Science Knowledge and Skills Coverage. (Year 4)

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| Content/Knowledge | Living Things and Habitats-To recognise that living things can be grouped in a variety of ways.-To explore and use classification keys to help group.-Identify and name a variety of living things in the environment.-Recognise that environments can change and this can sometimes pose dangers to living things. | Animals Including Humans- Describe the simple functions of the basic parts of the digestive system in humans.-Identify the different types of teeth in humans and their simple functions.Construct and interpret a variety of food chains, identifying producers, predators and prey. | Sound-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. | Electricity-Identify common appliances that run on electricity. Construct simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. Identify whether or not a lamp will light in a simple 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. Recognise some common conductors and insulators, and associate metals with being good conductors. | States of Matter-Compare and group materials together, according to whether they are solids, liquids or gases.-Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius.-Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. |
| Scientific Enquiry | Icon  Description automatically generatedIdentify animals andClassify into different groups.Identify similarities and Icon  Description automatically generateddifferences inHuman characteristicsIcon  Description automatically generatedIdentify animals and classify intoGroupsIcon  Description automatically generatedFind patterns in mini beasthabitats.Screen ClippingResearch endangered animals.Screen ClippingToresearch the effects ofchanging environment. | Identify the organs of the Icon  Description automatically generateddigestivesystem and use model to explain thinking.Icon  Description automatically generatedIdentify the different teeth and know their function. Screen Clipping.To research animal food chains toFind out what animals eat.Identify foods animals eat to classify.Icon  Description automatically generatedIdentify patternsIcon  Description automatically generatedIdentify and compare similarities andDifferences in human and animalTeeth.Screen ClippingIcon  Description automatically generatedSet up a comparative test to showeffects of tooth decay.Observe tooth decay over time | Icon  Description automatically generatedIdentify how sounds are made.Icon  Description automatically generatedConduct a fair test to establish the best String phone.Icon  Description automatically generatedSpot patterns in results into how wellSound travels.Look for patterns in results.Screen ClippingH/W- research how hearing aids work. | Icon  Description automatically generatedTo identify patterns in my observations.Icon  Description automatically generatedTo conduct a comparative test.Icon  Description automatically generatedToidentify the properties of materials. Identify electrical components and classifyScreen ClippingTo find out about different scientists and energy sources.Screen ClippingI know how electricity has developed over time. | Icon  Description automatically generatedTo compare and group materialstogether depending on their properties.Icon  Description automatically generatedTolook for patterns in myobservations.Screen ClippingTo observe what happens when aliquid changes to a solid.Icon  Description automatically generatedTo carry out a fair test and identify change and measure factor.To construct a fair test toinvestigate melting points. |
| Working Scientifically | Screen ClippingObserve characteristics of livingthingsScreen ClippingIdentify similarities and differences incharacteristics.Screen Clipping. To ask relevant questions to classify thingsScreen ClippingTo use evidence to answer questionsand present findings.Screen ClippingRecord findings about endangeredspecies | Observe the similarities andofScreen Clipping the digestive system through models.Icon  Description automatically generatedSet up own test to see the effects ofDifferent liquids on tooth decay.Icon  Description automatically generatedMake predictions based on sciKnowledge of liquids to decay teeth.To record my results in a table andBar graph.Screen ClippingToask questions to find out whatAnimals eat. | To observe vibrations which causeScreen ClippingSound. Measure distance to nearest cm.Icon  Description automatically generatedSet up tests to create the best string Phone.Screen ClippingRecord results in a table and spotpatterns. Record sound measured in DBin a table. Produce line graph.Screen ClippingEvaluate musical instrument based onSound and knowledge of pitch.Icon  Description automatically generatedSet up own tests based on animal earShapes or this could be asking questions. | Icon  Description automatically generatedTo make predictions using scientific languageScreen ClippingTo interpret my results using my scientific knowledgeScreen ClippingTo identify the properties of differentMaterials.Screen ClippingTo pose scientific questionsScreen ClippingTo record how electricity can help us |  Icon  Description automatically generatedTo make predictions usingStraightforward evidence and observations.Screen ClippingTo interpret what I haveobserved using my own scientificknowledge.Icon  Description automatically generatedTo set up tests to answerquestions.Screen ClippingTo record using diagrams what Iknow about the water system. |
| Ideas | 1. Identify animals and group based on characteristics. Match animal to habitat.
2. Human guess who, classification key with human characteristics. Make classification key for liquorice Allsorts.
3. Mini beast hunt- recording type of habitat and what mini beasts are found.
4. Make own classification keys for mini beasts found. Classify leaves using given keys. Identify evergreen and deciduous trees.
5. Duffy book with sea pollution. Children research endangered animal and think of the reasons why.
6. Discuss how environments change and how animals adapt. Round robin of 3 environments- children record changes and effects humans have on habitats.
 | 1. Digestive system drama.

Make model of digestive system.1. Identify different teeth, functions by eating different food. Compare with household items.
2. Tooth decay and effects. Set up egg experiment in liquids. Make own toothpaste
3. Herbivore, carnivore, omnivore. Look at skeletons and teeth.
4. Food chains- poo dissection. Link to mole book.
5. Food chains/food webs.
6. Evaluate learning, concept map and quiz.
 | 1. Poem- sound collector. Round robin of activities to observe sound.
2. Order sound cards, how are sounds made? String phone test.
3. Sound in water- Whale song. Bottles, straws, ruler experiment.
4. Which frequency of sound travel the furthest?
5. Storm in a circle. Honda advert. Sound walk. Investigation into pitch making musical instruments.
6. F1 Ear muffs. Planning own test using post it note approach. Recap.
7. Animal ears and slinky demo.
 | 1. Sorting appliances in to mains and battery. Explore electrical circuits, symbol bingo. Challenge cards.
2. Oscar and the bird- thinking about electricity in real life. Human circuit. Building simple circuits
3. Testing conductors and insulators.
4. Connecting a switch and making own switch using different materials.
5. Scientists linked to the development of electricity. Children make a wind turbine
6. Renewable energy types, children design a house for the future.
 | 1. Ballooning around- ice. Sorting materials based on properties.
2. Predicting, glove experiment and dancing raisins.
3. Investigating into melting points. Difference between melting and dissolving.
4. Making ice cream.
5. Evaporation and condensation. Fair test.
6. Materials Scientist. Modelling the water cycle part 2- window water cycle.
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