NOTE: The Science curriculum is planned on a two-year rolling programme for EYFS/KS1 and a three-year rolling programme for Y3/4/5. Year 6 cover the content each year, therefore the Year 6 content is only shown on Year A. Please see the 'Whole School Science Programme' for more information.

YEAR B Curriculum Map Science

EYFS

Autumn 1: Animals including humans Autumn 2: Seasonal Change	Spring 1: Animals Spring 2: Materials	Summer 1: Plants Summer 2: Living things and their habitats-water
Links to previous learning	**Links to previous learning**	**Links to previous learning**
Humans Be increasingly independent in meeting their own care needs, e.g. brushing teeth, using the toilet, washing and drying their hands thoroughly. Make healthy choices about food, drink, activity and toothbrushing. **Living Things and their Habitats** Understand the key features of the life cycle of a plant and an animal.	**Animals** Understand the key features of the life cycle of an animal. Begin to understand the need to respect and care for the natural environment and all living things. **Materials** Explore collections of materials with similar and/or different properties. Talk about the differences between materials and changes they notice.	**Plants** Understand the key features of the life cycle of a plant. Begin to understand the need to respect and care for the natural environment and all living things. **Living Things and their Habitats** Use all their senses in hands-on exploration of natural materials. Explore collections of materials with similar and/or different properties. Begin to understand the need to respect and care for the natural environment and all living things
Knowledge	**Knowledge**	**Knowledge**
Humans **What keeps me healthy?** I know where food comes from I know about healthy food choices **Living Things and their Habitats** **Seasonal Change** I know about changing seasons. I know ways to be safe in different types of weather	**Animals excluding Humans** **Beautiful Birds!** I know that a bird is an animal. I know some parts of a bird (e.g. feathers, wings, 2 legs, beak) I know that birds lay eggs. I know a baby bird is called a chick. **Materials** **Protect our Planet!** I know that people create rubbish. I know that people sort rubbish. I know that our planet is having problems. I know one way I can help (e.g. but some rubbish into the recycling box).	**Plants** **Wonderful, Wild Plants** I know the names of some of the trees (and other plants) growing in our school grounds and my garden (e.g. ash tree). I know that trees can be the same and different (e.g. some trees have leaves and flowers and some trees just have leaves). I know trees change over time (some lose leaves in winter). I know that I need to respect and care for the natural environment and all living things. **Living Things and their Habitats** **Watery Habitats** I know that some environments that are different to the one in which they live.
Key Skills	**Key Skills**	**Key Skills**
Humans **What keeps me healthy?** I can understand how animals are used for food production I can say why measuring ingredients is important **Living Things and their Habitats** **Seasonal Change** I can explore the natural world. I can describe what I can see, hear and feel whilst outside. I can talk about changes I notice (e.g. flowers in spring and summer, trees losing leaves and bare trees).	**Animals excluding Humans** **Beautiful Birds!** I can enjoy sharing books about birds in the local area I can look at pictures and videos of birds in different habitats I can play with small world birds in different habitats. I can create pictures of birds in their habitats I can name and describe birds they see in books, pictures, videos or while on a trip. I can observe birds when they fly. I can observe birds eating from a feeder in our school garden. I can help fill the bird feeders with special seeds. **Materials** **Protect our Planet!** I can explore the natural world around me. I can sort objects by the material they are made of (e.g. plastic, glass, cardboard) I can reuse materials. I can talk about where we put our rubbish (e.g. at home and at school) I can show how I care for the planet by putting rubbish in the bin and recycling into the recycling box.	**Plants** **Wonderful, Wild Plants** I can observe changes to familiar trees throughout the year (ongoing). I can talk about those changes and link it to seasons (ongoing). I can collect natural fallen samples (e.g. leaves, conkers, seed pods etc). I can sort natural collections from trees. I can draw seeds, leaves etc. I can begin to understand the need to respect and care for the natural environment and all living things. I can answer why questions. I can explore the plants in the surrounding natural environment **Living Things and their Habitats** **Watery Habitats** I can draw information from a simple map. I can explore the natural world around them. I can describe what I see, hear and feel whilst outside. I can explore the animals in the surrounding natural environment I can explore plants and animals in a contrasting natural environment.

Vocabulary

What keeps me healthy?
Food, healthy, plate, knife, fork, spoon, cooked, uncooked, fruit, vegetables, meat, exercise, running, yoga, sport, sleep, nigh time, rest, brush, teeth, toothpaste

Seasonal Change
Season, summer, autumn, winter, spring, change, leaves, spring, summer, autumn, winter, seasons, sunny, cloudy, hot, warm, cold, shower, raining, storm, thunder, lightning, hail, sleet, snow, icy, frost, puddles, windy, rainbow, animals, young, plants, flowers, hibernate

Cultural opportunities

What keeps me healthy?
Bring in toothbrushes and practise brushing teeth
Talking to a dentist, nurse, meal supervisor/school cook, road crossing supervisor etc.

Seasonal Change
Going on seasonal walks to observe key features of the seasons (e.g. to Ashmeadow)

Key values

School Values: Happy, Healthy and Secure. Confident and Independent. Respectful and Caring. Inspired and Excited to Learn. Teamwork.
British Values:
Christian Star Qualities: Love, Joy, Peace, Patience, Kindness, Gentleness, Self-Control, Faithfulness, Goodness.

Book list & Resources

What keeps me healthy?
https://developingexperts.com/s/unit-library/units/105
https://explorify.uk/en/activities/zoom-in-zoom-out/sweet-and-shiny

Seasonal Change
https://developingexperts.com/s/unit-library/units/108
Traditional stories and nursery rhymes
Rain, Rain Go Away
Rain on the Green Grass
It's Raining, It's Pouring
I Hear Thunder
Other texts

https://explorify.uk/en/activities/zoom-in-zoom-out/white-and-spiky
https://explorify.uk/en/activities/whats-going-on/hungry-hedgehogs

Vocabulary

Beautiful Birds!
Bird, chick, feathers, wings, beaks, claws, feeder, eggs, nests, migrate, snowflake, fur, feathers, scales, tail, wings, beak, claws,

Protect our Planet!
Rubbish, recycle, glass, plastic, cardboard, reuse, bin, recycling box, paper, cardboard

Cultural opportunities

Beautiful Birds!
Visit Leighton Moss

Protect our Planet!
Eco Club members invited in to talk about school projects/children help Eco Club.

Key values

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Book list & Resources

Beautiful Birds!
Lost and Found by Oliver Jeffers
Little Kids first big book of birds by Catherine D Hughes
My first book of birds by Anita Ganeri (RSPB)

https://explorify.uk/en/activities/zoom-in-zoom-out/creature-comforts

Protect our Planet!
Someone Swallowed Stanley by Sarah Roberts

https://explorify.uk/en/activities/zoom-in-zoom-out/shiny-stripes

Vocabulary

Wonderful, Wild Plants
Trees, plants, natural, seeds, seed pods, leaves, change, wild flowers,

Watery Habitats
Pond, frog spawn, tadpole, froglet, frog, grow, change, die, seaside, estuary, crabs, river, fish,

Cultural opportunities

Wonderful, Wild Plants
Visit a garden centre
Ashmeadow

Watery Habitats
Leighton Moss
Arnside Estuary

Key values

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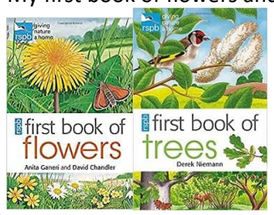
British Values:
Christian Star Qualities: Love, Joy, Peace, Patience, Kindness, Gentleness, Self-Control, Faithfulness, Goodness.

Book list & Resources

Wonderful Wild Plants
My first book of flowers and trees by Anita Ganeri RSBP



https://explorify.uk/en/activities/have-you-ever/spotted-a-flower-you-really-like
https://explorify.uk/en/activities/zoom-in-zoom-out/shiny-sections

Watery Habitats
Down at the Cool of the Pool by Tony Mitton
Over and Under the Pond by Kate Messner

						 Lesson 9 - Virtual pond dipping - YouTube
		YEAR B				
		Autumn 1: Animals including humans **Autumn 2: Seasonal Change**		**Spring 1: Animals** **Spring 2: Materials**		**Summer 1: Plants** **Summer 2: Living things and their habitats-water**
		Links to previous Learning		**Links to previous Learning:**		**Links to previous Learning**
		Reception/Year A + *Reception Physical Development-Know and talk about the different factors that support their overall health and wellbeing: regular physical activity; healthy eating; toothbrushing; sensible amounts of 'screen time'; having a good sleep routine; being a safe pedestrian.* I know some basic body parts. I know about the five senses: smell, hearing, taste, touch and sight. I know that the parts of the body linked to the five senses.		***Note: 2021 - LOCKDOWN LEARNING*** I know some environments that are different to the one in which I live. I know the names of a variety of pets / farm animals. I know that animals have babies. I know the names of some babies (e.g. puppy, kitten). I know the names of some African animals (e.g. Lion, elephant, cheetah, Rhinoceros etc) I know some common materials. (After exploration) I know some basic properties of some common materials. I know what some materials are used for (e.g. glass for windows) I know that different materials can be used for different purposes.		Reception Year A + Autumn and Spring **Plants** **How does your garden grow?** I know the names of some of the plants growing in our school grounds and my garden (e.g. daisy and roses). I know that plants can be the same and different (e.g. some plants have flowers and some do not or flowers have petals but look different). I know plants grow (change over time). I know that I need to respect and care for the natural environment and all living things. **Living Things and their Habitats** **Minibeasts** I know the names of some common small animals (spiders, snails, worms, bees, caterpillars. I know that some of these small animals live in a garden. I know that some small animals live under rocks and logs.
1		**Knowledge**		**Knowledge**		**Knowledge**
		(Animals), **including Humans - Healthy Humans** **Big Question: What keeps me healthy?** I know that humans grow and change (e.g. babies, children, teenagers, adults, elderly). I know the basic needs of humans for survival. I know the importance of exercise, a healthy diet and exercise. I know what a healthy, balanced diet consists of I know where some food comes from I know that some people eat vegetables only. I know that some people have food allergies. I know that some people eat certain foods according to their culture and beliefs. **Seasonal Changes** **Big Question: Why does it change outside my window?** I know the four seasons. I know that there are changes across the four seasons. I know the weather associated with the seasons.		**Animals,** (including Humans)- **Beautiful Birds!** **Big Question: Where are the birds?** I know that animals vary in many ways having different structures e.g. wings, tails, ears etc. I know that they also have different skin coverings e.g. scales, feathers, hair. I know that these key features can be used to identify them. I know what makes an animal, a bird. I know birds lay eggs. I know the parts of a bird. I know the lifecycle of a bird. I know a baby bird is a chick. I know the types of food birds eat. I know I can help birds in winter by putting a bird feeder in the garden. I know some birds fly away during winter, to warmer places. I know the names of some common birds to Arnside. I know about the RSPB. I know about the Big Garden Bird Watch. I know the most common bird seen.		**Plants - Wonderful Wild Plants and Trees** **Big Question: Why don't all plants look the same?** I know the names of common trees in our local area of Arnside (oak, maple, willow, sycamore, pine and cherry). I know that these trees can be identified through their leaves, shape and seeds. I can observe over time and sketch trees found in our school garden/Ashmeadow. (ongoing) I know some evergreen trees and some deciduous trees that drop their leaves in autumn and grow leaves again in spring. I know the life cycle of a tree; seed, germination, sprout, seedling, tree, tree with flowers, tree with fruit, etc. I know what a seed is. I know what is in a seed. I know what seeds need to germinate. I know what a tree needs to grow. I know how fast roots grow. **Habitats – Underwater**

