



Heamoor School Science Progression

Red Class-Year A		
Communication and Language	Personal, Social and Emotional Development	Understanding the World
<ul style="list-style-type: none"> Learn new vocabulary. Ask questions to find out more and to check what has been said to them. Articulate their ideas and thoughts in well-formed sentences. Describe events in some detail. Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. Use new vocabulary in different contexts. 	<ul style="list-style-type: none"> Know and talk about the different factors that support their overall health and wellbeing: <ul style="list-style-type: none"> - regular physical activity - healthy eating - toothbrushing - sensible amounts of 'screen time' - having a good sleep routine - being a safe pedestrian 	<ul style="list-style-type: none"> Explore the natural world around them. Describe what they see, hear and feel while they are outside. Recognise some environments that are different to the one in which they live. Understand the effect of changing seasons on the natural world around them.
Vikings	Victorians	Wet Wet Wet
Autumn 1	Spring 1	Summer 1
Autumn 1	Spring 2	Summer 2



Heamoor School Science Progression



Red Class-Year B		
Communication and Language	Personal, Social and Emotional Development	Understanding the World
<ul style="list-style-type: none"> Learn new vocabulary. Ask questions to find out more and to check what has been said to them. Articulate their ideas and thoughts in well-formed sentences. Describe events in some detail. Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. Use new vocabulary in different contexts. 	<ul style="list-style-type: none"> Know and talk about the different factors that support their overall health and wellbeing: <ul style="list-style-type: none"> - regular physical activity - healthy eating - toothbrushing - sensible amounts of 'screen time' - having a good sleep routine - being a safe pedestrian 	<ul style="list-style-type: none"> Explore the natural world around them. Describe what they see, hear and feel while they are outside. Recognise some environments that are different to the one in which they live. Understand the effect of changing seasons on the natural world around them.
Early Man	To The Mount And Beyond	The Circle of Life
Autumn 1	Spring 1	Summer 1
Autumn 1	Spring 2	Summer 2



Heamoor School Science Progression



Orange Class-Year A				
Areas of study	Seasonal Changes	Animals Including Humans	Plants	Everyday Materials
Vikings		Victorians		Wet Wet Wet
Autumn 1- Seasonal Changes		Spring 1- Seasonal Changes		Summer 1- Seasonal Changes
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> observe changes across the 4 seasons; observe and describe weather associated with the seasons and how day length varies. 		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> observe changes across the 4 seasons; observe and describe weather associated with the seasons and how day length varies. 		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> observe changes across the 4 seasons; observe and describe weather associated with the seasons and how day length varies.
<ul style="list-style-type: none"> Seasons: spring, summer, autumn, winter, seasonal change. Weather: e.g. sun, rain, snow, sleet, frost, ice, fog, cloud, hot/warm, cold, storm, wind, thunder, weather forecast. Measuring weather: temperature, rainfall, wind direction, thermometer, rain gauge. Day length: night, day, daylight. 		<ul style="list-style-type: none"> Seasons: spring, summer, autumn, winter, seasonal change. Weather: e.g. sun, rain, snow, sleet, frost, ice, fog, cloud, hot/warm, cold, storm, wind, thunder, weather forecast. Measuring weather: temperature, rainfall, wind direction, thermometer, rain gauge. Day length: night, day, daylight. 		<ul style="list-style-type: none"> Seasons: spring, summer, autumn, winter, seasonal change. Weather: e.g. sun, rain, snow, sleet, frost, ice, fog, cloud, hot/warm, cold, storm, wind, thunder, weather forecast. Measuring weather: temperature, rainfall, wind direction, thermometer, rain gauge. Day length: night, day, daylight.
Autumn 2- Animals Including Humans		Spring 2- Everyday Materials		Summer 2- Plants
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals; identify and name a variety of common animals that are carnivores, herbivores and omnivores; describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets); 		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> distinguish between an object and the material from which it is made; identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock; describe the simple physical properties of a variety of everyday materials; compare and group together a variety of everyday materials on the basis of their simple physical properties. 		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> identify and name a variety of common wild and garden plants, including deciduous and evergreen trees; identify and describe the basic structure of a variety of common flowering plants, including trees.
<ul style="list-style-type: none"> Names of animal groups: fish, amphibians, reptiles, birds, mammals. Animal diets: carnivore, herbivore, omnivore. Human and animal body parts: e.g. body, head, neck, arms, elbows, legs, knees, face, ears, eyes, nose, hair, mouth, teeth, hands, feet, tail, wings, feathers, fur, beak, fins, gills. Human senses: sight, hearing, touch, smell, taste. Exploring senses: loud, quiet, soft, rough. Other: human, animal, pet. 		<ul style="list-style-type: none"> Names of materials: wood, plastic, glass, metal, water, rock, paper, cardboard, rubber, fabric. Properties of materials: hard, soft, shiny, dull, stretchy, rough, smooth, bendy, not bendy, transparent, opaque, waterproof, not waterproof, absorbent, not absorbent, sharp, stiff. Other: object. 		<ul style="list-style-type: none"> Names of common plants: wild plant, garden plant, evergreen tree, deciduous tree, common flowering plant, weed, grass. Name some features of plants: e.g. flower, vegetable, fruit, berry, leaf/leaves, blossom, petal, stem, trunk, branch, root, seed, bulb, soil. Name some common types of plant e.g. sunflower, daffodil.



