Science Learning Ladders

We follow the National Curriculum. We deliver subjects through the International Curriculum (IPC) which covers all of the National Curriculum objectives. It is a knowledge and skills based curriculum. There are 3 milestones. The skills repeat within a milestone – so if a child is absent they have the opportunity to cover the learning again. The skills build over time. The knowledge taught to children is tailored to the local context.

IPC key skills are in bold,
IPC Skills start with 'Be able to',
Knowledge learning goals start with 'Know',
Understanding learning goals start with 'Understand'

IPC units are shown in the term they are taught Autumn Spring Summer
Highlighting indicates 'threads of learning' which can be evidence from Nursery to Year 6

	EYFS (not IPC)		Milepost 1		Milepost 2		Milepost 3	
KEY CONCEPTS	**Nursery**	**Reception**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Scientific Enquiry Working Scientifically NC	Use all their senses in hands-on exploration A1 and Sp1 Explore different materials, using all their senses to investigate them A1 Talk about what they see using a wide vocabulary A2 Be curious and interested to explore	Ask questions to find out more and check they understand A2 and Sp1 Ask questions relevant to theme Sp1 Talk about selected non-fiction, including new knowledge and vocabulary Sp1	1.01 Be able to identify ways of finding out about scientific questions in familiar contexts (S) Brainwave: The Brain Time Travellers Green Fingers The Earth Our Home	1.01 Be able to identify ways of finding out about scientific questions in familiar contexts (S) Superhumans Buildings Live and Let Live Look and Listen! The Magic Toymaker	2.01 Be able to suggest ways of collecting evidence in response to a scientific question How Humans Work Shake It	2.01 Be able to suggest ways of collecting evidence in response to a scientific question Making Waves Land Sea Sky Let's Plant It Feel the force	3.01 Be able to choose an appropriate way (research review, simulation or experimentation) to investigate a scientific issue Space Scientists Roots Shoots Fruits	3.01 Be able to choose an appropriate way (research review, simulation or experimentation) to investigate a scientific issue Existing Endangered Extinct Bake It Full Power

Science Learning Ladders

	new and familiar experiences A2 Talk about differences between materials A2 Beginning to understand why and how questions Sp1 Identify familiar objects and properties when they are described A2 Talks about why things happen and how things work Sp1 Uses talk to explain what is happening and anticipate what might happen next Sum1	Connect one idea or action to another Sp1 Follow a sequence of instructions Sp2 Develop skills such as prediction and recall Sum1 Ask questions to clarify their understanding Sum 2 Explain how things work and why they might happen Sum 2	1.03 Understand that science provides evidence, not proof (U) Treasure Islands Time Travellers	1.03 Understand that science provides evidence, not proof (U) Superhumans Live and Let Live Look and Listen!	2.03 Understand the importance of collecting scientific evidence through observation and testing How Humans Work Shake It	2.03 Understand the importance of collecting scientific evidence through observation and testing Making Waves Land Sea Sky Let's Plant It Feel the force	3.03 Understand the limitations of scientific investigation Space Scientists Being Human	3.03 Understand the limitations of scientific investigation Existing Endangered Extinct Bake It Fairgrounds
			1.04 Be able to follow guided experiments to try to answer scientific questions (S) Brainwave: The Brain Time Travellers Green Fingers	1.04 Be able to follow guided experiments to try to answer scientific questions (S) Superhumans Buildings Look and Listen! The Magic Toymaker	2.04 Be able to ask scientific questions Bright Sparks How Humans Work Shake It	2.04 Be able to ask scientific questions Making Waves Land Sea Sky Let's Plant It	3.04 Be able to suggest testable questions Space Scientists	3.04 Be able to suggest testable questions Fairgrounds Full Power
			1.05 Be able to connect scientific investigations to familiar contexts (S) Brainwave: The Brain Time Travellers Green Fingers The Earth Our Home	1.05 Be able to connect scientific investigations to familiar contexts (S) Superhumans Buildings Live and Let Live Look and Listen! The Magic Toymaker	2.05 Be able to connect scientific investigations to real life Bright Sparks How Humans Work Shake It	2.05 Be able to connect scientific investigations to real life Making Waves Land Sea Sky Let's Plant It Feel the force	3.05 Be able to generate a hypothesis Space Scientists Roots Shoot Fruits Being Human	3.05 Be able to generate a hypothesis Existing Endangered Extinct Bake It Fairgrounds Full Power
			~~1.06~~ ~~Be able to suggest independent variables to test in a guided investigation~~	1.06 Be able to suggest independent variables to test in a guided investigation (KS)	2.06 Be able to plan an investigation changing only one independent variable	2.06 Be able to plan an investigation changing only one independent variable	3.06 Be able to plan a fair (test) investigation Space Scientists	3.06 Be able to plan a fair (test) investigation Bake It

