



The physical world long term plan

Levels and sequence will be considered regarding the impact of the theme upon: 1) Internal senses, 2) sensory, 3) immediate environment, 4) locality, 4) national, 5) global.
3 lessons per week

Skills throughout: (from KS1- pupils over Year 2 expectations will need additional challenge from the KS2 orders)

Science:

- asking simple **questions** and recognising that they can be answered in different ways
- **observing** closely, using simple equipment
- performing simple **tests** – **CC what is fair? What is unfair?**
- identifying and **classifying**
- using their observations and ideas to suggest **answers** to questions
- gathering and recording **data** to help in answering questions.

Geographical skills and fieldwork

- use world maps, atlases and globes to identify the United Kingdom and its countries, as well as the countries, continents and oceans studied at this key stage
- use simple compass directions (North, South, East and West) and locational and directional language [for example, near and far; left and right], to describe the location of features and routes on a map
- use aerial photographs and plan perspectives to recognise landmarks and basic human and physical features; devise a simple map; and use and construct basic symbols in a key
- use simple fieldwork and observational skills to study the geography of their school and its grounds and the key human and physical features of its surrounding environment.

Locational knowledge

- ? name and locate the world's seven continents and five oceans
- ? name, locate and identify characteristics of the four countries and capital cities of the United Kingdom and its surrounding seas

Design Technology

Design

- design purposeful, functional, appealing products for themselves and other users based on design criteria
- generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology

Make

- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
- select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics

Evaluate

- explore and evaluate a range of existing products

- evaluate their ideas and products against design criteria

Technical knowledge

- build structures, exploring how they can be made stronger, stiffer and more stable
- explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

Year	Human	M	PP	L&LP	Geog & Habitats	D&T
Repeated Key concepts	Drink water Eat veg Exercise Wash & clean teeth Humans grow up	The same material can make different things Different materials can make the same thing Materials can be changed Different materials are good for different functions	Energy can change between electricity, heat, light & moving things (including creating sound).	Life: Plants and animals are living- grow, respond and reproduce Types: Germs, Plants, Bugs, Fish, Birds, Reptiles, Mammals – including Humans Parts: Plant and animal parts Needs: Plants need sun, water and air, animals need food, water, air Food: All food starts with plants, meat is from animals that eat plants. Plants and animals need space to live without human rubbish (incl pollution).	People need houses, schools, workplaces, roads, water, hospitals, Different environments include: town, forest/woods, farmland, hills/mountains, deserts, ice, coastal, lakes, rivers, sea, name and locate the world's seven continents and five oceans name, locate and identify characteristics of the four countries and capital cities of the United Kingdom and its surrounding seas	build structures, exploring how they can be made stronger, stiffer and more stable explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

	Term 1a	flexible with	Term 1b	Term 2a	flexible with	Term 2b	Term 3a	flexible with	Term 3b
1 Week each term			Autumn <ul style="list-style-type: none"> observe changes across the four seasons observe and describe weather associated with the seasons and how day length varies. 	Winter <ul style="list-style-type: none"> observe changes across the four seasons observe and describe weather associated with the seasons and how day length varies. 			Spring <ul style="list-style-type: none"> observe changes across the four seasons observe and describe weather associated with the seasons and how day length varies. 		Summer <ul style="list-style-type: none"> observe changes across the four seasons observe and describe weather associated with the seasons and how day length varies.
1	How can I stay healthily clean? - focus on hygiene and growing up NC Humans NC Animals 4 Sensory starting point: washing and hygiene products Ed visit in: Nurse Investigation: testing best substitute soaps		How can I feel warm? Wrapping up warm- insulation Heat sources (& their story) and movement. NC Design, make and evaluate and develop technical knowledge to make a mitten or quilt- NC Materials NC identify seasonal and daily weather patterns ... Sensory starting point: warm/cold & wrapping up Ed visit: Indoor ski centre Investigation: which materials work best	How do moving toys work? Design and Make a moving Toy Car and ball games. NC Design, make and evaluate and develop technical knowledge – make a moving toy <i>compare how things move on different surfaces- exploring direction and movement:</i> NC Everyday Materials NC Map & plans– of a toy track/ movement +CC Forces 1 +CC forces (yr5) Sensory starting point: exploring toys that move Ed visit: Smiths Investigation: how does surface texture affect movement	What can electricity do? Electric cars Making an electric-motor powered toy car. And a doll’s house with working lights NC Design, make and evaluate and develop technical knowledge a motor toy and an illuminated dolls’ house. NC Map & plans– of a toy track/ movement NC Everyday Materials +CC Forces (Yr5) +CC Electricity Sensory Starting point: electric motors and lights Ed visit: Investigation: how to break and make an electric circuit- which materials will electricity go through?		How can I look after my garden and encourage wildlife? NC Plants +CC Plants NC Habitats +CC Habitats NC Animals +CC Animals +CC Rocks NC Geographical skills maps, plans & direction 3 NC Geographical fieldwork NC Physical features soil, vegetation NC Physical geography - weather Sensory Starting point: cutting grass, plants, soil, worm, beetle. Ed Visit: Garden Centre, Market Garden Investigation: what do plants need to grow?	What is in the woods and how do they work? NC Plants +CC Plants NC Habitats +CC Habitats NC Animals +CC Animals NC Everyday Materials NC Physical features <ul style="list-style-type: none"> Vegetation, season, weather NC Place Knowledge <ul style="list-style-type: none"> vs non-European woods – Amazon NC Global Locational knowledge 1,3 NC Geographical skills maps, plans & direction NC Geographical fieldwork NC Design, make and evaluate and develop technical knowledge to make a shelter Sensory starting point: trees, wood, leaves, sticks, bird song Ed Visit: Woods. Minibeasts Investigation: how much life can be found in the woods vs lawn	

