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| EYFS | Knowledge | Skills - Ideas | Vocabulary | Skills - Practical | | Skills - Evaluation |
| Children make observations of their environment, animals and plants.  Children talk about some of the things they have observed such as animals, plants, natural and found objects.  Children answer ‘why and ‘how’ questions in response to observations, experiences and events.  Children talk about the importance of good physical exercise and a healthy diet.  Children identify the bodies 5 senses and can use these to explore their world around them.  Children talk about ways to keep healthy and safe.  Children learn to manage their own basic hygiene needs and personal needs successfully.  Children develop an understanding of growth, decay and changes overtime.  Children talk about and explain why some things occur, and talk about change.  Children talk about similarities and differences in relation to places, objects, materials and living things.  Children talk about and observe living things and their environment. | **Specific teaching sequence for science using Rosenshine’s principles in action:**  - Daily Review: Each lesson to begin with a recap of subject specific vocabulary and definitions  - Introduction of new learning and asking questions: introduction of skill  - Provide models/scaffolds: support children with learning and applying new skill alongside evaluating using modelled vocabulary  - Independent practise: children further develop the new skill  -Weekly review: draw back upon this learning when exploring other skills and to revisit subject specific vocabulary | *Identify, classify, predict, test, observe.* | Working Scientifically | * Identify and classify * Predict * Perform a simple test * Observe * Use observations to answer questions | Children can observe plants, animals and seasonal changes within their local environment.  Children can talk about and discuss with peers and adults, some of the things they have observed such as, animals and plants.  Children can answer ‘why’ and ‘how’ questions in response to the observations made of plants, animals, seasonal changes, the weather and habitats of animals.  Children can talk about the importance of good physical exercise and can understand the effects that activity has on the body E.g. – breathlessness.  Children can identify the bodies 5 senses (touch, taste, smell, hear and see) and know what body function is linked to each sense. Children use their senses to scientifically explore their local environment E.g. – looking at plants, animals, habitats etc.  Children learn to manage their own personal hygiene and can verbalise how good hygiene practices continue to keeping healthy and safe.  Children can discuss growth, decay and changes overtime in relation to scientific enquiry e.g. – the lifecycle of a plant, seasonal changes and the weather.  Children can discuss similarities and differences in relation to animal’s habitats, various materials, animals (features etc.), plants and weather patterns.  Children can discuss observations on living things with peers and adults. They can talk about the similarities and differences between them and the changes throughout their lifecycles e.g a butterfly, a chick etc. |
| *Plant, lifecycle, observe,* | Plants | * Make observations of plants. * Name different plants. * Name the different parts of a plant. * Sorting/classifying plants by characteristics * Similarities and differences between plants * Understand the basic life cycle of a plant * Explain why things occur * To observe how a plant grows. |
| *Observe, lifecycle, healthy, safe, exercise, hygiene, senses* | Animals, Including Humans | * Make observations of animals. * Name different animals. * Sorting/classifying animals by characteristics/ features. * Similarities and differences between animals * Understand the life cycle of an animal. * Explain why things occur. * Identify the parts of the body (human link). * Know the 5 senses. * Know the function of the body parts linked to 5 senses. * Understand what good hygiene looks like. * Know what makes a healthy diet. * Talk about ways to keep healthy and safe. * Understand effects of exercise on the body i.e. breathless. |
| ***floating, sinking, hard, soft, materials*** | Everyday Materials | * Explore a variety of different materials. * Explore the properties of different materials. * Name a variety of materials. * Describe a variety of materials. * Sort and classify materials. * Compare the similarities and differences of materials. * Explore floating and sinking through using a variety of materials. |
| ***Spring, Summer, Autumn, Winter, season. Weather.*** | Seasonal Changes | * Name the four seasons. * Describe the features of the four seasons. * Compare the features of the four seasons. * Identify clothing worn in different seasons. |
| ***shelter, protect, food, dry, safe. habitat*** | Living Things and Their Habitats | * To name different habitats. * To describe different habitats. * To compare similarities and differences between habitats. * Match animals to their correct habitat * Can give explanations as to why that animal lives there. |

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|  | Science – Working Scientifically – The Skills every pupil needs to enable him or her to become a Scientist. | | | | | |
| Year 1 | Knowledge | Skills - Ideas | Vocabulary | Skills - Practical | | Skills - Evaluation |
