Whole School Medium Plan- Academic Year 21-22

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| State if it is not a lead subject: but standalone/ ongoing | **Sessions:**teachersto dateSome sessions may be blocked | **Advent 1** | **Advent 2** | **Lent 1** | **Lent 2** | **Pentecost 1** | **Pentecost 2** |
| **EYFS** | **Art activities: continuous provision/ small group work** | All about meTAPS AssessmentBrowning Apples | Traditional talesTAPS AssessmentIncy Spider Shelter | Past and presentTAPS AssessmentMaking Butter | It’s AliveTAPS AssessmentScavenger Sort | FantasyTAPS AssessmentTaste Test | Under the seaTAPS AssessmentFrozen Balloons |
|  |
| **Y1** | 1 | **Animals**AFLGroup animals and explain where they live. | **Seasonal Changes** Outdoor learning – observing signs of Autumn | **Plants**Basic structure of plants. | **Weather Diaries** Recording of Season, day, month, morning weather and afternoon weather. | **Materials**Group everyday objects based on materials. Begin word bank. | **Humans**Label basic parts of a human body. |
|  | 2 | Describe how animals look different.Penguins, possums & pigs. | Autumn patterns with autumnal materials | Setting up plants experiment to observe growth over time. \*Green beans. | Recording of Season, day, month, morning weather and afternoon weather. | Distinguish between objects and materials. Including predictions of materials. | Investigate human senses. What body parts do they link to? |
|  | 3 | Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.\*Continuous provision sorting. | Autumn Recording an autumn tree. Talk about what we sense in the Autumn. | Observing wild and garden plants in the local area. | Recording of Season, day, month, morning weather and afternoon weather. | Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, rock *(and brick, paper and cardboard).* | Humans are animals, they are alive. |
|  | 4 | Identify and name a variety of common animals that are carnivores, herbivores and omnivores.\*Continuous provision sorting. | WinterObserving signs of winter | Identifying deciduous and evergreen trees. | Recording of Season, day, month, morning weather and afternoon weather. | Compare and group a variety of everyday materials based on physical properties. | Recognise similarities in humans. Including amongst peers. |
|  | 5 | Zoo visit\*Observing Animals are alive; they **move**, **feed**, grow, use their **senses** and reproduce. | WinterRecording a winter tree. Talk about what we sense in the winter. | Green bean observations over time. | TAPSShades of Colour  | TAPS AssessmentTransparency | Describe differences in their own features.(eye, hair, skin colour, etc.) |
|  | 6 | TAPS AssessmentAnimals classification | TAPS AssessmentSeasonal Change  | TAPS AssessmentPlant Structure | TAPS AssessmentLeaf Look | TAPS AssessmentFloat and Sink | TAPS AssessmentBody Parts |
|  |  |  |  |  |  |  |  |
| **Y2** | 1 | **Nature Diaries – local environment plants** | **Humans**KWL What do humans need to survive? | **Nature diaries –in their local environment**Gather data‘living, dead and never alive.’Pictogram | **Plant****KWL** Labelling parts of a plant.What do plants need to grow? | **Animals**Identify and name a variety of plants and animals in their habitats, including micro-habitats. | **Materials**KWL identify everyday materials at school and local environment. |
|  | 2 | Autumn – seasonal observations. | Find out about and describe the basic needs of humans, for survival (water, food and air). | Record Data‘Living, dead and never alive.’Pictogram | Set up varying experiments. Growing under differing variable: light, water, placement. | 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. | Compare the suitability of everyday materials. |
|  | 3 | Weather observations. | Describe the importance of human exercise. | Gather dataLunch box audit | Observe how seeds and bulbs grow over time. In varying conditions. | Different kinds of plants and animals live in different kinds of places.There are different kinds of habitat near school which need to be cared for.\*Outdoor learning BUG hotels, INSECT garden. |  |
|  | 4 | Plant observations. | Describe the importance for humans of eating the right amounts of different types of food, and hygiene. | Record dataBar chart of Y2 packed lunch food groups. | Describe how seeds and bulbs grow over time. In varying conditions. | Compare local habitats and less familiar habitats of animals. Including examples from air, land and sea animals. | Investigate how materials made from solid objects can change. Applying force through; squashing, bending, twisting and stretching |
