PINNER WOOD SCIENCE LONG TERM PLAN

Pinner Wood School

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery						
UNIT	**Animals including humans**	**Animals including humans**	**Materials – Superheroes**	**Plants - Growing**	**Forces – Traditional Tales**	**Living things and their habitats – Amazing Animals**
I can Statements	• I can talk about what I see, using a wide vocabulary. • I can begin to make sense of my own life-story and family's history. • I can make connections to the features of their family and other families.	• I can continue to develop positive attitudes about the differences between people.	• I can use all my senses in hands-on exploration of natural materials. • I can explore collections of materials with similar and/or different properties. • I can talk about the differences between materials and changes I notice. • I can begin to know that there are different countries in the world and talk about the differences they have experienced or seen in photos.	• I can plant seeds and care for growing plants. • I can understand the key features of the life cycle of a plant and an animal. • I can make observations of animals and plants Planting seeds Life cycle of plants Forest school – changes Spring walk to post box	• I can explore how things work. • I can explore and talk about different forces I can feel. Forces (push/pull) – linked to traditional tale The Three Little Pigs – materials	• I can comment and ask questions about aspects of my familiar world such as the place where I live or the natural world. • I can begin to understand the need to respect and care for the natural environment and all living things. The Natural World: -Minibeasts – life cycles continued with animals – natural world -Pets – caring for animals -Farm animals – basic intro to habitats Farms around the world

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Key Vocabulary	Body, eyes, nose, mouth, ears, see, family, different, special, Mum, Dad, brother, sister	Live, home, predict	Feel, touch, predict, hard, soft, fluffy, rough, smooth, shiny, dull, float, sink, predict	leaf, stem, flower, tree, branch, predict	Surface, force, effect, move, gravity	Animals, farm, jungle, living, home
Additional lessons	• Uses senses to explore different materials.	• Forest School	• Evil Pea – freezing and melting • Cooking different foods.	• Spring walk – observing different plants • Forest School – leaf printing • Growing beans (Jack and the Beanstalk) • Garden centre (Role play)	• Forest School – leaf hunt	• Forest School – Bug hunting • Butterfly life cycle • Bees coming to school
Reception						
UNIT	**Animals including humans**	**Seasons – The Night Sky**	**Animals including humans - Food**	**Plants – Travel and Transport**	**Materials – Story land**	**Living things and their habitats – A journey through time**
Target tracker Statements	• I can name parts of our bodies (nose, mouth, eyes, ears • I can say which part of the body is associated with each sense. • I can use all their senses in hands-on	• I can identify similarities and differences between the natural world around me and contrasting environments, drawing on my experiences and	• I can talk about the different factors that support their overall health and wellbeing: - regular physical activity - healthy eating - toothbrushing - sensible amounts of	• I can explore the natural world around me • I can make observations and drawing pictures of animals and plants • I can explain why some things occur, and talk about changes	• I can understand some important processes and changes including changing states of matter. • I can know the properties of some materials and can suggest some of the	• I can talk about some of the things they have observed such as plants, animals, natural and found objects. • I can show care and concern for living things and the environment.

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	exploration of natural materials.	what has been read in class. • Understand some important processes and changes in the natural world around them, including the seasons.	'screen time' - having a good sleep routine - being a safe pedestrian	from a seed to a plant and the changes in seasons. • I can talk about some of the things they have observed such as plants, animals, natural and found objects. • I can begin to explore the natural world around them, making observations and drawing pictures of animals and plants.	purposes they are used for. • I am familiar with basic scientific concepts such as floating, sinking, experimentation. • I can begin to understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.	• I can begin to recognises some environments that are different to the one in which they live.
Key Vocabulary	nose, mouth, eyes, ears, see, hear, smell, touch, taste, predict	Winter, Spring, Summer, Autumn, bloom, change, season, leaves	Healthy eating, food, unhealthy, weight, size, lifestyle, exercise	leaf, stem, flower, root, tree, trunk, branch, tall, short, predict	wood, metal, bricks, ice, plastic, metal, glass, water, leathers, fabric, wool, predict, hard, soft, fluffy, rough, smooth, shiny, dull, float, sink, predict	Habitat, animals, jungle, rainforest, ocean, land, farm
Additional lessons	Using our senses to explore different things in our surroundings.	Autumn walk to Montesole Park Forest School – using their senses to explore the site.	Oral hygiene Vision screening Height and weight check Banquet	Butterfly life cycles Drawing of daffodils Growing cress for sandwiches Growing sunflowers Forest School – leaf printing	Forest School – leaf hunt	Bees coming into school Forest School – Bug hunting