| Children ask simple scientific questions and recognise that these can be answered in a variety of different ways.  Children gather a range of data to help answer scientific questions.  Children use a variety of equipment such as microscopes and magnifying glasses to closely observe.  Children perform simple scientific tests.  Children use observations to suggest answers to their questions. | **Specific teaching sequence for science using Rosenshine’s principles in action:**  - Daily Review: Each lesson to begin with a recap of subject specific vocabulary and definitions  - Introduction of new learning and asking questions: introduction of skill  - Provide models/scaffolds: support children with learning and applying new skill alongside evaluating using modelled vocabulary  - Independent practise: children further develop the new skill  -Weekly review: draw back upon this learning when exploring other skills and to revisit subject specific vocabulary | ***Question, answer, sort, identify, group, classify,compare, observe. classify*** | Working Scientifically | * Ask simple questions. * Recognise that questions can be answered in different ways using different vocabulary. * Use simple equipment to observe closely. * Perform simple tests. * Identify and classify. * Gather data from their scientific enquiries. * Record data from their scientific enquiries and observations. * Use his/her observations and ideas to suggest answers to questions. | Children can answer simple scientific questions in a variety of different ways using enquiry to help them.  Children can gather a range of data from their scientific enquiries and use this to help answer their questions.  Children can use microscopes, magnifying glasses and other scientific equipment to observe objects from the world around them.  Children can perform scientific tests with support.  Children can identify and classify objects from the world around them and use observations to recognise similarities and differences. |
| **Year 1 – Plants – Biology** | | | | | |
| Children identify, name and discuss the similarities and differences between deciduous and evergreen trees.  Children identify and describe the basic structure of a plant. |  | ***Common plants, wild plants, deciduous, habitat, evergreen, structure,*** | Plants | * Identify the basic structure of a variety of common flowering plants. * Identify the basic structure of trees. * Identify a variety of common wild and garden plants. * Identify a variety of deciduous and evergreen trees. * Name a variety of common wild and garden plants. * Name a variety of deciduous and evergreen trees. * compare and group evergreen and deciduous trees. | Children can identify and name a range of wild and common plants including, a poppy, daffodil, bramble and a sunflower.  Children can identify a range of evergreen and deciduous trees including a sycamore, holly and an oak tree.  Children use scientific enquiry and observations to recognise similarities and differences between deciduous and evergreen trees. Children can compare and contrast familiar plants; describing how they were able to identify and group them.  Children use observations from their local environment to explore and describe the structure of growing plants.   Children can draw basic diagrams showing basic parts of flowers and trees. Children keep records of how plants have grown and changed overtime, for example, buds opening on the trees. |
| **Year 1 – Animals, Including Humans – Biology** | | | | | |
| Children identify and name a variety of animals including, amphibians, mammals, reptiles, bird, fish and reptiles.  Children identifying and name a variety of common animals that are herbivores, omnivores and herbivores.  Children describe, compare and contrast the structure of a variety of common animals.  Children identify name and label parts of the human body.  Children identify the 5 senses and say which sense is associated with which body part. |  | ***Amphibian, fish, reptile, mammal, bird***  ***herbivore, carnivore, omnivore, human body. senses.*** | Animals, Including Humans | Animals   * Name, identify and classify mammals/ not mammals * Name identify and classify amphibians not amphibians * Name, identify and classify birds/ not birds * Name, identify and classify reptiles/ not reptiles * Name, identify and classify fish/ not fish * Identify, name and classify the 5 main animal groups (fish, amphibians, reptiles’ birds and mammals). * Explain the features and structures of fish, mammals, amphibians, reptiles and birds. * Explain what carnivores, omnivores and herbivores eat. * Sort and classify animals into the diet groups that they belong to.   Humans   * Name parts of the human body. * identify parts of the human body. * Label a diagram to show parts of the human body. * Identify the 5 human senses (touch, smell, taste, hear and smell). * Know which body part is associated with what sense. | Children can name a variety of fish, amphibians, reptiles, birds and mammals.  Children can identify a variety of fish, amphibians, reptiles, birds and mammals based on their characteristics.  Children can identify and classify a variety of common animals based on their characteristics such as fine, beaks and scales.  Children work scientifically to look at, describe and compare and contrast the structure of a range of animals. The are able to name some animals features, say how some animals are the same and say how some are different.  Children know and can explain what carnivore; herbivore and an omnivore eat.  Children can identify and name a range of common animals that eat meat (carnivores), animals that eat plats and grass (herbivores) and animals that eat both (omnivores).  They are able to sort and classify animals according to the diet groups that they belong to.  Children name parts of the human body (head, shoulders, knees, feet, elbow etc) through songs, actions and games.  Children identify parts of the human body.  Children label a diagram to show parts of the human body. They are able to add extra body parts through drawing.  Children can identify the 5 human senses (touch, smell, taste, hear and see) and say which body part is associated with each sense and they perform simple tests to find out more about each sense. |
| **Year 1 – Everyday Materials – Chemistry** | | | | | |