<p>2</p>	<p>How can I stay healthy? Diet Recap human body parts & healthy basics plus How do I smell/taste? . NC Humans +CC Human +CC Human Animals NC Design, make and evaluate and Food Technology Sensory starting point: Different healthy tastes/smells Ed Visit: visiting chef / dietician Investigation: How much energy is in different food- Burning dried foods to heat a test tube of water to show energy</p>	<p>Making healthy snacks: NC Humans NC Everyday materials, 3, 4, 6 +CC Human +CC Human animals NC Design, make and evaluate and Food Technology Where does our food come from? NC Global Locational knowledge NC Place knowledge contrast- Banana plantation vs Local Farm NC Human features- farm, shop, port NC Physical features- Soil, season, weather, rainfall NC Geographical skills maps, plans & direction 1 Sensory starting point: taste & smell of snacks Ed Visit: Investigation:</p>	<p>Where do I live here? My house & locality: Design and make a shelter Inside my house: NC Design, make and evaluate and develop technical knowledge to make a shelter make a bed / design a bedroom NC Habitats 2, 3 NC Everyday Materials +CC Electricity NC Geographical skills maps, plans & direction 2,3 NC Geographical fieldwork NC Human features including: city, town, village, factory, house, office, and shop Sensory starting point: materials for shelter, buildings – bricks, roof tiles etc Ed Visit: make a shelter outdoors, locality – Investigation: what keeps the rain out best? What is the softest materials for a bed</p>	<p>What country do I live in? locality then moving further afield Inside my house and out to region & country Further afield-region and country: NC Global Locational knowledge 2 NC Geographical skills maps, plans & direction NC Human Features including city, town, village, farms, port, harbour NC Physical Features including beach, cliff, coast, forest, hill, mountain, sea, ocean, river, soil, valley, vegetation, season and weather NC Animals and plants of Britain Food energy chain in Britain Sensory starting point: rocks, feathers, fur, water, plants Ed visit: regional visit – Pennines / Liverpool ferries Investigation: what birds and bugs can I see in the school grounds?</p>	<p>What will I find at the seaside? NC Physical features <ul style="list-style-type: none"> beach, cliff, coast, sea, port, harbour, sand NC Place Knowledge <ul style="list-style-type: none"> vs non-European Seaside – Arctic NC Global Locational knowledge 1,3 NC Geographical skills maps, plans & direction NC Geographical fieldwork NC Animals NC Habitats NC plants 1,4 – seaweed and dune grasses NC Seasonal changes +CC water/weather +CC rocks +CC Animals +CC Habitats . How can I see so far? NC Humans 1 +CC Light Sensory starting point: senses of the seaside Ed visit: seaside, Blue planet aquarium or similar Investigation: what lives in a rock pool? Can seaweed live in a garden/fresh water / salt water</p>	<p>What is wind? Air and its properties: wind and movement, pressure (balloons), sound, its role in breathing and fire. NC Physical geography- weather NC Seasonal changes NC Design, make and evaluate and develop technical knowledge: a kite and balloon rocket NC Everyday Materials +CC Materials +CC water/weather How do I hear? NC Humans 1 +CC Sound . Sensory starting point: wind, and moving air- fans, heaters causing air to rise. Sounds Ed visit: seaside Investigation: what makes the best kite?</p>
