KELFORD SCHOOL – LONG TERM PLAN (STEM)

Key: Sci, DT, com	Autumn 1	Autumn 2	Spring	Summer 1	Summer 2
TOPIC	**Who we are and Where we belong**	**Time travellers**	**Animal Kingdom**	**Our Beautiful planet**	**Lights camera action**
Cycle 1	Animals including humans – focus Human Biology Cooking, design, evaluate, technical knowledge Video, ipad cause and effect (Information technology – skills- knowledge and understanding)	Working scientifically Desing, Make, technical knowledge Algorithms and coding (Algorithms and programming)	Animals including humans / living things and their habitatas (animal focus) Design, Make, technical knowledge Internet (Information technology, skills, digital literacy, Knowledge and understanding)	Animals including humans / living things and their habitatas (habitat focus) Cook, make, evaluate, technical knowledge control devices and coding (Algorithms and programming)	Sound / light and dark Cook, design, make, technical knowledge Creating content, video, animation, photography, sound (Information technology, skills, knowledge and understanding)
TOPIC	**Changes**	**Power to the people**	**Out of this world**	**We are the champions**	**The Carnival**
Cycle 2	Everyday materials,States of matter and chemical changes Cook, Algorithms (Algorithms and programming)	Working scientifically/forces Cook, make, evaluate, technical knowledge Internet (Information technology, skills, digital literacy, Knowledge and understanding)	Light and dark / space/ forces Cooking, design, make, evaluate, technical knowledge Cause and effect, coding, control devices (Algorithms and programming, Information technology, knowledge and understanding)	Animals including humnas (keeping healthy focus) Cook, make, evaluate, technical knowledge Data collection(skills, literacy, knowledge and understanding)	Electricity Cook, design, make, technical knowledge Makey Makey (Algorithm and programming) Creating content, video, photography, graphic design (Information technology, skills, knowledge and understanding)
TOPIC	**Evolution and revolution**	**Celebrate the world**	**Shaping the world**	**From Field to Fork – planting and planning**	**From Field to Fork/Glorious galleries.**
Cycle 3	Rocks (focus on Fossils) Environmental (focus on water cycle) Cook, make, evaluate, technical knowledge Internet (Information technology, skills, digital literacy, Knowledge and understanding)	Working scientifically – including forces and magnets Cook, evaluate, Technical knowledge Algorithms (Algorithms and programming)	Sesonal change / rocks Design, Make, evaluate, technical knowledge Cause and effect, coding, control devices (Algorithms and programming, Information technology, knowledge and understanding)	Plants Cooking, design, make, evaluate, technical knowledge Creating content -Graphic desing, copy and pasting (skills, knowledge and understanding)	Plants Design, Make, evaluate, technical knowledge Graphic desing – drawing software, presentation software (skills digital literacy, knowledge and understanding)

Cycle 1	Who we are and Where we belong	Time travellers	Animal Kingdom	Beautiful planet	Lights camera action
Phase 1 (Year 1-3)	Animals including humans – focus Human Biology (basic external body parts and facial features) Evaluating, making, cooking and nutrition Video (Information technology – skills – taking pictures and using touch screens)	Questioning and planning skills Design, making, tech knowledge Alogrithms Exploring blue bots- with little direction	Animals including humans / living things and their habitatas (UK animals, farm animal focus), caterpillar life cycle Design, Make, evaluate and tech knowledge Internet (guided exploration, skills)	Animals (exploring Arctic and Antarctic habitats, basic animal adaptions) Make, evaluate Exploring control devices – directed	Sound / light and dark exploration Cook, design, make, Creating content, video, animation, photography, sound (Information technology, skills, knowledge and understanding)
Phase 2 (Year 4-6)	Animals including humans – focus Human Biology (further external body parts, skeletons, likes and dislikes) Desing, make Cooking and nutrition (Information technology, skills (taking photos), digital literacy (choosing software for tasks)	Questioning, planning and recording Design, making, tech knowledge Alogrithms Exploring blue bots- direcreted	Animals including humans / living things and their habitatas (more exotic animals, ocean life, life cycles) Design, Make, technical knowledge Internet (basic searches - Information technology, skills, digital literacy, Knowledge and understanding)	Animals (hot climates, adaptions in animals and plants) Design,make, evaluate, technical knowledge Simple algorithms; following instructions with control devices	Sound / light and dark exploration Cook, design, make, technical knowledge Creating content, video, animation, photography, sound (Information technology, skills, knowledge and understanding)
Phase 3 (Year 7-9)	Animals including humans – focus Human Biology (skeleton and internal body parts, organs) Cooking and nutrition, design make Video, ipad cause and effect (Information technology – skills- knowledge and understanding), digital literacy using software	Discussing, predicting, questioning, planning, recording Design, making, technical knowledge, cooking and nutrition Algorithms and programming – algorithm coding and digital devices	Animals including humans / living things and their habitatas (all animals, food chains and webs, animal groups) Design, Make, technical knowledge Internet (reliability of information, Information technology, skills, digital literacy, Knowledge and understanding)	Animals (rainforest – animal and plant adaption, camouflage) Cook, evaluate, cooking and nutrition, design, make Algorithms and programming (if appropriate pro bots) and coding	Sound / light and dark exploration Cook, design, make, technical knowledge Creating content, video, animation, photography, sound (Information technology, skills, knowledge and understanding)