		I know that the weather also changes with the seasons. In the UK, it is usually colder and rainier in winter, and hotter and dryer in the summer. I know how day length varies. I know in the UK, the day length is longest at mid-summer (about 16 hours) and gets shorter each day until mid-winter (about 8 hours) before getting longer again. I know that changes in weather causes many other changes. Some examples are: numbers of minibeasts found outside; seed and plant growth; leaves on trees; and type of clothes worn by people. I know some ways to measure weather. I know that some types of weather are dangerous. I know what a weather forecast is, and some symbols used by weather presenters.		**<u>Materials - Protect our Planet!</u>** **Big Question: Why is the climate changing? What can we do?** I know everyday materials, including wood, plastic, glass, metal, water, and rock. I know the physical properties of a variety of everyday materials. I know that there are human-made and natural materials. I know that some materials can be recycled when we have finished with them. I know that some materials cannot be recycled. I know some materials that can be recycled (photos of recycling areas in Arnside, Carnforth and Milnthorpe) I know that we get our energy from burning coal and oil (fossil fuels). I know that there are other ways to get energy, wind turbines and solar panels (renewable sources). I know that we can help save energy. I know that this can help the environment. I know that we can save water. I know that this can help the environment. I know that all living things on our planet are connected.		**Big Question: Why are Living Things suited to their environment and what happens when their environment changes?** I know the differences between things that are living, dead, and things that have never been alive I know 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 I know a variety of plants and animals in their habitats, including micro-habitats I know 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 I know water habitats (pond, river, estuary, sea/ocean). I know how some of the animals survive under water. I know some of the plants and animals that live in the ocean. I know what algae is (seaweed looks like a plant). I know what a food chain is. I know what plankton is and that it is at the beginning of the ocean's food chain. I know that whales are the biggest animals in the world. I know they are endangered. I know that ocean habitats cover over half (two thirds) of the earth's surface.
		Key Skills		**Key Skills**		**Key Skills**
		<u>Animals (including Humans)</u> **<u>Healthy Humans</u>** **Big Question: What keeps me healthy?** I can describe ways to keep healthy. I can demonstrate some ways to be healthy (e.g. exercise, sleep, washing my hands). **<u>Seasonal Changes</u>** **Big Question: Why does it change outside my window?** **Big Question: How do animals adapt to the changes throughout the year?** *<u>Working Scientifically</u>* *Making observing and taking measurements, observing closely using simple equipment.* *Recording and presenting evidence, gathering and recording data to help in answering questions* I can sort seasons into a cycle. I can describe weather. I can research (with support) about animals (e.g. hedgehogs) that hibernate in autumn and winter. (Ongoing weather and seasonal observations) I can collect information about the weather regularly throughout the year.		**<u>Animals</u>** **<u>Beautiful Birds!</u>** **Big Question: Where are the birds?** *<u>Working Scientifically</u>* *Asking simple questions and recognising that they can be answered in different ways* *Identifying and classifying using their observations and ideas to suggest answers to questions* *Gathering and recording data to help in answering questions.* I can identify and name some common birds. I can identify and name some local birds. I can describe and compare the structure of a variety of common birds. I can ask questions such as, what colour was it? How big was it? What was it's beak like? What was it doing? **<u>Materials</u>** **<u>Protect our Planet!</u>** **Big Question: Why is the climate changing? What can we do?** *<u>Working Scientifically</u>* *Engaging in practical enquiry to answer questions, identifying and classifying* *Recording and presenting evidence, gathering and recording data to help in answering questions*		**<u>Wonderful Wild Plants</u>** **<u>Plants/Trees</u>** **Big Question: Why don't all plants look the same?** *<u>Working Scientifically</u>* *Making observing and taking measurements, observing closely using simple equipment.* *Recording and presenting evidence, gathering and recording data to help in answering questions* I can identify leaves of the common trees in Arnside/Ashmeadow using their shapes, leaves and seeds I can describe some of the key features of these trees and plants e.g. the shape of the leaves, the colour of the flower/blossom I can point out which trees lost their leaves and those that kept their leaves all year I can make close observations of leaves, seeds, flowers etc. I can compare two leaves, seeds, flowers etc. I can classify leaves, seeds, flowers etc. using a range of characteristics. I can identify plants by matching them to named images. I can make observations of how plants change over a period of time. **I can (When out of Arnside) spot plants that are the same as those in Arnside, studied regularly, describing the key features that helped them.

I can present this information in tables and charts to compare the weather across the seasons.
I can collect information, regularly throughout the year, of features that change with the seasons e.g. plants, animals, humans.
I can present this information in different ways to compare the seasons.
I can gather data about day length regularly throughout the year and present this to compare the seasons.

Scientist
Liam Dutton
Meteorologist

Vocabulary

Healthy Humans
As above.
Food, healthy, unhealthy, choices, dairy products, rice, pasta, cereal, carbohydrates, meat, vegetarian, allergy

Seasonal Changes

I can sort rubbish into reusable, repairable, recyclable and non-recyclable.
I can sort objects/unused items into recyclable and non-recyclable.
I can identify and classify by sorting litter into recycling groups based on their materials.
I can use observations and ideas to suggest answers to questions by suggesting ways that waste can be reduced, reused and recycled.
I can suggest ways we can reduce, reuse and recycle.
I can suggest a way that I can make good decisions about my rubbish. I can find out which materials can be recycled.
I can identify things that are good for the planet.
I can identify things that are bad for the planet.
I can say 1 thing that I can do to help protect the planet (reuse, recycle etc).

Scientists
Sir David Attenborough

Gretta Thunburg

Vocabulary

Beautiful Birds
Bird, feathers, beak, wings, eggs, hatch, growth, lifecycle, death, swift, house martins, blackbirds, herons, egrets,

Protect our Planet!

I can use a tally chart to record how many of 5 or more different plants there are.
I can show my results on a pictogram
I can analyse to talk about which trees are the most common and least common.
I can investigate what seeds need to germinate.
I can grow a seedling, making observations and taking measurements.

Scientist
David Douglas
(Douglas Fir)

Living Things and their Habitats - Underwater
Big Question: Why are Living Things suited to their environment and what happens when their environment changes?

Working Scientifically
Engaging in practical enquiry to answer questions, identifying and classifying

I can explore, sort, classify and compare the differences between things that are living, dead, and things that have never been alive 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 a variety of plants and animals in their water habitats, including micro-habitats.
I can 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.
I can identify and name a variety of plants and animals in their habitats, including micro-habitats.
I can 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
I can draw/make a model of a food chain.
I can ask simple questions about the differences in habitats

Vocabulary

Wonderful Wild Plants
Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud Names of trees in the local area names of garden and wild flowering plants in the local area (bluebell, daffodil, wild garlic, oak tree, ash tree,)

Weather (sunny, rainy, windy, snowy etc.)
Seasons (winter, summer, spring, autumn)
change, leaves, sun, sunrise, sunset, day length

Cultural Opportunities

<u>What keeps me healthy?</u>
Bring in toothbrushes and practise brushing teeth
Talking to a dentist, nurse, meal supervisor/school cook, road crossing supervisor etc.

<u>Seasonal Change</u>
Going on seasonal walks to observe key features of the seasons (e.g. to Ashmeadow)

Key values

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British Values:
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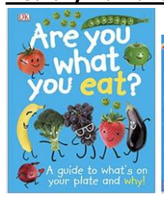
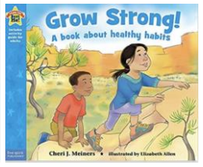
Book List & Resources

<u>Healthy Humans</u>





Eatwell guide (publishing.service.gov.uk)
<u>https://explorify.uk/en/activities/odd-one-out/fuel-up</u>
<u>https://developingexperts.com/s/unit-library/units/490</u>

<u>Seasonal Changes</u>

How the changing seasons affect hedgehogs - KS1 Science - BBC Bitesize
https://www.tes.com/teaching-resource/seasonal-changes-wonderful-weather-year-1-11062436
https://developingexperts.com/s/unit-library/units/489
https://explorify.uk/en/activities/have-you-ever/seen-lots-of-birds-flying-together-across-the-sky

Climate change, atmosphere, global warming, greenhouse gas, drought, flooding, hurricane, storm, sea level, sea ice. Rubbish, waste, litter, incineration, landfill, reduce, reuse, recycle.
Energy, power, electricity, coal, oil, gas, petrol, diesel, fossil fuel, non-renewable, renewable, solar, wind, geothermal, ater conservation, ocean, fresh water, salt water

Cultural Opportunities

<u>Beautiful Birds!</u>
As above.
Visit Leighton Moss
Invite a visitor who works for the AONB (Arnside area of outstanding natural beauty)

<u>Protect our Planet!</u>
As above.
Eco Club members invited in to talk about school projects/children help Eco Club.
Parent invited in who works in waste management for Cumbria to talk about how we can help.