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Year 1	Ourselves	Toys	Houses and Homes	Pets	Seasons	Plant Detectives
UNIT	**Animals including humans (focus on humans)**	**Materials**	**Materials**	**Animals including humans (focus on animals)**	**Seasons**	**Plants**
	Using Our senses	Every day materials (Lessons 1- 6)	Every day materials Lessons (7 – 13)	Animal Antics Looking at animals	Our changing world: Sensing seasons Our changing world: Plants	Plant detectives
Target tracker Statements	• I can name, draw and label the basic parts of the human body and say which part of the body is to do with each sense. .	• I can tell the difference between an object and the material from which it is made. • I can name a variety of everyday materials, including wood, plastic, glass, metal, water and rock. • I can describe the simple physical properties of a variety of everyday materials • I can compare and group together a variety of everyday materials on the	• I can name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.	• I can spot and name a variety of common animals including fish, amphibians, reptiles, birds and mammals • I can spot and name a variety of common animals that are carnivores, herbivores and omnivores. • I can describe and compare the structure of a variety of common animals fish, amphibians, reptiles, birds and mammals, including pets) •	• I can name some common wild and garden plants, including deciduous and evergreen leave.	• I can name and describe the basic structure of a variety of common flowering plants, including trees. • I can name some common wild and garden plants, including deciduous and evergreen trees.

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		basis of their simple physical properties				
Key Vocabulary	eyes, nose, ears, sense, touch, feel, smell, see, hear, predict, results		properties, hard, soft, fluffy, rough, smooth, shiny, dull, light, heavy, transparent, opaque, translucent, harder, lighter, rougher, stretch, stretchy, elastic, stiff, bend, bendy, not bendy, press, squash, twist, shape, waterproof absorb, predict, results materials, wood, wooden, plastic, metal, glass, water, rock, brick, paper, predict, results	carnivores, herbivores, omnivores, predict, results, fish, amphibians, reptiles, birds and mammals, nocturnal	leaf, stem, flower, bud, root, , tree, trunk, branch, twig, predict, results	
Additional lessons	•	•	•	•	•	•
Working Scientificall 	I can ask simple questions about the world I am beginning to recognise that questions can be answered in different ways I am beginning to make predictions based on my own ideas I can perform simple tests with support I am beginning to discuss my ideas about how to find things out. I am beginning to observe changes over time I am beginning to notice patterns and relationships with support I can collect simple data. I can record data in a table my teacher has provided. I can show my results in a simple table that my teacher has provided I am beginning to say what I would change about my investigation.					

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Year 2						
UNIT	Materials – Good Choices	Materials – Shaping Up	Animals including humans - Taking care	Animals including humans - Growing up	Living things and their habitats - What is in your Habitat?	Plants - The Apprentice Gardener
Target tracker Statements	• I can name and group materials. • I can identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses	• I can say why I would choose a material for a particular job. • I can explain how objects made from some materials can be changed. • I can find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	• I can describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.	• I can notice that animals, including humans, have offspring which grow into adults • I can describe the basic needs of animals, including humans, for survival (water, food and air)	• I can explain the differences between things that are living, dead and things that have never been alive. • I can explain that most living things live in habitats which suit them. • I can describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other • I can name some plants and animals in their habitats including micro-habitats. • I can explain how animals get their food from plants and other animals using a simple food chain and identify and name different sources of food.	• I can explain how seeds and bulbs grow into plants. • I can find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.

