Year 6 Science

Topic	Curriculum information	Forest School link
Electricity	Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. Use recognised symbols when representing a simple circuit in a diagram.	Not applicable to Forest School Not applicable to Forest School Not applicable to Forest School
Light	Recognise that light appears to travel in straight lines. Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye. Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.	Children explore light's straight-line path by investigating shadows formed by trees and other forest objects. children observe the shapes of shadows cast by different forest objects like sticks, leaves, or even themselves. Children talk about how the shadows are the same shape as the object blocking the light. Children investigate how shadows change size and position when the sun moves throughout the day.
Evolution and Inheritance	Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.	Adaptation: Children can directly observe how animals are suited to their forest environment. I.e. the dense fur of a rabbit or the sharp claws of a fox are traits that have evolved to help them survive and find food in their habitat. Species: Children notice the differences between individual plants and animals, For example, they might see different types of trees with varying leaf shapes or bark textures, or notice that some birds have different colored plumage. Inheritance: Children like to talk about how certain traits, like a tree's height or a squirrel's ability to climb, are inherited, leading to conversations about the differences between themselves. They discuss how some animals have more beneficial traits, like camouflage, and are therefore more likely to survive and reproduce, passing those traits on to their young.

		Forest school allows children to see and touch, for example, a fossil embedded in a tree stump or to collect seeds from different plants, highlighting the concept of past and present life.
Looking after our environment	Learn about Climate change - Weather refers to a specific event, like a sunny or rainy day. Climate refers to the average weather that is typical for a geographic location. Climate should not change dramatically, however this is what is happening as a result of climate change. Climate change refers to ling-term shifts in temperatures and weather patterns as a result of excess CO2 in the atmosphere. Explore ways to reduce how much rubbish is sent to landfill - Recycling refers to the process by which rubbish and refuse are turned into something new and given a second life, instead of going to landfill and causing pollution. Landfill refers to the disposal of waste by burying it. Explore ways to reduce energy consumption – Renewables – Wind Farms, Solar farms and hydro power. - Non-renewables – Oil, Coal, Gas/Fossil fuels. What happens when fuels are burnt - When fossil fuels are burned, they release harmful gases into the atmosphere like CO2. Energy has been supplied this way largely since the industrial revolution –the transition to new manufacturing processes that needed energy to run. Explore the outcomes of cop26 - COP stands for Conference of the Parties. It is a supreme decision making body that makes climate related policy to slow the warming of the planet. COP26 was the latest meeting of parties and action was planned to ensure the global temperature does not rise beyond 1.5 degrees. Compare data associated with the weather - Climate change has negative effects on the whole planet. Animals in particular face new challenges for survival. Intense weather is caused, which they are not used to and cannot survive, and food sources are diminished.	We talk about climate change and the changes to the weather and therefore the seasons. Children notice that plants/trees may leaf/flower earlier now but may also remain this way longer now that we temperature has risen. Children talk about rubbish/litter and how this effects nature and the wildlife when it is left on the ground etc. We talk about plastic and how long it takes to breakdown (20 to 1000 years) and that some plastics do not biodegrade. Not applicable to Forest School. We talk about fuels being burnt when we have a fire and how the smoke can affect the wildlife etc. We talk about how we only burn dry wood to reduce the smoke that goes into the atmosphere and that this is why we minimise how many fires we have. Not applicable in Forest school. Not applicable in Forest school.

Animals, including humans	Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. Describe the ways in which nutrients and water are transported within animals, including humans.	Not applicable in Forest School Children recognise the impact exercise has on their bodies when running around in forest school. They know that it is important that we exercise to keep fit – sometimes children like to use the natural resources to exercise with, for example 'weightlift' using a log etc. Children show awareness of the importance of a healthy diet and exercise etc in order to stay healthy. Not applicable in Forest School.
Living things and their habitats	Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals. Give reasons for classifying plants and animals based on specific characteristics.	In Forest School, children can classify living things into groups like micro-organisms, plants, and animals based on their features such as whether they have a backbone (vertebrates – mammals, birds, reptiles, fish and amphibians) or not (invertebrates – insects such as spiders and worms etc.), or their physical characteristics like legs or wings etc. Children can classify plants by flowering and non-flowering, seed dispersal, leaf shape etc.

Vocabulary:

Animals Including Humans: circulatory system, atrium, ventricle, vessel, valves, vessel, artery, vein, capillary, microscope, blood, plasma, platelet, white blood cell, red blood cell, absorb, diffusion, osmosis, concentration, nutrients, diet, exercise, heart rate, BPM, pulse, drug, painkiller, stimulant, depressant, hallucinogens

Looking after our environment: weather, climate, prevent, global warming, climate change, recycle, landfill, rubbish, biodegrade, council, net zero, renewable, non-renewable, greenhouse gases, emissions, industrial revolution, fossil fuel, coal, combustion, fuel, COP, sustainability, conference, pledge, subsidy, species, sensitive, natural disaster, habitat and vulnerable.

Living things and their habitats: classify, microorganism, fern, living organism, conifer, kingdom, mrs gren, cell, multicellular, unicellular, Carl Linnaeus, classification, Latin, species, domain, microorganism, bacteria, fungi, virus, protozoa, plant, microscopic, fungi, mycelium, ecosystem, classify, microorganism, living organism, habitat, reproduction, offspring, characteristic, inherit, variation, environmental, adaptation, habitat, climate, nutrition, feature, nutrients, epiphytes, toxic, predators, pollinate, fossil, Mary Anning, Palaeontologist, ichthyosaurus, Jurassic coast, Charles Darwin, evolved, extinct, natural selection, theory, ancestor, tools, primate, Homo sapien and Neanderthal.

Electricity: symbol, circuit, circuit diagram, battery, wires, electricity, current, voltage, voltmeter, brightness, blown, resistor, variable resistor, LED, dimmer switch, output, variable, fair test, control test, systematically, synchronised, traffic light, signal, sensor, timer-based, closed electric circuit, indicating, conductor, insulator and resistor.

Light: light, eye, light source, symbol, scientific diagram, reflected, prediction, fair test, variable, table, periscope, angle, mirror, line of sight, utilise, shadow, block, opaque, transparent, translucent, plan, sun shade, real life problem, rotate, direction, optical, phenomena, disperse, spectrum and refraction.