| Children identify an object and say which material it is made from.  Children identify and name a variety of everyday materials.  Children describe the properties of a variety of everyday materials.  Children compare, contrast and group everyday materials based on their simple physical properties. |  | ***Wood, plastic, glass, metal, water, rock, properties, property.*** | Everyday Materials | * Distinguish between an object and the material from which it is made * Identify a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. * 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 classify a variety of everyday materials on the basis of their simple physical properties | Children can identify objects within their environment and identify the material that it is made from i.e – the chair is made from plastic.  Children can name a range of everyday materials including wood, plastic, glass, metal, water and rock.  Children can identify a range of everyday materials including wood, plastic, glass, metal, water and rock.  Children can describe the simple physical properties of a variety of everyday materials (rough, smooth, rigid, solid, soft, hard, transparent etc).  Children can use sorting hoops to sort a variety of materials based on their physical features (soft, hard, rigid, flexible etc.)  Children can compare and contrast a range of everyday materials based on their simple physical properties. |
| **Year 1 – Seasonal Changes – Physics** | | | | | |
| Children use careful observations from the world around them to notice changes across the four seasons.  Children observe and describe the weather associated with each season.  Children observe and describe how day length varies between seasons. |  | ***Day length, longer, temperature, month, daylight*** | Seasonal Changes | * Observe changes across the four seasons * Observe the weather associated with the seasons. * Describe the weather associated with the seasons. * Discuss how day length varies in different months. | Children can use observations of their immediate environment to observe and notice changes across Autumn, Spring, Summer and Winter.  Children can use their observations to discuss and describe how different weather is associated of each season E.G – it snows in Winter but it is sunny in Summer. Children might make tables or charts to show changes in weather.  Children can discuss how day length varies throughout different months of the year E.G – In summer, the days are longer but they are shorter in winter. However, nights in winter are longer than in summer. |

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|  | Science – Working Scientifically – The Skills every pupil needs to enable him or her to become a Scientist. | | | | | |
| Year 2 | Knowledge | Skills - Ideas | Vocabulary | Skills - Practical | | Skills - Evaluation |
| Children ask a range of simple questions and recognise that these can be answered in a variety of ways and through using scientific language.  Children use simple equipment to observe closely including changes over time.  Children to perform simple comparative tests.  Children identify, group and classify.  Children gather and record data to help in answering questions including from secondary sources of information  Children use their observations and ideas to suggest answers to questions through noticing similarities, differences and patterns. | **Specific teaching sequence for science using Rosenshine’s principles in action:**  - Daily Review: Each lesson to begin with a recap of subject specific vocabulary and definitions  - Introduction of new learning and asking questions: introduction of skill  - Provide models/scaffolds: support children with learning and applying new skill alongside evaluating using modelled vocabulary  - Independent practise: children further develop the new skill  -Weekly review: draw back upon this learning when exploring other skills and to revisit subject specific vocabulary | ***describe, changes. Comparative test, gather, record, secondary sources*** | Working Scientifically | * Ask simple questions and recognise that they can be answered in different ways including use of scientific language from the national curriculum. * Use simple equipment to observe closely including changes over time * Perform simple comparative tests * Identify, group and classify * Gather and record data to help in answering questions including from secondary sources of information. * Use his/her observations and ideas to suggest answers to questions noticing similarities, differences and patterns | Children can ask a range of simple questions and recognise that they can be answered in different ways. Children include scientific language from the National Curriculum within their answers.  Children use a range of scientific equipment including microscopes, magnifying glasses and observations to closely observe changes overtime.  Children can perform simple tests and use their findings to compare to previous tests.  Children can gather and record data from simple tests and observations that they have carried out. They then use this data to help answer their questions and find further answers through secondary data such as books and the internet.  Children can use their observations to suggest their own answers to questions in which they record and notice similarities, differences and patterns. |
| **Year 2 – Plants – Biology** | | | | | |
| Children observe and describe how seeds and bulbs grow into mature plants  Children find out and describe how plants need water, light and a suitable temperature to grow and stay healthy |  | ***nutrients, suitable temperature, germination, seed dispersal reproduction, growth.*** | Plants | * Understand the process of germination and reproduction * Observe how seeds and bulbs grow into mature plants. * Describe how seeds and bulbs grow into mature plants. . * Describe why plants need water, light and a suitable temperature to grow and stay healthy. * Find out why plants need water, light and a suitable temperature to grow and stay healthy. | Children can use their observations of the school and local environment to observe and record changes over time.  Children’s observations show how plants grow from a seed or bulbs to a mature plant.  Children can independently research and use scientific enquiry and comparative testing to find out about how plants need water, light and a suitable temperature in order to grow and stay healthy. |
| **Year 2 – Animals, Including Humans – Biology** | | | | | |