Key values

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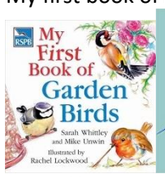
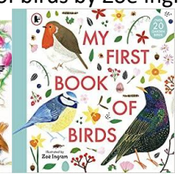
Book List & Resources

Bird Identifier | British Garden Birds and Many More - The RSPB
My first book of Garden Birds by Sarah Whittley and Mike Unwin
My first book of birds by Zoe Ingram





https://www.rspb.org.uk/fun-and-learning/for-teachers/schools-birdwatch/
https://explorify.uk/en/activities/problem-solvers/bird-feeders
https://explorify.uk/en/activities/odd-one-out/farmyard-birds

<u>Protect our Planet!</u>

What should I do with my rubbish? - BBC Bitesize
Sorting materials to be recycled | BBC Teach - YouTube
CBeebies Explains The Environment-10 Minute Compilation - YouTube

<u>Habitats - Underwater</u>
Living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, producer, prey, consumer, predator, pond, puddle, rockpool, estuary, river

Cultural Opportunities

<u>Wonderful Wild Plants</u>
Guided wildflower walk to Ashmeadow led by AONB.
https://explorify.uk/en/activities/odd-one-out/the-circle-of-life

<u>Habitats - Underwater</u>
Leighton Moss pond dipping

Key values

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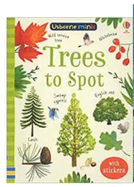
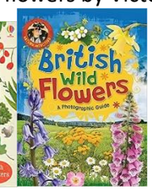
Book List & Resources

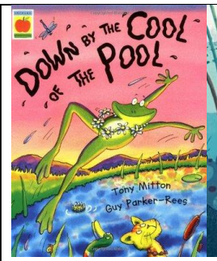
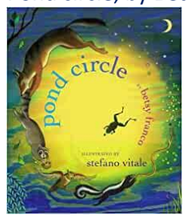
<u>Wonderful Wild Plants</u>
https://developingexperts.com/s/unit-library/units/480
Trees to Spot by Sam Smith
British wild flowers by Victoria Munson





https://explorify.uk/en/activities/have-you-ever/spotted-a-flower-you-really-like
https://explorify.uk/en/activities/have-you-ever/seen-trees-in-winter-with-lots-of-leaves

<u>Habitats – Underwater</u>
What is a pond habitat? - BBC Bitesize
Down at the Cool of the Pool by Tony Mitton
Over and Under the Pond by Kate Messner

		https://explorify.uk/en/activities/whats-going-on/seasons https://explorify.uk/en/activities/have-you-ever/played-in-the-autumn-leaves		The Environment (Twinkl) https://www.twinkl.co.uk/resource/tp-sc-118-new-planit-science-year-2-the-environment-planning-overview-cfe https://explorify.uk/en/activities/problem-solvers/pack-it-in https://explorify.uk/en/activities/what-if/your-school-banned-paper https://developingexperts.com/s/unit-library/units/483		  https://developingexperts.com/s/unit-library/units/492 Pond circle, by Betsy Franco  https://explorify.uk/en/activities/odd-one-out/different-homes https://explorify.uk/en/activities/whats-going-on/remarkable-reef
YEAR B						
2		**Autumn 1: Animals including humans** **Autumn 2: Seasonal Change**		**Spring 1: Animals** **Spring 2: Materials**		**Summer 1: Plants** **Summer 2: Living things and their habitats-water**
		Links to previous Learning		**Links to previous Learning**		**Links to previous Learning**
		Animals, including humans I know the five senses of the human body and that humans use their senses to find out about and understand the world. I know the parts of the human body that is linked with each sense. I know that some people might not be able to use all their senses in the same way. (e.g. blind and deaf people) I know that humans feel with many parts of the body (not just hands). **Seasonal Changes** They make observations of animals and plants and explain why some things occur and talk about changes		**Animals** I know the names a variety of pets / farm. I know the names of a variety of common animals and that they can be carnivores, herbivores and omnivores. I know that animals vary in many ways and they also have different skin coverings. I am beginning to know the names of the different animal groups. I know one or more feature/s of each animal group. I know that animals have basic needs. **Materials** I know some common materials. (After exploration) I know some basic properties of some common materials. I know what some materials are used for (e.g. glass for windows) and I know that some materials are better than others for a purpose.		**Plants** I know the names a variety of common wild and garden plants. I know the names of some common garden plants and wildflowers in the local area. (School and Ashmeadow). I know the basic structure of a variety of common flowering plants. **Living Things and their Habitats** I know the names of common minibeasts in our local area. I know that minibeasts can be grouped according to their body parts. For example: insects / arachnids, worms (annelids). I know that a microhabitat provides shelter, food and water. I know that 'under a log' is a microhabitat and that it is dark, cool and damp. I know that the log provides safety from some predators.
		Knowledge		**Knowledge**		**Knowledge**
		(Animals), **including Humans - Healthy Humans** **Big Question: What keeps me healthy?** I know that humans grow and change (e.g. babies, children, teenagers, adults, elderly). I know the basic needs of humans for survival. I know the importance of exercise, a healthy diet and exercise. I know what a healthy, balanced diet consists of I know where some food comes from I know that some people eat vegetables only. I know that some people have food allergies. I know that some people eat certain foods according to their culture and beliefs.		**Animals** **Beautiful Birds!** **The Big Garden Bird Watch - Where do birds go?** **Where are the birds?** I know that animals have offspring which grow into adults. I know that in humans and some animals, these offspring will be young, such as babies or kittens, that grow into adults. I know that in other animals, such as chickens or insects, there may be eggs laid that hatch to young or other stages which then grow to adults. I know what makes an animal, a bird. I know the parts of a bird (basic characteristics). I know birds lay eggs. I know the lifecycle of a bird. I know a baby bird is a chick. I know the types of food birds eat		**Wonderful Wild Plants** **Plants/Trees** **Big Question: Big Question: Why don't all plants look the same?** As above. I know the names of common trees in our local area of Arnside (oak, maple, willow, sycamore, pine and cherry). I know that these trees can be identified through their leaves, shape and seeds. I can observe over time and sketch trees found in our school garden/Ashmeadow. (ongoing) I know some evergreen trees and some deciduous trees that drop their leaves in autumn and grow leaves again in spring. I know the life cycle of a tree; seed, germination, sprout, seedling, tree, tree with flowers, tree with fruit, etc.

		Seasonal Changes **Big Question: Why does it change outside my window?** I know the four seasons. I know that there are changes across the four seasons. I know the weather associated with the seasons. I know that the weather also changes with the seasons. In the UK, it is usually colder and rainier in winter, and hotter and dryer in the summer. I know how day length varies. I know in the UK, the day length is longest at mid-summer (about 16 hours) and gets shorter each day until mid-winter (about 8 hours) before getting longer again. I know that changes in weather causes many other changes. Some examples are: numbers of minibeasts found outside; seed and plant growth; leaves on trees; and type of clothes worn by people. I know some ways to measure weather. I know that some types of weather are dangerous. I know what a weather forecast is, and some symbols used by weather presenters.		I know some of the basic requirements of birds. I know where birds live. I know why birds need to live in a nest. I know I can help birds in winter by putting a bird feeder in the garden. I know some birds fly away during winter, to warmer places (migrate). I know the names of some common birds to Arnside. I know some of the reasons they migrate. I know about the RSPB. I know about the Big Garden Bird Watch. I know the most common bird seen. **Materials** **Protect our Planet!** **Big Question: Why is the climate changing? What can we do?** I know everyday materials, including wood, plastic, glass, metal, water, and rock. I know the physical properties of a variety of everyday materials. I know that there are human-made and natural materials. I know that some materials can be recycled when we have finished with them. I know that some materials cannot be recycled. I know some materials that can be recycled (photos of recycling areas in Arnside, Carnforth and Milnthorpe) I know that we get our energy from burning coal and oil (fossil fuels). I know that there are other ways to get energy, wind turbines and solar panels (renewable sources). I know that we can help save energy. I know that this can help the environment. I know that we can save water. I know that this can help the environment. I know that all living things on our planet are connected.		I know what a seed is. I know what is in a seed. I know what seeds need to germinate. I know what a tree needs to grow. I know how fast roots grow. **Habitats – Underwater** **Big Question: Why are Living Things suited to their environment and what happens when their environment changes?** As above. I know the differences between things that are living, dead, and things that have never been alive I know 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 I know a variety of plants and animals in their habitats, including micro-habitats I know 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 I know water habitats (pond, river, estuary, sea/ocean). I know how some of the animals survive under water. I know some of the plants and animals that live in the ocean. I know what algae is (seaweed looks like a plant). I know what a food chain is. I know what plankton is and that it is at the beginning of the ocean's food chain. I know that whales are the biggest animals in the world. I know they are endangered. I know that ocean habitats cover over half (two thirds) of the earth's surface.
		Key Skills		**Key Skills**		**Key Skills**
		Animals (including Humans) **Healthy Humans** **Big Question: What keeps me healthy?** As above. I can explore the effect of exercise on my body. I can describe ways to maintain health and care for our bodies through exercise. I can measure how humans grow (ongoing) I can classify food in a range of ways (Eatwell Guide) I can check the 'traffic light' on my food packaging. I can keep a food diary and think about healthy choices. I can demonstrate and describe how to wash my hands. **Seasonal Changes** **Big Question: How do animals adapt to the changes throughout the year?** *Working Scientifically*		**Animals** **Beautiful Birds!** **The Big Garden Bird Watch - Where do birds go?** *Working Scientifically* *Asking simple questions and recognising that they can be answered in different ways* *Identifying and classifying using their observations and ideas to suggest answers to questions* *Gathering and recording data to help in answering questions.* I can identify some birds. I can identify and name some sources of food. I know the names of some common birds to Arnside. I can identify some birds and discover what is special about them. I can ask questions such as, what colour was it? How big was it? What was its beak like? What was it doing?		**Wonderful Wild Plants** **Plants/Trees** **Big Question: Why don't all plants look the same?** *Working Scientifically* *Making observing and taking measurements, observing closely using simple equipment.* *Recording and presenting evidence, gathering and recording data to help in answering questions* I can identify leaves of the common trees in Arnside/Ashmeadow using their shapes, leaves and seeds I can describe some of the key features of these trees and plants e.g. the shape of the leaves, the colour of the flower/blossom I can point out which trees lost their leaves and those that kept their leaves all year

Making observing and taking measurements, observing closely using simple equipment.

