

INTENT-

- To develop knowledge and understanding of key Biology, Chemistry and Physics topics
- Students to apply this knowledge and explain key ideas within Science, applying them to a range of typical and frequent assessment points.
- To develop basic practical skills and data analysis.

The bigger picture:

The year 8 curriculum continues to develop an understanding of key scientific concepts needed throughout the curriculum and creating a building block for later years. The curriculum is also designed to start developing an enquiring mind through key practical's that will allow for skills needed for Required practical's at GCSE to be built on.

Bilton School Planning for Progress over Time Programme of Study

IMPLEMENTATION

	Term 1 Energy Resources, Earth & Atmosphere, Space Project								Term 2 Space Project, Food & Digestion, Compounds & Mixtures							Term 3 Compounds & Mixtures, Photosynthesis & Respiration,						Term 4 Combustion, Forces					Term 5 Forces, Movement, Exercise Investigation						Term 6 Exercise Investigation, Motion						
KS3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
Year 8	TTD x 2, Energy Resources L1, 2	Energy Resources L3,4, 4.5 (Review)	Energy Resources L5, 6, 7RP	Energy Resources 8RP, 9 (Revision), ETT	Earth & Atmosphere L1, 2, 3	Earth & Atmosphere L4, 4.5 (Mid Review), 5	Earth & Atmosphere L6, 7RP, 8RP, 9 (Revision)	Earth & Atmosphere L9 (Revision) Space Project L1, L2	Space Project L3, 4, 5	Space Project L6, 7 (Review), Food & Digestion L1	Food & Digestion L2, 3, 4	Food & Digestions L4.5 (Mid Review), 5, 6	Food & Digestion 7RP, 8RP, 9 (Revision)	ETT , Compounds & Mixtures L1, 2	Compounds & Mixtures L3, 4, 4.5 (Mid Review)	Compounds & Mixtures L5, 6, 7RP	Compounds & Mixtures L8RP, 9 (Revision), Photo & Resp L1	Photosynthesis & Respiration L2, 3, 4	Photosynthesis & Respiration L4.5 (Mid Review), 5, 6	Photosynthesis & Respiration L7RP, 8RP, 9 (Revision)	Comps & Mix/Bioenergetics Revision, Combustion L1, 2	Combustion L3, 4, 4.5 (Mid Review)	Combustion L5, 6, 7RP	Science Week Lesson , Combustion L8RP, 9 (Revision)	ETT Forces L1, 2	Forces L3, 4, 4.5 (Mid Review)	Forces L5, 6, 7RP	Forces L8RP, 9 (Revision)	Movement L1, 2, 3	Movement L4, 4.5 (Mid Review), 5	EOY Revision x3	EOY Revision x3	EOY Assessment , Movement L6, L7RP	Movement L8RP, L9 (review), Exercise investigation L1	Exercise investigation L2, 3 EOY Assessment Review/FAR	Exercise investigation L4, 5, Motion L1	Motion L2, 3, 4,	Motion L4.5 (Mid Review), 5, 6	Motion L7RP, 8RP, 9 (Revision)
Progress and assessment	End of topic test (ETT) Follow on questions to test previous knowledge through the Unit. FAR completed approximately every 6 lessons.								End of topic test (ETT) Follow on questions to test previous knowledge through the Unit. FAR completed approximately every 6 lessons.							End of topic test (ETT) Follow on questions to test previous knowledge through the Unit. FAR completed approximately every 6 lessons.						End of topic test (ETT) Follow on questions to test previous knowledge through the Unit. FAR completed approximately every 6 lessons.					End of topic test (ETT) Follow on questions to test previous knowledge through the Unit. FAR completed approximately every 6 lessons.												
Required Practical (RP)	Energy Resources: Skills Graphs Earth and Atmosphere: Mass and Gravity Conclusions								Food and Digestion: Food Tests Following a Method Compounds and Mixtures: Purifying Rock Salt Writing a Method							Compounds and Mixtures: Purifying Rock Salt Writing a Method Photosynthesis and Respiration: Role of light in photosynthesis. Graph						Combustion: Energy in Fuels Making and recording observations. Forces: Investigating Moments Writing a method.					Movement: Skills Variables Exercise Investigation.						Motion: Car/Ramp Investigation. Planning an Investigation.						
Numeracy Skills	Interpreting and drawing bar charts and line graphs								Comparing large numbers of distance Using standard form Using mental arithmetic or a calculator to calculate gravity							Interpreting and drawing bar charts and line graphs						Using mental arithmetic or a calculator to calculate gravity and Force diagrams To use mental methods to multiply and divide decimals To use written methods of multiplying decimals To use written methods of dividing decimals					Using mental arithmetic or a calculator to calculate gravity and Force diagrams To use mental methods to multiply and divide decimals To use written methods of multiplying decimals To use written methods of dividing decimals						To use mental methods to multiply and divide decimals To use written methods of multiplying decimals To use written methods of dividing decimals To interpreting a calculator display of decimals To find compound measures - speed, pressure and density Links to Speed/distance/time graphs						
Homework <i>(ensure that this is NOT stand alone, but clearly advances or embeds knowledge and understanding)</i>	Educake Homework								Educake Homework							Educake Homework						Educake Homework					Educake Homework												

