling states; changing state; salol; diffusion. The "Particle Model" topic describes the properties of solids, liquids, and gases in terms of particle motion and arrangement. It explains how changes in temperature or state can be understood through particles gaining or losing energy. Key concepts include diffusion, gas pressure, density, and changes of state such as evaporation, boiling, condensation, melting, freezing, and sublimation. The unit uses particle diagrams to illustrate these processes and emphasises the importance of understanding particle behaviour to explain various physical phenomena. **Cells:** plant & animal cells; cell theory; how to use a microscope; making a microscope slide; biological drawing; specialised cells; unicellular organisms; multicellular organisms & differentiation; systems in the human body. The "Cells" section explains the structure and function of cells, highlighting differences between plant and animal cells. It covers how cells are organised into tissues, organs, and systems, and the importance of structural adaptations for specific functions. The unit also emphasises using microscopes to observe cells and the role of diffusion in cellular processes.	**Movement:** the skeleton; joints; muscle and wing dissection; muscle fatigue investigation; the stomach; getting stronger; injuries and recovery. The "Movement" unit explores how the skeletal and muscular systems work together to cause movement. It explains the functions of bones, joints, ligaments, tendons, and cartilage, and how antagonistic pairs of muscles create movement by contracting and relaxing. The syllabus highlights the importance of these systems for support, protection, and the production of new blood cells. It also includes practical activities to investigate these concepts, such as examining a chicken wing to understand muscle and bone interaction. **Light:** transparent, translucent & opaque materials; reflection; uses of reflection; the pinhole camera; refraction; uses of refraction; colour; lenses; the eye. The "Light" unit explains how light interacts with different materials and how it can be modelled using ray diagrams. Key concepts include reflection, refraction, absorption, and scattering. The programme covers how light rays form images in mirrors, how objects appear in different colours, and how lenses can be used to correct vision. It also includes practical activities to construct ray diagrams and understand the behaviour of light as it passes through lenses and transparent materials.	**Inheritance:** variation; DNA; genetic crosses; sex determination; DNA fingerprinting; blood groups; selective breeding; GM; dragon genetics investigation. The "Inheritance" unit explores how inherited characteristics are passed from parents to offspring through genetic information in the form of DNA. Key concepts include genes, chromosomes, and gametes. The programme explains how gametes combine during fertilisation, carrying half the total number of chromosomes from each parent. It also covers how mutations in DNA can affect an organism and its future offspring. Practical activities include using diagrams to show the relationship between DNA, chromosomes, and genes, and modelling the inheritance of specific traits to explore variation in offspring. **Elements:** symbols for elements; elements; identifying & naming compounds; magnesium & oxygen; information from formulae; polymers; making potato polymers investigation; elements, molecules & compounds. The "Elements" unit explains that most substances are not pure elements but compounds or mixtures containing atoms of different elements. It covers the properties of elements and how they differ from the properties of compounds formed from them. Key concepts include atoms, molecules, and chemical formulae. The programme includes practical activities such as using particle diagrams to classify substances as elements, mixtures, or compounds, and naming simple compounds using specific rules. It also highlights the importance of understanding chemical reactions to identify unknown substances and predict their behaviour.
Assessment Content and methods used to judge learning	**Autumn Summative Assessment** Think Like a Scientist + The Particle Model	**Autumn Summative Assessment** Light + Movement	**Autumn Summative Assessment** Inheritance + Elements

	Formative Assessment Key Homework tasks, teacher feedback, online diagnostic assessments, student and peer marking, Learn It Link It.	**Formative Assessment** Key Homework tasks, teacher feedback, online diagnostic assessments, student and peer marking, Learn It Link It.	**Formative Assessment** Key Homework tasks, teacher feedback, online diagnostic assessments, student and peer marking, Learn It Link It.