Recording and presenting evidence, gathering and recording data to help in answering questions

I can observe and describe weather associated with the seasons and how day length varies
I can describe the four seasons
I can consider what I already know about weather and generate questions
I can observe and describe weather associated with the four seasons and how the length of day varies (summer and winter time)
I can measure weather
I can research some types of severe weather
I can create weather forecasts to present the weather at school
I can observe changes across the 4 seasons by exploring how some animals adapt to survive in winter.
I can explain how some animals adapt in winter.
I can name the four seasons and identify when in the year they occur
I can describe weather in different seasons over a year
I can describe days as being longer (in time) in the summer and shorter in the winter
I can describe other features that change through the year
I can identify and name a variety of plants and animals in their habitats, including micro-habitats

I can name 3 animals which adapt to cope with winter weather.
I can describe how a chosen animal adapts to cope with winter weather.

Scientist
Liam Dutton
Meteorologist

Protect our Planet!
Materials
Big Question: Why is the climate changing? What can we do?

Working Scientifically
Engaging in practical enquiry to answer questions, identifying and classifying

Recording and presenting evidence, gathering and recording data to help in answering questions

I can sort rubbish into reusable, repairable, recyclable and non-recyclable.
I can sort objects/unused items into recyclable and non-recyclable.
I can identify and classify by sorting litter into recycling groups based on their materials.
I can use observations and ideas to suggest answers to questions by suggesting ways that waste can be reduced, reused and recycled.
I can suggest ways we can reduce, reuse and recycle.
I can suggest a way that I can make good decisions about my rubbish. I can find out which materials can be recycled.
I can identify things that are good for the planet.
I can identify things that are bad for the planet.
I can say 1 thing that I can do to help protect the planet (reuse, recycle etc).

Scientists
Sir David Attenborough

Gretta Thunburg

I can make close observations of leaves, seeds, flowers etc.
I can compare two leaves, seeds, flowers etc.
I can classify leaves, seeds, flowers etc. using a range of characteristics.
I can identify plants by matching them to named images.
I can make observations of how plants change over a period of time.
**I can (When out of Arnside) spot plants that are the same as those in Arnside, studied regularly, describing the key features that helped them.
I can use a tally chart to record how many of 5 or more different plants there are.
I can show my results on a pictogram
I can analyse to talk about which trees are the most common and least common.
I can investigate what seeds need to germinate.
I can grow a seedling, making observations and taking measurements.

Scientist
David Douglas
(Douglas Fir)

Living Things and their Habitats
Underwater – What lies beneath?
Big Question: Why are Living Things suited to their environment and what happens when their environment changes?

Working Scientifically
Engaging in practical enquiry to answer questions, identifying and classifying

I can explore, sort, classify and compare the differences between things that are living, dead, and things that have never been alive 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 a variety of plants and animals in their water habitats, including micro-habitats.
I can 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.
I can identify and name a variety of plants and animals in their habitats, including micro-habitats.
I can 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

Vocabulary

Healthy Humans

Food, healthy, unhealthy, choices, dairy products, rice, pasta, cereal, carbohydrates, meat, vegetarian, allergy, intolerance,

Seasonal Changes

Seasons, change, summer, winter, spring, autumn, weather, summertime, wintertime, rain, rainy, hail, snow, sleet, ice, frost, wind, hurricane, storm, mild, temperate, dry, hot, sunny, sunshine, cloudy, temperature, sunrise, sunset, day length

Cultural Opportunities

Healthy Humans

Bring in toothbrushes and practise brushing teeth
Talking to a dentist, nurse, meal supervisor/school cook, road crossing supervisor etc.

Seasonal Change

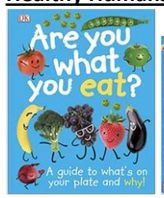
Going on seasonal walks to observe key features of the seasons (e.g. to Ashmeadow)

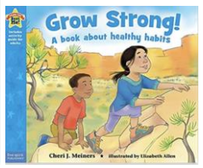
Key values

School Values: Happy, Healthy and Secure. Confident and Independent. Respectful and Caring. Inspired and Excited to Learn. Teamwork.
British Values:
Christian Star Qualities: Love, Joy, Peace, Patience, Kindness, Gentleness, Self-Control, Faithfulness, Goodness.

Book List & Resources

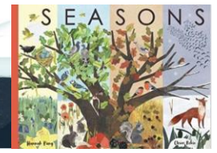
Healthy Humans





Eatwell guide (publishing.service.gov.uk)
https://explorify.uk/en/activities/odd-one-out/fuel-up
https://developingexperts.com/s/unit-library/units/490

Seasonal Changes



How the changing seasons affect hedgehogs - KS1 Science - BBC Bitesize
https://www.tes.com/teaching-resource/seasonal-changes-wonderful-weather-year-1-11062436

Vocabulary

Beautiful Birds!

Bird, feathers, beak, wings, eggs, hatch, growth, lifecycle, death, swift, house martins, blackbirds, herons, egrets,

Protect our Planet!

Climate change, atmosphere, global warming, greenhouse gas, drought, flooding, hurricane, storm, sea level, sea ice. Rubbish, waste, litter, incineration, landfill, reduce, reuse, recycle.
Energy, power, electricity, coal, oil, gas, petrol, diesel, fossil fuel, non-renewable, renewable, solar, wind, geothermal, ater conservation, ocean, fresh water, salt water

Cultural Opportunities

Beautiful Birds!

Leighton Moss visit - 'Brilliant Birds'
Invite a visitor who works for the AONB (Arnside area of outstanding natural beauty)

Protect our Planet!

Eco Club members invited in to talk about school projects/children help Eco Club.
Parent invited in who works in waste management for Cumbria to talk about how we can help.

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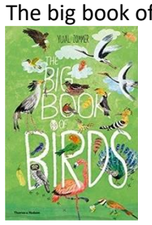
Book List & Resources

Beautiful Birds!

Birds to Look Out for | Big Schools' Birdwatch - The RSPB
https://www.rspb.org.uk/fun-and-learning/for-teachers/schools-birdwatch/
Leighton Moss & Morecambe Bay Nature Reserves - The RSPB
The big book of birds by Yuval Zoomer



https://explorify.uk/en/activities/problem-solvers/bird-feeders
https://explorify.uk/en/activities/odd-one-out/farmyard-birds

Protect our Planet!

I can draw/make a model of a food chain.
I can ask simple questions about the differences in habitats

Vocabulary

Wonderful Wild Plants

light, shade, sun, warm, cool, water, grow, healthy, seedling, seed pods, growth, change, deciduous, evergreen

Habitats - Underwater

Living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, producer, prey, consumer, predator, pond, puddle, rockpool, estuary, river

Cultural Opportunities

Wonderful Wild Plants

Visit Ashmeadow (this is ongoing throughout the year)

Habitats - Underwater

Visit Leighton Moss - 'Discovering Pond Minibeasts'
Visit Arnside Estuary
https://explorify.uk/en/activities/whats-going-on/remarkable-reef

Key values

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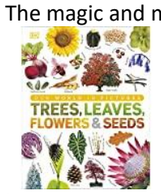
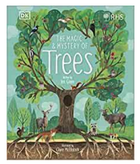
British Values:
Christian Star Qualities: Love, Joy, Peace, Patience, Kindness, Gentleness, Self-Control, Faithfulness, Goodness.

Book List & Resources

Wonderful Wild Plants

https://developingexperts.com/s/unit-library/units/480
Trees, leaves, flowers and seeds by DK
The magic and mystery of trees by RHS and Jen Green

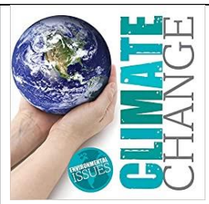
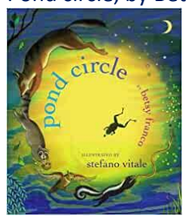




https://explorify.uk/en/activities/odd-one-out/the-circle-of-life
https://explorify.uk/en/activities/have-you-ever/seen-trees-in-winter-with-lots-of-leaves

Habitats - Underwater

What is a pond habitat? - BBC Bitesize
Down at the Cool of the Pool by Tony Mitton
Over and Under the Pond by Kate Messner

		https://developingexperts.com/s/unit-library/units/489 https://explorify.uk/en/activities/have-you-ever/seen-lots-of-birds-flying-together-across-the-sky https://explorify.uk/en/activities/whats-going-on/seasons https://explorify.uk/en/activities/have-you-ever/played-in-the-autumn-leaves		 What should I do with my rubbish? - BBC Bitesize Sorting materials to be recycled | BBC Teach - YouTube CBeebies Explains The Environment-10 Minute Compilation - YouTube The Environment (Twinkl) https://www.twinkl.co.uk/resource/tp-sc-118-new-planit-science-year-2-the-environment-planning-overview-cfe https://explorify.uk/en/activities/problem-solvers/pack-it-in https://explorify.uk/en/activities/what-if/your-school-banned-paper https://developingexperts.com/s/unit-library/units/483		 https://developingexperts.com/s/unit-library/units/492 Pond circle, by Betsy Franco  https://www.bbc.co.uk/bitesize/topics/zx882hv/articles/zsfkd2p https://explorify.uk/en/activities/odd-one-out/different-homes
		YEAR B				
		Autumn 1: Living things and their habitats **Autumn 2: Animal including humans**		**Spring: Rocks**		**Summer 1: Electricity** **Summer 2: Plants**
		Links to previous Learning		**Links to previous Learning**		**Links to previous Learning**
3		**Living Things and their Habitats** I know the differences between things that are living, dead, and things that have never been alive. I know 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. I know the names a variety of plants and animals in their habitats, including micro-habitats. I know how animals obtain their food from plants and other animals. I know that we get our energy from burning coal and oil (fossil fuels). I know that there are other ways to get energy, wind turbines and solar panels (renewable sources). I know that we can help save energy. I know that this can help the environment. I know that we can save water. I know that this can help the environment. I know that all living things on our planet are connected. Animals including **humans** (digestive system, teeth and food chains skeletons and movement I know how the skeletons of birds, mammals (humans), fish, amphibians or reptiles are similar (backbone, ribs, skull, bones used for movement) and the differences in their skeletons I know that muscles, which are attached to the skeleton, help animals move parts of their body I know that humans (animals) are alive; they move, feed, grow, use their senses and reproduce.		**Materials (Y1/2)** I know the difference between an object and the material from which it is made. I know the names of a variety of everyday materials, including wood, plastic, glass, metal, water and rock. I know that some materials are better than others for a purpose. I know that everyday materials are suitable for particular uses. I know that some solid shapes of some materials can be changed by squashing, bending, twisting and stretching.		**Electricity - EYFS** Identify objects that use electricity to work. Identify devices that use batteries and/or mains electricity. **Plants - KS1** I know that plants may grow from either seeds or bulbs. I know that seeds and bulbs germinate and grow into seedlings which then continue to grow into mature plants. I know that these mature plants may have flowers which then develop into seeds, berries, fruits etc. I know that seeds and bulbs need to be planted outside at particular times of year and they will germinate and grow at different rates. I know that some plants are better suited to growing in full sun and some grow better in partial or full shade. I know that plants also need different amounts of water and space to grow well and stay healthy. I know the lifecycle of a plant. I know what makes a plant, a living thing. I know that Charles Darwin was a famous scientist and that when he was young, he enjoyed collecting plants and set up a science lab in his garden shed!
		Knowledge		**Knowledge**		**Knowledge**
		Living Things and their Habitats **Big Question:**		**Rocks** **Big Question:**		**Electricity** **Big Questions:**

