Tracking a child in Science.

EYFS	Objective and skills taught in this year	What prior learning does this build on?	How do these objectives inform future learning?
	• Describe, why, wonder • Understand 'why' questions • Ask & attempt to answer questions • Making healthy choices • Knowing their body • Hands-on exploration of materials & forces & natural world • Explore how things work • Plant & grow seeds • Explore changing seasons • Explore changing states of matter • Read wide variety of texts with different genres & settings	• Life experiences & exploration in family or nursery settings	• Lays the foundation for being curious about the world, making careful observations, asking questions, exploring the world around them & beyond
Year 1	Objective and skills taught in this year	What prior learning does this build on?	How do these objectives inform future learning?
	Working Scientifically • Ask questions & predict • Books, photos, videos, websites • First-hand observation • Look for differences • Measure, lists, tallies • Suggest answers to questions • Recount what they've seen or found	• Describe, why, wonder • Understand 'why' questions • Ask & attempt to answer questions • Making healthy choices • Knowing their body • Hands-on exploration of materials & forces & natural world • Explore how things work	**Living Things** Y2 – habitats, life cycles, food chains, adaptation, growing plants, growth of animals & humans, healthy diet & lifestyle Y3 –plant biology, human body, healthy eating Y4 – classification, invertebrates, human impact, digestive system, teeth

	● **Living Things** - habitats, parts of plants, animals, humans, health ● **Materials** – properties of everyday materials, melt, freeze, boil, burn ● **Sound, light, Earth & space** – weather, seasons, sun & shadows ● **Forces** – push, pull, float, sink, squash, stretch, twist	● Plant & grow seeds ● Explore changing seasons ● Explore changing states of matter ● Read wide variety of texts with different genres & settings	Y5 - life cycles, reproduction in plants & animals; puberty Y6 - microorganisms, classification, evolution, adaption, inheritance, heart & circulatory system **Materials** Y2 – Properties & purpose Y3 – rocks & fossils Y4 – states of matter, water cycle Y5 - reversible & irreversible, thermal conductors & insulators Y6 - conductivity, oxidation **Sound, light, Earth & space** Y1 – weather, seasons, sun & shadows Y2 – months, temperature Y3 – light & shadows Y4 – sound Y5 – Earth & space Y6 - light **Forces** Y2 - elastic, twist, stretch, squash Y3 – friction, force meters, magnets Y4 – simple series circuits, conductors & insulators Y5 – mechanisms, air & water resistance, levers Y6 - series & parallel circuits, voltage, circuit diagrams
Year 2	Objective and skills taught in this year	What prior learning does this build on?	How do these objectives inform future learning?
	Working Scientifically ● Ask questions & predict ● Books, photos, videos, websites ● Intro ‘fair testing’	EYFS **Living Things** Y1 - habitats, parts of plants, animal & human body parts	**Living Things** Y3 –plant biology, human body, healthy eating

	• Plan how to find out • First-hand observation with simple equipment • Everyday words used precisely • Similarities & differences • Measure (cm), frequency tables • Answer questions about predictions & results • Comment about method used • Explain findings – verbally, writing, graphs (block, pictograms, tables) • **Living Things** – habitats, life cycles, food chains, adaptation, growing plants, growth of animals & humans, healthy diet & lifestyle • **Materials** – properties & purpose • **Sound, light, Earth & space** – months, temperature • **Forces** – elastic, electricity, twist, stretch, squash	**Materials** Y1 – properties of materials, changes Y1 - forces **Sound, light, Earth & space** Y1 – weather, seasons	Y4 – classification, invertebrates, human impact, digestive system, teeth Y5 - life cycles, reproduction in plants & animals; puberty Y6 - microorganisms, classification, evolution, adaption, inheritance, heart & circulatory system **Materials** Y3 – rocks & fossils Y4 – states of matter, water cycle Y5 - reversible & irreversible, thermal conductors & insulators Y6 - conductivity, oxidation **Sound, light, Earth & space** Y3 – light & shadows Y4 – sound Y5 – Earth & space Y6 - light **Forces** Y3 – friction, force meters, magnets Y4 – simple series circuits, conductors & insulators Y5 – mechanisms, air & water resistance, levers Y6 - series & parallel circuits, voltage, circuit diagrams
Year 3	Objective and skills taught in this year	What prior learning does this build on?	How do these objectives inform future learning?
	Working Scientifically • Predict using scientific language & concepts • Apply 'fair testing' • Plan & explain verbally using technical vocabulary • Independently select research sources	EYFS **Living Things** Y1 - habitats, parts of plants, animals, humans, health	**Living Things** Y4 – classification, invertebrates, human impact, digestive system, teeth Y5 - life cycles, reproduction in plants & animals; puberty

