

	Unit of work & brief outline of what will be covered.	Key Objectives – what will students learn	Assessment
1	Becoming a Scientist	<p>Identify most of the safety hazards in an experiment to themselves and others and state ways in which they will try and reduce some risks. State a prediction with a reason using scientific knowledge. Select appropriate apparatus, stating what it does and why it is appropriate.</p> <p>State what they are looking for and why.</p> <p>Plan a systematic approach, including the number of observations to be taken and the overall range of observations.</p> <p>Accurately record readings from scales.</p> <p>Identify when observations should be repeated and carry out repeats.</p> <p>Record observations clearly in a table designed by themselves.</p> <p>Draw a conclusion, making clear use of their evidence including examples from data collected.</p> <p>Use some scientific terminology.</p>	<p>Key Assessed Piece</p> <p>Self-assessment of DO NOW questions</p> <p>Teacher questioning in class</p> <p>Mini white board questioning</p> <p>Review of Tassomai accuracy and understanding</p> <p>Observation of practical work and giving feedback accordingly</p> <p>Students obtaining Bunsen Burner licence</p>

	7G Particles	<p>Identify examples of [solids, liquids, gases]. Recall the three states of matter.</p> <p>Describe what the three states of matter are like.</p> <p>Group materials using their states of matter.</p> <p>Draw the arrangement of particles in a solid, liquid and gas. Use the particle model of matter to explain the compressibility, ability to flow, ability to change shape of solids, liquids, gases.</p> <p>Compare different models of particles in solids, liquids and gases.</p>	<p>Key Assessed Piece</p> <p>Self-assessment of DO NOW questions</p> <p>Teacher questioning in class</p> <p>Mini white board questioning</p> <p>Review of Tassomai accuracy and understanding</p> <p>Observation of practical work and giving feedback accordingly</p>
	7I Energy	<p>Energy as a quantity that can be quantified and calculated; the total energy has the same value before and after a change</p> <p>Comparing the starting with the final conditions of a system and describing increases and decreases in the amounts of energy associated with movements, temperatures, changes in positions in a field, in elastic distortions and in chemical compositions</p> <p>Using physical processes and mechanisms, rather than energy, to explain the intermediate steps that bring about such changes.</p>	<p>Key Assessed Piece</p> <p>Self-assessment of DO NOW questions</p> <p>Teacher questioning in class</p> <p>Mini white board questioning</p> <p>Review of Tassomai accuracy and understanding</p> <p>Observation of practical work and giving feedback accordingly</p>

	7A Cells	<p>cells as the fundamental unit of living organisms, including how to observe, interpret and record cell structure using a light microscope</p> <p>the functions of the cell wall, cell membrane, cytoplasm, nucleus, vacuole, mitochondria and chloroplasts</p> <p>the similarities and differences between plant and animal cells</p> <p>the role of diffusion in the movement of materials in and between cells</p> <p>the structural adaptations of some unicellular organisms</p> <p>the hierarchical organisation of multicellular organisms: from cells to tissues to organs to systems to organisms.</p>	<p>Key Assessed Piece</p> <p>Self-assessment of DO NOW questions</p> <p>Teacher questioning in class</p> <p>Mini white board questioning</p> <p>Review of Tassomai accuracy and understanding</p> <p>Observation of practical work and giving feedback accordingly</p>
2	<p>Cellc cont.</p> <p>7H Atoms, Elements, Compounds</p>	<p>See above</p> <p>The varying physical and chemical properties of different elements.</p> <p>The principles underpinning the Mendeleev Periodic Table.</p> <p>Chemical symbol and formulae for elements and compounds.</p> <p>Use of various chemical reactions: combustion, oxidation, displacement reactions.</p>	<p>See above</p> <p>Key Assessed Piece</p> <p>Self-assessment of DO NOW questions</p> <p>Teacher questioning in class</p> <p>Mini white board questioning</p> <p>Review of Tassomai accuracy and understanding</p>

	7J Electricity	<p>electric current, measured in amperes, in circuits, series and parallel circuits, currents add where branches meet and current as flow of charge</p> <p>potential difference, measured in volts, battery and bulb ratings; resistance, measured in ohms, as the ratio of potential difference (p.d.) to current</p> <p>differences in resistance between conducting and insulating components (quantitative).</p>	<p>Observation of practical work and giving feedback accordingly</p> <p>Key Assessed Piece</p> <p>Self-assessment of DO NOW questions</p> <p>Teacher questioning in class</p> <p>Mini white board questioning</p> <p>Review of Tassomai accuracy and understanding</p> <p>Observation of practical work and giving feedback accordingly</p>
3	7B Sexual reproduction in animals	<p>reproduction in humans (as an example of a mammal)</p> <p>including the structure and function of the male and female reproductive systems</p> <p>menstrual cycle (without details of hormones), gametes, fertilisation</p> <p>gestation and birth, to include the effect of maternal lifestyle on the foetus through the placenta</p>	<p>Key Assessed Piece</p> <p>Self-assessment of DO NOW questions</p> <p>Teacher questioning in class</p> <p>Mini white board questioning</p> <p>Review of Tassomai accuracy and understanding</p> <p>Observation of practical work and giving feedback accordingly</p>