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Key Vocabulary	wood, metal, plastic, glass, brick, rock, paper, prediction, results, conclusion	twist, squash, bend, stretch, squashing, bending, twisting, stretching, push, pull, pushing, pulling, roll, pinch, press, smooth, flexible, rigid, stretchy, squashy, elastic, stiff, properties, suitable, stretchiness, weight, strong, prediction, conclusion	food, sort, classify, healthy diet, dairy, fruits, vegetables, meat, fish, beans, fat, sugar, bread, potatoes, cereals, exercise, physical activity, hot, sweaty, heart beating, pulse, muscles, clean, hygiene, hygienic, wash, prediction, conclusion	baby, need, want, living, alive, essential, food, milk, water, drink, eat, air, breathe, shelter, warmth, survival, depend, child, toddler, compare, change, differences, dependent, independent, move, care, learn, appearance, life cycle, stages, order, pregnancy, birth, teenager, adult, parent, elderly person, grow, prediction, conclusion	habitat, alive, living, once-lived, dead, never-lived, plants, animals, decay, rocks, soil, air, water, food chain, plants, animals, herbivores carnivores , omnivores, prediction, conclusion	seeds, plant, bulb, grow, observe, observations, soil, surface, test, bury, light, dark, water, germinate, radicle, root, shoot, leaves, change, height, tallest, measure, seedling, mature plant, wilting, healthy, unhealthy, warmth, care, die, prediction, conclusion
Additional lessons						
Working Scientifically 	• I can ask questions about the world. • I can recognise that questions can be answered in different ways. • I am beginning to make predictions based on my own ideas and observations. • I can discuss my ideas about how to find things out. • I can independently perform simple tests. • I can observe closely using simple equipment • I can notice patterns and relationships • I can gather and record data • I can use it to help me answer questions • I am beginning to communicate my findings in a variety of ways • I can show my results in a simple table • I am beginning to discuss my results in relation to my prediction. • I am beginning to say what I would change about my investigation					

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Year 3						
UNIT	Scientific Enquiry	Forces & Magnets	Rocks	Plants	Light	Animals including humans
Target tracker Statements	• I can ask questions and use different types of scientific enquiries to answer them. • I can set up simple practical enquiries, comparative and fair tests. • I can make observations and take measurements using standard units, using a range of equipment, including thermometers. • I can gather, record, classify and present data in a variety of ways to help in answering questions. • I can record findings using simple scientific language, drawings, labelled diagrams, keys,	• I can compare how things move on different surfaces. • I can see that some forces need contact between two objects, but magnetic forces can act at a distance • I can observe how magnets attract or repel each other and attract some materials and not others • I can compare and group some materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials • I can describe magnets as having two poles • I can predict whether two magnets will attract or repel each other, depending on which poles are facing.	• I can examine and do practical experiments on various types of rocks in order to group them on the basis of their appearance and simple physical properties. • I can simply describe how fossils are formed when things that have lived are trapped within rock. • I can explain that soils are made from rocks and organic matter. .	• I can identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers • I can explore the requirements of plants for life and growth and how they vary from plant to plant. • I can investigate the way in which water is transported within plants. • I can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	• I can explain that I need light in order to see things and that dark is the absence of light. • I can show that light is reflected from surfaces. • I can explain that light from the sun can be dangerous and that there are ways to protect eyes. • I can show how shadows are formed when the light from a light source is blocked by a solid object. • I can find patterns are in the way that the size of shadows change.	• I can 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. • I can explain why humans and some other animals have skeletons and muscles for support, protection and movement.

	bar charts, and tables. • I can report on findings from enquiries, including spoken and written explanations, displays or presentations of results and conclusions. • I can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. • I can explain differences, similarities or changes related to simple scientific ideas and processes. • I can use straightforward scientific evidence to answer questions or to support my findings.					