		How can we classify living things? I know that living things can be grouped (classified) in different ways according to their features. I know that classification keys can be used to identify and name living things. I know that living things live in a habitat which provides an environment to which they are suited (Year 2 learning). I know that these environments may change naturally e.g. through flooding, fire, earthquakes etc. I know that Humans also cause the environment to change. This can be in a good way (i.e. positive human impact, such as setting up nature reserves) or in a bad way (i.e. negative human impact, such as littering). I know that these environments also change with the seasons; different living things can be found in a habitat at different times of the year. <u>Animals, including **humans**</u> **Big Questions:** **What is a healthy digestive system and how does it work?** **What does our body do with the food we eat?** I know that 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 know that animals, unlike plants which can make their own food, need to eat in order to get the nutrients they need. I know that an adequate and varied diet is beneficial to health (along with a good supply of air and clean water) I know that regular and varied exercise *from a variety of different activities* is beneficial to health (focus on *energy in versus energy out*. Include information on making informed choices) I know that food contains a range of different nutrients – carbohydrates (including sugars), protein, vitamins, minerals, fats, sugars, water – and fibre that are needed by the body to stay healthy. I know that a piece of food will often provide a range of nutrients. I know that humans (animals) are alive; they move, feed, grow, use their senses and reproduce. I know that humans choose or need to eat certain foods (allergies, religion and preferences/vegan etc).		**Are all rocks the same?** I know rock is a naturally occurring material. I know there are different types of rock, e.g. limestone, slate, sandstone, granite, etc which have different properties I know that the properties of rocks to determine why rocks were selected for different tasks I know that rocks can be hard or soft. I know that rocks have different sizes of grain or crystal. I know they may absorb water I know that rocks can be different shapes and sizes (stones, pebbles, boulders). I know soils are made up of pieces of ground down rock which may be mixed with plant and animal material (organic matter). I know the type of rock, size of rock pieces and the amount of organic matter affect the property of the soil. I know that any rock below the soil is called bedrock I know the bedrock of Arnside is limestone and can link this to local environmental features I know that some rocks contain fossils. I know and can explain the different stages of fossil formation I know that fossils were formed millions of years ago. I know that when plants and animals died, they fell to the seabed. I know they became covered and squashed by other material. I know that over time the dissolving animal and plant matter is replaced by minerals from the water. I know that soils are made from rocks and organic matter I know soils are made up of pieces of ground down rock which may be mixed with plant and animal material (organic matter) I know rocks may absorb water. I know the type of rock; size of rock pieces and the amount of organic matter affect the property of the soil.		**How does electricity work?** **Can we control electricity?** I know common appliances that run on electricity. I know that some plug in to the mains and others run on batteries. I know an electrical circuit consists of a cell or battery connected to a component using wires . I know 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. I know that if there is a break in the circuit, a loose connection or a short circuit, the component will not work. I know a switch can be added to the circuit to turn the component on and off. I know that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. I know that some common conductors and insulators, and associate metals with being good conductors. I know that metals are good conductors so they can be used as wires in a circuit. Non-metallic solids are insulators except for graphite (pencil lead). I know that water, if not completely pure, also conducts electricity. <u>**Plants**</u> **Big Questions:** **What makes a plant, a plant?** **Why do plants have flowers?** I know that many plants, but not all, have roots, stems/trunks, leaves and flowers/blossom. I know the roots absorb water and nutrients from the soil and anchor the plant in place. I know the stem transports water and nutrients/minerals around the plant and holds the leaves and flowers up in the air to enhance photosynthesis, pollination and seed dispersal. I know the leaves use sunlight and water to produce the plant's food. I know some plants produce flowers which enable the plant to reproduce. I know pollen, which is produced by the male part of the flower, is transferred to the female part of other flowers (pollination). I know this forms seeds, sometimes contained in berries or fruits which are then dispersed in different ways. I know different plants require different conditions for germination and growth.
		Key Skills		**Key Skills**		**Key Skills**
		<u>**Living Things and their Habitats**</u> **Big Question:** **How can we classify living things?**		<u>**LOCKDOWN LEARNING**</u> <u>**Rocks**</u> **Big Question:**		<u>**Electricity**</u> **Big Questions:** **How does electricity work?**

How are living things interdependent?

Working Scientifically
Recording and presenting evidence, recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

I can explore and name a variety of living things in my local and wider environment.
I can name living things living in a range of habitats, giving the key features that helped them to identify them.
I can compare and contrast living things observed.
I can use classification keys to name unknown living things
I can classify living things found in different habitats based on their features.
I can create a simple identification key based on observable features.
I can begin to describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.
I can begin to describe the life process of reproduction in some plants and animals.

Scientist
Gladys West

Animals including **humans**
Health and Nutrition
Big Question
What is a healthy digestive system and how does it work?
What does our body do with the food we eat?

Working Scientifically
Asking questions and recognising that they can be answered in different ways.
Answering questions and concluding, using straightforward scientific evidence to answer questions or to support their findings.

I can name the nutrients found in food
I can state that to be healthy we need to eat the right types of food to give us the correct amount of these nutrients
I can classify food into those that are high or low in particular nutrients
I can answer questions about nutrients in food, based on gathered evidence
I can talk about the nutrient content of my daily plan

Are all rocks the same?

Working Scientifically
Engaging in practical enquiry to answer questions, by setting up simple practical enquiries, comparative and fair tests

Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers

I can compare and group together different kinds of rocks based on their appearance and physical properties
I can describe in simple terms how fossils are formed when things that have lived get trapped within rock
I can observe rocks closely
I can classify rocks in a range of ways, based on their appearance
I can devise a test to investigate the hardness of a range of rocks
I can devise a test to investigate how much water different rocks absorb
I can observe how rocks change over time e.g. gravestones or old building
I can research using secondary sources how fossils are formed
I can observe soils closely
I can classify soils in a range of ways based on their appearance
I can devise a test to investigate the water retention of soils
I can observe how soil can be separated through sedimentation

Scientist
I can research the work of Mary Anning
https://www.natgeokids.com/uk/discover/history/general-history/mary-anning-facts/

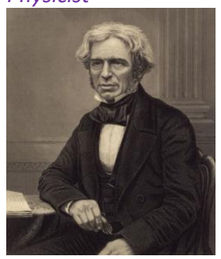
Can we control electricity?

Working Scientifically
Recording and presenting evidence, gathering, recording, classifying and presenting data in a variety of ways to help in answering questions

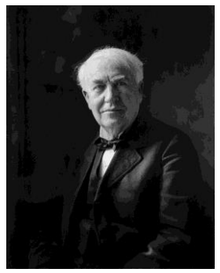
Working Scientifically
Evaluating and raising further questions and predictions, using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions

I can construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.
I can name the components in a circuit.
I can make electric circuits.
I can control a circuit using a switch.
I can name some metals that are conductors.
I can name materials that are insulators.

Scientist
Michael Faraday
Physicist



Scientist
Thomas Edison



Plants
Big Questions:
What makes a plant, a plant?
Why do plants have flowers?

Working Scientifically
Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.

I can use my data to look for patterns (or lack of them) when answering my enquiry question
I can explore ideas about what would happen if humans did not have skeletons
I can explore how humans grow bigger as they reach maturity by making comparisons linked to body proportions and skeleton growth – e.g. do people with longer legs have longer arm spans?
I can describe the simple functions of the basic parts of the digestive system in humans.
I can identify the different types of teeth in humans and their simple functions.

Scientist

Dr Charlotte Armah (research scientist at the Insitute of Food Reasearch in Norwich)
https://explorify.uk/en/activities/whats-going-on/super-broccoli-food-research-scientist

Vocabulary

Living Things and their Habitats
Identify, sort, categorize, classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate, life cycle, reproduce, sexual, sperm, fertilises, egg, live young, metamorphosis, asexual, plantlets, runners, bulbs, cuttings

Animals, including humans
Digestive system, digestion, mouth, teeth, saliva, salivary gland, oesophagus, stomach, small intestine, food pyramid, nutrients, large intestines, rectum, anus, teeth, incisor, canine, molar, premolars, skeleton, bones, muscles, joints, support, protect, move, skull, ribs, spine

Cultural Opportunities

Living Things and their Habitats
Visit Arnside Knott
Visit Estuary
Visit River
Leighton Moss visit – 'KS2 Living Things and Their Habitats'

Animals including **Humans**
School nurse to discuss diet and nutrition
Links to sport and exercise (PE) and practical evidence gathering sessions.

Key values

Vocabulary

LOCKDOWN LEARNING
Rocks:
Rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb, chalk soil, peat, sandy/chalk/clay soil,
properties, grain, crystal, bedrock, petrologist, man-made rocks, brick, tile, concrete, Igneous, sedimentary, metamorphic,
permeable, impermeable, acid, erosion, marble, chalk, limestone, slate, granite, sandstone, identification key, soil, micro-organisms, organic matter, particles, sand, silt, fair test, compare, sort, predict, fossil, ichthosaur, plesiosaur, ammonite, sediment, minerals, mould, cast, survey, petrologist, database, man-made rocks, brick, concrete, igneous, sedimentary, metamorphic, permeable, impermeable, acid, erosion, identification key

Cultural Opportunities

Rocks
Village walk to find and identify different rocks and their uses.
Visit Warton Crag/Fairy Steps
Research and collect evidence for 'Bedrock' of the village and explain environmental links.

