CEDAR Children's Academy

Science – Subject Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception	Do you want to be friends?	Why do squirrels hide their nuts?	Dinosaur planet	Will you read me a story?	Why do ladybirds have spots?	Are we there yet? What do you see in summer?
	- Enjoys joining in with family customs and routines - Talks about past and present events in their own life and in the lives of family members - Knows that other children do not always enjoy the same things, and is sensitive to this - Knows about similarities and differences between themselves and others, and among families, communities, cultures and traditions	- Makes observations of animals and plants and explains why some things occur, and talks about changes (seasons) - Enjoys joining in with family customs and routines (Christmas) - Talks about past and present events in their own life and in the lives of family members (Christmas) - Knows about similarities and differences between themselves and others, and among families, communities, cultures and traditions	- Makes observations of animals and plants and explains why some things occur and talks about changes (including seasons). - Knows about similarities and differences between themselves and others, and among families, communities, cultures and traditions (Lunar new year)	- Makes observations of animals and plants and explains why some things occur, and talks about changes (seasons) - Enjoys joining in with family customs and routines (Easter) - Talks about past and present events in their own life and in the lives of family members (Easter) - Knows that other children do not always enjoy the same things, and is sensitive to this (Easter)	- Makes observations of animals and plants and explains why some things occur and talks about changes. - Looks closely at similarities, differences, patterns and change in nature. - Knows about similarities and differences in relation to places, objects, materials and living things.	- Makes observations of animals and plants and explains why some things occur, and talks about changes (seasons) - Talks about the features of their own immediate environment and how environments might vary from one another (seasides from the past)
Year 1	Brazil	Paws, Claws and Whiskers	Historical Superheroes	The Enchanted Wood	Our Capital	London's Burning
	Living things and their habitats <u>Seasonal changes</u> **.** *look at each season *months of the year *changes between them *similarities and differences. <u>Enquiry</u> Observe how weather/day length change over the seasons.	**Animals, including humans** *classification of animals *name body parts *naming animals <u>Enquiry</u> Research into the structure of different animals (fish, amphibians, reptiles, birds & mammals).	**Healthy me** (humans). *senses *body parts <u>Enquiry</u> Do people with bigger feet need bigger gloves?	**Living things and their habitats** (plants) *name of plants *parts of plants *where plants grow *how plants *what plants need to survive. <u>Enquiry</u> Grouping plants based on features.	**Materials** (everyday) *man made or natural *comparing materials *properties <u>Enquiry</u>	**Materials** (everyday) *What materials *Names of material *knowledge of everyday objects (what they are made of). *properties <u>Enquiry</u> Which material makes the best umbrella/ curtains/ gymnast's leotard etc?

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Year 2	Land Ahoy	History Makers	Towers, Tunnels and Turrets	Towers, Tunnels and Turrets /Street Detectives)	Street Detectives	Wriggle and Crawl
	Animals, including humans - Basic needs - Growth Enquiry Observing animals grow over time	**Materials** (Everyday materials) - Suitability Enquiry Identifying and classifying uses of different materials.	**Materials** (Everyday materials) - Manipulation Enquiry What happens to solids when manipulated? Changing-Shape-Portfolio-2018.10.pdf (wsc.ac.uk) **Table**	**Living things and their habitats** - Food Chains - Healthy Eating and exercise Enquiry Research into animals' diets to create simple food chains.	**Living things and their habitats** (plants) - Seeds and bulbs - Needs of plants Enquiry Do plants with bigger seeds grow taller? What do plants need to grow well (water, light, warmth)?	**Living Things and Their Habitats** - Living or dead - Habitats Enquiry Identifying and grouping items.
Year 3	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Forces and magnets - Friction - Magnets Enquiry Cars down a ramp (change angle/surface/size of wheels) **Rulers/ Tape measures** **Tables** Comparing strengths of different magnets.	**Animals, including humans** - Food sources - Nutritional needs Enquiry Research dietary needs of humans vs animals. Explorify	**Materials** - Rocks - Soil - Fossils Enquiry Research how fossils are formed. How porous/permeable is soil? (soil in funnel 500ml water how much passed through in ?? mins?) **Table** **Bar chart**	**Living things and their habitats** (plants) - Function - Requirements - Water transport - Flowers as part of lifecycle. Enquiry Observe coloured water travelling up plants stem **Labelled Diagrams** (see Science Sparks) use Wilton 601-5580 Icing, 12-Count Gel-Based	**Animals, including humans** - Skeletons -Food Chains Enquiry Identifying and grouping animals with and without skeletons.	**Light and Sound** - Light vs dark - Reflection - UV protection - Shadows Enquiry Looking for patterns in what happens to shadows when the light source moves or the distance between the light source and the object changes. **Drawings**