Science Learning Ladders

			Green Fingers	Superhumans From A to B Buildings Look and Listen!	Bright Sparks How Humans Work Shake It	Making Waves Land Sea Sky Let's Plant It Feel the force	Roots Shoots Fruits	Fairgrounds
		Develop skills such as prediction and recall Sum1 Make predictions Sum 2 Compare predictions to reality Sum 2	1.07 Be able to make predictions (KS) Time Travellers Green Fingers The Earth Our Home	1.07 Be able to make predictions. (KS) From A to B Superhumans Buildings Live and Let Live Look and Listen! The Magic Toymaker	2.07 Be able to make informed predictions Bright Sparks How Humans Work Shake It	2.07 Be able to make informed predictions Making Waves Land Sea Sky Let's Plant It Feel the force	3.07 Be able to make predictions related to the independent variable Space Scientists Roots Shoots Fruits	3.07 Be able to make predictions related to the independent variable Fairgrounds Bake It Full Power
		Use vocabulary to describe sense of taste Sp2	1.08 Be able to use the senses safely to make observations (KS) Time Travellers Green Fingers The Earth Our Home	1.08 Be able to use the senses safely to make observation (KS) Superhumans Buildings Live and Let Live Look and Listen! The Magic Toymaker	2.08 Be able to identify potential risks in a planned investigation Bright Sparks Shake It	2.08 Be able to identify potential risks in a planned investigation Land Sea Sky Feel the force	3.08 Be able to conduct science investigations safely Space Scientists Roots Shoots Fruits	3.08 Be able to conduct science investigations safely Fairgrounds Bake It Full Power
			1.09 Be able to make observations and take informal measurements (S) Time Travellers. Green Fingers The Earth Our Home	1.09 Be able to make observations and take informal measurements (S) From A to B Buildings Live and Let Live Look and Listen! The Magic Toymaker	2.09 Be able to make and record observations and take formal measurements Bright Sparks How Humans Work	2.09 Be able to make and record observations and take formal measurements Making Waves Land Sea Sky Let's Plant It Feel the force	3.09 Be able to take systematic and accurate measurements or observations using the most appropriate tools and conventions Space Scientists Roots Shoots Fruits	3.09 Be able to take systematic and accurate measurements or observations using the most appropriate tools and conventions Existing Endangered Extinct Fairgrounds Bake It

Science Learning Ladders

		Notice and discuss patterns in the environment A1	1.10 Be able to compare results (S) Brainwave: The Brain Time Travellers. Green Fingers The Earth Our Home	1.10 Be able to compare results (S) Superhumans Buildings Live and Let Live Look and Listen! The Magic Toymaker	2.10 Be able to describe observations and results identifying possible patterns How Humans Work Shake It	2.10 Be able to describe observations and results identifying possible patterns Making Waves Land Sea Sky Let's Plant It Feel the force	3.10 Be able to analyse observations and results identifying those that are more or less significant Roots Shoots Fruits	3.10 Be able to analyse observations and results identifying those that are more or less significant Existing Endangered Extinct Bake It Fairgrounds
			1.11 Be able to compare results with predictions (KS) Time Travellers Green Fingers The Earth Our Home	1.11 Be able to compare results with predictions (KS) From A to B Buildings Live and Let Live Look and Listen! The Magic Toymaker	2.11 Be able to compare results to predictions and draw conclusions Bright Sparks How Humans Work Shake It	2.11 Be able to compare results to predictions and draw conclusions Making Waves Land Sea Sky Let's Plant It Feel the force	3.11 Be able to draw conclusions based on results and compare to original hypotheses and the real world Space Scientists Roots Shoots Fruits Being Human	3.11 Be able to draw conclusions based on results and compare to original hypotheses and the real world Existing Endangered Extinct Bake It Fairgrounds Full Power
			1.12 Be able to describe the method and results (KS) Time Travellers Green Fingers The Earth Our Home	1.12 Be able to describe the method and results (KS) Superhumans Buildings Live and Let Live Look and Listen! The Magic Toymaker	2.12 Be able to record and describe the method and results in a variety of ways Bright Sparks How Humans Work Shake It	2.12 Be able to record and describe the method and results in a variety of ways Making Waves Land Sea Sky Let's Plant It Feel the force	3.12 Be able to record the method and results including tables, graphs, diagrams and/or models Space Scientists Roots Shoots Fruits	3.12 Be able to record the method and results including tables, graphs, diagrams and/or models Bake It Fairgrounds Full Power