| Children understand that animals, including humans, have offspring which grow into adults  Children describe the basic needs of animals, including humans, for survival (water, food and air)  Children describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene |  | ***Nutrition, reproduce, reproduction, growth, survival, hygiene, offspring, exercise, nutrition*** | Animals, Including Humans | Animals   * Children understand that animals have offspring which grow into adults and children can match the animal to their offspring. * Children can understand and sequence animal lifecycles cycles of different animals’ groups. * Compare two lifecycles of different animal groups. * Children begin to understand reproduction and growth (not how reproduction occurs). * Children can describe the basic needs of animals for survival (water, food and air)   Humans   * Children know that adult (humans) have babies that grow into adults. * Children show an understanding of the human lifecycle: baby, toddler, child, teenager and adult. * Children can describe the basic needs of humans for survival * Children describe the importance for humans of exercise and nutrition. * Describe the importance eating the right amounts of different types of food, * Describe the importance of good hygiene and know how to adapt good hygiene practices | Children can understand and discuss the process of reproduction and growth, recognising that all animals that have offspring that grow into adults.  The children use their scientific knowledge to match adult animals to their offspring e.g – a cow and a calf. Whilst also showing an understanding that humans have offspring that grow into adults.  Children use their scientific language to discuss what survival mean. Children can share their knowledge of the basic needs of animals for survival. Children should recognise that all animals need water, food and air to live.  Children can describe and share information around the importance of exercise and nutrition for humans. Children can describe how humans should adapt good hygiene practices e.g. – take a shower. |
| **Year 2 – Everyday Materials – Chemistry** | | | | | |
| Children identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.  Children describe how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching |  | **Squashing, bending, twisting, stretching*, , suitable and unsuitable*** | Everyday Materials | * Identify and name a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. * Describe the simple properties of materials. * Children perform simple tests to examine the properties of materials. * Children compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. * Children recognise that some materials are made to use make more than one thing (wood can make matches, floors and telegraph poles). * Describe how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. * Perform simple tests to show how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. | Children can work scientifically by discussing, comparing, identifying and classifying the uses of everyday materials in and around school or their local environment.  They identify the properties of various materials and judge whether certain properties make them suitable/ unsuitable for particular purposes.  Children can use observations and scientific enquiry/ observations to become familiar with how some materials are used for to make more than one thing E.G – metal can be used for cans, cars and table legs.  Children can describe and perform simple tests to show how the shape of solid objects can be changed |
| **Year 2 – Living Things and Their Habitats –Biology** | | | | | |
| Children explore and compare the differences between things that are living, dead, and things that have never been alive.    Children 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.    Children identify and name a variety of plants and animals in their habitats, including micro-habitats  Children 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 |  | ***Living, dead, alive, never alive, micro-habitats, food chain, organism,*** | Living Things and Their habitats | * To be able to identify the characteristics of a living thing. * Compare items that are living and dead. * Explore and compare the differences between things that are living, dead, and things that have never been alive * Identify that most living things live in habitats to which they are suited. * Children can describe how different habitats provide for the basic needs of different kinds of animals and plants. * Children can describe how habitats and animals depend on each other for example: plants serve as food and shelter for some animals. * Children can explain the difference between a habitat and a microhabitat. * Children can identify and name a variety of plants in their habitats, including micro-habitats * Children can identify and name a variety of animals in their habitats and microhabitats. * Compare animals and plants found in familiar and unfamiliar habitats and microhabitats. * Describe how animals obtain their food from plants and other animals * Children can create the idea of a simple food chain * Children can name and identify different sources of food within a food chain. | Children can work scientifically through sorting and classifying to explore and compare things that are living, dead and things that have never been alive and record their findings appropriately.  Children can identify what a ‘habitat’ and a ‘microhabitat’ is and can use observations of their local environment to help describe how different habitats provide the basic needs for animals and plants and how they depend on each other, for example, plants serve as food and shelter for other animals.  Children can identify and name a variety of plants and animals in both well-known and less familiar habitats and microhabitats, for example, a seashore, a rainforest or in an ocean.  Children can compare animals in more familiar habitats with those found in less familiar habitats.  Children can describe how animals obtain their food from plants and other animals through creating their own food chain. Children can also identify different sources of food within the chain. |