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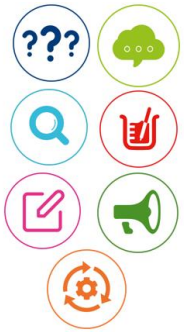
Key Vocabulary		push, pull, twist, force, air, turns, fast, slow, slows down, material, surface, magnet, attracts, magnetic material, magnetism, acts at a distance, non-magnetic material, metal, non-metal, strength, north pole, south pole, repel	sandstone, granite, chalk, limestone, marble, pumice, rough, smooth, hard, soft, rock, stone, pebble, texture, particle, crystal, granule, properties, soil, clay, sandy, peat, organic material, weather, weathering, frost, beach, cliff, starfish, sea urchin, ammonite, fossil, fossilise, remains	plant, roots, stem, trunk, leaf/leaves, flower, leaflet, stalk, veins, surface, edge, lobes, tip, food, root hair, nutrients, anchor, support, seed, germination, seedling, growth, mature plant, flowering, pollination, seed formation, bud, petal, sepal, carpel, stamen, pollen, reproduce, nectar, seed, fruit, dispersal, animal, wind, water, self-dispersal, explosion, sprinkling, competition, air, light, stigma, style, ovary, anther, filament, observe	light, dark, shadow, mirror, bright, dim, reflect, eye, opaque, transparent, translucent, ultraviolet, ray, beam, absorb, luminous, non-luminous, infrared	stay alive, survive, food, balanced diet, nutrition, nutrients, fruit and vegetables, carbohydrates, protein, roughage, fibre, sugar, fat, dairy, skeleton, bones, protect, support, move, muscles, joints, ribs, heart, skull, brain, backbone, spine, spinal column, vertebrate, footprint, trail, vitamins, minerals
Additional lessons	•	•	•	•	•	•
Working Scientifically 	• I can ask *relevant* questions about the world. • I am beginning to recognise that questions can be answered in different ways using the different types of Scientific Enquiry • I can identify new questions arising from the data • I can make new predictions based on my results • I can (with some guidance) set up simple practical enquiries, comparative and fair tests • I can (with support) perform these enquiries & tests • I am beginning to make systemic and careful observations • I am beginning to take accurate measurements using standard units and a range of equipment • I can gather, record, classify and present data in a variety of ways to answer questions • I am beginning to decide how best to record my findings • I am beginning to communicate my findings in a variety of ways. • I am beginning to use scientific evidence from my enquiry to answer questions. • I am beginning to discuss my results in relation to my prediction. • I am beginning to say what I would change about my investigation.					

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Year 4						
UNIT	Animals including humans	Living things and their habitats	States of matter Materials	Electricity	Sound	
Target tracker Statements	• I can describe the simple functions of the basic parts of the digestive system in humans • I can explain the different types of teeth in humans and what they do. • I can construct and interpret a variety of food chains, identifying producers, predators and prey.	• I can show that living things can be grouped together in various ways. • I can explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. • I can explain that environments can change and that this sometimes means that living things are put in danger.	• I can group materials together, according to whether they are solids, liquids or gases including tricky ones like gels, foams, mists and pastes. • I can demonstrate and explain that some materials change state when they are heated or cooled • I can measure or research the temperature at which this happens in degrees Celsius (°C). • I can correctly talk about the part played by evaporation and condensation in the water cycle. • I can show a link between the rate of evaporation and temperature.	• I can talk about common appliances that run on electricity. • I can construct and draw with labels a simple series electrical circuit which includes cells, wires, bulbs, switches and buzzers. • I can predict if a lamp will light or not in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery. • I can explain that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. • I can show that some materials are conductors and some are insulators, and can explain that metals are good conductors.	• I can explain how sounds are made, and show that some of them are linked to vibrations. • I can explain that vibrations from sounds travel through a medium to the ear. • I can find patterns between the pitch of a sound and features of the object that produced it. • I can show that there is a pattern between the volume of a sound and the strength of the vibrations that produced it. • I can show that sounds get fainter as the distance from the sound source increases.	•

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Key Vocabulary	features, sequence, key, distinguish, similarities, differences, vertebrate, fish, amphibian, reptile, bird, mammal, backbone, hair, scales, feathers, eggs, wings, beak, lungs, gills, cold blooded, warm blooded, head, thorax, abdomen, wing, segment, antennae, insects, arachnids, crustaceans, myriapods, molluscs, worms, observations, sort, group, classify, identify. mouth, oesophagus, stomach, small intestine, large intestine, rectum, anus, digestive system, digestion, carbohydrate, fat, sugar, protein, fibre, dairy, fruit, vegetables, vitamins, minerals,	environment, impact, positive, negative, litter, pollution, waste, biodiversity, habitat, derelict, graffiti, traffic, destroy, create, location, food chain, producer, consumer, human impact , global issue, destruction, deforestation, rainforest, climate, climate change, zoo, endangered, breed, wild, natural, predator, prey, conservation, categories, tally chart, pictogram, bar chart, axes, scale, opinion, point of view, argument, viewpoint, debate.	solid, liquid, soft, pour, flow, pile, pool, surface, horizontal, runny, viscous, sticky, grain, powder, ice, water, temperature, cool, cooling, warm, warming, hot, degree Celsius, melt, melting, freeze, freezing, solidify, solidifying, heating, states of matter, change of state, melting point, freezing point, process, gas, air, bubbles, empty, particle, weight, compress, squash, shape, volume, dry, evaporate, evaporation, water vapour, boil, boiling, boiling point, steam, thermometer, sensor, droplets, condense, condensation, water, cycle, model, snow, expand, scale, calibrate, heat sensitive, observe, measure, fair test, variable, collect, present, interpret, data, axis, scale, interval, control, keep the same, evidence, annotate, accuracy, describe, explain, evaluate, reliable, repeatable.	electricity, electrical, mains, plugged in, battery, power, rechargeable, solar, wind up, movement, cell, wire, bulb, bulb holder, buzzer, motor, component, circuit, complete circuit, flow, break, make, metal, connect, disconnect, positive, negative, switch, property, electrical conductor, Venn diagram, Carroll diagram, table, conclusion, evidence, annotate.	sound, loud, quiet, high, low, repeating, continuous, strike, blow, shake, pluck, vibration, vibrate, solid, gas, volume, strength of vibrations, sound source, fainter, distance, pitch, particles, question, investigation, fair test, change, measure, predict, prediction, explanation, observations, draw conclusions.	

