**TNHA Curriculum Planning Document** Subject: Science Year: 7

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| **Timescale** | **Autumn** | **Spring** | **Summer** |
| **Prior Learning (from KS2/3)** | KS2: States of matter | KS2: Earth and space | KS2: Forces | KS2: Living things and their habitatsKS2: Evolution and inheritance | KS2: States of matterKS2: Properties and changes of materials | KS2: Human reproductionKS2: Animals, including humansKS2: Evolution and inheritance | KS2: Animals, including humans | KS2: Earth and space | KS2: Living things and their habitats |
| **Topic/ Unit title** | Being a ScientistLearning: Safety, Neutralisation, Acids/ Alkali/ Data presentation | EarthLearning:Earth structure, rocks, magnets and magnetic fields.  | CarsLearning:Forces, Friction and distance time graphs. | DinosaursLearning: Adaptation, extinction, Evolution and plant reproduction. Fossils and Fossil fuel production | OceanLearning:Particles, states of matter, separation techniques and solubility.  | What am ILearning:Animal cells, microscope use, DNA, variation and human reproduction  | SportsScienceLearning:Heart structure, Blood, transport and alcohol/drugs. Endo and Exothermic reactions  | SpaceLearning:Seasons, Night/Day, Solar system and satellites and gravity | ZooLearning:Classification, Species and variation. Venomous and poisonous animals.  |
| **SMSC/Cultural Capital/Character/FBV- outline specific areas that are covered in this unit** | Group work. Importance of safety.Responsibility for safety. | Group work.Opinion/stories of creation.How the compass affected the Chinese culture.The importance of carbon monoxide detectors in the home.  | Group work.Streamlining – Formula 1 cars- engineering careers. Understanding speed limits of roads. | Group work.Evolution and how it relates to humans.How humans affect habitats.The impact of Bee extinction | Group work.The impacts of plastics on the oceans.  | Group work.The use of microscopes in medicine.The ethical implications of DNA testing.Ethics of IVF/Contraception. | Group work.The effect of drugs/alcohol on the human body and whether performing enhancing drugs should be allowed. | Group work.The creation of the world- big bang theory and links to religion. Is there life on another planet? | Group work.Should we keep animals in zoos.The importance of conservation. |
| **Assessment Opportunities** | Each unit is assessed by an end of topic test. During the year students will be assessed on their Working Scientifically skills.These include: Graph drawing, practical planning, error identification, Conclusion writing.  |
| **Links to other units in KS3/4.** | Yr 8 – CSIYr 9- AtomsYr 10- Chemical reactions | Yr 11- ElectromagnetismYr 11- Earth | Yr 8 - Theme Yr 10 - Forces | Yr 8- Power Yr 9- OrganisationYr 10- Inheritance, variation & evolution | Yr 7 – ScientistYr 8- DiscoYr 8- CSIYr 9- AtomsYr 10- ReactionsYr 10- Rates | Yr 8- FarmYr 8-ChefYr 9- CellsYr 9- OrganisationYr 10 - Inheritance, variation & evolution | Yr 8- CSIYr 8- HospitalYr 9- OrganisationYr 10- Rates of reaction | Yr 7 – CarsYr 8- ThemeYr 10 -Force | Yr 8- HospitalYr 11- Ecology |

**TNHA Curriculum Planning Document** Subject: Science Year: 8

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| **Timescale** | **Autumn** | **Spring** | **Summer** |
| **Prior Learning (from KS2/3)** | KS2: Animals, including humans | KS2: Electricity  | KS2: Living things and their habitatsKS2: Evolution and inheritance | KS2: Properties and changes of materials | KS2: Sound and Light | KS2: Animals, including humans |  | KS2: Forces | KS2: Working scientifically |
| **Topic/ Unit title** | HospitalLearning:Smoking, drugs and alcohol. Lifestyle and infectious diseases. Variation  | Power Learning:Electricity and electrical circuits. Electrical cost.Fossil fuels, power stations and alternative energy resources.  | FarmLearning: Structure of plant cells. Photosynthesis, Selective breeding, evolution and food chains. Predator and Prey relationships | CSILearning:The periodic table and atoms including group 1 and 7.Separation techniques & flame tests. | DiscoLearning:Waves and their properties.Light, EM Spectrum & structure of the eye and ear | ChefLearning:Nutrients. digestive system including enzymes. Surface area | FamousLearning:Science has changed through history and how it has shaped the world around us | ThemeLearning:Forces including floating and elastic potential energy. resultant force and be able to calculate work done. Acceleration, moments and levers and energy transfers | ProjectsLearning:How to conduct a full scientific experiment including variables, method and conclusion |
| **SMSC/Cultural Capital/Character/FBV- outline specific areas that are covered in this unit** | Diet and exercise and consequences of this not being balancedGroup work. | The consequences of different energy source usage from renewable energiesGroup work. | Group work.Is selective breeding ethical?  | Group work.Should everyone have their fingerprints taken? | Group workThe use of parts of the EM spectrum in the NHS. | Diet and exercise and consequences of this not being balancedGroup work | Group work.Look at how people's beliefs can be influenced by others and how science is needed to sometimes demonstrate fact over people's opinions. | Group work.The importance of energy efficiency.  | Group work.Team work.  |
| **Assessment Opportunities** | Each unit is assessed by an end of topic test. During the year students will be assessed on their Working Scientifically skills.These include: Graph drawing, practical planning, error identification, Conclusion writing.  |
| **Links to other units in KS3/4.** | Yr 7- ZooYr 7- What am IYr 10- Biological ReactionYr 9 – InfectionsYr 11- Ecology | Yr 7- DinosaursYr 9 – EnergyYr 9- ElectricityYr 10- RadiationYr 11-Electromagnetism  | Yr 7- DinosaursYr 7- ZooYr 7- What am IYr 9- CellsYr 9- OrganisationYr 10- Biological ReactionYr 10 Inheritance, variation & evolution | Yr 7 – OcenasYr 7- ScientistsYr 9 – AtomsYr 10- Chemical ReactionsYr 10- RadiationYr 11- Analysis | Yr 7- OceanYr 10- WavesYr 11- Electromagnetism  | Yr 7- What am IYr 7- OceanYr 9 – CellsYr 9- Organisation | Yr 9 – Biological reactionsYr 10- Radiation  | Yr 7- CarsYr 7- SpaceYr 10- Forces | Practical skills from all previous KS3 modules. Linked to GCSE req practical skills |

