



Learning objectives and skills

Advent		Lent		Pentecost	
Our Changing World/Body Health	Body Pump	Our Changing World/Danger! Low voltage	Light up your World	Our changing World/Everything Changes	The nature library
<p>Our Changing World 1: How do animals behave during different times of the year?</p> <ul style="list-style-type: none"> Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs <p>2: How can we observe animals when we are not there?</p> <ul style="list-style-type: none"> Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs <p>Body Health 1: What does being healthy mean?</p> <ul style="list-style-type: none"> Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. <p>2: How is food divided into different groups?</p> <ul style="list-style-type: none"> Identifying scientific evidence that has been used to support or refute ideas or arguments. <p>3: What makes a healthy snack or drink?</p> <ul style="list-style-type: none"> Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. <p>4: How have diets changed?</p> <ul style="list-style-type: none"> Identifying scientific evidence that has been used to support or refute ideas or arguments. 	<p>1: What does my circulatory system do?</p> <ul style="list-style-type: none"> Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. <p>2: What is a heart and what does it do?</p> <ul style="list-style-type: none"> Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. <p>3: What is blood?</p> <ul style="list-style-type: none"> Identifying scientific evidence that has been used to support or refute ideas or arguments. <p>4: What is in blood?</p> <ul style="list-style-type: none"> Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations <p>5: What do valves and blood vessels do?</p> <ul style="list-style-type: none"> Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs <p>6: What happens to water in our bodies?</p> <ul style="list-style-type: none"> Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and 	<p>Our Changing World 3: How can we observe the life cycles of specific animals more closely?</p> <ul style="list-style-type: none"> Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs <p>4: How does the number, type and behaviour of birds found around our school change during the year?</p> <ul style="list-style-type: none"> Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations <p>Danger! Low Voltage 1: How many simple circuits can you make?</p> <ul style="list-style-type: none"> Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs <p>2: What does a switch do?</p> <ul style="list-style-type: none"> Recording data and results of increasing complexity using scientific diagrams and labels <p>3: How strong is your resistance?</p> <ul style="list-style-type: none"> Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. 	<p>1: What is light and what does it do?</p> <ul style="list-style-type: none"> Identifying scientific evidence that has been used to support or refute ideas or arguments. <p>2: Can you see more than just your face in a mirror?</p> <ul style="list-style-type: none"> Using test results to make predications to set up further comparative and fair tests. <p>3: Can light go round corners?</p> <ul style="list-style-type: none"> Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs <p>4: Can you make a camera with a box, paper and a pin?</p> <ul style="list-style-type: none"> Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs Identifying scientific evidence that has been used to support or refute ideas or arguments. <p>5: How can you measure a shadow?</p> <ul style="list-style-type: none"> Planning different types of scientific enquiries to answer questions, including recognizing and controlling variables where necessary. <p>6: What do we know about changing shadow sizes?</p> <ul style="list-style-type: none"> Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs <p>7: Can light change direction without a mirror?</p> <ul style="list-style-type: none"> Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, 	<p>Our Changing World 5: What happens to invertebrates during the year?</p> <ul style="list-style-type: none"> Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations <p>Everything Changes 1: Why do living things vary?</p> <ul style="list-style-type: none"> Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs <p>2: Can you breed a dog for a specific purpose?</p> <ul style="list-style-type: none"> Identifying scientific evidence that has been used to support or refute ideas or arguments. <p>3: How can we make our food better?</p> <ul style="list-style-type: none"> Identifying scientific evidence that has been used to support or refute ideas or arguments. <p>4: How does the environment affect plants?</p> <ul style="list-style-type: none"> Planning different types of scientific enquiries to answer questions, including recognizing and controlling variables where necessary <p>5: How do environmental variables affect plants?</p> <ul style="list-style-type: none"> Planning different types of scientific enquiries to answer questions, including recognizing and controlling variables where necessary. <p>6: How do living things survive?</p> <ul style="list-style-type: none"> Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and 	<p>1: Can you sort this mess?</p> <ul style="list-style-type: none"> Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs <p>2: Can you face the garden centre challenge?</p> <ul style="list-style-type: none"> Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs <p>3: How are vertebrates grouped together?</p> <ul style="list-style-type: none"> Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations <p>4: How are invertebrates grouped together?</p> <ul style="list-style-type: none"> Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations <p>5: Where do things fit?</p> <ul style="list-style-type: none"> Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs <p>6: What else is living besides plants and animals?</p> <ul style="list-style-type: none"> Identifying scientific evidence that has been used to support or refute ideas or arguments. <p>7: How can you grow your own micro-organisms?</p> <ul style="list-style-type: none"> Planning different types of scientific enquiries to answer questions, including recognizing and controlling variables where necessary.