	7E Mixtures	<p>the concept of a pure substance</p> <p>mixtures, including dissolving</p> <p>diffusion in terms of the particle model</p> <p>simple techniques for separating mixtures: filtration, evaporation, distillation and chromatography</p> <p>the identification of pure substances.</p>	<p>Key Assessed Piece</p> <p>Self-assessment of DO NOW questions</p> <p>Teacher questioning in class</p> <p>Mini white board questioning</p> <p>Review of Tassomai accuracy and understanding</p> <p>Observation of practical work and giving feedback accordingly</p>
4	7L Sound	<p>Sound waves</p> <p>frequencies of sound waves, measured in hertz (Hz); echoes, reflection and absorption of sound</p> <p>sound needs a medium to travel, the speed of sound in air, in water, in solids</p> <p>sound produced by vibrations of objects, in loud speakers, detected by their effects on microphone diaphragm and the ear drum; sound waves are longitudinal</p> <p>auditory range of humans and animals.</p> <p>Energy and waves</p> <p>pressure waves transferring energy; use for cleaning and physiotherapy by ultra-sound; waves transferring</p>	<p>Key Assessed Piece</p> <p>Self-assessment of DO NOW questions</p> <p>Teacher questioning in class</p> <p>Mini white board questioning</p> <p>Review of Tassomai accuracy and understanding</p> <p>Observation of practical work and giving feedback accordingly</p>

	7C Muscles	<p>information for conversion to electrical signals by microphone.</p> <p>the structure and functions of the human skeleton, to include support, protection, movement and making blood cells</p> <p>biomechanics – the interaction between skeleton and muscles, including the measurement of force exerted by different muscles</p> <p>the function of muscles and examples of antagonistic muscles.</p>	<p>Key Assessed Piece</p> <p>Self-assessment of DO NOW questions</p> <p>Teacher questioning in class</p> <p>Mini white board questioning</p> <p>Review of Tassomai accuracy and understanding</p> <p>Observation of practical work and giving feedback accordingly</p>
5	7F Acids & alkalis	<p>defining acids and alkalis in terms of neutralisation reactions</p> <p>the pH scale for measuring acidity/alkalinity; and indicators</p> <p>reactions of acids with metals to produce a salt plus hydrogen</p> <p>reactions of acids with alkalis to produce a salt plus water</p> <p>what indicators do</p>	<p>Key Assessed Piece</p> <p>Self-assessment of DO NOW questions</p> <p>Teacher questioning in class</p> <p>Mini white board questioning</p> <p>Review of Tassomai accuracy and understanding</p> <p>Observation of practical work and giving feedback accordingly</p>

	7D Ecosystems	<p>the interdependence of organisms in an ecosystem, including food webs and insect pollinated crops</p> <p>the importance of plant reproduction through insect pollination in human food security</p> <p>how organisms affect, and are affected by, their environment, including the accumulation of toxic materials.</p>	<p>Key Assessed Piece</p> <p>Self-assessment of DO NOW questions</p> <p>Teacher questioning in class</p> <p>Mini white board questioning</p> <p>Review of Tassomai accuracy and understanding</p> <p>Observation of practical work and giving feedback accordingly</p>
6	7K Forces	<p>forces as pushes or pulls, arising from the interaction between two objects</p> <p>using force arrows in diagrams, adding forces in one dimension, balanced and unbalanced forces</p> <p>forces: associated with deforming objects; stretching and squashing – springs; with rubbing and friction between surfaces, with pushing things out of the way; resistance to motion of air and water</p> <p>forces measured in newtons, measurements of stretch or compression as force is changed force-extension linear relation; Hooke's Law as a special case</p> <p>work done and energy changes on deformation non-contact forces: gravity forces acting at a distance on Earth and in space, forces between magnets and forces due to static electricity.</p>	<p>Key Assessed Piece</p> <p>Self-assessment of DO NOW questions</p> <p>Teacher questioning in class</p> <p>Mini white board questioning</p> <p>Review of Tassomai accuracy and understanding</p> <p>Observation of practical work and giving feedback accordingly</p>

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