|  | 5 | Observing plants as a source of food for animals. | Investigate medicine. Medicines can be useful when we are ill. Medicines can be harmful if not used properly. | H/W gathering data of observed trees, evergreen and deciduous.Recording data as a class. | Farm shop visit.RESEARCH Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy *(and how changing these affects the plant).*Plants are living and eventually die. | Habitats within different climates. Revise continents. | Sort materials into natural or man-made. |
|  | 6 | TAPS AssessmentNature spotters | TAPSHand spans | TAPSDaisy Footprints | TAPS AssessmentLiving & Non Living | TAPS AssessmentWoodlice Habitat | TAPS AssessmentWaterproof |
|  |  |  |  |  |  |  |  |
| **Y3** | 1 |  Dr Alex Science StarsTo be confirmed HM | **Nutrition, diet and skeleton movement**Y1 revision what do animals eat to survive?Y2 revision what do we need?KWL | **Rocks and fossils**Compare and group together different kinds of rocks o the basis of appearance and simple physical properties. | **Forces and Magnets**Compare how some things move on different surfaces.KWL Vocabulary | **Light**Recognise that they need light in order to see things and that dark is the absence of light. | **Plants**Identify locate and describe functions of different parts of flowering plants. (MTP vocabulary) |
|  | 2 |  | 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. | Describe how fossils are formed when things have lived are trapped within a rock. | Some forces need contact between 2 objects but magnetic forces can act at a distance. | Light is reflected from surfaces. Reflective and non-reflective. | Explain the requirements for plants for life and growth. |
|  | 3 |  | Eat Well GuideAn adequate and varied diet is beneficial to health (along with a good supply of air and clean water). | Recognise that soils are made from rocks and organic matter. | Magnets attracting or repelling. | Recognise that light from the sun can be dangerous. Investigation of eye protections. | Plan and set up investigation for plant observation. (Outdoor learning) |
|  | 4 |  | 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). | Observations of rocks and soils that can look and feel different. | Predict whether 2 magnets will attract or repel each other depending on which ways poles are facing. Predicting magnetic and non magnetic materials. | Shadows are formed when light is blocked by a solid object. Begin shadow diary. | Investigate the way water is transported in plants. |
|  | 5 |  | Recording of exercise data and write up of findings. | Outdoor learning – Rocks and soils in different local and wider environments. | Compare and group a variety of everyday materials based on attracted to a magnet or repel a magnet. Magnets have 2 poles. | Shadow diary – find patterns in the way that size of shadows can change. | Explore life cycles of flowering plants. |
|  | 6 | TAPS AssessmentEco Action | TAPS AssessmentSkeleton | TAPS AssessmentRock Reports | TAPS AssessmentCupcake Parachute | TAPS AssessmentMaking Shadows | TAPS AssessmentMeasuring plants |
|  |  |  |  |  |  |  |  |
| **Y4** | 1 | **Electricity** - series circuits, switches, conductors, insulatorsIdentify common appliances that run on electricity. | **SCIENCE CITY STARS\*****Sound****Vibrations**Identify how sounds are made, associating some of them with something vibrating.Recognise that vibrations from sounds travel through a medium to the ear.Find patterns between the volume of a sound and the strength of the vibrations that produced it.Recognise that sounds get fainter as the distance from the sound source increases. | **Teeth and the digestive system**Describe the basic functions of the digestive system in humans. | **States of matter – Gases**Group gases and identify gases by their properties. | **States of matter – Liquids and solids**Compare and group materials whether they are liquids or solids. | **Habitats**Recognise that living things are grouped in a variety of ways. KWL Afl. |
|  | 2 | Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. Recognise that faults in circuits can be found by methodically testing connections.Know that drawings, photographs and diagrams can be used to represent circuits. Symbols introduced in y6. | Know that sounds can be made in a variety of ways (pluck, bang, shake, blow) using a variety of things (instruments, everyday materials, body).Know that sounds travel away from their source in all directions.Know that vibrations may not always be visible to the naked eye. | Identify the different types of teeth and their functions. | Gases filling containers they are put in. Gases escaping from unsealed containers.  | Identify solids and liquids by their observable properties. | Explore and use classification keys to help group a variety of living things.  |
