



Passion Urgency Positivity Aspiration Commitment

## Curriculum Intent and Rationale: Science

**The wider curriculum** at Tudor Academy is designed to enhance our core values and learning behaviours of #Passion, #Urgency, #Positivity, #Aspiration, and #Commitment

**Intent:** Our motto 'Inspiring Excellence for All' and our values 'Positivity, Urgency, Passion, Aspiration, Commitment & Commitment to Anti-Racism' underpin our curriculum offer and drive the elements that are central to our school vision and ethos. Positivity – promoting an inclusive, resilient and can-do attitude towards learning where progress is celebrated. Urgency – ensuring that every moment of a child's time at school is purposeful and deliberately planned for. Passion – igniting curiosity and a love for learning which is supplemented by a range of exciting opportunities which exposes them to a world beyond their immediate experiences. Aspiration – fostering a culture of ambition where children have high expectations for themselves now and for their future. Commitment – offering a high-quality and diverse curriculum which challenges the children and equips them with the skills and knowledge to be a voice for change.

Tudor Academy has deliberately designed our Science curriculum to enable children to ignite curiosity in the scientific world and equip them with the tools to use their understanding to make sense of the world around them. With an excellent balance between the emphasis on scientific content and working scientifically, children will accumulate knowledge across the scientific disciplines and skills needed to become innovative and solution focused learners. Vocabulary and use of scientific language is at the heart of lessons to enable children to clearly articulate their learning and express links being made to prior learning in other areas of Science.

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Nursery					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Marvelous Me Family Matters	Autumn Antics	Winter Wonders Healthy Me	Baa Baa Moo Moo Swing into Spring	Roots and Shoots	Our Big Beautiful Earth Splash into Summer
Reception					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<i>Those Nearest and Dearest</i>  <i>Head to Toe</i>	<i>Season Of Plenty</i>  <i>What's on the Menu</i>	<i>Winter Weatherland</i>  <i>Day and Night, Dark and Light</i>	<i>Safe and Sound</i>  <i>Buggy About Spring</i>	<i>City Gardens, Country Farms</i>  <i>Fur and Feathers</i>	<i>Water Wonders</i>  <i>Every Day is Earth Day</i>

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Year 1					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Human Body <ul style="list-style-type: none"> <li>• Introduction to Our Body and Our Senses</li> <li>• Eyes and Sight 3</li> <li>• Ears and Hearing</li> <li>• Touch, taste and smell</li> </ul> Understanding Sensory Impairment	Animals and their needs <ul style="list-style-type: none"> <li>• Amazing Animals (Introduction to Animals)</li> <li>• Grouping animals: Fish, amphibians, reptiles, birds and mammals</li> <li>• Grouping animals: carnivores, herbivores and omnivores</li> <li>• Animals as pets</li> <li>• Describing animals</li> </ul>	Seasons and Weather <ul style="list-style-type: none"> <li>• The four seasons</li> <li>• Tools to record the weather</li> <li>• Using a graph to show information about the weather</li> <li>• Clouds and what they tell us: cirrus, cumulus and stratus</li> <li>• Weather forecasting</li> <li>• Extra lesson: Dangerous weather around the world</li> </ul>	Taking care of the Earth <ul style="list-style-type: none"> <li>• Taking Care of the Earth</li> <li>• Earth's Natural Resources</li> <li>• Logging</li> <li>• Pollution</li> <li>• Recycling</li> </ul>	Plants <ul style="list-style-type: none"> <li>• What plants need</li> <li>• Parts of plants</li> <li>• Seeds</li> <li>• Deciduous and evergreen plants</li> <li>• Plants we eat</li> </ul>	Materials and Magnets <ul style="list-style-type: none"> <li>• Everyday Materials</li> <li>• Properties of Materials</li> <li>• Uses of Materials</li> <li>• Magnets</li> <li>• Investigation</li> </ul>