	balanced diet, healthy, absorb, nutrients, water, saliva, chemicals, enzyme, teeth, canine, incisor, premolar, molar, jaw, cutting, tearing, grinding , dental hygiene, decay, dentist, brushing, toothpaste, floss, mouthwash, food, plants, animals, food chain, food web, producer, consumer, predator, prey, herbivore, omnivore, carnivore.					
Additional lessons						
Working Scientifically 	• I can ask *relevant* questions about the world. • I can recognise that questions can be answered in different ways using the different types of Scientific Enquiry. • I can identify new questions arising from the data • I can make new predictions based on my results • I can set up practical enquiries, comparative and fair tests. • I can perform these enquiries & tests • I can make systematic and careful observations • I can take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. • I can gather, record, classify and present data in a variety to answer questions. • I can decide how best to record my findings • I can communicate my findings in a variety of ways. • I can use scientific evidence from my enquiry to answer questions. • I am beginning to discuss my results in relation to my prediction • I am beginning to say what I would change about my investigation and pose further questions.					

PINNER WOOD SCIENCE LONG TERM PLAN

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Year 5						
UNIT	Animals including humans	Living things and their habitats	Properties and changes of materials	Properties and changes of materials	Forces	Earth and Space
Target tracker Statements	• I can describe the changes as humans develop into old age.	• I can describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. • I can describe the life process of reproduction in some plants and animals	• I can 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. • I can give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.	• I can demonstrate that dissolving, mixing and changes of state are reversible changes. • I can 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 • I can explain that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. • I can use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.	• I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. • I can demonstrate the effects of air resistance, water resistance and friction that act between moving surfaces. • I can show that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	• I can describe the movement of the Earth, and other planets, relative to the Sun in the solar system. • I can describe the movement of the Moon relative to the Earth. • I can describe the Sun, Earth and Moon as approximately spherical bodies. • I can explain day and night, and the apparent movement of the sun across the sky, using the idea of the Earth's rotation.