<p>Key Vocabulary/literacy opportunities</p>	<p>Energy Resources: Energy resource, Food, Fuel, Fossil Fuel, Non-Renewable, Renewable, National Grid, Electricity, Nuclear Power.</p> <p>Earth and the Atmosphere: Earth, Atmosphere, Carbon Cycle, Respiration, Combustion, Photosynthesis, Climate Change, Recycling, Planet, Moon, Star, Mass, Weight, Gravity.</p> <p>Guided Reading Activity: Evaluation of the advantages and disadvantages of nuclear fuel as a source of energy.</p>	<p>Food and Digestion: Balanced Diet, Nutrients, Malnutrition, Deficiency Diseases, Digestion, Digestive System, Bacteria, Enzymes, Drugs, Alcohol, Smoking, Cancer</p> <p>Compounds and Mixtures: Atom, Element, Compound, Mixture, Solute, Solvent, Soluble, Insoluble, Solution, Filtration, Separation, Evaporation, Distillation, Chromatography.</p>	<p>Compounds and Mixtures: Atom, Element, Compound, Mixture, Solute, Solvent, Soluble, Insoluble, Solution, Filtration, Separation, Evaporation, Distillation, Chromatography.</p> <p>Photosynthesis and Respiration: Respiration, Photosynthesis, Cell, Mitochondria, Chloroplast, Energy, Aerobic Respiration, Anaerobic Respiration, Lactic Acid, Oxygen Debt.</p> <p>Combustion: Combustion, Fuel, Incomplete Combustion, Complete Combustion, Oxidation, Air Pollution, Global Warming, Greenhouse Effect, Igneous Rock, Metamorphic Rock, Sedimentary Rock.</p>	<p>Combustion: Combustion, Fuel, Incomplete Combustion, Complete Combustion, Oxidation, Air Pollution, Global Warming, Greenhouse Effect, Igneous Rock, Metamorphic Rock, Sedimentary Rock.</p> <p>Forces: Force, Newtons, Weight, Mass, Moment, Lever, Balanced Forces, Unbalanced Forces.</p> <p>Guided Reading Activity: Evaluation of the advantages and disadvantages of recycling.</p>	<p>Movement: Skeleton, Bone, Muscle, Antagonistic Pair, Joint.</p> <p>Guided Reading Activity: Evaluation of the importance of keeping bones healthy and how this can be done.</p>	<p>Motion: Speed, Distance-Time Graph, Gradient, Moment, Lever, Stationary, Relative Motion.</p>
<p>Connected knowledge</p>	<p>Maths To interpret and draw bar charts To understand and draw line graphs</p> <p>Geography Structure of the Earth Types of rock and rock formation Carbon Cycle</p> <p>KS4 Links Links to Chemistry of the atmosphere</p>	<p>Maths To interpret and draw bar charts and pictograms</p> <p>Geography Seasons of the Earth</p> <p>KS4 Links Links to Organisation Links to chemical changes</p>	<p>KS3 Links Links to Exercise topic Links to Cells (Year 7)</p> <p>KS4 Links Links to Bioenergetics Links to Types of Reaction</p>	<p>Maths To use mental methods to multiply and divide decimals To use written methods of multiplying decimals To use written methods of dividing decimals To interpreting a calculator display of decimals To find compound measures - speed, pressure and density Links to Speed/distance/time graphs</p> <p>KS4 Links Links to Forces and motion</p>	<p>PE Links to structure of the body and function of the skeleton and different muscles</p> <p>KS4 Cells – Red blood cells</p>	<p>Maths To use mental methods to multiply and divide decimals To use written methods of multiplying decimals To use written methods of dividing decimals To interpreting a calculator display of decimals To find compound measures - speed, pressure and density Links to Speed/distance/time graphs</p> <p>KS4 links Forces and motion – Stopping distances</p>