**TNHA Curriculum Planning Document** Subject: Science Year: 9

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| **Timescale** | **Autumn** | **Spring** | **Summer** |
| **Prior Learning (from KS2/3)** | Yr 7- What am I | Yr 7- OceanYr 8- CSI | Yr 8 –Power | Yr 7 - Sports ScienceYr 7- DinosaursYr 8- HospitalYr 8- ChefYr 8 – Farm | Yr 7- OceansYr 8- CSI | Yr 7- DinosaursYr 8- Power | Yr 7 What am IYr 8- Hospital | Yr 8- CSI | Yr 7- OceanYr 8- CSI |
| **Topic/ Unit title** | **Biology**Cell BiologyCell structure, Transport, Mitosis and Stem Cells. | **Chemistry**Atoms and Periodic TableAtomic structure, periodic table and relative atomic mass | **Physics**EnergyEnergy stores, transfers and conservation. power | **Biology**OrganisationEnzymes, Digestion, Circulatory system, Plant organisation, Cancer | **Chemistry**BondingCovalent, ionic and metallic bonding | **Physics**Electricity and CircuitsElectrical circuits, the national grid, current, potential difference and resistance. | **Biology**InfectionsImmune system, disease transmission, Pathogens | **Chemistry**Amounts in Chemistry (Quantitative)Relative formula massConservation of mass | **Physics**MatterChanges of stateLatent heatSpecific heat capacityDensity |
| **SMSC/Cultural Capital/Character/FBV- outline specific areas that are covered in this unit** | How we function or life around us and how it functions alongside the impacts of our interactions with this life.Group work. | Disproving evidence.Understanding what everything is made of. Group work. | The importance of fossil fuels to human society and the impact their usage is havingThe consequences of different energy source usage from renewable energies | The impact of diet, exercise and drugs on our health.Group work. | The importance of diamonds / how their structure makes them suitable for a variety of industrial purposes.Group work.  | Electrical safety.Group work. | Importance of hand washing.Implications of vaccines- listening to others opinions. Group work. | Group work.  | Group work.Understanding the energy required to cook food.  |
| **Assessment Opportunities** | Each unit is assessed by an end of topic test. During the year students will be assessed on their Working Scientifically skills.These include: Graph drawing, practical planning, error identification, Conclusion writing.  |
| **Links to other units in KS3/4.** | Yr 7- What am IYr 10 - Inheritance, variation & evolution | Yr 7- OceanYr 8- CSIYr 9- BondingYr 9- Quantitative chemistryYr 10- Chemical ReactionsYr 10- Rates of ReactionYr 10 – Radiation  | Yr 8 –PowerYr 9- ElectrivityYr 10- Biological reactionsYr 10- Rates of reactions | Yr 7 - Sports ScienceYr 7- DinosaursYr 8- HospitalYr 8- ChefYr 8 – FarmYr 10- Biological reactionsYr 11- Ecology | Yr 7- OceansYr 8- CSIYr 9- AtomsYr 9- Quantitative chemistryYr 10- Chemical reactionsYear 10 – Rate of reactionYr 10- Organic chemistry | Yr 7- DinosaursYr 8- PowerYr 11- Electromagnetism  | Yr 7 What am IYr 8- HospitalYr 9 – CellsYr 9= Organisation | Yr 8- CSIYr 9 BondingYr 10 – Chemical reactionsYr 10- Rates of reaction | Yr 7- OceanYr 8- CSIYr 9- Atoms |