Science Learning Ladders

			1.13 Be able to suggest improvements to investigations Green Fingers	1.13 (KS) Be able to suggest improvements to investigations Buildings Live and Let Live	2.13 Be able to compare investigations and results identifying possible anomalies Bright Sparks Shake It	2.13 Be able to compare investigations and results identifying possible anomalies Let's Plant It Feel the force	3.13 Be able to evaluate investigations for fairness and suggest improvements Space Scientists	3.13 Be able to evaluate investigations for fairness and suggest improvements Bake It Fairgrounds Full Power
Biology: Humans and Animals	Shows care and concern for living things Sum1	Make detailed observations and drawings of animals Sum1 Make observations of animals and plants Sum1	1.14 Know the names of the main external body parts of humans and animals The Earth Our Home	1.14 (KK) Know the names of the main external body parts of humans and animals Superhumans Live and Let Live Look and Listen!	2.14 Know about the functions of skeletons and muscles in humans and some other animals How Humans Work	2.14 Know about the functions of skeletons and muscles in humans and some other animals Land Sea Sky	3.14 Know the functions of the major internal and external parts of the human body Space Scientists Being Human	~~3.14~~ ~~Know the functions of the major internal and external parts of the human body~~
		Use vocabulary to describe sense of taste Sp2	Green Fingers	1.15 Know the names of the senses and the organs connected to them (K) Superhumans	2.15 Be able to describe the process of digestion How Humans Work	~~2.15~~ ~~Be able to describe the process of digestion~~	3.15 Be able to describe some of the connections between systems in the human body Being Human	~~3.15~~ ~~Be able to describe some of the connections between systems in the human body~~
Biology: Plants	Shows care and concern for living things Sum1	Care for growing plants Sum 1 Observe the effect of decay over time Sum2 Look after living things to help them grow Sum 2	1.16 Know that plants need light and water to grow Green Fingers The Earth Our Home	1.16 Know that plants need light and water to grow (K) Live and Let Live	~~2.16~~ ~~Know about the functions of the major parts of a plant~~	2.16 Know about the functions of the major parts of a plant Land Sea Sky Let's Plant It	3.16 Know about factors that affect the growth of plants Space Scientists Roots Shoots Fruits	~~3.16~~ ~~Know about factors that affect the growth of plants~~

Science Learning Ladders

			1.17 Know the names of the parts of plants Green Fingers The Earth Our Home	1.17 Know the names of the parts of plants (K) Live and Let Live	~~2.17~~ ~~Know how the parts of a plant may change over time~~	2.17 Know how the parts of a plant may change over time Land Sea Sky Let's Plant It	3.17 Know that photosynthesis requires carbon dioxide and results in the excretion of oxygen Roots Shoots Fruits	~~3.17~~ ~~Know that photosynthesis requires carbon dioxide and results in the excretion of oxygen~~
			1.18 Know that seeds can grow into plants Green Fingers The Earth Our Home	1.18 Know that seeds can grow into plants (K) Live and Let Live	~~2.18~~ ~~Know the lifecycle of various plants~~	2.18 Know the lifecycle of various plants Land Sea Sky Let's Plant It	3.18 Know about pollination, fertilisation and methods of seed dispersal Roots Shoots Fruits	~~3.18~~ ~~Know about pollination, fertilisation and methods of seed dispersal~~
Biology: Living Things		Understand key features of an animal life cycle Sp2 Talk about changes in animals as they grow Sp2 Show care and concern for living things Sum1 Design practical, attractive environments Sum1 Make detailed observations of animals Sum1 Look after living things to help them grow Sum 2	1.19 Know some differences between living things and things that have never been alive Green Fingers The Earth Our Home	1.19 Know some differences between living things and things that have never been alive (K) Live and Let Live	~~2.19~~ ~~Know that a key difference between non-living and living things is that living things grow and reproduce~~	2.19 Know that a key difference between non-living and living things is that living things grow and reproduce Let's Plant It	3.19 Know the seven characteristics which define living things Being Human	3.19 Know the seven characteristics which define living things Existing, Endangered, Extinct Bake It
			1.20 Be able to sort living things in simple ways by features, lifecycles and behaviours Green Fingers The Earth Our Home	1.20 Be able to sort living things in simple ways by features, lifecycles and behaviours (S) Superhumans Live and Let Live Look and Listen!	~~2.20~~ ~~Be able to sort animals into vertebrates and invertebrates~~	2.20 Be able to sort animals into vertebrates and invertebrates Land Sea Sky	~~3.20~~ ~~Be able to identify an animals' class according to its features, behaviours and lifecycle~~	3.20 Be able to identify an animals' class according to its features, behaviours and lifecycle Existing, Endangered, Extinct