|  | 3 | Identify 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.Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. | **Pitch**Find patterns between the pitch of a sound and features of the object that produced it.Know that sounds can be high or low pitched. | Compare teeth of animals. | Gases can be made smaller by squeezing/pressure. | Solids have a fixed size and shape, investigate solids fixed sizes and shapes. | Identify, name and group a variety of living things in their local and wider environment (Outdoor learning) |
|  | 4 | Recognise some common conductors and insulators, and associate metals with being good conductors. | Know that pitch can be altered by changing the material, tension, thickness or length of vibrating objects or changing the length of a vibrating air column. | Research hygienist dental profession. ?Visit from dentist. | Gases can flow. | Liquids pouring and taking shape of containers, forming pools not piles. | Construct and interpret a variety of food chains identifying producers, predators and prey. (Land animals) |
|  | 5 | Know that electricity can be dangerous.Recognise electricity sources can be mains or battery.Know that batteries ‘push’ electricity round a circuit and can make bulbs, buzzers and motors work. | **Muffling / Blocking Sounds**Recognise that vibrations from sounds travel through a medium to the ear.Know that sounds are heard when they enter our ears (although the structure of the ear is not important key learning at this age phase).Know that sounds can travel through solids, liquids and air/gas by making the materials vibrate.Know that sound travel can be reduced by changing the material that the vibrations travel through.Know that sound travel can be blocked | Construct and interpret a variety of food chains identifying producers, predators and prey.(Fish and birds) |  | Investigate powders, solids in the form of powders can pour as if they were liquids (see Cornflour TAPS) but make piles not pools. | Recognise environments change and can pose dangers to living things. Use and make identification keys for plants and animals. |
|  | 6 | TAPSCircuit products | TAPSPitch | TAPS AssessmentTeeth in liquid | TAPS AssessmentCornflour Slime | TAPS AssessmentDrying | TAPS AssessmentLocal Survey  |
|  |  |  |  |  |  |  |  |
| **Y5** | 1 | **Materials part one****Y4 revision to include** Freezing, melting and boiling changes can be reversed. | **Materials part two****Soluble or insoluble?** | **Earth and Space**Describe the movement of the Earth and other planets relative to the sun in the solar system. | **Forces and falling objects**Explain that unsupported objects fall towards the Earth because of gravity acting between the Earth and the falling object. | **Life cycle changes**Describe the difference in life cycles of a mammal, amphibian and insect and a bird.  | **Animals including humans**Growth and development of humans. |
|  | 2 | Investigate that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. | Mixtures of solids and liquids can be separated by **filtering** if the solid is insoluble (undissolved). | Describe the movement of the moon relative to the Earth. Describe the sun moon and Dearth as spherical bodies. | Identify the effects of air resistance, water resistance and friction between moving surfaces. | Describe the life process of reproduction in plants, plants produce pollen from the stamen which is transferred from the stigma to the ovary. | Describe the changes as human develop to old age including puberty (RSE link). |
|  | 3 | Use knowledge of solids, liquids and gases to decide/predict how mixtures might be separated, including through filtering, sieving and evaporating. | What is Evaporation? | Use the idea of Earth’s rotation to explain day and night.  | Friction, air resistance and water resistance are forces that slow down moving objects. | Fertilisation occurs in the ovary of the flower, seeds are formed as a result of fertilisation. | Research the gestation periods of animals in comparison to humans. |
|  | 4 | Demonstrate that dissolving, mixing and changes of state are reversible changes.Distinguish between **melting and dissolving.**Changes can occur when different materials are mixed. | Evaporation helps us separate **soluble materials** from water. | Investigate changes to shadow length over a day, changes to sunrise and sunset over a year are evident.  | Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect. | Life Cycle nature journal throughout the year. To include David Attenborough research. | Season Investigation continuous throughout the academic year. |