Autumn half term 2 Sequential knowledge and skills	**Cells:** plant & animal cells; cell theory; how to use a microscope; making a microscope slide; biological drawing; specialised cells; unicellular organisms; multicellular organisms & differentiation; systems in the human body. The "Cells" section explains the structure and function of cells, highlighting differences between plant and animal cells. It covers how cells are organised into tissues, organs, and systems, and the importance of structural adaptations for specific functions. The syllabus also emphasises using microscopes to observe cells and the role of diffusion in cellular processes. **Voltage and Current:** drawing circuits; problems with circuits; fruit batteries; battery timeline; series circuits; parallel circuits; modelling electricity; static electricity. The "Voltage and Current" unit explains that current is a movement of electrons and is the same everywhere in a series circuit. In a parallel circuit, current divides between loops and combines when loops meet. Around a charged object, the electric field affects other charged objects, causing them to be attracted or repelled. Practical activities include describing how current changes in series and parallel circuits when components are changed, and understanding voltage. **Sound:** how sound travels; modelling frequency; structure of the ear; hearing ranges; sound-proofing investigation.	**Periodic table:** What are elements; introducing the periodic table; patterns in the periodic table; development of the periodic table; properties of Group I; properties of Group VII; properties of Group 0. The "Periodic Table" unit explains how elements are arranged in the periodic table based on their chemical properties. It covers the patterns in reactivity and physical properties as you move down a group or across a period. Key concepts include groups, periods, metals, non-metals, and the reactivity series. The programme includes practical activities such as using data to describe trends in physical properties and predicting the behaviour of elements based on their position in the periodic table. It also highlights the importance of understanding these patterns to predict the properties and reactions of elements. **Energy transfer:** energy transfers; energy transfers in electrical appliances; electrical power; efficiency; Sankey diagrams; kinetic energy; gravitational potential energy; stopping distances & kinetic energy. The "Energy Transfer" unit explains how energy is transferred from one store to another during various processes. It covers different types of energy stores, such as thermal, chemical, kinetic, gravitational potential, and elastic. Key concepts include the conservation of energy, dissipation of energy, and the efficiency of energy transfers. The programme includes practical activities such as calculating useful energy and the amount dissipated, and explaining how energy is transferred in real-life examples. It also highlights the importance of understanding energy transfer to improve energy efficiency and reduce waste.	**Evolution:** fossils; Darwin; theory of evolution; speciation; extinction; classification. The "Evolution" unit explains the theory of natural selection and how species evolve over time in response to environmental changes and competition for resources. It covers the importance of biodiversity in maintaining populations and avoiding extinction. Key concepts include natural selection, adaptation, extinction, and biodiversity. The programme includes practical activities such as using evidence to explain why a species has become extinct or adapted to changing conditions, and evaluating whether evidence supports the theory of natural selection. It also highlights the importance of preserving biodiversity to ensure the availability of resources for future generations. **Pressure:** pressure in solids; pressure calculations; stress; pressure in liquids; hydraulics; upthrust; pressure in gases; atmospheric pressure. The "Pressure" unit explains how pressure acts in fluids and solids. It covers how pressure increases with depth in fluids due to the weight of the fluid above, and how it results in an upthrust. Key concepts include fluid pressure, atmospheric pressure, upthrust, and stress on surfaces. The programme includes practical activities such as using the formula for pressure to calculate fluid pressure or stress on a surface, and explaining observations of fluids in terms of unequal pressure. It also highlights the importance of understanding pressure to explain phenomena such as sinking, floating, and the effects of forces on different surfaces.

	The "Sound" unit explains that sound consists of vibrations that travel as longitudinal waves through substances. It covers how the density of the medium affects the speed of sound, and how the amplitude and frequency of the waveform determine the loudness and pitch. Key concepts include vibrations, longitudinal waves, amplitude, frequency, and the speed of sound. The programme includes practical activities such as using oscilloscopes to observe sound waves and explaining how sound is reflected, transmitted, or absorbed by different media. It also highlights the importance of understanding the properties of sound waves to explain various acoustic phenomena.	**Digestion:** healthy diet; food tests; effects of a poor diet; the digestive system; enzymes; dietary requirements. The "Digestion" unit explains how the body needs a balanced diet with carbohydrates, lipids, proteins, vitamins, minerals, dietary fibre, and water for energy, growth, and maintenance. It covers how organs of the digestive system are adapted to break large food molecules into small ones that can travel in the blood to cells for life processes. Key concepts include enzymes, dietary fibre, carbohydrates, lipids, proteins, and the roles of different digestive organs. The programme includes practical activities such as calculating food requirements for a healthy diet and describing how organs and tissues involved in digestion are adapted for their role. It also highlights the importance of understanding digestion to maintain health and identify problems in the digestive system.	**Chemical Energy:** exothermic and endothermic reactions; energy diagrams; bond energies; exothermic / endothermic investigation; effect of surface area; effect of concentration; effect of temperature; effect of catalysts. The "Chemical Energy" unit explains how energy is involved in chemical reactions, where bonds are broken and new bonds are formed. It covers the concepts of exothermic and endothermic reactions, where energy is either released or absorbed. Key concepts include catalysts, exothermic reactions, endothermic reactions, and chemical bonds. The programme includes practical activities such as using experimental observations to distinguish between exothermic and endothermic reactions and explaining energy changes observed during a change of state. It also highlights the importance of understanding chemical energy to predict the energy changes in reactions and their practical applications.