Heamoor School Science Progression



Orange Class-Year B				
Areas of study	Seasonal Changes	Animals Including Humans	Plants	Everyday Materials
Early Man		To The Mount And Beyond		The Circle of Life
Autumn 1- Seasonal Changes		Spring 1- Seasonal Changes		Summer 1- Seasonal Changes
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> observe changes across the 4 seasons; observe and describe weather associated with the seasons and how day length varies. 		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> observe changes across the 4 seasons; observe and describe weather associated with the seasons and how day length varies. 		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> observe changes across the 4 seasons; observe and describe weather associated with the seasons and how day length varies.
<ul style="list-style-type: none"> Seasons: spring, summer, autumn, winter, seasonal change. Weather: e.g. sun, rain, snow, sleet, frost, ice, fog, cloud, hot/warm, cold, storm, wind, thunder, weather forecast. Measuring weather: temperature, rainfall, wind direction, thermometer, rain gauge. Day length: night, day, daylight. 		<ul style="list-style-type: none"> Seasons: spring, summer, autumn, winter, seasonal change. Weather: e.g. sun, rain, snow, sleet, frost, ice, fog, cloud, hot/warm, cold, storm, wind, thunder, weather forecast. Measuring weather: temperature, rainfall, wind direction, thermometer, rain gauge. Day length: night, day, daylight. 		<ul style="list-style-type: none"> Seasons: spring, summer, autumn, winter, seasonal change. Weather: e.g. sun, rain, snow, sleet, frost, ice, fog, cloud, hot/warm, cold, storm, wind, thunder, weather forecast. Measuring weather: temperature, rainfall, wind direction, thermometer, rain gauge. Day length: night, day, daylight.
Autumn2- Animals Including Humans		Spring 2- Everyday Materials		Summer 2- Plants
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals; identify and name a variety of common animals that are carnivores, herbivores and omnivores; describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets); <p>identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense</p>		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> distinguish between an object and the material from which it is made; identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock; describe the simple physical properties of a variety of everyday materials; compare and group together a variety of everyday materials on the basis of their simple physical properties. 		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> identify and name a variety of common wild and garden plants, including deciduous and evergreen trees; identify and describe the basic structure of a variety of common flowering plants, including trees.
<ul style="list-style-type: none"> Names of animal groups: fish, amphibians, reptiles, birds, mammals. Animal diets: carnivore, herbivore, omnivore. Human and animal body parts: e.g. body, head, neck, arms, elbows, legs, knees, face, ears, eyes, nose, hair, mouth, teeth, hands, feet, tail, wings, feathers, fur, beak, fins, gills. Human senses: sight, hearing, touch, smell, taste. Exploring senses: loud, quiet, soft, rough. Other: human, animal, pet. 		<ul style="list-style-type: none"> Names of materials: wood, plastic, glass, metal, water, rock, paper, cardboard, rubber, fabric. Properties of materials: hard, soft, shiny, dull, stretchy, rough, smooth, bendy, not bendy, transparent, opaque, waterproof, not waterproof, absorbent, not absorbent, sharp, stiff. Other: object. 		<ul style="list-style-type: none"> Names of common plants: wild plant, garden plant, evergreen tree, deciduous tree, common flowering plant, weed, grass. Name some features of plants: e.g. flower, vegetable, fruit, berry, leaf/leaves, blossom, petal, stem, trunk, branch, root, seed, bulb, soil. Name some common types of plant e.g. sunflower, daffodil.



Heamoor School Science Progression



Yellow Class-Year A			
Areas of study	Animals Including Humans	Plants	(Materials) Use of Everyday Materials
Vikings	Victorians		Wet Wet Wet
Autumn 1- Animal including humans	Spring 1- Use of Everyday Materials		Summer 1- Plants
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> notice that animals, including humans, have offspring which grow into adults; find out about and describe the basic needs of animals, including humans, for survival (water, food and air); <p>describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses; <p>find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</p>		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> observe and describe how seeds and bulbs grow into mature plants; find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.
<ul style="list-style-type: none"> Being born and growing: Young, offspring, live young, grow, develop, change, hatch, lay, fly, crawl, talk. Young and adult names: e.g. lamb and sheep, kitten and cat, duckling and duck. Life cycle stages: e.g. baby, toddler, child, teenager, adult; frogspawn, tadpole, froglet, frog. Survival and staying healthy: basic needs, survive, food, air, exercise, diet, nutrition, healthy, balanced diet, hygiene, germs. Food groups: fruit and vegetables, proteins, dairy and alternatives, carbohydrates, oil and spreads, fat, salt, sugar. <p>Previously introduced vocabulary: water.</p>	<ul style="list-style-type: none"> Changing shape: squash, bend, twist, stretch. Properties of materials: e.g. strong, flexible, light, hard-wearing, elastic. Other: suitability, recycle, pollution. 		<ul style="list-style-type: none"> Growth of plants: germination, shoot, seed dispersal, grow, food store, life cycle, die, wilt, seedling, sapling. Needs of plants: sunlight, nutrition, light, healthy, space, air. Name different types of plant: e.g. bean plant, cactus. Names of different habitats: e.g. rainforest, desert. <p>Previously introduced vocabulary: water, temperature, warm, hot, cold, habitat.</p>



