CURRICULUM MAP (Long term plan)

SUBJECT : Science **YEAR GROUP: 5**

	Cycle 1 **Autumn**	**Cycle 2** **Spring**	**Cycle 3** **Summer**
Substantive knowledge – Essential knowledge & conceptual understanding of the National Curriculum	Living things and their habitats- life cycles	Forces Earth and Space	Properties and changes of materials Animals including humans- birth-old age
Disciplinary knowledge - what skills are practised?	•Communicates findings in written form, displays and uses other forms of presentation. •Uses scientific language to communicate increasingly detailed analysis with some support •Can compare relationships being investigated. • Uses simple models to help describe scientific ideas •Makes generalisations about what that evidence seems to indicate.	•Creates questions for scientific enquiry. •Can plan familiar enquiry types in detail •Selects the most appropriate equipment to use in a range of contexts and enquiries. •Records data and results of increasing complexity using scientific diagrams, classification keys, tables, bar and line graphs and models. •Communicates findings in written form, displays and uses other forms of presentation. •Uses scientific language to communicate increasingly detailed analysis with some support •Can compare relationships being investigated. • Uses simple models to help describe scientific ideas •Makes generalisations about what that evidence seems to indicate. •Uses test results to set up further comparative tests. •Suggests how an enquiry might be improved.	•Creates questions for scientific enquiry. •Can plan familiar enquiry types in detail •Selects the most appropriate equipment to use in a range of contexts and enquiries. •Records data and results of increasing complexity using scientific diagrams, classification keys, tables, bar and line graphs and models. •Communicates findings in written form, displays and uses other forms of presentation. •Uses scientific language to communicate increasingly detailed analysis with some support •Can compare relationships being investigated. • Uses simple models to help describe scientific ideas •Makes generalisations about what that evidence seems to indicate. •Uses test results to set up further comparative tests. •Suggests how an enquiry might be improved. •Identifies scientific evidence that has been used to support or refute ideas or argument

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Key questions (What is the learning about?)	**Living things and their habitats** Can I explain how you identify something as being alive? Can I carry out an investigation safely? Can I explore the life cycle of mammals? Can I explain the life cycles of birds? Can I discuss the life cycle of an amphibian? Can I describe the life cycle of an insect? Can I compare the life cycles of mammals, birds, amphibians and insects? Can I identify and label the parts of a flower? Can I locate the parts of a flower? Can I explain the life cycle of a plant? Can I explain how asexual plants reproduce? Can I report findings and produce a bar chart based on gestation data?	**Forces** Can I explore gravity? Can I understand the importance of Sir Isaac Newton? Can I identify forces acting on objects? Can I explore the effect that gravity has on objects? Can I explore air resistance? Can I explore the effects of water resistance? Can I discuss friction? Can I investigate friction? Can I explore simple mechanisms? Can I explore simple gears? Can I create a mechanism? **Earth and Space** Can I recognise the Earth as a spherical body? Can I describe the movement of the Earth and other planets in the Solar System? Can I research the Solar System? Can I understand the size of the Sun in relation to the planets? Can I explain day and night based on the Earth's rotation? Can I create a line graph of sunshine hours during the year? Can I describe the movement of the Moon in relation to the Earth?	**Properties and changes of materials** Can I explore materials and identify their properties? Can I explore materials and identify their properties? Can I classify materials based on their properties? Can I investigate absorbency? Can I understand how different materials conduct electricity? Can I discuss and explore thermal conductors and insulators? Can I understand that some materials can dissolve in a liquid? Can I understand that some changes can be reversed? Can I understand that some changes are irreversible? Can I investigate the changes involved in burning? **Animals including humans- birth-old age** Can I understand that the human life cycle is similar to that of other mammals? Can I describe the stages of human development? Can I learn about foetal development in humans? Can I recognise key milestones in baby and child development? Can I identify physical and mental changes that happen from adulthood to old age?

Assessment	PPC mid topic, based on a scientific skill, marked and then fix it time to improve End of unit assessment Y5 LIVING-THINGS-AND-THEIR-HABITATS-COLOUR.pdf	PPC mid topic, based on a scientific skill, marked and then fix it time to improve End of unit assessment Y5 FORCES-COLOUR.pdf Y5 EARTH-AND-SPACE-COLOUR.pdf	PPC mid topic, based on a scientific skill, marked and then fix it time to improve End of unit assessment Y5 ANIMALS-INCLUDING-HUMANS-COLOUR.pdf Y5 PROPERTIES AND CHANGES OF MATERIALS-COLOUR.pdf
Literacy (L),**Numeracy** (N), **Oracy** (O) **opportunities**	**Literacy** Children will research Sir David Attenborough and discuss his achievements. They will then use literacy techniques to create a biography of his life. **Numeracy** use symbols for units, presenting data graphically	**Literacy** Non-Chronological report about the Solar System. The children will research using a variety of sources about the Solar System and create a Non-chronological report using taught literacy skills. They will read a short comprehension on The Planets also. Reading comprehension - Sir Isaac Newton. The children will use retrieval methods to answer questions based on the short extract introducing Sir Isaac Newton and his discoveries. **Numeracy** use symbols for units, presenting data graphically	**Literacy** Non-chronological report about old age- The children will be discussing the changes that adults go through as they reach old age. They will discuss any misconceptions and use their knowledge to create a non-chronological report. This will use literacy techniques taught and demonstrate their scientific knowledge. **Numeracy** use symbols for units, presenting data graphically.
Cross Curricular Opportunities			
SMSC / Character/Careers/Cultural Capital (personal development)	**SMSC -**pair & group working, working safely in a science laboratory.	**SMSC -**pair & group working, working safely in a science laboratory.	**SMSC -**pair & group working, working safely in a science laboratory. Links with changes in the human body as we grow older.
Equality and Diversity	Slides represent children, adults of different ethnic and religious	Slides represent children, adults of different ethnic and religious groups and some with disabilities.	Slides represent children, adults of different ethnic and religious groups and some with disabilities.

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Super Curriculum (personal development)	Butterflies are grown in school and the children get to see a life cycle in action. Opportunities to explore outdoor areas.	Geobus workshop on the solar System Space Centre trip Moon diary exercise	Investigations linked to real life school scenarios. Paper towel investigation. Children invited to bring photos of them as babies and discuss how they have grown and changed