Assessment Content and methods used to judge learning	**Formative Assessment** Key Homework tasks, teacher feedback, online diagnostic assessments, student and peer marking, Learn It Link It.	**Formative Assessment** Key Homework tasks, teacher feedback, online diagnostic assessments, student and peer marking, Learn It Link It.	**Formative Assessment** Key Homework tasks, teacher feedback, online diagnostic assessments, student and peer marking, Learn It Link It.
Spring half term 3 Sequential knowledge and skills	**Metals and non-metals:** atoms, elements & compounds; properties of metals and non-metals; flame tests; the reactivity series; reactivity investigation; ceramics, polymers & composites. The "Metals and Non-metals" unit explains how metals and non-metals react with oxygen to form oxides, which can be either bases or acids. It covers the reactivity series, where metals are arranged based on how readily they react with other substances. Key concepts include oxidation, displacement reactions, and the physical and chemical properties of metals and non-metals. The programme includes practical activities such as using experimental results to suggest an order of reactivity for various metals and identifying unknown elements based on their properties. It also highlights the importance of understanding	**Earth's Surface:** structure of the Earth; the rock cycle; igneous rocks, sedimentary rocks, metamorphic rocks; weathering; erosion & transportation; volcanoes. The "Earth's Surface" unit explains the processes responsible for the formation and transformation of rocks. It covers the rock cycle, including the formation of sedimentary, igneous, and metamorphic rocks through weathering, erosion, heat, pressure, and cooling. Key concepts include the Earth's crust, mantle, and core, as well as the processes of weathering, erosion, and the rock cycle. The programme includes practical activities such as constructing labelled diagrams to identify the processes of the rock cycle and explaining the properties of rocks based on their formation. It also highlights the importance of understanding these processes to explain the features and changes observed on Earth's surface.	**Wave effects & properties:** ultrasound; uses of ultrasound; microphones & loudspeakers; properties of transvers and longitudinal waves; comparing waves; superposition. The "Waves" unit explains the properties and behavior of different types of waves, including sound and light waves. It covers how sound waves travel as longitudinal waves through substances, with the amplitude determining loudness and frequency determining pitch. Key concepts include vibrations, longitudinal waves, transverse waves, amplitude, frequency, wavelength, and the speed of sound and light. The programme includes practical activities such as using oscilloscopes to observe sound waves and explaining the impact of different types of waves on living cells. Understanding waves is crucial for explaining various phenomena in acoustics and optics.

	these reactions to predict the behaviour of metals and non-metals in different contexts. **Plant biology:** parts of a flower - biological drawings; spinners investigation – seed dispersal; pollination; microscopes – pollen tubes; adaptation and pollination; life cycle of a flowering plant. The "Plant Biology" unit explains how plants reproduce and carry out essential processes like photosynthesis. It covers the adaptations of plants for seed dispersal using wind, water, or animals, and the steps involved in sexual reproduction to produce seeds. Key concepts include pollen, ovules, pollination, fertilisation, seeds, and fruit. The programme includes practical activities such as identifying parts of a flower and linking their structure to their function and explaining why seed dispersal is important for plant survival.	**Resistance:** drawing circuits; series circuits; parallel circuits; modelling electricity; resistance; length of wire investigation; IV graphs; thermistors and LEDs. The "Resistance" unit explains how resistance affects the flow of electric current in a circuit. It covers how components with resistance reduce the current flowing through them and how resistance can be calculated. Key concepts include potential difference (voltage), current, and resistance. The programme includes practical activities such as drawing circuit diagrams to show how voltage can be measured and using analogies to explain why parts of a circuit have higher resistance. It also highlights the importance of understanding resistance to predict and control the behaviour of electrical circuits.	**Work:** work done; power; kinetic energy & gravitational potential energy; levers; moments. The "Work" unit explains how work is done and energy is transferred when a force moves an object. It covers the relationship between force, distance, and work, and how machines like levers and pulleys make work easier by reducing the force needed. Key concepts include work, force, distance, levers, pulleys, and friction. The programme includes practical activities such as drawing diagrams to explain how levers make tasks easier and comparing the work needed to move objects different distances. It also highlights the importance of understanding work to explain how machines help us perform tasks more efficiently and the principles behind their operation.