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<p>3</p>	<p>How can I feel healthy? The effects of Exercise- heart and lungs Recap healthy basics plus Keeping Healthy</p> <p>NC Humans 1,3,4 +CC Human Animals 2</p> <p>Sensory Starting point: Movement, heat beat, breathing sounds (microphone)</p> <p>Ed visit:</p> <p>Investigation: What happens to your heart beat and breathing after exercise?</p>	<p>Forces in sport & exercise</p> <p>NC Humans 1,4 +CC Human Animals 2 +CC Forces (incl bats as levers) NC Everyday Materials</p> <p>Sensory starting point: running & stopping (momentum), jumping, pushing, pulling, balls (different weights/textures / materials including elasticity/size – incl snooker, petanque), skittles, bats / racquets, trampoline, ropes for climbing, oars for rowing, discus, javelin, hammer, gym equipment</p> <p>Ed visit: watching sport (Rayner?), gym</p> <p>Investigation: how does the weight of a ball affect how far you can throw it? Which ball is bounciest?</p>	<p>How can I look after my pet? Life needs of animals NC Animals +CC Animals NC Habitats +CC Habitats NC Everyday Materials</p> <p>Design and make a pet living area.</p> <p>NC Design, make and evaluate and develop technical knowledge to make a pet living area (hamster cage?)</p> <p>Making a healthy dog biscuit NC Design, make and evaluate and food technology to make a dog biscuit</p> <p>Sensory starting point: therapy animals, fir, sound, sight, feel of animals and their movement.</p> <p>Ed Visit In: Therapy Animals</p> <p>Investigation: which pet area does the pet prefer?</p>	<p>What are the different sorts of animals in the world and why are some dying out? Endangered species NC Animals +CC Animals NC Habitats +CC Habitats NC Everyday Materials</p> <p>Design and make a model conservation zoo enclosure. NC Design, make and evaluate and develop technical knowledge to make a model zoo enclosure</p> <p>Where do the endangered animals live? NC Global Locational knowledge 1,3 NC Place knowledge contrast – local vs arctic (polar bears) & Amazon (jaguar) NC Physical Features related to habitat NC Human Features related to loss of habitat NC Geographical skills maps, plans & direction</p> <p>Sensory Starting point: fir, sound, sight, feel of animals and their movement. Ed Visit out: Chester/Blackpool Zoo Ed Visit in: visiting exotic animal service Investigation:</p>	<p>What will I find in the hills?</p> <p>NC Plants +CC Plants NC Habitats +CC Habitats NC Animals +CC Animals +CC Rocks NC Seasonal Changes NC Everyday Materials</p> <p>NC Physical features</p> <ul style="list-style-type: none"> Hill, mountain, river, valley, vegetation, season, weather <p>NC Place Knowledge</p> <ul style="list-style-type: none"> vs non-European hills Himalayas <p>NC Global Locational knowledge – esp hills of England NC Geographical skills maps, plans & direction NC Geographical fieldwork</p> <p>Design and make a gondola lift NC Design, make and evaluate and develop technical knowledge to make a (model) gondola lift</p> <p>Sensory starting point: hills, wind, grass, stream</p> <p>Ed Visit: local hills/moors</p> <p>Investigation:</p>	<p>Where does the water from the tap come from? Design and make a water transportation system- Why does it rain? Reservoir to tap, filtration</p> <p>NC Humans 3 NC Everyday Materials +CC Water/weather +CC Filtration</p> <p>Design and make a water transportation system/ viaduct /pipes NC Design, make and evaluate and develop technical knowledge to make a water transportation system</p> <p>NC Place knowledge contrast – local reservoirs vs desert area NC Human Features – +CC reservoir, water works NC Physical Geography – weather NC Physical features – rivers, lakes, season, weather NC Geographical skills maps, plans & direction NC Geographical fieldwork</p> <p>Sensory starting point: water and its movement, rain</p> <p>Ed Visit: local reservoirs, rivers and streams, water works</p> <p>Investigation: which are the best materials to filter dirt out of water?</p>
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National Curriculum KS1 references and Cultural Capital (CC) from KS2