Heamoor School Science Progression



Autumn 2	Spring 2- Use of Everyday Materials	Summer 2- Living things and their habitats
	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses; <p>find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • explore and compare the differences between things that are living, dead, and things that have never been alive; • identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other; • identify and name a variety of plants and animals in their habitats, including microhabitats; <p>describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</p>
	<ul style="list-style-type: none"> • Changing shape: squash, bend, twist, stretch. • Properties of materials: e.g. strong, flexible, light, hard-wearing, elastic. • Other: suitability, recycle, pollution. 	<ul style="list-style-type: none"> • Living or dead: living, dead, never living, not living, alive, never been alive, healthy. • Habitats including microhabitats: depend, shelter, safety, survive, suited, space, minibeast, air. • Life processes: movement, sensitivity, growth, reproduction, nutrition, excretion, respiration. • Food chains: food sources, food, producer, consumer, predator, prey. • Names of habitats and microhabitats: e.g. under leaves, woodland, rainforest, sea shore, ocean, urban, local habitat. <p>Previously introduced vocabulary: senses, carnivore, herbivore, omnivore, seed, water, names of materials.</p>



Heamoor School Science Progression



Yellow Class-Year B				
Areas of study	Animals Including Humans	Plants	Living things and their habitats	(Materials) Use of Everyday Materials
Early Man		To The Mount and Beyond		The Circle of Life
Autumn 1- Animal including humans		Spring 1- Use of everyday materials		Summer 1- Plants
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> notice that animals, including humans, have offspring which grow into adults; find out about and describe the basic needs of animals, including humans, for survival (water, food and air); describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. 		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses; find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching 		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> observe and describe how seeds and bulbs grow into mature plants; find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.
<ul style="list-style-type: none"> Being born and growing: Young, offspring, live young, grow, develop, change, hatch, lay, fly, crawl, talk. Young and adult names: e.g. lamb and sheep, kitten and cat, duckling and duck. Life cycle stages: e.g. baby, toddler, child, teenager, adult; frogspawn, tadpole, froglet, frog. Survival and staying healthy: basic needs, survive, food, air, exercise, diet, nutrition, healthy, balanced diet, hygiene, germs. Food groups: fruit and vegetables, proteins, dairy and alternatives, carbohydrates, oil and spreads, fat, salt, sugar. <p>Previously introduced vocabulary: water.</p>		<ul style="list-style-type: none"> Changing shape: squash, bend, twist, stretch. Properties of materials: e.g. strong, flexible, light, hard-wearing, elastic. Other: suitability, recycle, pollution. 		<ul style="list-style-type: none"> Growth of plants: germination, shoot, seed dispersal, grow, food store, life cycle, die, wilt, seedling, sapling. Needs of plants: sunlight, nutrition, light, healthy, space, air. Name different types of plant: e.g. bean plant, cactus. Names of different habitats: e.g. rainforest, desert. <p>Previously introduced vocabulary: water, temperature, warm, hot, cold, habitat.</p>



Heamoor School Science Progression



Autumn 2	Spring 1- Use of everyday materials	Summer 1- Living things and their habitats
	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses; • find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • explore and compare the differences between things that are living, dead, and things that have never been alive; • identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other; • identify and name a variety of plants and animals in their habitats, including microhabitats; <p>describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</p>
	<ul style="list-style-type: none"> • Changing shape: squash, bend, twist, stretch. • Properties of materials: e.g. strong, flexible, light, hard-wearing, elastic. • Other: suitability, recycle, pollution. 	<ul style="list-style-type: none"> • Living or dead: living, dead, never living, not living, alive, never been alive, healthy. • Habitats including microhabitats: depend, shelter, safety, survive, suited, space, minibeast, air. • Life processes: movement, sensitivity, growth, reproduction, nutrition, excretion, respiration. • Food chains: food sources, food, producer, consumer, predator, prey. • Names of habitats and microhabitats: e.g. under leaves, woodland, rainforest, sea shore, ocean, urban, local habitat. <p>Previously introduced vocabulary: senses, carnivore, herbivore, omnivore, seed, water, names of materials.</p>



Heamoor School Science Progression



Green Class-Year A

Areas of study	Animals Including Humans	Plants	Forces and Magnets	Light	Materials (Rocks)
Vikings		Victorians		Wet Wet Wet	
Autumn 1- Animal including humans		Spring 1- Forces and magnets		Summer 1- Plants	
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat; • identify that humans and some other animals have skeletons and muscles for support, protection and movement. 		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • compare how things move on different surfaces; • notice that some forces need contact between 2 objects, but magnetic forces can act at a distance; • observe how magnets attract or repel each other and attract some materials and not others; • compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials; • describe magnets as having 2 poles; predict whether 2 magnets will attract or repel each other, depending on which poles are facing 		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers; • explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant; • investigate the way in which water is transported within plants; • explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. 	
<ul style="list-style-type: none"> • Food groups and nutrients: fibre, fats (saturated and unsaturated), vitamins, minerals. • Skeletons and muscles: skeleton, muscles, tendons, joints, protection, support, organs, voluntary muscles, involuntary muscles, biceps, triceps, contract, relax, bone, cartilage, shell, vertebrate, invertebrate, endoskeleton, exoskeleton, hydrostatic skeleton. • Names of human bones: e.g. skull, spine, backbone, vertebral column, ribcage, pelvis, clavicle, scapula, humerus, ulna, pelvis, radius, femur, tibia, fibula. • Other: energy. <p>Previously introduced vocabulary: movement.</p>		<ul style="list-style-type: none"> • How things move: move, movement, surface, distance, strength. • Types of forces: push, pull, contact force, non-contact force, friction. • Magnets: magnetic, magnetic field, magnetic force, bar magnet, horseshoe magnet, ring magnet, magnetic poles (north pole, south pole), attract, repel, compass. • Magnetic and non-magnetic materials: e.g. iron, nickel, cobalt. <p>Previously introduced vocabulary: metal, names of materials.</p>		<ul style="list-style-type: none"> • Water transportation: transport, evaporation, evaporate, nutrients, absorb, anchor. • Life cycle of flowering plants: pollination (insect/wind), pollen, nectar, pollinator, seed formation, seed dispersal (animal/wind/water), reproduce, fertilisation, fertilise, stamen, anther, filament, carpel (pistil), stigma, style, ovary, ovule, sepal, carbon dioxide. <p>Previously introduced vocabulary: life cycle.</p>	