Assessment Content and methods used to judge learning	**Spring Summative Assessment** Think Like a Scientist + The Particle Model - Retrieval Cells, Voltage and Current, Metals and non-metals, Plant Biology, Sound **Formative Assessment** Key Homework tasks, teacher feedback, online diagnostic assessments, student and peer marking, Learn It Link It.	**Spring Summative Assessment** Light + Movement – Retrieval The Periodic Table, Energy transfer, Digestion, Earth's surface, Resistance **Formative Assessment** Key Homework tasks, teacher feedback, online diagnostic assessments, student and peer marking, Learn It Link It.	**Spring Summative Assessment** Inheritance + Elements – Retrieval Wave Effects and Properties, Evolution, Pressure, Chemical Energy, Work **Formative Assessment** Key Homework tasks, teacher feedback, online diagnostic assessments, student and peer marking, Learn It Link It.
Spring half term 4 Sequential knowledge and skills	**Acids and Alkalis:** making an indicator; testing everyday items; hazard symbols; the neutralisation reaction; useful neutralisation; making and naming salts; salts and their uses; stomach acid investigation. The "Acids and Alkalis" unit explains that the pH of a solution depends on the strength of the acid, with strong acids having lower pH values than weak acids. It covers how mixing an acid and an alkali produces a chemical reaction called neutralisation, forming a salt and water. Practical activities involve devising an enquiry to compare how well indigestion remedies work. The unit also explains how neutralisation reactions are used in	**Separating Mixtures:** particle model recap; melting and boiling point; dissolving; separation techniques; separation investigation; distillation; chromatography. The "Separating Mixtures" unit explains that a pure substance consists of only one type of element or compound and has a fixed melting and boiling point. The method chosen to separate a mixture depends on which physical properties of the individual substances are different. Key concepts include solvents, solutes, solutions, solubility, and various separation techniques such as filtration, distillation, evaporation, and chromatography. Practical activities involve devising ways to separate mixtures based on their properties and using evidence from chromatography to identify unknown substances in mixtures.	**Types of Reaction:** chemical reactions; conservation of mass; chemical vs physical change; combustion; jam jar investigation; thermal decomposition; displacement reactions; word equations; symbol equations; death to diesel debate. The unit explains that combustion is a reaction with oxygen in which energy is transferred to the surroundings as heat and light. Key concepts include fuels, chemical reactions, physical changes, reactants, products, and conservation. Practical activities involve investigating changes in mass for chemical and physical processes, predicting the products of combustion or thermal

	various situations and how to make a neutral solution from an acid and alkali. **Variation:** what is variation; graphs to represent variation; continuous & discontinuous variation; genetic vs environmental variation; classification; adaptation; endangered animals. The "Variation" unit explains the differences between individuals of the same species and how these differences can be inherited, caused by the environment, or a combination of both. Key concepts include species, continuous variation, discontinuous variation, inherited characteristics, and environmental characteristics. The programme includes practical activities such as plotting bar charts or line graphs to show variation data and explaining how variation helps a species adapt to its environment.	**Universe + Gravity:** the solar system; sizes & distances; day and night; seasons, phases of the moon; space travel, weight & freefall; gravitational fields; gravity on other planets; rocket science. The "Gravity" unit explains that mass and weight are different but related. Mass is a property of the object, while weight depends upon mass and gravitational field strength. Every object exerts a gravitational force on every other object, with the force increasing with mass and decreasing with distance. Gravity holds planets and moons in orbit around larger bodies. Key concepts include weight, non-contact forces, mass, gravitational field strength, and fields. Practical activities involve drawing force diagrams for problems involving gravity, and deducing how gravity varies for different masses and distances.	decomposition, and using particle diagrams to show what happens in a reaction. **Earth Resources:** chemical & physical change; thermal decomposition; combustion; reactivity series; displacement reactions; oxidation; extracting metals; recycling; fracking research & debate. The "Earth Resources" unit explains that there is a limited quantity of resources on Earth, so the faster they are extracted, the sooner they will run out. Recycling reduces the need to extract resources. Most metals are found combined with other elements in ores, and the more reactive a metal, the more difficult it is to separate it from its compound. Key concepts include natural resources, minerals, ores, extraction, recycling, and electrolysis. Practical activities involve predicting the method used for extracting a metal based on its position in the reactivity series and evaluating proposals for recycling materials.