Key values

Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

Communicating their findings, reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions

I can explain observations made during investigations
I can look at the features of seeds to decide on their method of dispersal
I can draw and label a diagram of their created flowering plant to show its parts, their role and the method of pollination and seed dispersal

Scientist
Ahmed Mumin Warfa
Botanist

Vocabulary

Electricity
Electricity, electrical appliance/device, mains, plug, electrical circuit, complete circuit, component, cell, battery, positive, negative, connect/connections, loose connection, short circuit, crocodile clip, bulb, switch, buzzer, motor, conductor, insulator, metal, non-metal, symbol

Plants
Photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal)

Cultural Opportunities

Electricity
Make circuits that can be controlled as part of a DT project
Electrical circuits and symbols
https://www.youtube.com/watch?v=KYKVf6edvcA&t=3s
https://www.twinkl.co.uk/resource/electricity-watts-in-a-circuit-ebook-t-sc-1632832864

Plants
Arnside Knott, the school garden, Levens Hall garden

Key values

		School Values: Happy, Healthy and Secure. Confident and Independent. Respectful and Caring. Inspired and Excited to Learn. Teamwork. **British Values:** **Christian Star Qualities:** Love, Joy, Peace, Patience, Kindness, Gentleness, Self-Control, Faithfulness, Goodness.		**School Values:** Happy, Healthy and Secure. Confident and Independent. Respectful and Caring. Inspired and Excited to Learn. Teamwork. **British Values:** **Christian Star Qualities:** Love, Joy, Peace, Patience, Kindness, Gentleness, Self-Control, Faithfulness, Goodness.		**School Values:** Happy, Healthy and Secure. Confident and Independent. Respectful and Caring. Inspired and Excited to Learn. Teamwork. **British Values:** **Christian Star Qualities:** Love, Joy, Peace, Patience, Kindness, Gentleness, Self-Control, Faithfulness, Goodness.
		Book List & Resources		**Book List & Resources**		**Book List & Resources**
		Living Things and their Habitats https://developingexperts.com/s/unit-library/units/497 **https://explorify.uk/en/activities/what-if/there-were-no-deserts** **Animals-Skeletons and Movement** **https://developingexperts.com/s/unit-library/units/493** **https://explorify.uk/en/activities/odd-one-out/funny-bones**		Rocks: https://www.bbc.co.uk/bitesize/topics/z9bbkqt https://developingexperts.com/s/unit-library/units/495 https://explorify.uk/en/activities/have-you-ever/picked-up-a-rock-you-found-and-put-it-in-your-pocket-to-take-home https://explorify.uk/en/activities/zoom-in-zoom-out/a-hinge-in-the-rock https://www.stem.org.uk/resources/community/collection/12367/year-3-rocks https://www.twinkl.co.uk/resource/tp2-s-158-planit-science-year-3-rocks-unit-pack https://classroom.thenational.academy/units/rock-cycle-bd29		**Electricity** https://developingexperts.com/s/unit-library/units/507 Electrical circuits and symbols https://www.youtube.com/watch?v=KYKVf6edvcA&t=3s https://www.twinkl.co.uk/resource/electricity-watts-in-a-circuit-ebook-t-sc-1632832864 https://explorify.uk/en/activities/have-you-ever/had-a-power-cut-and-not-had-electricity https://explorify.uk/en/activities/have-you-ever/tried-to-turn-something-on-when-it-wasnt-turned-on-at-the-plug **Plants** https://developingexperts.com/s/unit-library/units/486 https://explorify.uk/en/activities/zoom-in-zoom-out/brown-and-sticky https://explorify.uk/en/activities/odd-one-out/green-producers
YEAR B						
4		**Autumn 1: Living things and their habitats** **Autumn 2: Animal including humans**		**Spring: Rocks**		**Summer 1: Electricity** **Summer 2: Plants**
		Links to previous Learning		**Links to previous Learning**		**Links to previous Learning**
		Living Things and their Habitats I know the differences between things that are living, dead, and things that have never been alive. I know 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. I know the names a variety of plants and animals in their habitats, including micro-habitats. I know how animals obtain their food from plants and other animals. I know that we get our energy from burning coal and oil (fossil fuels). I know that there are other ways to get energy, wind turbines and solar panels (renewable sources). I know that we can help save energy. I know that this can help the environment. I know that we can save water. I know that this can help the environment. I know that all living things on our planet are connected. **Animals including humans (digestive system, teeth and food chains Skeletons and Movement** I know that humans (animals) are alive; they move, feed, grow, use their senses and reproduce. I know how the skeletons of birds, mammals (humans), fish, amphibians or reptiles are similar (backbone, ribs, skull, bones used for movement) and the differences in their skeletons		**Materials** 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. Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.		**Electricity** **Plants** I know the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) I know the functions of different parts of flowering plants: roots; stem/trunk; leaves; and flowers. I know that the roots absorb water and nutrients from the soil and anchor the plant in place. I know the stem transports water and nutrients/minerals around the plant and holds the leaves and flowers up in the air. I know the leaves use sunlight and water to produce the plant's food. I know the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. I know that nutrients (not food) are taken in through the roots. I know that plants need nutrients to grow healthily (either naturally from the soil or from fertiliser added to soil)

I know that muscles, which are attached to the skeleton, help animals move parts of their body
I know that animals can be grouped according to what they eat.
I know 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.

Knowledge

Living Things and their Habitats
Big Question:
How can we classify living things?

I know that living things can be grouped (classified) in different ways according to their features.
I know that classification keys can be used to identify and name living things.
I know that living things live in a habitat which provides an environment to which they are suited (Year 2 learning).
I know that these environments may change naturally e.g. through flooding, fire, earthquakes etc.
I know that Humans also cause the environment to change. This can be in a good way (i.e. positive human impact, such as setting up nature reserves) or in a bad way (i.e. negative human impact, such as littering).
I know that these environments also change with the seasons; different living things can be found in a habitat at different times of the year.

Animals including **humans**
Health and Nutrition
Big Question
What is a healthy digestive system and how does it work?
What does our body do with the food we eat?
I know that 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 know that animals, unlike plants which can make their own food, need to eat in order to get the nutrients they need.
I know that an adequate and varied diet is beneficial to health (along with a good supply of air and clean water)
I know that regular and varied exercise *from a variety of different activities* is beneficial to health (focus on *energy in versus energy out*. Include information on making informed choices)
I know that food contains a range of different nutrients – carbohydrates (including sugars), protein, vitamins, minerals, fats, sugars, water – and fibre that are needed by the body to stay healthy.
I know that a piece of food will often provide a range of nutrients.
I know that humans (animals) are alive; they move, feed, grow, use their senses and reproduce.
I know that humans choose or need to eat certain foods (allergies, religion and preferences/vegan etc).

Knowledge

LOCKDOWN LEARNING
Rocks
Big Question:
Are all rocks the same?

I know rock is a naturally occurring material.
I know there are different types of rock, e.g. limestone, slate, sandstone, granite, etc which have different properties
I know that the properties of rocks to determine why rocks were selected for different tasks
I know that rocks can be hard or soft.
I know that rocks have different sizes of grain or crystal.
I know they may absorb water
I know that rocks can be different shapes and sizes (stones, pebbles, boulders).
I know soils are made up of pieces of ground down rock which may be mixed with plant and animal material (organic matter).
I know the type of rock, size of rock pieces and the amount of organic matter affect the property of the soil.
I know that any rock below the soil is called bedrock
I know the bedrock of Arnside is limestone and can link this to local environmental features
I know that some rocks contain fossils.
I know and can explain the different stages of fossil formation
I know that fossils were formed millions of years ago.
I know that when plants and animals died, they fell to the seabed. I know they became covered and squashed by other material.
I know that over time the dissolving animal and plant matter is replaced by minerals from the water.
I know that soils are made from rocks and organic matter
I know soils are made up of pieces of ground down rock which may be mixed with plant and animal material (organic matter)
I know rocks may absorb water.
I know the type of rock; size of rock pieces and the amount of organic matter affect the property of the soil.

Knowledge

Electricity
Big Questions:
How does electricity work?
Can we control electricity?

I know common appliances that run on electricity.
I know that some plug in to the mains and others run on batteries.
I know an electrical circuit consists of a cell or battery connected to a component using wires .
I know 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.
I know that if there is a break in the circuit, a loose connection or a short circuit, the component will not work.
I know a switch can be added to the circuit to turn the component on and off.
I know that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.
I know that some common conductors and insulators, and associate metals with being good conductors.
I know that metals are good conductors so they can be used as wires in a circuit. Non-metallic solids are insulators except for graphite (pencil lead).
I know that water, if not completely pure, also conducts electricity.

Plants
Big Questions:
What makes a plant, a plant?
Why do plants have flowers?

I know that many plants, but not all, have roots, stems/trunks, leaves and flowers/blossom.
I know the roots absorb water and nutrients from the soil and anchor the plant in place.
I know the stem transports water and nutrients/minerals around the plant and holds the leaves and flowers up in the air to enhance photosynthesis, pollination and seed dispersal.
I know the leaves use sunlight and water to produce the plant's food.
I know some plants produce flowers which enable the plant to reproduce.
I know pollen, which is produced by the male part of the flower, is transferred to the female part of other flowers (pollination).

Key Skills

<u>Living Things and their Habitats</u>

Big Question:

How can we classify living things?

How are living things interdependent?

<u>Working Scientifically</u>

Recording and presenting evidence, recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

I can explore and name a variety of living things in my local and wider environment.
I can name living things living in a range of habitats, giving the key features that helped them to identify them.
I can compare and contrast living things observed.
I can use classification keys to name unknown living things
I can classify living things found in different habitats based on their features.
I can create an identification key based on observable features.
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.

<u>Scientist</u>
Gladys West

<u>Animals including humans</u>

<u>Health and Nutrition</u>

Big Question

What is a healthy digestive system and how does it work?

What does our body do with the food we eat?

<u>Working Scientifically</u>

Aking questions and recognising that they can be answered in different ways

Asking relevant questions and using different types of scientific enquiries to answer them

I can name the nutrients found in food
I can state that to be healthy we need to eat the right types of food to give us the correct amount of these nutrients

Key Skills

<u>LOCKDOWN LEARNING</u>

<u>Rocks</u>

Big Question:

Are all rocks the same?