Heamoor School Science Progression



Autumn 2	Spring 2-Light	Summer 2-Materials (Rocks)
	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • recognise that they need light in order to see things and that dark is the absence of light; • notice that light is reflected from surfaces; • recognise that light from the sun can be dangerous and that there are ways to protect their eyes; • recognise that shadows are formed when the light from a light source is blocked by an opaque object; • find patterns in the way that the size of shadows change. <p>• Light and seeing: dark, absence of light, light source, illuminate, visible, shadow, translucent, energy, block.</p> <p>• Light sources: e.g. candle, torch, fire, lantern, lightning.</p> <p>• Reflective light: reflect, reflection, surface, ray, scatter, reverse, beam, angle, mirror, moon.</p> <p>• Sun safety: dangerous, glare, damage, UV light, UV rating, sunglasses, direct.</p> <p>Previously introduced vocabulary: opaque, transparent, sunlight, sun.</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • compare and group together different kinds of rocks on the basis of their appearance and simple physical properties; • describe in simple terms how fossils are formed when things that have lived are trapped within rock; <p>recognise that soils are made from rocks and organic matter</p> <p>• Types of rock: sedimentary rock, igneous rock, metamorphic rock.</p> <p>• Properties of rocks: permeable, semi-permeable, impermeable, durable.</p> <p>• Names of rocks: e.g. marble, chalk, granite, sandstone, slate.</p> <p>• Formation of rocks and fossils: natural, human-made, magma, lava, molten rock, sediment, erosion, fossilisation, layers, bone, fossil.</p> <p>• Soil: sandy, chalky, clay, peaty, loamy, topsoil, subsoil, bedrock, mineral, organic matter, compost.</p> <p>• Other: palaeontology.</p> <p>Previously introduced vocabulary: soil, water, air.</p>



Heamoor School Science Progression



Green Class-Year B

Areas of study	Animals Including Humans	Plants	Light	Forces and Magnets	Materials (Rocks)	
Early Man		To The Mount And Beyond			The Circle of Life	
Autumn 1- Animals including humans		Spring 1- Forces and magnets			Summer 1- Plants	
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat; • identify that humans and some other animals have skeletons and muscles for support, protection and movement. 		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • compare how things move on different surfaces; • notice that some forces need contact between 2 objects, but magnetic forces can act at a distance; • observe how magnets attract or repel each other and attract some materials and not others; • compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials; • describe magnets as having 2 poles; <p>predict whether 2 magnets will attract or repel each other, depending on which poles are facing</p>			<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers; • explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant; • investigate the way in which water is transported within plants; explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. 	
<ul style="list-style-type: none"> • Food groups and nutrients: fibre, fats (saturated and unsaturated), vitamins, minerals. • Skeletons and muscles: skeleton, muscles, tendons, joints, protection, support, organs, voluntary muscles, involuntary muscles, biceps, triceps, contract, relax, bone, cartilage, shell, vertebrate, invertebrate, endoskeleton, exoskeleton, hydrostatic skeleton. • Names of human bones: e.g. skull, spine, backbone, vertebral column, ribcage, pelvis, clavicle, scapula, humerus, ulna, pelvis, radius, femur, tibia, fibula. • Other: energy. <p>Previously introduced vocabulary: movement.</p>		<ul style="list-style-type: none"> • How things move: move, movement, surface, distance, strength. • Types of forces: push, pull, contact force, non-contact force, friction. • Magnets: magnetic, magnetic field, magnetic force, bar magnet, horseshoe magnet, ring magnet, magnetic poles (north pole, south pole), attract, repel, compass. • Magnetic and non-magnetic materials: e.g. iron, nickel, cobalt. <p>Previously introduced vocabulary: metal, names of materials.</p>			<ul style="list-style-type: none"> • Water transportation: transport, evaporation, evaporate, nutrients, absorb, anchor. • Life cycle of flowering plants: pollination (insect/wind), pollen, nectar, pollinator, seed formation, seed dispersal (animal/wind/water), reproduce, fertilisation, fertilise, stamen, anther, filament, carpel (pistil), stigma, style, ovary, ovule, sepal, carbon dioxide. <p>Previously introduced vocabulary: life cycle.</p>	