<p>5: How is pulse rate affected by exercise?</p> <ul style="list-style-type: none"> Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when necessary. Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations <p>6: What are the benefits of sports and exercise?</p> <ul style="list-style-type: none"> Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. <p>7: How do drugs affect the body over time?</p> <ul style="list-style-type: none"> Presenting findings including casual relationships and explanations of and degree of trust in results, in oral and written forms <p>8: How does smoking affect the body?</p> <ul style="list-style-type: none"> Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. <p>9: Can you spread the healthy word?</p> <ul style="list-style-type: none"> Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. 	<p>degree of trust in results, in oral and written forms such as displays and other presentations</p> <p>7: What does the road around our body look like?</p> <ul style="list-style-type: none"> Identifying scientific evidence that has been used to support or refute ideas or arguments. 	<p>4: Do you know your circuit diagrams and can you construct working circuits from them?</p> <ul style="list-style-type: none"> Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs <p>5: Will the lights stay on? (Part 1)</p> <ul style="list-style-type: none"> Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. <p>6: Will the lights stay on? (Part 2)</p> <ul style="list-style-type: none"> Identifying scientific evidence that has been used to support or refute ideas or arguments. 	<p>scatter graphs, bar and line graphs</p> <ul style="list-style-type: none"> Using test results to make predications to set up further comparative and fair tests. <p>8: How many ways can you make a rainbow?</p> <ul style="list-style-type: none"> Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs <p>9: How much do you know about light?</p> <ul style="list-style-type: none"> Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations 	<p>written forms such as displays and other presentations</p> <p>7: Why do living things become extinct?</p> <ul style="list-style-type: none"> Identifying scientific evidence that has been used to support or refute ideas or arguments. <p>8: What does it take to survive?</p> <ul style="list-style-type: none"> Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations <p>9: What evidence is there that living things have changed over time?</p> <ul style="list-style-type: none"> Identifying scientific evidence that has been used to support or refute ideas or arguments. <p>10: How does natural selection work?</p> <ul style="list-style-type: none"> Identifying scientific evidence that has been used to support or refute ideas or arguments. 	<p>8: Was it always this way?</p> <ul style="list-style-type: none"> Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations Identifying scientific evidence that has been used to support or refute ideas or arguments <p>9: What happens when scientists disagree?</p> <ul style="list-style-type: none"> Identifying scientific evidence that has been used to support or refute ideas or arguments <p>10: What should we call it?</p> <ul style="list-style-type: none"> Presenting findings from enquiries in oral and written forms such as displays and other presentations.
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#BTK and Links with other subjects

<p>Maths – handling data #BTK – our bodies are temples of the Holy Spirit. Why is important to look after ourselves? Literacy – persuasive writing, information texts, speeches, letter writing etc PE – keeping fit and healthy DT – The Grain Chain</p>	<p>Maths – handling data #BTK – Psalm 139 – we are fearfully and wonderfully made. Literacy – information texts</p>	<p>Maths – handling data Literacy – explanation texts</p>	<p>DT – constructing and evaluating effectiveness of pinhole cameras #BTK Creation of Light Maths – presenting data Literacy – information texts, explanation texts</p>	<p>Maths – presenting and handling data #BTK – how much should we intervene with nature?</p>	<p>Maths – handling and presenting data Literacy – speeches/presentations</p>
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Key Vocabulary

