Programme of Study/Scheme of Work 2023-2024

Subject – Science **Year group: 8N**

Unit Outline. (Overview of what is being delivered in each half-term)	Key Skills to be developed	Methods used to develop skills. What tasks/activities will you use to maximise outcomes? (Based on deconstructing the tasks proven to be effective at KS 3/4)	Success criteria. (How will you know and record if pupils have learnt what is required?)	Cross curricular links. (What are the key skills which could be used in other subjects?)	Assessment /Criteria / Methods
Autumn 1 Nutrition and digestion	The content of a healthy human diet: carbohydrates, lipids (fats and oils), proteins, vitamins, minerals, dietary fibre and water, and why each is needed calculations of energy requirements in a healthy daily diet. The consequences of imbalances in the diet, including obesity, starvation and deficiency diseases. The tissues and organs of the human digestive system, including adaptations to function and how the digestive system digests food (enzymes simply as biological catalysts)	**Generic:** PowerPoint presentations Group discussion Video clips Peer support/ Matching activities Worksheets	Completion of mini tasks in lessons and formative assessment Home work Summative assessment		- Individual feedback (WWW-EBI) - Peer marking - Self marking - Verbal feedback - Grading (Emerging, Developing, Secure) Summative assessment

	the importance of bacteria in the human digestive system. plants making carbohydrates in their leaves by photosynthesis and gaining mineral nutrients and water from the soil via their roots				
<u>Autumn 2</u> **The particulate nature of matter** **Atoms, elements and compounds**	The properties of the different states of matter (solid, liquid and gas) in terms of the particle model, including gas pressure changes of state in terms of the particle model A simple (Dalton) atomic model differences between atoms, elements and compounds chemical symbols and formulae for elements and compounds conservation of mass changes of state and chemical reactions	**Generic:** PowerPoint presentations Group discussion Video clips Peer support/ Matching activities Worksheets	Completion of mini tasks in lessons and formative assessment Home work Summative assessment		- Individual feedback (WWW-EBI) - Peer marking - Self marking - Verbal feedback - Grading (Emerging, Developing, Secure) Summative assessment

Spring 1 Energy changes and transfers	Simple machines give bigger force but at the expense of smaller movement (and vice versa): product of force and displacement unchanged heating and thermal equilibrium: temperature difference between 2 objects leading to energy transfer from the hotter to the cooler one, through contact (conduction) or radiation; such transfers tending to reduce the temperature difference; use of insulators other processes that involve energy transfer: changing motion, dropping an object, completing an electrical circuit, stretching a spring, metabolism of food, burning fuels	**Generic:** PowerPoint presentations Group discussion Video clips Peer support/ Matching activities Worksheets	Completion of mini tasks in lessons and formative assessment Work created for display Home work Summative assessment		- Individual feedback (WWW-EBI) - Peer marking - Self marking - Verbal feedback - Grading (Emerging, Developing, Secure, Mastering) Half term summative assessment
Spring 2 **Reproduction**	Reproduction in humans (as an example of a mammal), including the structure and function of the male and female reproductive systems, menstrual cycle	**Generic:** PowerPoint presentations Group discussion Video clips Peer support/ Matching activities Worksheets	Completion of mini tasks in lessons and formative assessment Work created for display Home work Summative assessment		- Individual feedback (WWW-EBI) - Peer marking - Self marking - Verbal feedback - Grading (Emerging, Developing, Secure, Mastering)

	(without details of hormones), gametes, fertilisation, gestation and birth, to include the effect of maternal lifestyle on the foetus through the placenta reproduction in plants, including flower structure, wind and insect pollination, fertilisation, seed and fruit formation and dispersal, including quantitative investigation of some dispersal mechanisms				Half term summative assessment
Summer 1 **Pure and impure substances**	The concept of a pure substance mixtures, including dissolving diffusion in terms of the particle model simple techniques for separating mixtures: filtration, evaporation, distillation and chromatography the identification of pure substances	**Generic:** PowerPoint presentations Group discussion Video clips Peer support/ Matching activities Worksheets	Completion of mini tasks in lessons and formative assessment Work created for display Home work Summative assessment		- Individual feedback (WWW-EBI) - Peer marking - Self marking - Verbal feedback - Grading (Emerging, Developing, Secure, Mastering) Half term summative assessment

Summer 2 **Forces**	Forces as pushes or pulls, arising from the interaction between 2 objects using force arrows in diagrams, adding forces in 1 dimension, balanced and unbalanced forces. Moment as the turning effect of a force 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 forces measured in newtons, measurements of stretch or compression as force is changed. Force-extension linear relation; Hooke's Law as a special case 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.	**Generic:** PowerPoint presentations Group discussion Video clips Peer support/ Matching activities Worksheets	Completion of mini tasks in lessons and formative assessment Work created for display Home work Summative assessment Completion of mini tasks in lessons and formative assessment Work created for display Home work Summative assessment		- Individual feedback (WWW-EBI) - Peer marking - Self marking - Verbal feedback - Grading (Emerging, Developing, Secure, Mastering) Half term summative assessment