Heamoor School Science Progression



Autumn 2	Spring 2- Light	Summer 2- Materials (Rocks)
	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • recognise that they need light in order to see things and that dark is the absence of light; • notice that light is reflected from surfaces; • recognise that light from the sun can be dangerous and that there are ways to protect their eyes; • recognise that shadows are formed when the light from a light source is blocked by an opaque object; <p>find patterns in the way that the size of shadows change</p> <ul style="list-style-type: none"> • Light and seeing: dark, absence of light, light source, illuminate, visible, shadow, translucent, energy, block. • Light sources: e.g. candle, torch, fire, lantern, lightning. • Reflective light: reflect, reflection, surface, ray, scatter, reverse, beam, angle, mirror, moon. • Sun safety: dangerous, glare, damage, UV light, UV rating, sunglasses, direct. <p>Previously introduced vocabulary: opaque, transparent, sunlight, sun.</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • compare and group together different kinds of rocks on the basis of their appearance and simple physical properties; • describe in simple terms how fossils are formed when things that have lived are trapped within rock; recognise that soils are made from rocks and organic matter <ul style="list-style-type: none"> • Types of rock: sedimentary rock, igneous rock, metamorphic rock. • Properties of rocks: permeable, semi-permeable, impermeable, durable. • Names of rocks: e.g. marble, chalk, granite, sandstone, slate. • Formation of rocks and fossils: natural, human-made, magma, lava, molten rock, sediment, erosion, fossilisation, layers, bone, fossil. • Soil: sandy, chalky, clay, peaty, loamy, topsoil, subsoil, bedrock, mineral, organic matter, compost. • Other: palaeontology. <p>Previously introduced vocabulary: soil, water, air.</p>



Heamoor School Science Progression



Blue Class-Year A

Areas of study	Animals Including Humans	Sound	Electricity	Living Things and Their Habitats	Materials (states of matter)
Vikings		Victorians			Wet Wet Wet
Autumn 1- Animals including humans		Spring 1-Electricity			Summer 1- Living things and their habitats
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> describe the simple functions of the basic parts of the digestive system in humans; identify the different types of teeth in humans and their simple functions; construct and interpret a variety of food chains, identifying producers, predators and prey. 		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> identify common appliances that run on electricity; construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers; identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery; recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit; recognise some common conductors and insulators, and associate metals with being good conductors. 			<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> recognise that living things can be grouped in a variety of ways; explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment; recognise that environments can change and that this can sometimes pose dangers to living things.
<ul style="list-style-type: none"> Digestive system: digest, digestion, tongue, teeth, saliva, salivary glands, oesophagus, stomach, liver, pancreas, gall bladder, small intestine, duodenum, large intestine, rectum, anus, faeces, organ. Types of teeth and dental care: molar, premolar, incisor, canine, wisdom teeth, tooth decay, plaque, enamel, baby (milk) teeth. Food chains and animal diets: decomposer, food web. <p>Previously introduced vocabulary: producer, consumer, prey, predator, excretion, habitat.</p>		<ul style="list-style-type: none"> Electricity: mains-powered, battery-powered, mains electricity, plug, appliances, devices. Circuits: circuit, simple series circuit, complete circuit, incomplete circuit. Circuit parts: bulb, cell, wire, buzzer, switch, motor, battery. Materials: electrical conductor, electrical insulator. Other: safety. <p>Previously introduced vocabulary: names of materials.</p>			<ul style="list-style-type: none"> Living things: organisms, specimen, species. Grouping living things: classification, classification keys, classify, characteristics. Names of invertebrate animals: snails and slugs, worms, spiders, insects. Invertebrate body parts: e.g. wing case, abdomen, thorax, antenna, segments, mandible, proboscis, prolegs. Environmental changes: environment, environmental dangers, adapt, natural changes, climate change, deforestation, pollution, urbanisation, invasive species, endangered species, extinct. <p>Previously introduced vocabulary: carbon dioxide, fish, bird, mammal, amphibian, reptile, skeleton, bone, vertebrate, invertebrate, backbone, names for animal body parts, names of common plants, photosynthesis</p>



Heamoor School Science Progression



Autumn 2	Spring 2-Sound	Summer 2-States of matter
	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • identify how sounds are made, associating some of them with something vibrating; • recognise that vibrations from sounds travel through a medium to the ear; • find patterns between the pitch of a sound and features of the object that produced it; • find patterns between the volume of a sound and the strength of the vibrations that produced it; • recognise that sounds get fainter as the distance from the sound source increases 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • compare and group materials together, according to whether they are solids, liquids or gases; • observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C); • identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.
	<ul style="list-style-type: none"> • <u>Parts of the ear:</u> eardrum. • <u>Making sound:</u> vibration, vocal cords, particles. • <u>Measuring sound:</u> pitch, volume, amplitude, sound wave, quiet, loud, high, low, travel, distance. • <u>Other:</u> soundproof, absorb sound. 	<ul style="list-style-type: none"> • States of matter: solids, liquids, gases, particles. • <u>State change:</u> evaporate, condense, melt, freeze, heat, cool, melting point, freezing point, boiling point, water vapour. • <u>Water cycle:</u> precipitation, evaporation, condensation, ground run-off, collection, underground water, bodies of water (sea, river, stream), water droplets, hail. • <u>Other:</u> atmosphere. <p>Previously introduced vocabulary: temperature, rain, cloud, snow, wind, sun, hot, cold, absorb, carbon dioxide.</p>