<p>Nature Library mammal, amphibian, insect, bird, metamorphosis, tadpole, nymph, pupae, chrysalis, caterpillar, migrate, hibernate, courtship, plumage, habitat, adaptation, behaviour, young, chick, life cycle, egg, pupae, adult, butterfly, nectar, death rate, nest, brood, fledgling, juvenile, diet, migration, resident, invertebrate, mollusc, worm, snail, woodlouse, centipede, millipede, beetle, aphid, adaptation, predator, prey, survival, habitat, question, investigation, fair test, change, measure, predict, prediction, explanation, observations, draw conclusions, justify, analyse Body Health alcohol, asthma, athlete, balanced diet, beats per minute (bpm), benefits, breathing, caffeine, calories, cancer, carbohydrates (including sugars), cheating, cigarettes, clinical trial, consequences, dairy, diet, doping, drugs, eatwell plate, energy, exercise, fat, fibre, heart, heart rate, intensity, illegal, impact, James Lind, legal, lifestyle, long-term effect, lungs, medicine, mental benefits, mineral, motivation, norm, nutrition, oxygen, passive smoking, peer pressure, performance enhancing, persuade, physical benefits, protein, pulse rate, RDA (recommended daily allowance), recovery rate, resting rate, rickets, roughage, saturated fat, scurvy, short-term effect, smoking, sodium, solvents, steroids, tobacco, training, unsaturated fat, vitamin</p>	<p>aorta, artery, atrium, blood, blood vessel, body temperature, capillaries, carbon dioxide, cells, chamber, chest cavity, circulation, circulatory system, deoxygenated blood, digestive system, digestive tract, health, heart, heart valves, humans, hydration, lubricant, lungs, muscular system, nutrients, nutrition, oxygen, oxygenated blood, plasma, platelets, pump, red blood cell, skeletal, system, transport, valve, vein, vena cava, ventricle, vessel, waste, waste gases, white blood cells</p>	<p>Nature Library mammal, amphibian, insect, bird, metamorphosis, tadpole, nymph, pupae, chrysalis, caterpillar, migrate, hibernate, courtship, plumage, habitat, adaptation, behaviour, young, chick, life cycle, egg, pupae, adult, butterfly, nectar, death rate, nest, brood, fledgling, juvenile, diet, migration, resident, invertebrate, mollusc, worm, snail, woodlouse, centipede, millipede, beetle, aphid, adaptation, predator, prey, survival, habitat, question, investigation, fair test, change, measure, predict, prediction, explanation, observations, draw conclusions, justify, analyse Danger! Low Voltage cell, battery, lamp, wire, buzzer, motor, circuit, current, filament, electrical insulator, electrical conductor, mains electricity, terminal, switch, toggle switch, push switch, slide switch, tilt switch, trembler switch, pressure switch, reed switch, series circuit, resistance, resistor, current, circuit diagram, recognised symbols, generate, generator, coal, gas, oil, fossil fuels, nuclear, biomassfired power stations, wind turbine, wave hub, tidal flow, hydro-electric, grid, pylon, transmission, transformer, solar panels</p>	<p>light, dark, shadow, mirror, bright, dim, reflect, eye, opaque, transparent, translucent, ultra violet, ray, beam, refraction, periscope, spectrum, dispersion, inverted, medium, question, investigation, fair test, change, measure, predict, prediction, explanation, observations, draw conclusions</p>	<p>Nature Library mammal, amphibian, insect, bird, metamorphosis, tadpole, nymph, pupae, chrysalis, caterpillar, migrate, hibernate, courtship, plumage, habitat, adaptation, behaviour, young, chick, life cycle, egg, pupae, adult, butterfly, nectar, death rate, nest, brood, fledgling, juvenile, diet, migration, resident, invertebrate, mollusc, worm, snail, woodlouse, centipede, millipede, beetle, aphid, adaptation, predator, prey, survival, habitat, question, investigation, fair test, change, measure, predict, prediction, explanation, observations, draw conclusions, justify, analyse Everything Changes population, variation, environment, inheritance, adaptation, selective breeding, generation, survival, natural selection, evolution, fossils, genes, genetics, DNA, extinct, extinction, speciation, question, investigation, fair test, change, measure, predict, prediction, explanation, observations, draw conclusions</p>	<p>General terms: identify, identification, classify, classification, division, family, genus, species, reason, common characteristics, distinguishing characteristics, leaves, shape, size, colour, backbone, wings, jointed legs, cased, transparent, antennae, shell, segments, explain, group, small, harmful, beneficial (helpful), colony, colonies, mould, multiply, historically, grouping, Aristotle, Carl Linnaeus, kingdom, Phillip Miller, John Ray, botany, conventions <u>Kingdoms of living things:</u> Animalia, Plantae, Fungi, Protista, and Monera <u>Plant kingdom:</u> flowering plants, conifers, ferns, mosses and algae <u>Animal kingdom:</u> vertebrates, fish, amphibians, mammals, birds, reptiles, invertebrates, molluscs, annelids, arachnids, insects, arthropods <u>Micro-organisms:</u> (3 kingdoms: Fungi, Monera, Protista), micro-organisms (microbes) bacteria</p>
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Working scientifically statements.

Planning

- Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.

Observing

- Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when necessary.

Recording

- Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
- Using test results to make predications to set up further comparative and fair tests.

Concluding

- Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.

Evaluating

- Identifying scientific evidence that has been used to support or refute ideas or arguments.