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Key Vocabulary	reproduction, reproduce, flower, organ, carpel, stamen, pollen, seeds, seed head, berry, fruit, pollinator, pollination, fertilisation, reproduction, reproduce, propagate, stem, leaf and root cuttings, runners, tubers, bulbs, rhizomes, gender, male, female, sex, sexual, asexual, metamorphosis, mate, sperm, pregnant, give birth, young, pup, calf, foal, chick, hatch, fledge, fledgling.	life cycle, birth, growth, reproduction, metamorphosis, aging, death, animal, mammal, amphibian, insect, bird, , hibernate, nocturnal, marsupial, gills, cold blooded, head, thorax, abdomen, antennae, egg, pupa, cocoon, adult, prey, predator, reproduce, habitat, environment, migrate, migration, navigate, genetic, endangered, threatened, extinct, extinction, evolution.	properties, material, solid, liquid, gas, compare, contrast, group, organise, criteria, hardness, soluble, insoluble, transparent, transparency, opaque, hardness, strength, rigidity, flexibility, elastic, elasticity, ductile, electrical conductor/insulator, thermal conductor/insulator, magnetic, non-magnetic, attract, repel, viscosity, viscous, thick, thicker, types of plastic – polyester, nylon, polythene, PVC, polystyrene acrylic – recycle, reuse, biodegradable, environmentally friendly.	properties, material, building, construction, structure, organic, natural, manufactured, man-made, weathering, decay, decompose, break down, brittle, fragile, metal, plastic, wood, ceramic, concrete, compare, contrast, group, organise, criteria, strong, strength, weakness, durability, wear, tear, stretch, flexible, flexibility, hardness, light, heavy, durable, durability, waterproof, washable, stain resistant, reusable, weight, mass, criteria, ovenproof, heat, temperature, room temperature, thermal conductor, thermal insulator, insulate, insulation, viscosity, viscous, sticky, stickiness, tackiness, adhesive, glue, saturated, powder, particle, polymer, volume, quantity. material, compare, contrast, separate, mixture, sieve, filter, evaporate, solid, liquid, gas, powder, particle, dissolve, soluble, solution, impurity, pure, purity, suspension, saturated, saturation, reversible, non-reversible,	air resistance, balanced , balanced forces, bevel gears, clockwork, cogs, compress, extend, effort, force arm, forces, force, friction, force arrow, fulcrum, gravity, Galileo, gear ratio, gears, gear trains, lever, lift, machine, mechanisms, movement, Newton, Newton meter, pinion, pivot, pulley, pull, push, rack, resistance, rotary motion, simple machines, speed, time, unbalanced force, upthrust, water resistance, weight arm, wheel.	Earth, Jupiter, Mars, Mercury, Milky Way, Moon, North Pole, Saturn, South Pole, Sun, Neptune, Universe, Uranus, Venus, asteroid, axis, compass, crescent, dawn, degrees, dusk, equator, fixed stars, Full Moon, galaxy, gibbous, hemisphere, horizon, illuminate, leap year, longitude, lunar month, meridian, New Moon, northern, orbit, planet, reflect, rotate, rotation, solar system, solstice, southern, spin, spring, star, sunrise, sunset, telescope, temperature, tilt, time zone, waning, waxing, year, change, compare, draw conclusions, explain, explanation, investigation, line graph, measure, model, observations, plan, predict, prediction, presentation, question, record, review, scientific diagram, table.

				microbes, bacteria, types of oil, liquid, solid, detergent, sticky, filter, mechanical, residue, environment. material, change, compare, contrast, solid, liquid, gas, change of state, dissolve, melt, reversible, non-reversible, mixture, powder, particle, tablet, bubbles, carbon dioxide, change, reaction, inflate, rust, oxidise, oxygen, corrode, tarnish; types of metal: iron, steel, chromium, tin, zinc; boil, vapour, fuel, heat, burn, burning, flammable, flame, melts, solidifies, candle, wick, wax.		
Additional lessons	•	•			•	•
Working Scientifically 	• I can plan different types of scientific enquiries to answer questions • I can recognise and control variables where necessary • I am beginning to use test results to make predictions to set up further comparatives and fair tests. • I am beginning to look for different casual relationships in my data. • I can begin to recognise when and how to set up my comparative and fair tests and explain which variables need to be controlled and why. • I can begin to suggest improvements to my method and give reasons. • I can take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. • I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. • I can report and present findings from enquiries, including conclusions, casual relationships and explanations of results. • I can choose how best to present data. • I can identify scientific evidence that has been used to report or refute ideas and arguments • I can use my results to identify when further tests and observations are needed.					

PINNER WOOD SCIENCE LONG TERM PLAN

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Year 6						
UNIT	Evolution and inheritance	Light	Animals including humans - Heart	Living things and their habitats - Classification	Electricity	Healthy Body
Target tracker Statements	• I can explain that the kinds of living things that live on the earth now are different from those that inhabited the Earth millions of years ago and that fossils provide this information. • I can explain that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. • I can give examples of how animals and plants are adapted to suit their environment in different ways • I can explain that adaptation may lead to evolution.	• I can show that light appears to travel in straight lines. • I can explain that light travels in straight lines and that objects are seen because they give out or reflect light into the eye. • I can demonstrate and 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. • I can demonstrate that light travels in straight lines to show why shadows have the same shape as the objects that cast them.	• I can identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.	• I can describe how plants, animals and micro-organisms are classified into broad groups according to common observable characteristics and based on similarities and differences including microorganisms, plants and animals • I can give reasons for classifying plants and animals based on specific characteristics.	• I can show that the brightness of a lamp or the volume of a buzzer depends on the number and voltage of cells used in the circuit. • I can 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. • I can draw a diagram using recognised symbols to represent a simple circuit.	• I can recognise the impact of diet, exercise, drugs and lifestyle on the way the body functions. • I can describe the ways in which nutrients and water are transported within animals, including humans.
Key Vocabulary	• I can explain that the kinds of living	light, dark, shadow, mirror, bright, dim,	aorta, artery, atrium, blood, blood vessel, body	identify, identification, classify, classification,	cell, battery, lamp, wire, buzzer, motor, circuit,	alcohol, asthma, athlete, balanced diet, beats per