Heamoor School Science Progression



Blue Class-Year B

Areas of study	Animals Including Humans	Sound	Electricity	Living Things and Their Habitats	Materials (states of matter)
Early Man		To The Mount And Beyond			The Circle of Life
Autumn 1- Animals including humans		Spring 1-Electricity			Summer 1- Living things and their habitats
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> describe the simple functions of the basic parts of the digestive system in humans; identify the different types of teeth in humans and their simple functions; construct and interpret a variety of food chains, identifying producers, predators and prey. 		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> identify common appliances that run on electricity; construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers; identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery; recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit; <p>recognise some common conductors and insulators, and associate metals with being good conductors.</p>			<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> recognise that living things can be grouped in a variety of ways; explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment; recognise that environments can change and that this can sometimes pose dangers to living things.
<ul style="list-style-type: none"> Digestive system: digest, digestion, tongue, teeth, saliva, salivary glands, oesophagus, stomach, liver, pancreas, gall bladder, small intestine, duodenum, large intestine, rectum, anus, faeces, organ. Types of teeth and dental care: molar, premolar, incisor, canine, wisdom teeth, tooth decay, plaque, enamel, baby (milk) teeth. Food chains and animal diets: decomposer, food web. <p>Previously introduced vocabulary: producer, consumer, prey, predator, excretion, habitat.</p>		<ul style="list-style-type: none"> Electricity: mains-powered, battery-powered, mains electricity, plug, appliances, devices. Circuits: circuit, simple series circuit, complete circuit, incomplete circuit. Circuit parts: bulb, cell, wire, buzzer, switch, motor, battery. Materials: electrical conductor, electrical insulator. Other: safety. <p>Previously introduced vocabulary: names of materials.</p>			<ul style="list-style-type: none"> Living things: organisms, specimen, species. Grouping living things: classification, classification keys, classify, characteristics. Names of invertebrate animals: snails and slugs, worms, spiders, insects. Invertebrate body parts: e.g. wing case, abdomen, thorax, antenna, segments, mandible, proboscis, prolegs. Environmental changes: environment, environmental dangers, adapt, natural changes, climate change, deforestation, pollution, urbanisation, invasive species, endangered species, extinct. <p>Previously introduced vocabulary: carbon dioxide, fish, bird, mammal, amphibian, reptile, skeleton, bone, vertebrate, invertebrate, backbone, names for animal body parts, names of common plants, photosynthesis</p>



Heamoor School Science Progression



Autumn 2	Spring 2-Sound	Summer 2-States of matter
	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • identify how sounds are made, associating some of them with something vibrating; • recognise that vibrations from sounds travel through a medium to the ear; • find patterns between the pitch of a sound and features of the object that produced it; • find patterns between the volume of a sound and the strength of the vibrations that produced it; <p>recognise that sounds get fainter as the distance from the sound source increases</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> • compare and group materials together, according to whether they are solids, liquids or gases; • observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C); • identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.
	<ul style="list-style-type: none"> • <u>Parts of the ear:</u> eardrum. • <u>Making sound:</u> vibration, vocal cords, particles. • <u>Measuring sound:</u> pitch, volume, amplitude, sound wave, quiet, loud, high, low, travel, distance. • <u>Other:</u> soundproof, absorb sound. 	<ul style="list-style-type: none"> • States of matter: solids, liquids, gases, particles. • <u>State change:</u> evaporate, condense, melt, freeze, heat, cool, melting point, freezing point, boiling point, water vapour. • <u>Water cycle:</u> precipitation, evaporation, condensation, ground run-off, collection, underground water, bodies of water (sea, river, stream), water droplets, hail. • <u>Other:</u> atmosphere. <p>Previously introduced vocabulary: temperature, rain, cloud, snow, wind, sun, hot, cold, absorb, carbon dioxide.</p>



Heamoor School Science Progression



Indigo Class-Year A

Areas of study	Animals Including Humans	Properties and Changes of Materials	Earth and Space	Forces	Living Things and Their Habitats
Vikings		Victorians		Wet Wet Wet	
Autumn 1- Earth and space		Spring 1- Properties and changes of materials		Summer 1-Animals including humans	
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> describe the movement of the Earth and other planets relative to the Sun in the solar system; describe the movement of the Moon relative to the Earth; describe the Sun, Earth and Moon as approximately spherical bodies; use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky 		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets; know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution; use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating; give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic; demonstrate that dissolving, mixing and changes of state are reversible changes; explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda. 		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> describe the changes as humans develop to old age. 	
<ul style="list-style-type: none"> Solar system: star, planet. Names of planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Neptune, Uranus. Shape: spherical bodies, sphere. Movement: rotate, axis, orbit, satellite. Theories: geocentric model, heliocentric model, astronomer. Day length: sunrise, sunset, midday, time zone. <p>Previously introduced vocabulary: Sun, moon, shadow, day, night, heat, light, reflect.</p>		<ul style="list-style-type: none"> Properties of materials: thermal conductor/insulator, magnetism, electrical resistance, transparency. Mixtures and solutions: dissolving, substance, soluble, insoluble. Changes of materials: reversible change, physical change, irreversible change, chemical change, burning, new material, product. Separating: sieving, filtering, magnetic attraction. <p>Previously introduced vocabulary: electrical conductor/insulator, bulb, translucent.</p>		<ul style="list-style-type: none"> Process of reproduction: gestation, asexual reproduction, sexual reproduction, sperm, egg, cells, clone. Changes and life cycle: embryo, foetus, uterus, prenatal, adolescence, puberty, menstruation, adulthood, menopause, life expectancy, old age, hormones, sweat. Changing body parts: e.g. breasts, penis, larynx, ovaries, genitalia, pubic hair. <p>Previously introduced vocabulary: reproduction, reproduce, types of animals and animal groups, fertilisation.</p>	