Science

NC Plants

1. identify and name a variety of common wild and garden plants, including deciduous and evergreen trees
2. identify and describe the basic structure of a variety of common flowering plants, including trees
3. observe and describe how seeds and bulbs grow into mature plants
4. find out and describe how plants need water, light and a suitable temperature to grow and stay healthy

CC Plants

- + *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.*

NC Animals

1. identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals
2. identify and name a variety of common animals that are carnivores, herbivores and omnivores
3. describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)
4. notice that animals have offspring which grow into adults
5. find out about and describe the basic needs of animals for survival (water, food and air)

CC Animals

- + *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.*
- + *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*

NC Habitats- Living things and their habitats

1. explore and compare the differences between things that are living, dead, and things that have never been alive
2. 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
3. identify and name a variety of plants and animals in their habitats, including microhabitats
4. 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

CC Habitats

- + *recognise that environments can change and that this can sometimes pose dangers to living things.*
- + *construct and interpret a variety of food chains, identifying producers, predators and prey.*

NC Humans

1. identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense
2. notice that animals, including humans, have offspring which grow into adults
3. find out about and describe the basic needs of animals, including humans, for survival (water, food and air)
4. describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene

CC Human

1. describe the simple functions of the basic parts of the digestive system in humans
2. identify the different types of teeth in humans and their simple functions

CC Human Animals

1. 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
2. identify that humans and some other animals have skeletons and muscles for support, protection and movement.

NC Everyday materials

1. distinguish between an object and the material from which it is made
2. identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock
3. describe the simple physical properties of a variety of everyday materials
4. compare and group together a variety of everyday materials on the basis of their simple physical properties
5. identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses
6. find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching

+CC Materials

- + 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)

+CC water/weather

- + identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

+CC Rocks

- + 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.

NC Seasonal changes

- observe changes across the 4 seasons
- observe and describe weather associated with the seasons and how day length varies

+CC water/weather

- + identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

+CC Forces (Yr5)

- + 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.*

CC Light

- + 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.*

CC Sound

- + 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.*

CC Forces/Magnets

- 1. compare how things move on different surfaces*
- 2. notice that some forces need contact between two objects, but magnetic forces can act at a distance*
- 3. observe how magnets attract or repel each other and attract some materials and not others*
- 4. 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*
- 5. describe magnets as having two poles*
- 6. predict whether two magnets will attract or repel each other, depending on which poles are facing.*

CC Electricity

- + 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.*

Geography

NC Global Locational knowledge

1. name and locate the world's seven continents and five oceans
2. name, locate and identify characteristics of the four countries and capital cities of the United Kingdom and its surrounding seas
3. the location of hot and cold areas of the world in relation to the Equator and the North and South Poles

NC Place knowledge contrast

- understand geographical similarities and differences through studying the human and physical geography of a small area of the United Kingdom, and of a small area in a contrasting non-European country

NC Human features

- key human features, including: city, town, village, factory, farm, house, office, port, harbour and shop

NC Physical geography- weather

- identify seasonal and daily weather patterns in the United Kingdom

NC Physical features

use basic geographical vocabulary to refer to:

- key physical features, including: beach, cliff, coast, forest, hill, mountain, sea, ocean, river, soil, valley, vegetation, season and weather

NC Geographical skills maps, plans & direction

- 1) use world maps, atlases and globes to identify the United Kingdom and its countries, as well as the countries, continents and oceans studied at this key stage
- 2) use simple compass directions (North, South, East and West) and locational and directional language [for example, near and far; left and right], to describe the location of features and routes on a map
- 3) use aerial photographs and plan perspectives to recognise landmarks and basic human and physical features; devise a simple map; and use and construct basic symbols in a key

NC Geographical fieldwork

- use simple fieldwork and observational skills to study the geography of their school and its grounds and the key human and physical features of its surrounding environment.

D&T

Design

- ♣ design purposeful, functional, appealing products for themselves and other users based on design criteria
- ♣ generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology

Make

- ♣ select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
- ♣ select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics

Evaluate

- ♣ explore and evaluate a range of existing products
- ♣ evaluate their ideas and products against design criteria

Technical knowledge

- ♣ build structures, exploring how they can be made stronger, stiffer and more stable
- ♣ explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

Food Technology

- ♣ use the basic principles of a healthy and varied diet to prepare dishes
- ♣ understand where food comes from.

Whole School Theme Weeks: Yr1 Science Fun Week, Yr2 South America Week, Yr3 History Week, Yr4 Sub Saharan Africa Week, Yr5