<p>Spiritual, Moral, Social and cultural.</p>	<p>Understand the impact that humans are having on the Earth's resources and the impact of the pollution that we create.</p> <p>Understand the ethical issues surrounding space travel e.g should we spend so much money on space travel?</p> <p>Understanding the collaboration between countries in the development of space travel and research.</p>	<p>Understand the ethical issues surrounding space travel e.g should we spend so much money on space travel?</p> <p>Understanding the collaboration between countries in the development of space travel and research.</p> <p>Understanding how health, diet and fitness have an effect on them.</p>		<p>Understand the impact that humans are having on the Earth's atmosphere and the pollution that we create.</p>	<p>Understanding how health, diet and fitness have an effect on them.</p>	<p>Understanding how health, diet and fitness have an effect on them.</p>
<p>British Values</p>	<p>Respect and tolerance, collaboration during experiments and group work.</p> <p>Following the laboratory rules when conducting practical work.</p> <p>Recognise how their actions can have an impact on others and the wider world.</p>	<p>Respect and tolerance, collaboration during experiments and group work.</p> <p>Following the laboratory rules when conducting practical work.</p>	<p>Respect and tolerance, collaboration during experiments and group work.</p> <p>Following the laboratory rules when conducting practical work.</p>	<p>Respect and tolerance, collaboration during experiments and group work.</p> <p>Following the laboratory rules when conducting practical work.</p> <p>Recognise how their actions can have an impact on others and the wider world.</p>	<p>Respect and tolerance, collaboration during experiments and group work.</p> <p>Following the laboratory rules when conducting practical work.</p>	<p>Respect and tolerance, collaboration during experiments and group work.</p> <p>Following the laboratory rules when conducting practical work.</p>
<p>Cultural Capital</p>	<p>Science - Careers display on W side corridor.</p> <p>Understand the impact that we are having on our planet.</p> <p>Understand the future of space travel through the topic and the trip to the National Space Centre.</p> <p>Understand the advances in space technology and how these also link into everyday life through the topic and the trip to the National Space Centre.</p>	<p>Science - Careers display on W side corridor.</p> <p>Understand the future of space travel through the topic and the trip to the National Space Centre.</p> <p>Understand the advances in space technology and how these also link into everyday life through the topic and the trip to the National Space Centre.</p> <p>Food and Digestion Balanced Diet and deficiency diseases.</p>	<p>Science - Careers display on W side corridor.</p> <p>Respiration and Exercise.</p>	<p>Science - Careers display on W side corridor.</p> <p>Science Week.</p> <p>Understand the impact that we are having on our planet.</p>	<p>Science - Careers display on W side corridor.</p> <p>Understanding how health, diet and fitness have an effect on them.</p>	<p>Science - Careers display on W side corridor.</p> <p>Understanding how health, diet and fitness have an effect on them.</p>