	● Range of observation equipment (microscope, data loggers) ● Simple scientific vocabulary ● Questions & answers using scientific vocab (change, difference) ● Categorising, cause & effect ● Accurate measurements (mm) ● Notes, tables, diagrams ● Link results to language & subject knowledge ● Suggest further enquiries ● Evaluate prediction & method ● Explain observations, results & conclusions (bar charts) ● IT graphs (line graph, pie chart) ● **Living Things** – plant biology & reproduction, human body, healthy eating ● **Materials** – rock & fossils ● **Sound, light, Earth & space** – light & shadows ● **Forces** – friction, force meters, magnets	Y2 - habitats, life cycles, food chains, adaptation, growing plants, growth of animals & humans, healthy diet & lifestyle **Materials** Y1 - properties of everyday materials Y2 – properties of materials **Sound, light, Earth & space** Y1 - sun & shadows **Forces** Y1 - push, pull, float, sink, squash, stretch, twist	Y6 - microorganisms, classification, evolution, adaption, inheritance, heart & circulatory system **Materials** Y4 – states of matter, water cycle Y5 - reversible & irreversible, thermal conductors & insulators Y6 - conductivity, oxidation **Sound, light, Earth & space** Y4 – sound Y5 – Earth & space Y6 - light **Forces** Y4 – simple series circuits, conductors & insulators Y5 – mechanisms, air & water resistance, levers Y6 - series & parallel circuits, voltage, circuit diagrams
Year 4	Objective and skills taught in this year	What prior learning does this build on?	How do these objectives inform future learning?
	Working Scientifically ● Frame predictions in scientific language & concepts ● Select info to inform predictions ● Explain plans in detail, using scientific vocabulary ● Different types of scientific enquiry ● Begin to link planning & evaluating stage ● Select sources to construct own opinions ● Evaluate observations & compare with others	EYFS **Living Things** Y1 - habitats, parts of plants, animals, humans, health Y2 - habitats, life cycles, food chains, adaptation, growth of animals & humans, healthy diet & lifestyle Y3 - plant biology & reproduction, human body, healthy eating **Materials**	**Living Things** Y5 - life cycles, reproduction in plants & animals; puberty Y6 - microorganisms, classification, evolution, adaption, inheritance, heart & circulatory system **Materials** Y5 - reversible & irreversible, thermal conductors & insulators Y6 - conductivity, oxidation

	● Use scientific vocab often & appropriately ● Ask & answer scientifically valid questions (contrast, cause, effect, reliability) ● Categorise, identify contrasts, changes & trends ● Make estimations ● Systematic & careful measurements, data loggers ● Quantitative & qualitative notes, including scientific language ● Simple calculations ● Comment on causal relationships, linked to scientific concepts ● Suggest improvements to method ● Present relevant data, observations & conclusions (slideshow, vlog, graphic format) ● Graph results (time graphs, discrete & continuous data) ● **Living Things** – classification, invertebrates, human impact, digestive system, teeth ● **Materials** – changes of state, water cycle ● **Sound, light, Earth & space** – sound, pitch, amplitude, vibrations ● **Forces** – electrical circuits	Y1 – properties of everyday materials, melt, freeze, boil, burn Y2 – properties & purpose **Sound, light, Earth & space** Y1 – weather, seasons **Forces (previous learning links to materials)** Y1 – push, pull, float, sink, squash, stretch, twist	**Sound, light, Earth & space** Y5 – Earth & space Y6 - light **Forces** Y5 – mechanisms, air & water resistance, levers Y6 - series & parallel circuits, voltage, circuit diagrams
Year 5	Objective and skills taught in this year	What prior learning does this build on?	How do these objectives inform future learning?
	Working Scientifically ● Draw on evidence to inform predictions (experience, reading, media)	EYFS **Living Things** Y1 - habitats, parts of plants, animals, humans, health	**Living Things** Y6 - microorganisms, classification, evolution, adaption, inheritance, heart & circulatory system