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Cycle 2	Changes	Power to the people	Out of this world	We are the champions	The Carnival
Phase 1 (Year 1-3)	Everyday materials and their sensory properties; states of matter through exploration Cook, Algorithms and instructions for everyday tasks	Working scientifically; forces (exploring push/pull) Cook, make, evaluate, technical knowledge Internet (guided exploration, skills)	Light and dark, space (sun, moon, earth) Design, make, evaluate Cause and effect skills using control devices	Animals including humans exploring healthy food and exercise Cook, make, evaluate, technical knowledge Data collection Using objects and tokens to collect information then count	Electricity Cook, design, make, technical knowledge Making carnival games Supported to make and watch videos of themselves and that they are doing.
Phase 2 (Year 4-6)	Everyday materials, properties (manmade and natural); states of matter Cook, Algorithms (following and making instructions for others)	Working scientifically; forces (identifying push/pull) Cook, make, evaluate, technical knowledge Internet (basic searches - Information technology, skills, digital literacy, Knowledge and understanding); using phones	Light and dark / space (space race; planets); forces (push and pull; gravity) Cooking, design, make, evaluate Cause and effect, control devices (Algorithms and programming, Information technology, knowledge and understanding)	Animals including humans making healthy choices Cook, make, evaluate, technical knowledge Data collection Using tally charts simple pictograms	Electricity Cook, design, make, technical knowledge Making fair carnival games Makey Makey (exploration) Creating content, video, photography, graphic design (Information technology, skills, knowledge and understanding)
Phase 3 (Year 7-9)	Everyday materials and properties (how this makes them useful for different things); states of matter; chemical changes Cook, Algorithms (following more complex instructions and making them for others)	Working scientifically; forces (push and pull; exploring friction) Cook, make, evaluate, technical knowledge Internet (reliability of information, Information technology, skills, digital literacy, Knowledge and understanding); using phones	Space (solar system and planets, climates) Design, make, evaluate, technical knowledge Cause and effect, coding, control devices (Algorithms and programming, Information technology, knowledge and understanding)	Animals including humans keeping healthy and circulatory system Cook, make, evaluate, technical knowledge Data collection Data bases – graphs drawn and computer, tabkes, decision trees	Electricity Cook, design, make, technical knowledge Making carnival gamers Makey Makey (making something happen) Creating content, video, photography, graphic design (Information technology, skills, knowledge and understanding)

Cycle 3	Evolution and revolution	Celebrate the world	Spring - Shaping the world	From Field to Fork	Glorious Galleries
Phase 1 (Year 1-3)	Rocks Explore fossils Cook, make, evaluate, technical knowledge Internet (guided exploration, skills)	Working scientifically – exploring forces and magnets Cook, evaluate, Technical knowledge Alogrithms Exploring blue bots- with little direction	Sesonal change Design, Make, evaluate, technical knowledge Cause and effect,	Plants -exploring Cooking, design, make, evaluate, technical knowledge Creating content -Graphic desing, copy and pasting (skills, knowledge and understanding)	Plants- basic parts Design, Make, evaluate, technical knowledge Graphic desing – drawing software,
Phase 2 (Year 4-6)	Rocks (focus on Fossils) Environmental (focus on water cycle) Cook, make, evaluate, technical knowledge Internet (basic searches - Information technology, skills, digital literacy, Knowledge and understanding)	Working scientifically – including forces and magnets Cook, evaluate, Technical knowledge Alogrithms Exploring blue bots- direcreted	Sesonal change / rocks Design, Make, evaluate, technical knowledge Cause and effect, control devices not blue bots	Plants – parts of plant / growing Cooking, design, make, evaluate, technical knowledge Creating content -Graphic desing, copy and pasting (skills, knowledge and understanding)	Plants- growning life cycles Design, Make, evaluate, technical knowledge Graphic desing – drawing software, presentation software (skills digital literacy, knowledge and understanding)
Phase 3 (Year 7-9)	Rocks (focus on Fossils) Environmental (focus on water cycle) Cook, make, evaluate, technical knowledge Internet (reliability of information, Information technology, skills, digital literacy, Knowledge and understanding)	Working scientifically – including forces and magnets Cook, evaluate, Technical knowledge Algorithms and programming – algorithm coding and digital devices	Sesonal change / volcanos Design, Make, evaluate, technical knowledge Cause and effect, coding, control devices Not blue bots (Algorithms and programming, Information technology, knowledge and understanding)	Plants – parts of plant what their roles growing Cooking, design, make, evaluate, technical knowledge Creating content -Graphic desing, copy and pasting (skills, knowledge and understanding)	Plants- pollenation Design, Make, evaluate, technical knowledge Graphic desing – drawing software, presentation software (skills digital literacy, knowledge and understanding)