Science Learning Ladders

		Understands key features of a life cycle Sum2						
			~~1.21~~ ~~Know that eating food provides the body with energy~~	1.21 Know that eating food provides the body with energy K) Superhumans	~~2.21~~ ~~Know that the sun is the source of energy in all food chains~~	2.21 Know that the sun is the source of energy in all food chains Land Sea Sky Let's Plant It	~~3.21~~ ~~Know the names of different types of consumers and the different levels within a food chain~~	3.21 Know the names of different types of consumers and the different levels within a food chain Existing, Endangered, Extinct
			~~1.22~~ ~~Be able to sequence given food chains.~~	1.22 Be able to sequence given food chains (S) Live and Let Live The Earth Our Home	~~2.22~~ ~~Be able to draw diagrams to illustrate simple food webs and chains in an ecosystem~~	2.22 Be able to draw diagrams to illustrate simple food webs and chains in an ecosystem Land Sea Sky Let's Plant It	~~3.22~~ ~~Be able to predict the outcome of disruption to a food chain~~	3.22 Be able to predict the outcome of disruption to a food chain Existing, Endangered, Extinct
		Shows care and concern for living things Sum1	1.23 Know what all living things need to survive Green Fingers The Earth Our Home	1.23 Know what all living things need to survive (K) Superhumans Live and Let Live	~~2.23~~ ~~Know how space and place impact on the health of living things~~	2.23 Know how space and place impact on the health of living things Land Sea Sky Let's Plant It	3.23 Know the influences on the quality of life for living things Space Scientists Roots Shoots Fruits	3.23 Know the influences on the quality of life for living things Existing, Endangered, Extinct Being Human
		Begin to understand the effect their behaviour can have on the environment Sum 2	1.24 Understand that people share environments with other living things Green Fingers	1.24 Understand that people share environments with other living things (U) Live and Let Live	~~2.24~~ ~~Understand the positive and negative impacts humans have on other living things~~	2.24 Understand the positive and negative impacts humans have on other living things Land Sea Sky	~~3.24~~ ~~Understand the effects that changes in the environment may have on living things~~	3.24 Understand the effects that changes in the environment may have on living things Existing, Endangered, Extinct

Science Learning Ladders

			The Earth Our Home					Being Human
			1.25 Understand that different locations support different living things Green Fingers The Earth Our Home	1.25 Understand that different locations support different living things (U) Live and Let Live	~~2.25~~ ~~Understand how animals and plants are physically suited to particular environments~~	2.25 Understand how animals and plants are physically suited to particular environments Land Sea Sky Let's Plant It	3.25 Understand how plants and animals adapt their behaviour in particular environments Roots Shoots Fruits	3.25 Understand how plants and animals adapt their behaviour in particular environments Existing, Endangered, Extinct
								3.26 Know that there is evidence that animals have changed or become extinct over time Existing, Endangered, Extinct
			1.27 Know about similarities and differences between humans and other creatures The Earth Our Home	1.27 Know about similarities and differences between humans and other creatures (K) Superhumans Live and Let Live Look and Listen!	2.27 Know that there are physical similarities and differences between themselves and other people Brainwave: The Brain How Humans Work	~~2.27~~ ~~Know that there are physical similarities and differences between themselves and other people~~	~~3.27~~ ~~Know that some characteristics of humans and other animals are inherited from their parents~~	3.27 Know that some characteristics of humans and other animals are inherited from their parents Existing, Endangered, Extinct
			~~1.28~~ ~~Know the basic nutrient groups and example foods for each group~~	1.28 Know the basic nutrient groups and example foods for each group (K) Superhumans	2.28 Know the role of the different nutrients in the body Brainwave: The Brain How Humans Work Shake It	~~2.28~~ ~~Know the role of the different nutrients in the body~~	3.28 Know the possible impact of too much or too little of a particular nutrient Being Human	3.28 Know the possible impact of too much or too little of a particular nutrient Existing, Endangered, Extinct