	• Refer to concepts (reliability, significance, replicability) • Plan, making links to previous investigations • Consider merits of different types of scientific enquiry • Select, organise & use relevant info from range of sources • Justify opinions & challenge others • Build on others' observations • Explain how scientific vocab differs from everyday usage • Ask/answer valid questions • Make more complex links between changes/differences & scientific content • Start to comment on accuracy of measurements • Take repeat readings • Clear records of observations & enquiry • Justify interpretations with evidence from own enquiry & external sources • Organise evaluations • Include relevant background info in evaluations • Labelled diagrams, tables, classification keys, simple scatter diagrams • **Living Things** – life cycles, reproduction in plants & animals; puberty • **Materials** – reversible & irreversible, thermal conductors & insulators • **Sound, light, Earth & space** – Earth & space	Y2 – habitats, life cycles, food chains, growth of animals & humans, healthy diet & lifestyle Y3 – plant biology & reproduction, human body, healthy eating Y4 - habitats, classification, human impact **Materials** Y1 – melt, freeze, boil, burn Y2 – properties & purpose Y3 – rocks & fossils Y4 – changes of state **Sound, light, Earth & space** Y1 – seasons, sun & shadows Y2 – months, temperature Y3 – light & shadows **Forces** Y1 – push, pull, float, sink, squash, stretch, twist Y3 – friction, force meters, magnets	**Materials** Y6 - conductivity, oxidation **Sound, light, Earth & space** Y6 - light **Forces** Y6 - series & parallel circuits, voltage, circuit diagrams

	● **Forces** – mechanisms, air & water resistance, levers		
Year 6	Objective and skills taught in this year	What prior learning does this build on?	How do these objectives inform future learning?
	Working Scientifically ● Predict, using evidence, & referring to reliability, significance & replicability ● Plan enquiries to answer own questions ● Link to studies & past/future investigations ● Select, organise & use relevant info from a range of sources ● Justify opinions & challenge others ● Apply scientific vocab in other contexts ● Ask/answer perceptive questions ● Make links between observations & scientific concepts (from Y1-6) ● Understand why different levels of accuracy are appropriate ● Explain choices about where & when to record an enquiry. ● Group & redraft into useful formats (tables, diagrams, flow charts) ● Comment on reliability, replicability & methodology of results ● Link experience to range of scientific content (Y1-6) ● Link evaluations to scientific knowledge ● Awareness of scientific ethics ● Sensitivity when critiquing others ● Range of presentation forms, awareness of audience	EYFS **Living Things** Y1 - health Y2 –adaptation, healthy diet & lifestyle Y3 –human body, healthy eating Y4 – classification, digestive system **Materials** Y3 – rocks & fossils Y5 - conductors & insulators **Sound, light, Earth & space** Y1 – weather, seasons, sun & shadows Y3 – light & shadows **Forces** Y4 – simple series circuits, conductors & insulators	**Living Things** Y2 – habitats, life cycles, food chains, adaptation, growing plants, growth of animals & humans, healthy diet & lifestyle Y3 –plant biology, human body, healthy eating Y4 – classification, invertebrates, human impact, digestive system, teeth Y5 - life cycles, reproduction in plants & animals; puberty Y6 - microorganisms, classification, evolution, adaption, inheritance, heart & circulatory system **Materials** Y2 – Properties & purpose Y3 – rocks & fossils Y4 – states of matter, water cycle Y5 - reversible & irreversible, thermal conductors & insulators Y6 - conductivity, oxidation **Sound, light, Earth & space** Y1 – weather, seasons, sun & shadows Y2 – months, temperature Y3 – light & shadows Y4 – sound Y5 – Earth & space Y6 - light **Forces** Y2 - elastic, twist, stretch, squash

	• Complex graphs by hand (pie charts, scatter/line graphs) • **Living Things** – microorganisms, classification, evolution, adaption, inheritance, heart & circulatory system • **Materials** – conductivity, oxidation • **Sound, light, Earth & space** – light, refraction • **Forces** – series & parallel circuits, voltage, circuit diagrams		Y3 – friction, force meters, magnets Y4 – simple series circuits, conductors & insulators Y5 – mechanisms, air & water resistance, levers Y6 - series & parallel circuits, voltage, circuit diagrams