Below is an overview of the key concepts and vocabulary taught in science throughout the school. These are revisited and built upon throughout children’s time at Mayespark.

|  |  |  |
| --- | --- | --- |
|  | **Key Concept** | **Explanation**  |
|   | Working Scientifically | This concept involves learning the methodologies of the discipline of science. |
| Physics | **Understand movement, forces and magnets**This concept involves understanding what causes motion.**Understand the Earth’s movement in space**This concept involves understanding what causes seasonal changes, day and night.**Investigate light and seeing**This concept involves understanding how light and reflection affect sight.**Investigate sound and hearing**This concept involves understanding how sound is produced, how it travels and how it is heard.**Understand electrical circuits**This concept involves understanding circuits and their role in electrical applications |
| Chemistry | **Investigate materials**This concept involves becoming familiar with a range of materials, their properties, uses and how they may be altered or changed. |
| Biology | **Understand plants**This concept involves becoming familiar with different types of plants, their structure and reproduction.**Understand animals and humans**This concept involves becoming familiar with different types of animals, humans and the life processes they share.**Investigate living things**This concept involves becoming familiar with a wider range of living things, including insects and understanding life processes.**Understand evolution and inheritance**This concept involves understanding that organisms come into existence, adapt, change and evolve and become extinct. |

|  |  |  |
| --- | --- | --- |
|  | **Unit of Work**  | **Key Vocabulary** |
| **Key Stage** **One** | Animals including humans | fish, amphibians, reptiles, birds, mammals, carnivores, herbivores, omnivores |
| Everyday materials | wood, plastic, glass, metal, water, rock, hard/soft; stretchy/stiff; shiny/dull; rough/smooth; bendy/not bendy; waterproof/not waterproof; absorbent/not absorbent; opaque/transparent, brick, paper, fabrics, elastic, foil |
| Seasonal changes | spring, summer, autumn, winter, rainy, snowy, stormy, hot, cold, bitter, sunny, cloudy, weather, daylight, season, year, month |
| Living things and their habitats | living/dead/never been alive, habitats, plants, microhabitats, food chain, local environment, shelter, life processes, food sources |
| Uses of everyday materials | suitability, properties, metal, plastic, glass, tough, smooth, strong, durable, soft |
|  Plants | seeds, bulbs, water, light, leaves, soil, stem, transports, healthy, wild plants, garden plants, weeds, deciduous, evergreen, germination, shoot, seed dispersal |
| Animals including humans | *As above, plus:* food, water, air, healthy/unhealthy, exercise, hygiene, disease, germs, hygiene, nutrition, pulse, diet, adult, develop, life cycle, offspring, young, live young |

|  |  |  |
| --- | --- | --- |
| **Lower Key** **Stage Two** | **Unit of work** | **Key Vocabulary** |
| Plants | *As above, plus:* growth, air, light, water, nutrients, soil, transported, flowering, pollination, seed formation, seed dispersal, stamen, carpel (pistil), sepal, pollinator |
| Rocks  | grains, crystals, fossils, sedimentary, metamorphic, igneous, soils, magma, lava, sediment, permeable, impermeable, fossilisation, palaeontology, erosion |
|  Animals | skeletons, muscles, food groups, healthy/ healthy diet, unhealthy, humans, nutrition |
| Light | dark, reflect, light source, shadows, transparent, opaque, ray, reflective, pupil, retina |
| Forces and magnets | magnetic force, attract, repel, poles, magnet, magnetic field |
| Sound | pitch, vibration, medium, fainter, volume, insulation, sound wave, amplitude, ear, particles, distance, soundproof, absorb, vacuum, eardrum |
| Electricity | appliance, simple/series electrical circuit, cells, wires, bulbs, switches, buzzers, switch, lamp, conductors, insulators, generate, renewable, non-renewable, battery |
| States of Matter | solids, liquids, gases, condensation, evaporation, water cycle, heat, cool, temperature, state, chemical change, water vapour, melt, freezes, precipitation |
| Living things and their habitats | *As above, plus:* organisms, life process, respiration, sensitivity, reproduction, excretion, habitat, environment, endangered species, extinct, classification, vertebrates, invertebrates, specimen, characteristics |
| Animals including humans | mouth, tongue, teeth, oesophagus, stomach, and small/large intestine, anus, digestive system, teeth, food chains, rectum, producers, predators, prey, energy, nutrients, energy, saturated fats, unsaturated fats, muscle, tendons, joints |

|  |  |  |
| --- | --- | --- |
| **Upper Key Stage Two**  | **Unit of Work**  | **Key Vocabulary** |
| Forces | gravity, friction, air resistance, pulleys, levers, gears, mechanisms, movement, gravitational pull, weight, mass, water resistance, buoyancy, streamlined, up thrust |
| Earth and space | solar system, rotation, sun, star, moon, Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune, Pluto, dwarf planet, orbit, spherical bodies, satellite, axis, astronomer |
| Animals including humans | reproduce, aging, fertilization, ovary, sperm, genetics, embryo, egg, sexual reproduction, asexual reproduction, gestation, life cycle, adolescence, puberty, menstruation, adulthood, life expectancy |
| Properties and Changes of Materials | material, solids, liquids, gases, melting, freezing, evaporating, condensing, sieving, separating, conductor, insulator, transparency |
| Living things and their habitats | classify, similarities, differences, micro-organisms, characteristics, key, bacteria, microscope, species, yeast, bacteria, fungi, mould sub-divided, asexual reproduction, fertilise, gestation, life cycle, metamorphosis, pollination, reproduction, sexual reproduction |
| Light | reflect, travels, shadows, light source, incident ray, reflected ray, refraction, spectrum, prism, transparent, translucent, opaque |
|  Evolution and inheritance | fossil, offspring, produce, identical, adapted, adaptation, environment, breeds, variation, habitat, inheritance, natural selection, adaptive trait, inherited trait |
| Animals including humans | circulatory system, functions, heart, blood vessels, nutrients, diet, drugs, lifestyle, harmful, health, oxygenated, deoxygenated, drug, alcohol |
| Electricity | *As above, plus:* Voltage, components, brightness/dullness, symbols, diagram, current, amps, resistance, electrons,  |