Science Learning Ladders

			1.29 Understand the interdependence between plants and animals, humans and animals & human and plants Green Fingers The Earth Our Home	1.29 Understand the interdependence between plants and animals, humans and animals & human and plants (U) Live and Let Live	~~2.29~~ ~~Understand the interdependence between all living things~~	2.29 Understand the interdependence between all living things Land Sea Sky Let's Plant It	~~3.29~~ ~~Understand the consequences of imbalance in an ecosystem~~	3.29 Understand the consequences of imbalance in an ecosystem Existing, Endangered, Extinct
Chemistry: Properties	Explore collections of materials with similar and/or different properties sp1 Talk about the differences between materials sp1	Explore properties of different materials a1 Explore and talk about floating and sinking sp2	1.30 Know the names and basic properties of a range of materials (K) Time Travellers	1.30 Know the names and basic properties of a range of materials (K) Buildings The Magic Toymaker	2.30 Know a range of testable properties Bright Sparks	2.30 Know a range of testable properties Land Sea Sky Let's Plant It	~~3.30~~ ~~Know which properties to test to see if materials are suitable for a purpose~~	3.30 Know which properties to test to see if materials are suitable for a purpose Fairgrounds Full Power
			1.31 Be able to sort materials into groups according to their observable properties (S) Time Travellers	1.31 Be able to sort materials into groups according to their observable properties (S) Look and Listen! The Magic Toymaker	2.31 Be able to compare common materials and objects and their properties Bright Sparks	2.31 Be able to compare common materials and objects and their properties Land Sea Sky Let's Plant It	~~3.31~~ ~~Be able to group and classify materials according to testable properties~~	3.31 Be able to group and classify materials according to testable properties Bake It Fairgrounds Full Power

Science Learning Ladders

			1.32 Understand that what we use materials for is dependent upon their properties (U) Time Travellers	1.32 Understand that what we use materials for is dependent upon their properties (U) Buildings The Magic Toymaker	2.32 Understand that different materials are suited to different purposes Bright Sparks	~~2.32~~ ~~Understand that different materials are suited to different purposes~~	~~3.32~~ ~~Understand that changing some materials makes them more or less suitable for their purposes~~	3.32 Understand that changing some materials makes them more or less suitable for their purposes Bake It
			~~1.33~~ ~~Know that temperature is a measure of heat~~	~~1.33~~ ~~Know that temperature is a measure of heat~~	~~2.33~~ ~~Know that some materials conduct heat more effectively than others~~	~~2.33~~ ~~Know that some materials conduct heat more effectively than others~~	~~3.33~~ ~~Know that insulators are designed to maintain temperature, whether it be hot or cold~~	3.33 Know that insulators are designed to maintain temperature, whether it be hot or cold Bake It - covered in Science extension task
Chemistry: Matter	Explore collections of materials with similar and/or different properties sp1 Talk about the differences between materials sp1	Explore properties of different materials a1	~~1.39~~ ~~Be able to compare solids and liquids~~	1.39 Be able to compare solids and liquids (S) Buildings	2.39 Be able to compare solids, liquids and gases Shake It	2.39 Be able to compare solids, liquids and gases Land Sea Sky	~~3.39~~ ~~Be able to describe and illustrate the different arrangements of particles in solids, liquids and gases~~	3.39 Be able to describe and illustrate the different arrangements of particles in solids, liquids and gases Bake It
Chemistry: Changes		Know that temperature can change materials sp2 Observe the effect of decay over time Sum2	~~1.40~~ ~~Know that there are different ways to change materials~~	1.40 Know that there are different ways to change materials Buildings The Magic Toymaker	2.40 Know that some changes are reversible and some are irreversible Shake It	~~2.40~~ ~~Know that some changes are reversible and some are irreversible~~	~~3.40~~ ~~Know that there are different ways to reverse a selection of changes~~	3.40 Know that there are different ways to reverse a selection of changes Bake It

