Science Year Planner Year 5

Term	Autumn 1	Autumn 2	Spring 2	Summer 1	Summer 2
Topic or Stand-Alone?	Topic	Stand Alone link to History – WW2	Stand alone **2xSLDs**	Stand Alone	Stand Alone links to PSHE
Enquiry Questions:	***What is Space?*** ***Does the drop height of a meteor affect the size of the crater?***	***What is a force?*** ***Can I make a safer parachute?***	***Are all changes permanent?*** ***Which cup will keep Miss Goatman's coffee warmest the longest?***	***Do all living things have the same Life cycle?***	
Science Knowledge NC Focus	Earth and Space	Forces	Properties of materials	Living things and their habitats Unit Animals inc. humans Unit	
Working Scientifically NC Focus:	• planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • taking measurements (breadth of crater), using a range of scientific equipment, with increasing accuracy and precision,	• planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • taking measurements (time; Newtons), using a range of scientific equipment (stopwatch, Newton meter), with increasing accuracy and precision, taking	• planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • taking measurements (temp), using a range of scientific equipment (thermometer), with increasing accuracy and precision.	• recording data and results of increasing complexity using scientific diagrams and labels. PLUS: Paradise Pastures project with **Eden Project** but need to evaluate it once finished this year. Possibly change timings for 2021/22 *Own questions e.g. do stinging nettles sting insects? Why do some places have more daisies? Are there different types of soils?*	

	• recording data and results of increasing complexity using scientific diagrams and labels, tables, scatter graphs, • using test results to make predictions to set up further comparative and fair tests • reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, written forms such as displays and other presentations • identifying scientific evidence that has been used to support or refute ideas or arguments.	repeat readings when appropriate • recording data and results of increasing complexity using scientific diagrams and labels tables bar graphs • using test results to make predictions to set up further comparative and fair tests • reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of written forms such as displays and other presentations	• recording data and results of increasing complexity using classification keys, tables line graphs • reporting and presenting findings from enquiries, including conclusions, in written forms such as displays and other presentations	1. planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary 2. taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate 3. recording data and results of increasing complexity using scientific diagrams and labels, classification keys*, tables~~,~~ *They use classification keys, but don't make them. 4. using test results to make predictions to set up further comparative and fair tests 5. reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations 6. identifying scientific evidence that has been used to support or refute ideas or arguments.
Sequence of lessons	L1 What is at the centre of the Solar System? The Earth orbits the sun and rotates on an axis. L2 are all planets the same? I know there are rocky planets and gas	L1 What do you already know about forces? L2 Using a Newton meter and drawing a graph. L3 Friction: which surfaces have more/less friction? Can I change friction? How	L1 Grouping everyday items based on their properties – solid, liquid, transparent, magnetic, soft, soluble. Intro. Classification keys.	L1 What is a lifecycle? L2 Are all lifecycles the same? L3 Do all living things reproduce in the same way? Bird vs mammal vs insect vs amphibian L4+5 Presenting findings

	giants. I know the order of the planets (homework) L3 Why does the moon change shape? The moon DOES not emit light; the orbit of the moon means that different amount are lit up creating phases. L4 I know that the Earth is spherical L5 What if the sun rotated but the Earth didn't? How day and night are made. Working Scientifically SLD – making craters	does friction impact movement? Presenting data in a bar chart. L3 Air resistance – can I make a safer parachute? L4 What are levers and where can I find them? L5 What are pulleys and what do they do?	L2 Knowing why certain materials are used for certain jobs – waterproof, flexible, durable, strong etc L3 Thermal conductors/insulators – Which cup will keep Miss Goatman's coffee warmest the longest? L4 Separating mixtures using sieving, magnets and filters L5 Solutions vs mixtures. What things are soluble? L6 Reversible and irreversible changes.	
Vocabulary:	universe axis planets crescent day orbit heliocentric phases spherical night spin geocentric	pull push Newton meter friction force fulcrum mass gravity aerodynamic levers pulleys air resistance	solid sieve soluble liquid magnet/magnetism insoluble gas mixture solution flexible separate heat material	life cycle infant teenager offspring changes reproduce child adult mating embryo baby adolescent

	gibbous constellation		thermal conductor evaporation change thermal insulator reversible filter dissolve irreversible	elderly egg sexual/asexual reproduction pollination fertilisation germination biodiversity