<u>Working Scientifically</u>

Engaging in practical enquiry to answer questions, by setting up simple practical enquiries, comparative and fair tests

Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers

I can compare and group together different kinds of rocks based on their appearance and physical properties
I can describe in simple terms how fossils are formed when things that have lived get trapped within rock
I can observe rocks closely
I can classify rocks in a range of ways, based on their appearance
I can devise a test to investigate the hardness of a range of rocks
I can devise a test to investigate how much water different rocks absorb
I can observe how rocks change over time e.g. gravestones or old building
I can research using secondary sources how fossils are formed
I can observe soils closely
I can classify soils in a range of ways based on their appearance
I can devise a test to investigate the water retention of soils
I can observe how soil can be separated through sedimentation

<u>Scientist</u>

I can researh the work of Mary Anning
https://www.natgeokids.com/uk/discover/history/general-history/mary-anning-facts/

I know this forms seeds, sometimes contained in berries or fruits which are then dispersed in different ways.
I know different plants require different conditions for germination and growth.

Key Skills

<u>Electricity</u>

Big Questions:

How does electricity work?

Can we control electricity?

<u>Working Scientifically</u>

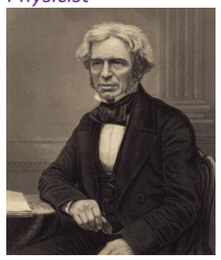
Recording and presenting evidence, gathering, recording, classifying and presenting data in a variety of ways to help in answering questions

<u>Working Scientifically</u>

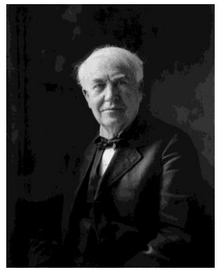
Evaluating and raising further questions and predictions, using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions

I can construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.
I can name the components in a circuit.
I can make electric circuits.
I can control a circuit using a switch.
I can name some metals that are conductors.
I can name materials that are insulators.

<u>Scientist</u>
Michael Faraday
Physicist



<u>Scientist</u>
Thomas Edison



<u>Plants</u>

I can classify food into those that are high or low in particular nutrients
I can answer questions about nutrients in food, based on gathered evidence
I can talk about the nutrient content of my daily plan
I can use my data to look for patterns (or lack of them) when answering my enquiry question
I can explore ideas about what would happen if humans did not have skeletons
I can explore how humans grow bigger as they reach maturity by making comparisons linked to body proportions and skeleton growth – e.g. do people with longer legs have longer arm spans?
I can describe the simple functions of the basic parts of the digestive system in humans.
I can identify the different types of teeth in humans and their simple functions.

Scientist

Dr Charlotte Armah (research scientist at the Insitute of Food Reasearch in Norwich)
https://explorify.uk/en/activities/whats-going-on/super-broccoli-food-research-scientist

Vocabulary

Living Things and their Habitats
Identify, sort, categorize, classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate, life cycle, reproduce, sexual, sperm, fertilises, egg, live young, metamorphosis, asexual, plantlets, runners, bulbs, cuttings

Animals, including humans
Digestive system, digestion, mouth, teeth, saliva, salivary gland, oesophagus, stomach, small intestine, food pyramid, nutrients, large intestines, rectum, anus, teeth, incisor, canine, molar, premolars, skeleton, bones, muscles, joints, support, protect, move, skull, ribs, spine,

Cultural Opportunities

Living Things and their Habitats
Visit Arnside Knott
Visit Estuary
Visit River

Vocabulary

2021 - LOCKDOWN LEARNING

Rocks:
Rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb, chalk soil, peat, sandy/chalk/clay soil,
properties, grain, crystal, bedrock, petrologist, man-made rocks, brick, tile, concrete, Igneous, sedimentary, metamorphic,
permeable, impermeable, acid, erosion, marble, chalk, limestone, slate, granite, sandstone, identification key, soil, micro-organisms, organic matter, particles, sand, silt, fair test, compare, sort, predict, fossil, ichthosaur, plesiosaur, ammonite, sediment, minerals, mould, cast, survey, petrologist, database, man-made rocks, brick, concrete, igneous, sedimentary, metamorphic, permeable, impermeable, acid, erosion, identification key

Cultural Opportunities

Rocks
Village walk to find and identify different rocks and their uses.
Visit Warton Crag/Fairy Steps

Big Questions:
What makes a plant, a plant?
Why do plants have flowers?

Working Scientifically
Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.

Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

Communicating their findings, reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions

I can explain observations made during investigations
I can look at the features of seeds to decide on their method of dispersal
I can draw and label a diagram of their created flowering plant to show its parts, their role and the method of pollination and seed dispersal

Scientist
Ahmed Mumin Warfa
Botanist

Vocabulary

Electricity
Electricity, electrical appliance/device, mains, plug, electrical circuit, complete circuit, component, cell, battery, positive, negative, connect/connections, loose connection, short circuit, crocodile clip, bulb, switch, buzzer, motor, conductor, insulator, metal, non-metal, symbol

Plants
Photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal)

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Electricity
Make circuits that can be controlled as part of a DT project
Electrical circuits and symbols
https://www.youtube.com/watch?v=KYKVf6edvcA&t=3s

		Animals including **Humans** School nurse to discuss diet and nutrition Links to sport and exercise (PE) and practical evidence gathering sessions.		Research and collect evidence for 'Bedrock' of the village and explain environmental links.		https://www.twinkl.co.uk/resource/electricity-watts-in-a-circuit-ebook-t-sc-1632832864 **Plants** Arnside Knott, the school garden, Levens Hall garden
		Key values		**Key values**		**Key values**
		School Values: Happy, Healthy and Secure. Confident and Independent. Respectful and Caring. Inspired and Excited to Learn. Teamwork. **British Values:** **Christian Star Qualities:** Love, Joy, Peace, Patience, Kindness, Gentleness, Self-Control, Faithfulness, Goodness.		**School Values:** Happy, Healthy and Secure. Confident and Independent. Respectful and Caring. Inspired and Excited to Learn. Teamwork. **British Values:** **Christian Star Qualities:** Love, Joy, Peace, Patience, Kindness, Gentleness, Self-Control, Faithfulness, Goodness.		**School Values:** Happy, Healthy and Secure. Confident and Independent. Respectful and Caring. Inspired and Excited to Learn. Teamwork. **British Values:** **Christian Star Qualities:** Love, Joy, Peace, Patience, Kindness, Gentleness, Self-Control, Faithfulness, Goodness.
		Book List & Resources		**Book List & Resources**		**Book List & Resources**
		Living Things and their Habitats https://developingexperts.com/s/unit-library/units/497 **https://explorify.uk/en/activities/what-if/there-were-no-deserts** **Animals-Skeletons and Movement** **https://developingexperts.com/s/unit-library/units/493** **https://explorify.uk/en/activities/odd-one-out/funny-bones**		Rocks: https://www.bbc.co.uk/bitesize/topics/z9bbkqt https://developingexperts.com/s/unit-library/units/495 https://explorify.uk/en/activities/have-you-ever/picked-up-a-rock-you-found-and-put-it-in-your-pocket-to-take-home https://explorify.uk/en/activities/zoom-in-zoom-out/a-hinge-in-the-rock https://www.stem.org.uk/resources/community/collection/12367/year-3-rocks https://www.twinkl.co.uk/resource/tp2-s-158-planit-science-year-3-rocks-unit-pack https://classroom.thenational.academy/units/rock-cycle-bd29 https://explorify.uk/en/activities/who-is/mary-anning		**Electricity** https://developingexperts.com/s/unit-library/units/507 Electrical circuits and symbols https://www.youtube.com/watch?v=KYKVf6edvcA&t=3s https://www.twinkl.co.uk/resource/electricity-watts-in-a-circuit-ebook-t-sc-1632832864 https://explorify.uk/en/activities/have-you-ever/had-a-power-cut-and-not-had-electricity https://explorify.uk/en/activities/have-you-ever/tried-to-turn-something-on-when-it-wasnt-turned-on-at-the-plug **Plants** https://developingexperts.com/s/unit-library/units/486 https://explorify.uk/en/activities/zoom-in-zoom-out/brown-and-sticky https://explorify.uk/en/activities/odd-one-out/green-producers
YEAR B						
5		**Autumn 1: Living things and their habitats** **Autumn 2: Animal including humans**		**Spring: Rocks**		**Summer 1: Electricity** **Summer 2: Plants**
		Links to previous Learning		**Links to previous Learning**		**Links to previous Learning**
		Living Things and their Habitats I know the differences between things that are living, dead, and things that have never been alive. I know 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. I know the names a variety of plants and animals in their habitats, including micro-habitats. I know how animals obtain their food from plants and other animals. I know that we get our energy from burning coal and oil (fossil fuels). I know that there are other ways to get energy, wind turbines and solar panels (renewable sources). I know that we can help save energy. I know that this can help the environment. I know that we can save water. I know that this can help the environment. I know that all living things on our planet are connected.		**Materials** 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. Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.		**Electricity** **Plants** I know that many plants, but not all, have roots, stems/trunks, leaves and flowers/blossom. I know the roots absorb water and nutrients from the soil and anchor the plant in place. I know the stem transports water and nutrients/minerals around the plant and holds the leaves and flowers up in the air to enhance photosynthesis, pollination and seed dispersal. I know the leaves use sunlight and water to produce the plant's food. I know some plants produce flowers which enable the plant to reproduce. I know pollen, which is produced by the male part of the flower, is transferred to the female part of other flowers (pollination). I know this forms seeds, sometimes contained in berries or fruits which are then dispersed in different ways.