Science Learning Ladders

					2.41 Know that some substances dissolve in liquids and others do not Shake It	~~2.41~~ ~~Know that some substances dissolve in liquids and others do not~~	~~3.41~~ ~~Know the basic factors that affect solubility~~	3.41 Know the basic factors that affect solubility Bake It
			~~1.42~~ ~~Be able to observe how things change when water is added~~	1.42 Be able to observe how things change when water is added (S) Buildings	2.42 Be able to separate insoluble solids from liquids Shake It	~~2.42~~ ~~Be able to separate insoluble solids from liquids~~	~~3.42~~ ~~Be able to separate simple mixtures~~	3.42 Be able to separate simple mixtures Bake It
					2.43 Know that heating or cooling can bring about a change of state Shake It	2.43 Know that heating or cooling can bring about a change of state Land Sea Sky	~~3.43~~ ~~Know that different amounts of heating or cooling are required to bring about a change of state~~	3.43 Know that different amounts of heating or cooling are required to bring about a change of state Bake It
							~~3.45~~ ~~Know that elements cannot be broken down into smaller parts~~	3.45 Know that elements cannot be broken down into smaller parts Bake It
Physics: Earth & Space			1.48 Understand that the position of the sun in the sky appears to change during the course of a day (U)	1.48 Understand that the position of the sun in the sky appears to change during the course of a day (U)	~~2.48~~ ~~Understand that day and night are caused by the Earth spinning on its own axis~~	~~2.48~~ ~~Understand that day and night are caused by the Earth spinning on its own axis~~	3.48 Understand that the position of the sun in the sky appears to change during the course of a day and	~~3.48~~ ~~Understand that the position of the sun in the sky appears to change during the course of a day and~~

Science Learning Ladders

			Time Travellers	Live and Let Live			this is different over the course of a year Space Scientists	~~this is different over the course of a year~~
			1.49 Know that the Moon is not a source of light (K) Time Travellers	1.49 Know that the Moon is not a source of light Look and Listen!	~~2.49~~ ~~Know that the Moon appears to change shape over the course of a month and is repeated every month~~	~~2.49~~ ~~Know that the Moon appears to change shape over the course of a month and is repeated every month~~	3.49 Know the names of the phases of the Moon Space Scientists	~~3.49~~ ~~Know the names of the phases of the Moon~~
			1.50 Know that the Sun, Earth and Moon are (approximately) spherical (K) Time Travellers	~~1.50~~ ~~Know that the Sun, Earth and Moon are (approximately) spherical~~	~~2.50~~ ~~Know that the Sun is a star at the centre of our solar system~~	~~2.50~~ ~~Know that the Sun is a star at the centre of our solar system~~	3.50 Know that the Sun is the largest mass in our solar system, that has the strongest gravitational pull and keeps the planets in orbit Space Scientists	~~3.50~~ ~~Know that the Sun is the largest mass in our solar system, that has the strongest gravitational pull and keeps the planets in orbit~~
		To understand length of day and night changes and begin to link to the season A2 Understand the effect of changing seasons on the natural world around them A2 and Sum2	1.51 Know that the time taken for the Earth to orbit the Sun is equal to one year The Earth Our Home	~~1.51~~ ~~Know that the time taken for the Earth to orbit the Sun is equal to one year (K)~~	~~2.51~~ ~~Know that seasons are caused by the combination of Earth's orbit around the sun and the tilt of its axis~~	~~2.51~~ ~~Know that seasons are caused by the combination of Earth's orbit around the sun and the tilt of its axis~~	3.51 Know that planets take different lengths of time and paths to orbit the Sun Space Scientists	~~3.51~~ ~~Know that planets take different lengths of time and paths to orbit the Sun~~