|  | 5 | Some material changes can be reversed and some cannot.Recognise that dissolving is a reversible change.Mixtures of solids (of different particle size) can be separated by **sieving.** | Changes to materials can happen at different rates (factors affecting dissolving, **factors affecting evaporation** – amount of liquid, temperature, wind speed). | Season Investigation continuous throughout the academic year. | Multiple forces acting on objects simultaneously either reinforcing or opposing each other. | Asexual reproduction in plantsAllow children the opportunity to explore growing new plants in other ways besides seeds. For example:From a runner: strawberries or spider plants.From a cutting: geraniums or roses.From a bulb: daffodils or tulips.From a tuber: potatoes or dahlias | Life Cycle nature journal throughout the year. To include David Attenborough research. |
|  | 6 | TAPS AssessmentForensic powders | TAPS AssessmentDirty Water Filter | TAPS AssessmentSolar System | TAPS AssessmentAqua Dynamics | TAPS AssessmentLife Cycles | TAPS AssessmentGrowth Survey  |
|  |  |  |  |  |  |  |  |
| **Y6** | 1 | **Evolution** and inheritance - adaptation, survival of the fittest, reproduction and passing on traits.KWL grids | **Light** - exploring the way light behaves including light sources, reflection, shadowsRecognise that light appears to travel in straight lines. | **Animals Including humans and the circulatory system**Identify and name main parts of the human circulatory system. Functions of the heart, blood vessels and blood. | **Classification**Vertebrates and invertebrates. Describe how living things are classified into broad groups according to common observable characteristics, similarities and differences including micro-organisms, plants and animals.  | **Electricity**KWL Grid | **Electricity**KWL Circuit practical revision. |
|  | 2 | Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. | Research additional light sources. | Recognise the impact of diet, exercise, drugs and lifestyle on the way the bodies function. Describe the way nutrients and water are transported with animals including humans. | Give reasons for classifying plants based on characteristics. Observations and research. | SATS Preparation | Introduce and use recognised symbols when representing a circuit in a diagram. * Cells
* Wires
* Switches
* Bulbs
* Buzzers
* motors
 |
|  | 3 | Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. | 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. Using detailed diagrams and labelling. | The heart being a major organ an made of muscle. Heart pumping blood around the body through vessels and as a pulse. Heart pumps blood through lungs in order to obtain supply of oxygen. | Vertebrates and invertebrates. Grouping into fish, amphibians, reptiles, birds and mammals, snails, slugs, worms, spiders and insects. | SATS Science KS2 Paper | Use circuit diagrams |
|  | 4 | Identify how **plants** are adapted to suit their environment in different ways and that adaptation may lead to evolution. | Explain that we see things because the light that travels from light sources to our eyes or from light sources to objects and then to our eyes. | During exercise muscles need more oxygen. Heart beats faster and our breathing pulse rates increase. | Living things can be grouped into mirco-organisms, plants and animals. Plants can be grouped as flowering and non-flowering plants.  | **Electricity**Associate the brightness of a lamp or volume of a buzzer with the number and voltage of cells in the circuit. | Interpret circuit diagrams to construct a variety of more complex circuits predicting whether they will work. |
|  | 5 | Identify how **animals** are adapted to suit their environment in different ways and that adaptation may lead to evolution. | Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. | Balanced diet is need to help us grow and repair. Look at protein, fat, vitamins and minerals. Link with animals being alive because they move, feed, grow (MRS NERG) | Begin Invertebrate research. | Observe and create variation of electrical circuits.  |  |
|  | 6 | Jane Goodall(Twycross Zoo) | Shadow exploration and data collection. | Tobacco, alcohol, other drugs, medicines. All medicines are drugs but not all drugs are medicines. RSE link. | TAPS AssessmentInvertebrate research | Compare and give reasons for variation in how components function including the brightness of bulbs, loudness of buzzers and the on/off position of switches. |  |
|  | 7 | TAPS AssessmentFossil Habits | TAPS AssessmentBulb Brightness | TAPS AssessmentHeartrate Pose |  | TAPS Assessment | TAPS AssessmentConductive dough |