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|  | Science – Working Scientifically – The Skills every pupil needs to enable him or her to become a Scientist. | | | | | | |
| Year 3 | Knowledge | Skills - Ideas | Vocabulary | Skills - Practical | | Skills - Evaluation |
| Children ask relevant questions and use different types of scientific enquiries to answer them (with support).  Children set up simple practical enquiries, comparative and fair tests (with support).  Children make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers (with support)  Children gather, record, classify and present data in a variety of ways to help in answering questions (with support).  Children record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables (with support). Children report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions (with support).  Children use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions (with support).  Children identify differences, similarities or changes related to simple scientific ideas and processes (with support).  Children use straightforward scientific evidence to answer questions or to support his/her findings (with support) | **Specific teaching sequence for science using Rosenshine’s principles in action:**  - Daily Review: Each lesson to begin with a recap of subject specific vocabulary and definitions  - Introduction of new learning and asking questions: introduction of skill  - Provide models/scaffolds: support children with learning and applying new skill alongside evaluating using modelled vocabulary  - Independent practise: children further develop the new skill  -Weekly review: draw back upon this learning when exploring other skills and to revisit subject specific vocabulary | ***Enquiry, practical., fair test, measurement, , present, conclude,*** | Working scientifically | * Ask relevant questions and use different types of scientific enquiries to answer them (with support). * Set up simple practical enquiries, comparative and fair tests (with support). * Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers (with support). * Gather, record, classify and present data in a variety of ways to help in answering questions (with support). * Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables (with support). Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions (with support) * Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions (with support) * Identify differences, similarities or changes related to simple scientific ideas and processes (with support) * Use straightforward scientific evidence to answer questions or to support his/her findings (with support) | Children can (with support) make their own decisions about the appropriate types of scientific enquiry they might use to answer questions.  Children can recognise when to use comparative or fair testing and help decide how to set it up.  Children can make decisions about making systematic and careful observations, how long to make them for and the type of simple equipment that might be used. They have learnt how to use new equipment, such as data loggers and thermometers.  Children can gather, record, classify and present data in a variety of ways to help in answering questions.  Children can collect data and record data from their own observations and measurements, using notes, simple tables and standard units, and help to make decisions about how to record and analyse this data.  With support, children can use data results to identify new questions arising from the data, making predictions for new values within or beyond the data they have collected, and finding ways of improving what they have already done.  Children can identify changes, patterns, similarities and differences related to simple scientific ideas and processes.  Children can use scientific evidence to answer questions or to support their findings. |
| **Year 3 – Plants – Biology** | | | | | | |
| Children identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.  Children explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant.    Children investigate the way in which water is transported within plants.  Children explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal |  | ***Flowering plants, function, nutrients, non-flowering, fertiliser, pollination, seed dispersal*** | Plants | * Identify the different parts of flowering plants: roots, stem/trunk, leaves and flowers. * Describe the function of different parts of flowering plants: roots, stem/trunk, leaves and flowers. * Children can explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow), * Children can discuss and compare how the requirements vary from plant to plant. * Investigate the way in which water is transported within plants. * Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. | Children can identify and describe the functions of different parts of plants. They explore questions that focus on the role of the roots and stem in nutrition and support, leaves for nutrition and flowers for reproduction.  Children can explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant.  Children investigate the way in which waters is transported within plants. They use scientific enquiry such as white carnations into coloured water to observe how waters travels up the stem.  Children can explore the part that flowers play in the lifecycle of flowering plants. Children use observations from the local area to discover how seeds are formed by observing the different stages of plant life cycles over a period; looking for patterns in the structure of fruits that relate to how the, seeds are dispersed. |
| **Year 3 – Animals, Including Humans – Biology** | | | | | | |