Science Learning Ladders

					~~2.52~~ ~~Understand that the Earth is part of a system of planets that orbit around the same star~~	~~2.52~~ ~~Understand that the Earth is part of a system of planets that orbit around the same star~~	3.52 Understand how the Earth meets the conditions for sustaining human life Space Scientists	~~3.52~~ ~~Understand how the Earth meets the conditions for sustaining human life~~
	Explore and talk about different forces they can feel. Sp1 and Sum 1	Explore and talk about the force of gravity Sp1 Explore and talk about different forces Sp1					~~3.53~~ ~~Be able to use weight and mass correctly in experiments~~ 3.54 Know that a force called gravity keeps things on the ground Space Scientists	3.53 Be able to use weight and mass correctly in experiments Fairgrounds 3.54 Know that a force called gravity keeps things on the ground Fairgrounds
			~~1.55~~ ~~Know that food is a store of energy~~	1.55 Know that food is a store of energy (K) Superhumans	2.55 Know that heat, light, sound and movement are evidence of energy transfer taking place Bright Sparks	2.55 Know that heat, light, sound and movement are evidence of energy transfer taking place Making Waves	~~3.55~~ ~~Know that transfer of energy is needed to generate electricity~~	3.55 Know that transfer of energy is needed to generate electricity Full Power
		Explore properties of different materials a1			~~2.56~~ ~~Know that materials conduct heat differently to each other depending on what they're made of~~	~~2.56~~ ~~Know that materials conduct heat differently to each other depending on what they're made of~~	~~3.56~~ ~~Know that conductors and insulators affect the rate of heat energy transfer~~	3.56 Know that conductors and insulators affect the rate of heat energy transfer Bake It - within Science Extension task

Science Learning Ladders

					Not NC	Not NC		
			~~1.57~~ ~~Be able to predict some impacts on our lives if electricity were no longer available~~	~~1.57~~ ~~Be able to predict some impacts on our lives if electricity were no longer available~~ (REMOVED - CHECK)	~~2.57~~ ~~Be able to give reasons why we should save/conserve electricity~~ Not NC	~~2.57~~ ~~Be able to give reasons why we should save/conserve electricity~~ Not NC	~~3.57~~ ~~Be able to compare a renewable and non-renewable way of producing electricity~~	3.57 Be able to compare a renewable and non-renewable way of producing electricity Full Power
			~~1.58~~ ~~Know which everyday appliances use electricity~~	~~1.58~~ ~~Know which everyday appliances use electricity~~ (REMOVED - CHECK)	2.58 Know that electricity is something which is generated Bright Sparks	~~2.58~~ ~~Know that electricity is something which is generated~~	~~3.58~~ ~~Know that different appliances consume different amounts of energy to do different tasks~~	3.58 Know that different appliances consume different amounts of energy to do different tasks Full Power
Physics: Electricity and electromagnetism					2.59 Know the names of the components and the related symbols in a circuit Bright Sparks	~~2.59~~ ~~Know the names of the components and the related symbols in a circuit~~	~~3.59~~ ~~Know the names of types of circuit~~	3.59 Know the names of types of circuit Fairgrounds Full Power
					2.60 Be able to use electrical circuits to investigate the conductivity of various materials Bright Sparks	~~2.60~~ ~~Be able to use electrical circuits to investigate the conductivity of various materials~~	~~3.60~~ ~~Be able to draw and build series and parallel circuits~~	3.60 Be able to draw and build series and parallel circuits Fairgrounds Full Power

Science Learning Ladders

					2.65 Know about the principles of magnets and how to test materials for magnetic properties Bright Sparks	~~2.65~~ ~~Know about the principles of magnets and how to test materials for magnetic properties~~	3.65 Know that bar magnets have two poles and that opposite poles attract Space Scientists	3.65 Know that bar magnets have two poles and that opposite poles attract Fairgrounds
Physics: Waves			~~1.67~~ ~~Know that sounds are made when objects vibrate~~	1.67 Know that sounds are made when objects vibrate (K) Superhumans	2.67 Know how sounds are changed by altering the nature of vibrations How Humans Work	2.67 Know how sounds are changed by altering the nature of vibrations Making Waves	~~3.67~~ ~~Know that sounds require a medium to travel through~~	3.67 Know that sounds require a medium to travel through Fairgrounds
			~~1.68~~ ~~Understand how humans have made use of sound and light sources~~	1.68 Understand how humans have made use of sound and light sources (U) From A to B	~~2.68~~ ~~Understand that light and sound travel at different speeds~~	2.68 Understand that light and sound travel at different speeds Making Waves	3.68 Understand some of the risks associated with light and sound Space Scientists	3.68 Understand some of the risks associated with light and sound Fairgrounds
			1.69 Know that darkness is the absence of light Green Fingers	~~1.69~~ ~~Know that darkness is the absence of light (K)~~	2.69 Know that we see things because light travels from a source and reflects from an object into our eyes How Humans Work	2.69 Know that we see things because light travels from a source and reflects from an object into our eyes Making Waves	3.69 Know that light travels in a straight line until it hits an object Space Scientists	3.69 Know that light travels in a straight line until it hits an object Fairgrounds