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Summer half term 5 Sequential knowledge and skills	**Climate:** what is climate change; evidence around climate change; fossil fuel formation; burning fossil fuels; the carbon cycle; “two degrees” activity. The "Climate" unit explains how carbon is recycled through natural processes in the atmosphere, ecosystems, oceans, and the Earth's crust, as well as through human activities like burning fuels. It covers the role of greenhouse gases, such as methane and carbon dioxide, in reducing the amount of energy lost from the Earth through radiation, leading to global warming. Key concepts include the carbon cycle, greenhouse gases, global warming, and the greenhouse effect. It also highlights the impact of global warming on climate and local weather patterns, and the importance of understanding these processes to evaluate proposals for reducing carbon emissions and addressing climate change.	**Breathing:** diffusion; lung structure; model lung; investigating lung volume; smoking; lung diseases; surviving underwater research task; asthma & animal testing. The "Breathing" unit covers how oxygen and carbon dioxide are exchanged between alveoli and the blood. It explains how oxygen is transported to cells for aerobic respiration and how carbon dioxide, a waste product, is removed from the body. The unit also details how muscles in the ribcage and diaphragm facilitate breathing, and how the amount of oxygen required by body cells determines the breathing rate. Practical activities include investigating the link between height and lung volume.	**Respiration:** food as fuel; bomb calorimeter; food labelling; energy in food; components of the blood; measuring pulse rate investigation; mitochondria and aerobic respiration; anaerobic respiration and oxygen debt. The "Respiration" unit explains how respiration involves a series of chemical reactions in cells that break down glucose to provide energy and form new molecules. It covers both aerobic respiration, which uses oxygen, and anaerobic respiration, which occurs without oxygen and provides less energy. Practical activities include using data from yeast fermentation to explore respiration. Key concepts include aerobic and anaerobic respiration, fermentation, and the role of respiration in energy production.

	Heating and Cooling: conduction; convection; evaporation and condensation; evaporative cooling; infrared radiation; insulation investigation; energy transfers by design. The "Heating and Cooling" unit explains that the thermal energy of an object depends upon its mass, temperature, and what it's made of. When there is a temperature difference, energy transfers from the hotter to the cooler object. Thermal energy is transferred through different pathways: by particles in conduction and convection, and by radiation. Key concepts include thermal conductors, thermal insulators, temperature, thermal energy, conduction, convection, and radiation. Practical activities involve investigating how to prevent heat loss by conduction, convection, and radiation and explaining observations about changing temperature in terms of energy transfer.	**Speed:** converting units; speed; velocity; distance/time graphs; relative motion; acceleration. The "Speed" unit explains how an object's motion changes when a non-zero resultant force acts on it. It includes calculating speed using the formula speed=distance/time, speed=time x distance , interpreting distance-time graphs, and understanding concepts like average speed, relative motion, and acceleration. Practical activities involve investigating variables that affect the speed of a toy car rolling down a slope.	**Magnetism:** magnetic materials; electromagnets; magnetic fields; DC motors; Fleming's left-hand rule. The "Magnetism" unit explores how magnetic materials, electromagnets, and the Earth create magnetic fields. It explains that magnetic fields can be described by drawing field lines to show their strength and direction. The unit covers how the strength of a magnetic field decreases with distance and how magnetic poles interact, with like poles repelling and unlike poles attracting. Practical activities include exploring the magnetic field patterns around different types or combinations of magnets.