| Children identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat.  Children identify that humans and some other animals have skeletons and muscles for support, protection and movement. |  | *Diet, vitamins, food types, minerals, skeletons: support, , movement, protection* | Animals, including humans | * Identify that animals, including humans, need the right types and amount of nutrition. * Children understand that that animals, including humans cannot make their own food; they get nutrition from what they eat. * Identify that humans and some other animals have skeletons and muscles for support, protection and movement. * Children recognise that some animals do not have skeletons. * Children can group/ classify and sort animals with and without a skeleton. * Children know that some main body parts associated with the skeleton and muscles have special functions. | Children can identify that animals, including humans, need the right types of nutrition and that they cannot make their own food; children compare and contrast the diets of different animals and group them according to how they get their nutrition from different food types.  Children can identify that humans and some animals have skeletons and muscles for support, protection and movement. They can group animals with and without skeletons by comparing and observing movement. |
| **Year 3 – Light – Physics** | | | | | | |
| Children recognise that they need light in order to see things and that dark is the absence of light.  Children notice that light is reflected from surfaces.    Children recognise that light from the sun can be dangerous and that there are ways to protect eyes.  Children recognise that shadows are formed when the light from a light source is blocked by a solid object.  Children Find patterns in the way that the size of shadows change |  | ***Light, absence, reflection. Reflective surface Shadow, light source,.*** | Light | * Children recognise that he/she needs light in order to see things. * Children recognise that light is the absence of light * Notice that light is reflected from surfaces. * Children explore what happens when light reflects off a mirror or another reflective surface. * Recognise that light from the sun can be dangerous. * Children can identify that there are ways to protect eyes * Recognise that shadows are formed when the light from a light source is blocked by a solid object. * Find patterns in the way that the size of shadows change. * Children can measure shadows, | Children can recognise that they need light in order to see things. They know that dark is the absence of light.  Children notice that light is reflected from surfaces; they can explore what happens when light reflects off a mirror or other reflective surfaces.  Children can identify that light from the sun can be dangerous and can identify how to protect and why it is important to protect their eyes from bright lights.  Children can use observations from their local area to identify that shadows are formed when a solid object blocks a light source.  Children can use observations to find patterns in what happens when a light source moves or the distance between the light source and the solid object. Children use this information to identify how shadows are changed in size. |
| **Year 3 – Rocks – Chemistry** | | | | | | |
| Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties  Describe in simple terms how fossils are formed when things that have lived are trapped within rock.    Recognise that soils are made from rocks and organic matter. |  | ***Soil, sedimentary rock, organic matter***  ***hardness, crystal, grain, fossil*** | Rocks | * Compare together different kinds of rocks on the basis of their appearance and simple physical properties. * Children group and categorise different kinds of rocks on the basis of their appearance and simple physical properties. * Describe in simple terms how fossils are formed when things that have lived are trapped within rock. * Children look at rocks and identify whether they have crystals, grains or fossils inside. * Children categorise rocks on the basis of what’s inside. * Recognise that soils are made from rocks and organic matter. | Children can compare and group together different kinds of rocks based on their appearance and simple physical properties. Children classify and identify whether the rocks have grains or crystals in them or whether they have a fossil inside.  Children can research, discuss and therefore describe in simple terms how fossils are formed when things that have lived are trapped within rock.  Children can recognise that soils are made from rocks and organic matter. |
|  | **Year 3 – Forces and Magnets – Physics** | | | | | |
|  | Children compare how things move on different surfaces.  Children notice that some forces need contact between 2 objects, but magnetic forces can act at a distance.  Children observe how magnets attract or repel each other and attract some materials and not others.  Children compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials.  Children describe magnets as having 2 poles.  Children predict whether 2 magnets will attract or repel each other, depending on which poles are facing |  | ***Magnetic ,force, surface, distance, attract, repel, friction, magnetic poles*** | Forces and Magnets | * Compare how things move on different surfaces. * Notice that some forces need contact between 2 objects, * Notice that magnetic forces can act at a distance. * Observe how magnets attract or repel each other. * Explore the strength of a range of magnets. * Notice that some magnets attract some material and not others. * Children should begin to look at the everyday uses for magnets. * Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet. * Children can some magnetic materials. * Describe magnets as having 2 poles * Predict whether 2 magnets will attract or repel each other, depending on which poles are facing | Children can compare how things move on different surfaces and group the accordingly.  Children can use observations and tests to identify that some forces need contact between 2 objects but magnetic forces can act at distance.  Children can observe how magnets attract or repel each other and attract some materials and not others.  Children can use testing and observations to compare and group and sort a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials.  Children can describe magnets as having 2 poles.  Children can use predictions as to whether or not 2 magnets will attract or repel each other. They use knowledge of poles to do so. |