Heamoor School Science Progression



Autumn 2	Spring 2-Forces	Summer 2-Living things and their habitats
	<p>Pupils should be taught to:</p> <ul style="list-style-type: none">• explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object;• identify the effects of air resistance, water resistance and friction, that act between moving surfaces;• recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect. <p>• <u>Types of forces:</u> air resistance, water resistance, buoyancy, upthrust, Earth's gravitational pull, gravity, opposing forces, driving force.</p> <p>• <u>Mechanisms:</u> levers, pulleys, gears/cogs.</p> <p>• <u>Measurements:</u> weight, mass, kilograms (kg), Newtons (N), scales, speed, fast, slow.</p> <p>• <u>Other:</u> streamlined, Earth.</p> <p>Previously introduced vocabulary: air, heat, moon.</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none">• describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird; <p>describe the life process of reproduction in some plants and animals</p> <p>• <u>Reproduction:</u> asexual reproduction, sexual reproduction, gestation, metamorphosis, gametes, tuber, runners/side branches, plantlet, cuttings, embryo, adolescent, penis, vagina, egg, pregnancy, gestation.</p> <p>Previously introduced vocabulary: life cycle, pollination, offspring, fertilise, fertilisation, sepal, filament, anther, stamen, pollen, petal, stigma, style, ovary, carpel, ovule, stem, bulb, roots, mammal, adult, baby, sperm, cells, live young.</p>



Heamoor School Science Progression



Indigo Class-Year B

Areas of study	Properties and Changes of Materials	Earth and Space	Forces	Living Things and Their Habitats
Early Man	To The Mount and Beyond		The Circle of Life	
Autumn 1- Earth and space	Spring 1- Properties and changes of materials		Summer 1-Animals including humans	
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> describe the movement of the Earth and other planets relative to the Sun in the solar system; describe the movement of the Moon relative to the Earth; describe the Sun, Earth and Moon as approximately spherical bodies; use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky 	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets; know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution; use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating; give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic; demonstrate that dissolving, mixing and changes of state are reversible changes; <ul style="list-style-type: none"> explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda. 		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> describe the changes as humans develop to old age. 	
<ul style="list-style-type: none"> Solar system: star, planet. Names of planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Neptune, Uranus. Shape: spherical bodies, sphere. Movement: rotate, axis, orbit, satellite. Theories: geocentric model, heliocentric model, astronomer. Day length: sunrise, sunset, midday, time zone. <p>Previously introduced vocabulary: Sun, moon, shadow, day, night, heat, light, reflect.</p>	<ul style="list-style-type: none"> Properties of materials: thermal conductor/insulator, magnetism, electrical resistance, transparency. Mixtures and solutions: dissolving, substance, soluble, insoluble. Changes of materials: reversible change, physical change, irreversible change, chemical change, burning, new material, product. Separating: sieving, filtering, magnetic attraction. <p>Previously introduced vocabulary: electrical conductor/insulator, bulb, translucent.</p>		<ul style="list-style-type: none"> Process of reproduction: gestation, asexual reproduction, sexual reproduction, sperm, egg, cells, clone. Changes and life cycle: embryo, foetus, uterus, prenatal, adolescence, puberty, menstruation, adulthood, menopause, life expectancy, old age, hormones, sweat. Changing body parts: e.g. breasts, penis, larynx, ovaries, genitalia, pubic hair. <p>Previously introduced vocabulary: reproduction, reproduce, types of animals and animal groups, fertilisation.</p>	



Heamoor School Science Progression



Autumn 2	Spring 2-Forces	Summer 2-Living things and their habitats
	<p>Pupils should be taught to:</p> <ul style="list-style-type: none">• explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object;• identify the effects of air resistance, water resistance and friction, that act between moving surfaces;<ul style="list-style-type: none">• recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect. <p>• Types of forces: air resistance, water resistance, buoyancy, upthrust, Earth's gravitational pull, gravity, opposing forces, driving force.</p> <p>• Mechanisms: levers, pulleys, gears/cogs.</p> <p>• Measurements: weight, mass, kilograms (kg), Newtons (N), scales, speed, fast, slow.</p> <p>• Other: streamlined, Earth.</p> <p>Previously introduced vocabulary: air, heat, moon.</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none">• describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird; <p>describe the life process of reproduction in some plants and animals</p> <p>• Reproduction: asexual reproduction, sexual reproduction, gestation, metamorphosis, gametes, tuber, runners/side branches, plantlet, cuttings, embryo, adolescent, penis, vagina, egg, pregnancy, gestation.</p> <p>Previously introduced vocabulary: life cycle, pollination, offspring, fertilise, fertilisation, sepal, filament, anther, stamen, pollen, petal, stigma, style, ovary, carpel, ovule, stem, bulb, roots, mammal, adult, baby, sperm, cells, live young.</p>