	things that live on the earth now are different from those that inhabited the Earth millions of years ago and that fossils provide this information. • I can explain that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. • I can give examples of how animals and plants are adapted to suit their environment in different ways • I can explain that adaptation may lead to evolution. population, variation, environment, inheritance, adaptation, selective breeding, generation, survival, natural selection, evolution, fossils, genes, genetics, DNA, extinct,	reflect, eye, opaque, transparent, translucent, ultra violet, ray, beam, refraction, periscope, spectrum, dispersion, inverted, medium, question, investigation, fair test, change, measure, predict, prediction, explanation, observations, draw conclusions	temperature, capillaries, carbon dioxide, cells, chamber, chest cavity, circulation, circulatory system, deoxygenated blood, digestive system, health, heart, heart valves, humans, hydration, lungs, muscular system, nutrients, nutrition, oxygen, oxygenated blood, plasma, platelets, pump, red blood cell, skeletal, system, transport, valve, vein, vena cava, ventricle, vessel, waste, waste gases, white blood cells. alcohol, asthma, athlete, balanced diet, beats per minute (bpm), benefits, breathing, caffeine, calories, carbohydrates (including sugars), cigarettes, clinical trial, consequences, dairy, diet, doping, drugs, eatwell plate, energy, exercise, fat, fibre, heart, heart rate, intensity, impact, lifestyle, long-term effect, lungs, medicine, mental benefits, mineral, motivation, nutrition, oxygen, passive smoking,	division, family, genus, species, reason, common characteristics, distinguishing characteristics, leaves, shape, size, colour, backbone, wings, jointed legs, cased, transparent, antennae, shell, segments, explain, group, small, harmful, beneficial (helpful), colony, colonies, mould, multiply, historically, grouping.	current, filament, electrical insulator, electrical conductor, mains electricity, terminal, switch, toggle switch, push switch, slide switch, tilt switch, trembler switch, pressure switch, reed switch, series circuit, resistance, resistor, current, circuit diagram, recognised symbols, generate, generator, coal, gas, oil, fossil fuels, nuclear, biomassfired power stations, wind turbine, wave hub, tidal fl ow, hydro-electric, grid, pylon, transmission, transformer, solar panel.	minute (bpm), benefits, breathing, caffeine, calories, carbohydrates (including sugars), cigarettes, clinical trial, consequences, dairy, diet, doping, drugs, eatwell plate, energy, exercise, fat, fibre, heart, heart rate, intensity, impact, lifestyle, long-term effect, lungs, medicine, mental benefits, mineral, motivation, nutrition, oxygen, passive smoking, peer pressure, performance enhancing, persuade, physical benefits, protein, RDA (recommended daily allowance), recovery rate, resting rate, roughage, saturated fat, short-term effect, smoking, sodium, solvents, steroids, tobacco, training, unsaturated fat, vitamin.

	extinction, speciation, question, investigation, fair test, change, measure, predict, prediction, explanation, observations, draw conclusions.		peer pressure, performance enhancing, persuade, physical benefits, protein, RDA (recommended daily allowance), recovery rate, resting rate, roughage, saturated fat, short-term effect, smoking, sodium, solvents, steroids, tobacco, training, unsaturated fat, vitamin.			
Additional lessons		•			•	•
Working Scientifically 	• I can plan different types of scientific enquiries to answer questions • I can recognise and control variables where necessary. • I can identify useful secondary sources • I can use test results to make predictions to set up further comparatives and fair tests. • I can look for different casual relationships in my data. • I can recognise when and how to set up my comparative and fair tests and explain which variables need to be controlled and why. • I can suggest improvements to my method and give reasons. • I can take accurate measurements, using a range of scientific equipment, with accuracy and precision, taking repeat readings when appropriate. • I can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. • I can decide how to record data from a choice of familiar approaches. • I can report and present findings from enquiries, including conclusions, casual relationships and explanations of results • I can choose how best to present data • I can identify scientific evidence that has been used to report or refute ideas and arguments • I can use my results to identify when further tests and observations are needed.					