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				Food Colour, Acrylic Coated Cotton,		
Year 4	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Light and Sound - How sound is made - Pitch and volume. <u>Enquiry</u> Finding patterns in the sounds that are made by different objects such as saucepan lids of different sizes or elastic bands of different thicknesses **iPad sound meter app** **Bar Chart**	**Animals, including humans** - Digestive system - Teeth - Food chains <u>Enquiry</u> Research into teeth of different animals. **Labelled scientific diagrams** TOOTH DECAY EXPT WITH EGG SHELLS (SCIENCE SPARKS)	**Materials** (states of matter) - Solids, liquids, gases - Changes of state <u>Enquiry</u> Group together solids, liquids and gases. Investigate what temperature liquids freeze at. What happens to them? Research boiling point of different liquids. What do you understand by flammable/inflammable? **Bar chart**	**Materials** (states of matter) - Water cycle evaporation and condensation. <u>Enquiry</u> Observe the evaporation of water from different places in the school linked with temperature (outside, on the teacher's desk, on the radiator, in the fridge). **Thermometers**	**Living things and their habitats** - Classification - Environmental Impact <u>Enquiry</u> Using and making simple guides or keys to explore and identify local plants and animals **Keys**	**Electricity** - Simple circuits - Conductors and insulators <u>Enquiry</u> Investigate which materials are conductors and which are insulators.
Year 5	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	Earth and Space - Heliocentric - Planets - Moon - Night and day	**Living things and their habitats** - Life cycles of a mammal, an amphibian, an insect and a bird.	**Materials** (properties and changes of materials) - Properties	**Forces and Magnets** - Gravity - Air resistance, water resistance and friction. - Mechanisms	**Living things and their habitats** (plants) - Sexual/asexual reproduction	**Animals including humans** - Growing old. - Puberty.

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	Enquiry Group planets based on their size/atmosphere/orbit time/ rotational period etc. Modelling proven theories **Labelled scientific diagrams** Observe phases of the moon for a month.	- Reproduction in animals. Enquiry Researching gestation periods of different mammals **Bar Charts**	- Mixing and separating solutions - Reversible and irreversible changes - Fair tests Enquiry Investigate dissolving of salt/sugar. Patterns in time taken to dissolve with different temperatures/ different sizes of sugar/ stirring or not stirring. **Thermometers / Stopwatches**	Enquiry Designing and making a variety of parachutes and carrying out fair tests to determine which designs are the most effective **Stopwatches** **Tables**	Enquiry Grow plants from cuttings. **Tables** **Line graph**	Enquiry What if the average lifespan of a human was 200? (Explorify) Devise a set of questions to ask different people about the changes that happened to them as they reached particular milestone ages. Collate all responses and compile a **table** of information about the changes that occur as humans develop to old age.
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 6	**Animals, including humans** - Circulatory system - Nutrient and water transportation - Effect of diet, exercise, drugs and lifestyle on body. Enquiry How does your pulse rate change after exercise? **Line Graph**	**Animals, including humans** - Fossils - Offspring and Genetics - Adaptations Enquiry Research adaptations letter between animals.	**Living things and their habitats** - Classification - Characteristics Enquiry Use classification systems and keys to identify some animals and plants in the immediate environment **Classification Keys**	**Electricity** - Function of components - Voltage - Symbols to represent circuits Enquiry Does the number of cells affect the brightness of a bulb in the circuit? **iPad light meter app** **Line graph**	**Light** - Travels in straight lines - Light sources - Shadow formation - Eyes Enquiry Colour experiment. Light refraction (Science sparks)	

Observing over time **Comparative & Fair Test** **Grouping & Classifying** **Researching** **Pattern Seeking**