Heamoor School Science Progression



Violet Class-Year A

Areas of study	Animals Including Humans	Living Things and Their Habitats	Evolution and Inheritance	Light	Electricity
Vikings		Victorians		Wet Wet Wet	
Autumn 1 Living things and their habitats		Spring 1-Light		Summer 1- Animals including humans	
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals; give reasons for classifying plants and animals based on specific characteristics 		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> recognise that light appears to travel in straight lines; use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye; explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes; use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. 		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood; recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function; describe the ways in which nutrients and water are transported within animals, including humans. 	
<ul style="list-style-type: none"> Classifying: Carl Linnaeus, Linnaean system, flowering and non-flowering plants, variation. Microorganisms: bacteria, single-celled, microbes, microscopic, virus, fungi, fungus, mould, antibiotic, yeast, ferment, microscope, decompose. 		<ul style="list-style-type: none"> Reflection: periscope. Seeing light: visible spectrum, prism. How light travels: light waves, wavelength, straight line, refraction. <p>Previously introduced vocabulary: names and properties of materials, absorb.</p>		<ul style="list-style-type: none"> Circulatory system: circulation, heart, pulse, heartbeat, heart rate, lungs, breathing, blood vessels, blood, pump, transported, oxygenated blood, deoxygenated blood, oxygen, arteries, veins, capillaries, chambers, plasma, platelets, white blood cells, red blood cells. Lifestyle: drug, alcohol, smoking, disease, calorie, energy input, energy output. Other: water transportation, nutrient transportation, waste products. <p>Previously introduced vocabulary: carbon dioxide.</p>	



Heamoor School Science Progression



Autumn 2	Spring 2-Electricity	Summer 2-Evolution and inheritance
	<p>Pupils should be taught to:</p> <ul style="list-style-type: none">• associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit;• compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches; <p>use recognised symbols when representing a simple circuit in a diagram.</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none">• recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago;• recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents;• identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.
	<p><u>Flow and measure of electricity:</u> voltage, amps, resistance, electrons, volts (V), current.</p> <p><u>Circuits:</u> symbol, circuit diagram, component, function, filament.</p> <p><u>Variations:</u> dimmer, brighter, louder, quieter.</p> <p><u>Types of electricity:</u> natural electricity, human-made electricity, solar panels, power station.</p> <p><u>Other:</u> positive, negative.</p>	<ul style="list-style-type: none">• <u>Classifying:</u> Carl Linnaeus, Linnaean system, flowering and non-flowering plants, variation.• <u>Microorganisms:</u> bacteria, single-celled, microbes, microscopic, virus, fungi, fungus, mould, antibiotic, yeast, ferment, microscope, decompose.



Heamoor School Science Progression



Violet Class-Year B

Areas of study	Animals Including Humans	Living Things and Their Habitats	Evolution and Inheritance	Light	Electricity
Early Man		To The Mount And Beyond		The Circle of Life	
Autumn 1 Living things and their habitats		Spring 1-Light		Summer 1- Animals including humans	
<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals; give reasons for classifying plants and animals based on specific characteristics 		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> recognise that light appears to travel in straight lines; use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye; explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes; <p>use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p>		<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood; recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function; describe the ways in which nutrients and water are transported within animals, including humans. 	
<ul style="list-style-type: none"> Classifying: Carl Linnaeus, Linnaean system, flowering and non-flowering plants, variation. Microorganisms: bacteria, single-celled, microbes, microscopic, virus, fungi, fungus, mould, antibiotic, yeast, ferment, microscope, decompose. 		<ul style="list-style-type: none"> Reflection: periscope. Seeing light: visible spectrum, prism. How light travels: light waves, wavelength, straight line, refraction. <p>Previously introduced vocabulary: names and properties of materials, absorb.</p>		<ul style="list-style-type: none"> Circulatory system: circulation, heart, pulse, heartbeat, heart rate, lungs, breathing, blood vessels, blood, pump, transported, oxygenated blood, deoxygenated blood, oxygen, arteries, veins, capillaries, chambers, plasma, platelets, white blood cells, red blood cells. Lifestyle: drug, alcohol, smoking, disease, calorie, energy input, energy output. Other: water transportation, nutrient transportation, waste products. <p>Previously introduced vocabulary: carbon dioxide.</p>	



Heamoor School Science Progression



Autumn 2	Spring 2-Electricity	Summer 2-Evolution and inheritance
	<p>Pupils should be taught to:</p> <ul style="list-style-type: none">• associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit;• compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches;• use recognised symbols when representing a simple circuit in a diagram. <p><u>Flow and measure of electricity:</u> voltage, amps, resistance, electrons, volts (V), current.</p> <p><u>Circuits:</u> symbol, circuit diagram, component, function, filament.</p> <p><u>Variations:</u> dimmer, brighter, louder, quieter.</p> <p><u>Types of electricity:</u> natural electricity, human-made electricity, solar panels, power station.</p> <p><u>Other:</u> positive, negative</p>	<p>Pupils should be taught to:</p> <ul style="list-style-type: none">• recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago;• recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents;• identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. <p>• <u>Classifying:</u> Carl Linnaeus, Linnaean system, flowering and non-flowering plants, variation.</p> <p>• <u>Microorganisms:</u> bacteria, single-celled, microbes, microscopic, virus, fungi, fungus, mould, antibiotic, yeast, ferment, microscope, decompose.</p>