Science Learning Ladders

		Explore and talk about light and shadows Sp1	~~1.70~~ ~~Be able to predict the shape of a shadow that blocks the passage of light from a source~~	1.70 Be able to predict the shape of a shadow that blocks the passage of light from a source (S) Magic Toymaker	2.70 Be able to predict how the shape of a shadow would change based upon the distance of the light source	2.70 Be able to predict how the shape of a shadow would change based upon the distance of the light source	3.70 Be able to predict how the shape of the shadow would change depending on the position of the light source relative to the object Space Scientists	3.70 Be able to predict how the shape of the shadow would change depending on the position of the light source relative to the object Fairgrounds
					~~2.71~~ ~~Know the order of colours in the visible spectrum/rainbow~~	2.71 Know the order of colours in the visible spectrum/rainbow Making Waves	~~3.71~~ ~~Know that white light is a mixture of all of the colours in the visible spectrum~~	3.71 Know that white light is a mixture of all of the colours in the visible spectrum Fairgrounds
							~~3.72~~ ~~Understand why the eye changes in response to light and dark~~	3.72 Understand why the eye changes in response to light and dark Fairgrounds
Physics: Forces	Can talk about some of the things they have observed Sp1 Explore and talk about different forces they can feel. Sp1 Talk about why things happen and how things work Sp1 (2.80 link)	Explore and talk about different forces Sp1 Explain how things work and why they might happen Sum 2	~~1.73~~ ~~Know how pushes and pulls can move an objects~~	1.73 Know how pushes and pulls can move an object (K) Buildings The Magic Toymaker	2.73 Know how pushes and pulls can temporarily or permanently change the shape of an object Shake It	2.73 Know how pushes and pulls can temporarily or permanently change the shape of an object Feel the force	~~3.73~~ ~~Know the five possible effects a force can have~~	3.73 Know the five possible effects a force can have Fairgrounds

Science Learning Ladders

	Explore how things work Sp1 (2.80)							
			~~1.74~~ ~~Be able to create push and pulls of different strengths~~	1.74 Be able to create push and pulls of different strengths (S) Buildings	~~2.74~~ ~~Be able to compare forces, stating which is stronger~~	2.74 Be able to compare forces, stating which is stronger Feel the force	~~3.74~~ ~~Be able to measure forces using a Newton meter~~	3.74 Be able to measure forces using a Newton meter Fairgrounds
			~~1.75~~ ~~Understand how air resistance can slow or hinder movement~~	1.75 Understand how air resistance can slow or hinder movement (U) From A to B	~~2.75~~ ~~Understand why we need friction~~	2.75 Understand why we need friction Feel the force	~~3.75~~ ~~Understand how friction and air resistance impact on movement~~	3.75 Understand how friction and air resistance impact on movement Fairgrounds
							~~3.76~~ ~~Know the forces involved in the stretching and squashing of springs and elastic bands~~	3.76 Know the forces involved in the stretching and squashing of springs and elastic bands Fairgrounds
					~~2.77~~ ~~Know that forces have a direction~~	2.77 Know that forces have a direction Feel the force	~~3.77~~ ~~Know that a fulcrum provides a pivot point~~	3.77 Know that a fulcrum provides a pivot point Fairgrounds
					2.80 Be able to identify simple machines in their environment Shake It	~~2.80~~ ~~Be able to identify simple machines in their environment~~	~~3.80~~ ~~Be able to sort simple machines by how they work~~	3.80 Be able to sort simple machines by how they work Fairgrounds

Science Learning Ladders