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Year 2					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
The Human Body <ul style="list-style-type: none"> <li>Animals, including humans, survival and offspring</li> <li>The Skeletal System, The Muscular System and Exercise</li> <li>The Digestive system and Healthy Eating</li> <li>The Circulatory system</li> <li>Germs, diseases and preventing illness</li> </ul>	Living things and their environments <ul style="list-style-type: none"> <li>Dead or Alive?</li> <li>What is a habitat?</li> <li>Rainforest and Desert habitats</li> <li>Meadow habitats</li> <li>Underground habitat</li> </ul>	Electricity <ul style="list-style-type: none"> <li>Introduction to Electricity</li> <li>Safety</li> <li>Exploring Circuits (A)</li> <li>Exploring Circuits (B)</li> <li>Investigating Conductive and non-conductive materials</li> </ul>	Plants <ul style="list-style-type: none"> <li>Plants around us</li> <li>Seeds and bulbs</li> <li>Comparative test 1</li> <li>Comparative test 2</li> <li>Food and Farming</li> </ul>	Materials and matter <ul style="list-style-type: none"> <li>Materials and their uses</li> <li>George de Mestral and Velcro</li> <li>Matter under the microscope</li> <li>Changing Solid Objects</li> <li>Liquids and their properties</li> </ul>	Astronomy <ul style="list-style-type: none"> <li>Introduction to Astronomy</li> <li>Model the Solar System</li> <li>Orbit and Rotation</li> <li>The Moon and its Phases</li> <li>Constellations</li> </ul>

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Year 3					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
The Human Body <ul style="list-style-type: none"> <li>• The Muscular System</li> <li>• The Skeletal System</li> <li>• The Nervous System</li> <li>• Preparing to Eat</li> <li>• The Digestive System</li> </ul>	Cycles in Nature <ul style="list-style-type: none"> <li>• The Four Seasons (prior learning)</li> <li>• Seasonal Cycles in Plants</li> <li>• Life Cycle of a Plant</li> <li>• Animal Migration</li> <li>• Life Cycle of a Frog</li> </ul>	Light <ul style="list-style-type: none"> <li>• Light and Dark</li> <li>• Transparent and Opaque Surfaces</li> <li>• Mirrors and Reflection</li> <li>• Part 1—Shadows</li> <li>• Part 2—Finding Patterns in Changing Shadows</li> </ul>	Plants <ul style="list-style-type: none"> <li>• Botany and Flowering Plants</li> <li>• Requirements for Life and Growth</li> <li>• Water Transportation in Plants</li> <li>• Pollination in Flowering Plants</li> <li>• Seed Dispersal</li> </ul>	Rocks <ul style="list-style-type: none"> <li>• Sorting rocks</li> <li>• How Rocks are Formed</li> <li>• Permeability</li> <li>• Fossils</li> <li>• Soil</li> </ul>	Forces and Magnets <ul style="list-style-type: none"> <li>• Forces (Gravity)</li> <li>• Friction</li> <li>• Magnet</li> <li>• Magnetic Poles and Fields</li> <li>• Investigating the strength of magnets</li> </ul>

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Year 4					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
The Human Body <ul style="list-style-type: none"> <li>• Cells and Nutrients</li> <li>• Teeth and Senses</li> <li>• Digestion</li> <li>• A Healthy Diet</li> <li>• Vitamins and Minerals</li> </ul>	Classification of Plants and Animals <ul style="list-style-type: none"> <li>• Introduction to classification</li> <li>• Classes of vertebrates: Fish and Amphibians</li> <li>• Classes of vertebrates: Reptiles, Birds and Mammals</li> <li>• Classes of invertebrates: Insects, Arachnids and Molluscs</li> <li>• Classification of plants</li> </ul>	Ecology <ul style="list-style-type: none"> <li>• Living Things and Habitats</li> <li>• Natural Cycles</li> <li>• Web of Living Things</li> <li>• Air Pollution—A Human Threat to the Environment</li> <li>• Ecology in our Local Areas</li> </ul>	Sound <ul style="list-style-type: none"> <li>• What is sound?</li> <li>• Speed of sound</li> <li>• Qualities of sound—Pitch and Volume</li> <li>• Human Voice</li> <li>• Ears— How we Hear</li> </ul>	States of Matter and the Water Cycle <ul style="list-style-type: none"> <li>• States of Matter</li> <li>• Evaporation</li> <li>• Condensation</li> <li>• Precipitation</li> <li>• The Water Cycle</li> </ul>	Electricity <ul style="list-style-type: none"> <li>• Electrical Safety</li> <li>• Parts of a circuit</li> <li>• Switches</li> <li>• Thomas Edison and Lewis Latimer</li> <li>• Investigating conductive and non-conductive materials</li> </ul>