Assessment Content and methods used to judge learning	**End of Year Summative Assessment** Think Like a Scientist + The Particle Model Cells, Voltage and Current, Metals and non-metals, Plant Biology, Sound, Variation, Climate, Heating and Cooling, Acids and Alkalis	**End of Year Summative Assessment** Light + Movement The Periodic Table, Energy transfer, Digestion, Earth's surface, Resistance, Separating mixtures, Universe and gravity, Breathing, Speed	**End of Year Summative Assessment** Inheritance + Elements Wave Effects and Properties, Evolution, Pressure, Chemical Energy, Work, Types of Reaction, Earth's Resources, Respiration, Magnetism
Summer half term 6 Sequential knowledge and skills	**Contact forces:** types of force; measuring forces; balanced and unbalanced forces; friction investigation; forces on a spring; mass & weight. The "Contact Forces" unit explains that when the resultant force on an object is zero, it is in equilibrium and does not move or remains at constant speed in a straight line. Key concepts include equilibrium, deformation, linear relationships, Newtons, resultant force, friction, tension, compression, and contact forces. Practical activities involve investigating factors that affect the size of frictional or drag forces.	**Energy costs:** fossil fuel power stations; nuclear power; energy from wind and water; energy from Earth & Sun; energy choices; supply & demand; the National Grid; electrical power; electrical costs. The "Energy Costs" unit explains that we pay for our domestic electricity usage based on the amount of energy transferred. Electricity is generated by a combination of resources, each with its own advantages and disadvantages. The cost of home energy usage can be calculated using the formula. Key concepts include power, energy resources, non-renewable and renewable resources, and fossil fuels.	**Photosynthesis:** plant structure; photosynthesis; starch investigation; limiting factors; light intensity investigation; mineral deficiencies; glucose; maximising photosynthesis. The "Photosynthesis" unit explains that plants and algae use energy from light, together with carbon dioxide and water to make glucose (food) through photosynthesis. They either use the glucose as an energy source, to build new tissue, or store it for later use. Key concepts include fertilisers, photosynthesis, chlorophyll, and stomata. Practical activities involve using lab tests on variegated leaves to show that chlorophyll is essential for photosynthesis, describing ways in which plants obtain resources for photosynthesis,

	Human reproduction: male reproductive system; female reproductive system; eggs and sperm; fertilisation; meiosis; pregnancy; body changes; menstrual cycle; development. The "Human Reproduction" unit explains that the menstrual cycle prepares the female for pregnancy and stops if the egg is fertilised by a sperm. The developing foetus relies on the mother to provide it with oxygen and nutrients, to remove waste, and protect it against harmful substances. Key concepts include gametes, fertilisation, ovary, testicle, oviduct, uterus, ovulation, menstruation, reproductive system, penis, vagina, foetus, gestation, placenta, amniotic fluid, and umbilical cord. Practical activities involve relating advice to pregnant women to ideas about the transfer of substances to the embryo, using a diagram to show stages in the development of a foetus from the production of sex cells to birth.	**Interdependence:** predators & prey; adaptations; food chains; food webs; pyramids of numbers; pyramids of biomass; using a key; adaptation challenge. The "Interdependence" unit in the Ecosystems topic explains that organisms in a food web (decomposers, producers, and consumers) depend on each other for nutrients. Therefore, a change in one population leads to changes in others. The population of a species is affected by the number of its predators and prey, disease, pollution, and competition between individuals for limited resources such as water and nutrients. Key concepts include food web, food chain, ecosystem, environment, population, producer, consumer, and decomposer. Practical activities involve using a model to investigate the impact of changes in a population of one organism on others in the ecosystem, describing how a species' population changes as its predator or prey population changes, and explaining effects of environmental changes and toxic materials on a species' population.	and sketching a line graph to show how the rate of photosynthesis is affected by changing conditions. **QUEST:** student-led project work in the STEM subjects (science, technology, engineering and maths). Teams of students design their own investigation and record their findings, giving them a taste of what it is like to be a scientist or engineer in the real-world. Through the QUEST initiative, teams of students design their own investigations and record their findings, providing them with a hands-on experience that mirrors the work of real-world scientists and engineers. This approach not only fosters creativity and critical thinking but also helps students develop essential skills such as problem-solving, teamwork, and effective communication. By participating in QUEST, students gain a deeper understanding of scientific principles and engineering practices, preparing them for future careers in these dynamic fields.
Assessment Content and methods used to judge learning Assessment	**Formative Assessment** Key Homework tasks, teacher feedback, online diagnostic assessments, student and peer marking, Learn It Link It.	**Formative Assessment** Key Homework tasks, teacher feedback, online diagnostic assessments, student and peer marking, Learn It Link It.	**Formative Assessment** Key Homework tasks, teacher feedback, online diagnostic assessments, student and peer marking, Learn It Link It.