		Animals including humans (digestive system, teeth and food chains Skeletons and Movement I know that humans (animals) are alive; they move, feed, grow, use their senses and reproduce. I know how the skeletons of birds, mammals (humans), fish, amphibians or reptiles are similar (backbone, ribs, skull, bones used for movement) and the differences in their skeletons I know that muscles, which are attached to the skeleton, help animals move parts of their body I know that animals can be grouped according to what they eat. I know 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 know different plants require different conditions for germination and growth.
		Knowledge		**Knowledge**		**Knowledge**
		Living Things and their Habitats **Big Question:** **How can we classify living things?** **How are living things interdependent?** I know that living things can be grouped (classified) in different ways according to their features. I know that classification keys can be used to identify and name living things. I know that living things live in a habitat which provides an environment to which they are suited (Year 2 learning). I know that these environments may change naturally e.g. through flooding, fire, earthquakes etc. I know that Humans also cause the environment to change. This can be in a good way (i.e. positive human impact, such as setting up nature reserves) or in a bad way (i.e. negative human impact, such as littering). I know that these environments also change with the seasons; different living things can be found in a habitat at different times of the year. Animals including **humans** **Health and Nutrition** **Big Question** **What is a healthy digestive system and how does it work?** **What does our body do with the food we eat?** I know that 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 know that animals, unlike plants which can make their own food, need to eat in order to get the nutrients they need. I know that an adequate and varied diet is beneficial to health (along with a good supply of air and clean water) I know that regular and varied exercise *from a variety of different activities* is beneficial to health (focus on *energy in versus energy out*. Include information on making informed choices)		***2021 - LOCKDOWN LEARNING*** **Rocks** **Big Question:** **Are all rocks the same?** I know rock is a naturally occurring material. I know there are different types of rock, e.g. limestone, slate, sandstone, granite, etc which have different properties I know that the properties of rocks to determine why rocks were selected for different tasks I know that rocks can be hard or soft. I know that rocks have different sizes of grain or crystal. I know they may absorb water I know that rocks can be different shapes and sizes (stones, pebbles, boulders). I know soils are made up of pieces of ground down rock which may be mixed with plant and animal material (organic matter). I know the type of rock, size of rock pieces and the amount of organic matter affect the property of the soil. I know that any rock below the soil is called bedrock I know the bedrock of Arnside is limestone and can link this to local environmental features I know that some rocks contain fossils. I know and can explain the different stages of fossil formation I know that fossils were formed millions of years ago. I know that when plants and animals died, they fell to the seabed. I know they became covered and squashed by other material. I know that over time the dissolving animal and plant matter is replaced by minerals from the water. I know that soils are made from rocks and organic matter I know soils are made up of pieces of ground down rock which may be mixed with plant and animal material (organic matter) I know rocks may absorb water. I know the type of rock; size of rock pieces and the amount of organic matter affect the property of the soil.		**Electricity** **Big Questions:** **How does electricity work?** **Can we control electricity?** I know common appliances that run on electricity. I know that some plug in to the mains and others run on batteries. I know an electrical circuit consists of a cell or battery connected to a component using wires . I know 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. I know that if there is a break in the circuit, a loose connection or a short circuit, the component will not work. I know a switch can be added to the circuit to turn the component on and off. I know that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. I know that some common conductors and insulators, and associate metals with being good conductors. I know that metals are good conductors so they can be used as wires in a circuit. Non-metallic solids are insulators except for graphite (pencil lead). I know that water, if not completely pure, also conducts electricity. **Plants** **Big Questions:** **What makes a plant, a plant?** **Why do plants have flowers?** I know that many plants, but not all, have roots, stems/trunks, leaves and flowers/blossom. I know the roots absorb water and nutrients from the soil and anchor the plant in place. I know the stem transports water and nutrients/minerals around the plant and holds the leaves and flowers up in the air to enhance photosynthesis, pollination and seed dispersal.

I know that food contains a range of different nutrients – carbohydrates (including sugars), protein, vitamins, minerals, fats, sugars, water – and fibre that are needed by the body to stay healthy.
I know that a piece of food will often provide a range of nutrients.
I know that humans (animals) are alive; they move, feed, grow, use their senses and reproduce.
I know that humans choose or need to eat certain foods (allergies, religion and preferences/vegan etc).

Key Skills

Living Things and their Habitats
Big Question:
How can we classify living things?
How are living things interdependent?

Working Scientifically
Recording and presenting evidence, recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

I can explore and name a variety of living things in my local and wider environment.
I can name living things living in a range of habitats, giving the key features that helped them to identify them.
I can compare and contrast living things observed.
I can use classification keys to name unknown living things
I can classify living things found in different habitats based on their features.
I can create an identification key based on observable features.
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.

Scientist
Gladys West

Animals including humans
Health and Nutrition
Big Question
What is a healthy digestive system and how does it work?
What does our body do with the food we eat?

Working Scientifically
Aking questions and recognising that they can be answered in different ways
Asking relevant questions and using different types of scientific enquiries to answer them

Key Skills

2021 - LOCKDOWN LEARNING
Rocks
Big Question:
Are all rocks the same?

Working Scientifically
Engaging in practical enquiry to answer questions, by setting up simple practical enquiries, comparative and fair tests

as well as

Engaging in practical enquiry to answer questions, by planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary (Year 5 only)

I can compare and group together different kinds of rocks based on their appearance and physical properties
I can describe in simple terms how fossils are formed when things that have lived get trapped within rock
I can observe rocks closely
I can classify rocks in a range of ways, based on their appearance
I can devise a test to investigate the hardness of a range of rocks
I can devise a test to investigate how much water different rocks absorb
I can observe how rocks change over time e.g. gravestones or old building
I can research using secondary sources how fossils are formed
I can observe soils closely
I can classify soils in a range of ways based on their appearance
I can devise a test to investigate the water retention of soils
I can observe how soil can be separated through sedimentation

Scientist
I can research the work of Mary Anning
https://www.natgeokids.com/uk/discover/history/general-history/mary-anning-facts/

I know the leaves use sunlight and water to produce the plant's food.
I know some plants produce flowers which enable the plant to reproduce.
I know pollen, which is produced by the male part of the flower, is transferred to the female part of other flowers (pollination).
I know this forms seeds, sometimes contained in berries or fruits which are then dispersed in different ways.
I know different plants require different conditions for germination and growth.

Key Skills

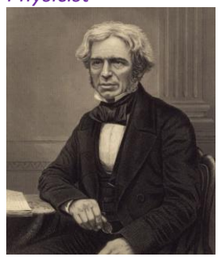
Electricity
Big Questions:
How does electricity work?
Can we control electricity?

Working Scientifically
Recording and presenting evidence, gathering, recording, classifying and presenting data in a variety of ways to help in answering questions

Working Scientifically
Evaluating and raising further questions and predictions, using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions

I can construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.
I can name the components in a circuit.
I can make electric circuits.
I can control a circuit using a switch.
I can name some metals that are conductors.
I can name materials that are insulators.

Scientist
Michael Faraday
Physicist



Scientist
Thomas Edison

As well as

Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary (Y5 only)

I can name the nutrients found in food
I can state that to be healthy we need to eat the right types of food to give us the correct amount of these nutrients
I can classify food into those that are high or low in particular nutrients
I can answer questions about nutrients in food, based on gathered evidence
I can talk about the nutrient content of my daily plan
I can use my data to look for patterns (or lack of them) when answering my enquiry question
I can explore ideas about what would happen if humans did not have skeletons
I can explore how humans grow bigger as they reach maturity by making comparisons linked to body proportions and skeleton growth – e.g. do people with longer legs have longer arm spans?
I can describe the simple functions of the basic parts of the digestive system in humans.
I can identify the different types of teeth in humans and their simple functions.

Scientist

Dr Charlotte Armah (research scientist at the Insitute of Food Reasearch in Norwich)
https://explorify.uk/en/activities/whats-going-on/super-broccoli-food-research-scientist

Vocabulary

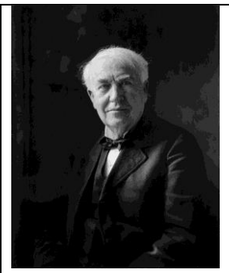
Living Things and their Habitats
Identify, sort, categorize, classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate, life cycle, reproduce, sexual, sperm, fertilises, egg, live young, metamorphosis, asexual, plantlets, runners, bulbs, cuttings

Animals, including humans
Digestive system, digestion, mouth, teeth, saliva, salivary gland, oesophagus, stomach, small intestine, food pyramid, nutrients, large intestines, rectum, anus, teeth, incisor, canine, molar, premolars,

Vocabulary

2021 - LOCKDOWN LEARNING

Rocks:
Rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb, chalk soil, peat, sandy/chalk/clay soil,
properties, grain, crystal, bedrock, petrologist, man-made rocks, brick, tile, concrete, Igneous, sedimentary, metamorphic,
permeable, impermeable, acid, erosion, marble, chalk, limestone, slate, granite, sandstone, identification key, soil, micro-organisms, organic



Plants
Big Questions:
What makes a plant, a plant?
Why do plants have flowers?

Working Scientifically
Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.

Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables

Communicating their findings, reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions

I can explain observations made during investigations
I can look at the features of seeds to decide on their method of dispersal
I can draw and label a diagram of their created flowering plant to show its parts, their role and the method of pollination and seed dispersal

Scientist
Ahmed Mumin Warfa
Botanist

Vocabulary

Electricity
Electricity, electrical appliance/device, mains, plug, electrical circuit, complete circuit, component, cell, battery, positive, negative, connect/connections, loose connection, short circuit, crocodile clip, bulb, switch, buzzer, motor, conductor, insulator, metal, non-metal, symbol

Plants
Photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal)

		skeleton, bones, muscles, joints, support, protect, move, skull, ribs, spine,		matter, particles, sand, silt, fair test, compare, sort, predict, fossil, ichthosaur, plesiosaur, ammonite, sediment, minerals, mould, cast, survey, petrologist, database, man-made rocks, brick, concrete, igneous, sedimentary, metamorphic, permeable, impermeable, acid, erosion, identification key		
		Cultural Opportunities		**Cultural Opportunities**		**Cultural Opportunities**
		Living Things and their Habitats Visit Arnside Knott Visit Estuary Visit River Animals including **Humans** School nurse to discuss diet and nutrition Links to sport and exercise (PE) and practical evidence gathering sessions.		Rocks Village walk to find and identify different rocks and their uses. Visit Warton Crag/Fairy Steps Research and collect evidence for 'Bedrock' of the village and explain environmental links.		**Electricity** Make circuits that can be controlled as part of a DT project Electrical circuits and symbols https://www.youtube.com/watch?v=KYKVf6edvcA&t=3s https://www.twinkl.co.uk/resource/electricity-watts-in-a-circuit-ebook-t-sc-1632832864 **Plants** Arnside Knott, the school garden, Levens Hall garden
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