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Year 5					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>The Human Body</b>	<b>Materials</b>	<b>Living Things and Their Habitats</b>	<b>Forces</b>	<b>Astronomy</b>	<b>Meteorology</b>
<ul style="list-style-type: none"> <li>• Gestation and Infancy</li> <li>• Adolescence and Puberty</li> <li>• Slowing Down</li> <li>• Growth in Humans and Animals</li> <li>• Preparation for Assessment (research and scientific drawing)</li> </ul>	<ul style="list-style-type: none"> <li>• Properties of materials</li> <li>• Which material is best?</li> <li>• Solubility- which materials are most soluble/what solubility means</li> <li>• Separating mixtures- sieving, filtering, evaporating</li> <li>• Reversible changes- dissolving, mixing, change of state</li> </ul>	<ul style="list-style-type: none"> <li>• 1. Life Cycles of Plants and Animals in our Local Area</li> <li>• Reproduction in Plants</li> <li>• Life Cycles of Mammals and Amphibians</li> <li>• Life Cycles of Insects and Bats</li> <li>• The Work of David Attenborough and Jane Goodall</li> </ul>	<ul style="list-style-type: none"> <li>• Forces Including Gravity</li> <li>• Air Resistance, Water Resistance and Friction</li> <li>• Guided Investigation: Paper Drop</li> <li>• Pulleys, Gears and Levers</li> </ul>	<ul style="list-style-type: none"> <li>• The Big Bang and the expanding universe</li> <li>• Gravity</li> <li>• Our Solar System</li> <li>• The Moon</li> <li>• Our Galactic neighbourhood</li> </ul>	<ul style="list-style-type: none"> <li>• Meteorology and the Atmosphere</li> <li>• The Ozone Layer</li> <li>• Air Movement</li> <li>• Cold and Warm Fronts</li> <li>• Thunder and Lightning</li> </ul>

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Year 6					
Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
The Human Body <ul style="list-style-type: none"> <li>• Fossils and Mary Anning</li> <li>• Inheritance</li> <li>• Adaptation</li> <li>• Charles Darwin</li> <li>• Alfred Wallace</li> </ul>	Classification of Living Things <ul style="list-style-type: none"> <li>• Asexual reproduction</li> <li>• Sexual reproduction in non-flowering plants</li> <li>• Sexual reproduction in flowering plants</li> <li>• Reproduction in animals</li> <li>• Growth stages</li> </ul>	Electricity <ul style="list-style-type: none"> <li>• How Light Travels</li> <li>• How We See</li> <li>• Shadows and Their Shapes</li> <li>• The Colour of Light</li> <li>• Making a Periscope</li> </ul>	Light <ul style="list-style-type: none"> <li>• Simple Series Circuits</li> <li>• Voltage</li> <li>• Switches</li> <li>• Planning an Investigation</li> <li>• Investigation</li> </ul>	Reproduction <ul style="list-style-type: none"> <li>• Asexual reproduction</li> <li>• Sexual reproduction in non-flowering plants</li> <li>• Sexual reproduction in flowering plants</li> <li>• Reproduction in animals</li> <li>• Growth stages</li> </ul>	Evolution <ul style="list-style-type: none"> <li>• Fossils and Mary Anning</li> <li>• Inheritance</li> <li>• Adaptation</li> <li>• Charles Darwin</li> <li>• Alfred Wallace</li> </ul>