	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1 **Discovery Dog Experiments + Hamilton Science, Twinkl and Outstanding Science**	Animals, including humans *Letter from all of the Scientists for your topic asking for the children's help during the topic…* Exploring the senses (verbal science opportunity): Tasting experiment Smelling whilst blind folded Touch – walking along a sensory mat Or objects in envelopes to guess objects Hear – sound clips on YouTube and guess Sight – see a glimpse of an object (inference) and guess it Progress test using Headstart	Autumn and Winter *Letter from* Hipparchus of Nicaea (discovery of seasons) *asking for the children's help during the topic…* Measuring the rainfall changes (placement of measuring cups around school) Measuring temperature changes (thermometer outside the classroom + record) Measuring wind speed (make an anemometer) Observing changes in plant life and animal behaviours Winter plants in the classroom - names Create a chart for all of these measurements to go at the front of the class book to collect data Scaled score assessment (End of term assessment)	Every day materials *Letter from all of the Scientists for your topic asking for the children's help during the topic…* 3 Little Pigs: Which material would be the strongest for a house? Little Red Riding Hood: Which material would be the strongest to carry shopping in? Goldilocks & the 3 bears: Which material would be the best to use for a spoon? Progress test using Headstart	Winter and Spring Measuring the rainfall changes Measuring temperature changes Measuring wind speed Observing changes in plant life and animal behaviours Spring plants in the classroom - names Create a chart for all of these measurements to go at the front of the class book to collect data Scaled score assessment (End of term assessment)	Plants *Letter from all of the Scientists for your topic asking for the children's help during the topic…* What plants do we have in our school grounds? Planting potatoes – in and outside. Planting different seeds and observing growth Trees – naming trees and discussing leaf types to identify Leaf rubbings to identify different shapes and patterns Progress test using Headstart	Spring and Summer Measuring the rainfall changes Measuring temperature changes Measuring wind speed Observing changes in plant life and animal behaviours Summer plants in the classroom - names Create a chart for all of these measurements to go at the front of the class book to collect data Progress test using Headstart Scaled score assessment (End of term assessment)

	Autumn 1 and 2	Spring 1	Spring 2	Summer 1 and 2
Year 2 **Discovery Dog Experiments, Twinkl, Outstanding science and Hamilton Science**	Use of every day materials *Letter /email/text message from all of the Scientists for your topic asking for the children's help during the topic* Water absorbing – most suitable materials (Discovery Dog exp) Are bricks absorbent? Good into to Year 3 Rocks Broken umbrella – Which material would be the most suitable to mend the holes with? Printing with different materials and observing how well the materials printed onto paper. Wax – investigate how wax resist water by creating a picture and spraying with water GDS – where would wax be useful because of its water resistant properties? How heating some materials make them change shape – wax crayons, plastics How heating changes materials permanently – paper, plastics, wood GDS – what about silicone, metal, glass? Progress test using Headstart	Living things and their habitats *Letter /email/text message from all of the Scientists for your topic asking for the children's help during the topic* Life cycle of an animals: frog (kits for Frog life cycle all year round) Make a microhabitat for wood louse? Progress test using Headstart	Animals, including humans (offspring, basic humans needs and exercise) *Letter /email/text message from all of the Scientists for your topic asking for the children's help during the topic* Observe Reception's chicken eggs Exercise experiments – healthy hearts and breathing rates (include breathing exercises PSHE link) Progress test using Headstart	Plants *Letter /email/text message from all of the Scientists for your topic asking for the children's help during the topic* Growing cress (seeds) and beans or other bulbs (bulbs) and observing changes Progress test using Headstart

	Scaled score assessment (End of term assessment)			Scaled score assessment (End of term assessment)	Scaled score assessment (End of term assessment)	
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1**	**Summer 2**
Year 3 **Outstanding Science, Twinkl, Rising Star and Hamilton Trust resources**	Rocks and soils *Letter /email/text message from all of the Scientists for your topic asking for the children's help during the topic* Properties of different rocks (hardness, permeability) Growing seeds in different soil types – most effective for growth Progress test using Headstart	Animals, including humans (nutrition) *Letter /email/text message from all of the Scientists for your topic asking for the children's help during the topic* Healthy eating recipes Healthy eating plate Maintaining a healthy diet diary Teeth – maintaining healthy teeth Presentation opportunity to promote a healthy life style as a way to finalise the topic with all they have learnt – pretend they are a personal trainer!	Animals, including humans (skeletons and muscles) *Letter /email/text message from all of the Scientists for your topic asking for the children's help during the topic* Owl pellets – small rodent skeletons Investigate breathing – create a set of lungs and a diaphragm to measure lung capacity (Discuss asthma and the impact exercise has) Progress test using Headstart	Forces *Letter /email/text message from all of the Scientists for your topic asking for the children's help during the topic* Effect of magnet strength through different materials Different types of magnet strength – use of different magnets Investigate forces in different games they play Magnet mazes, mirror mazes Progress test using Headstart	Plants You receive a letter/video message from Zinnia, a friendly alien who wants to farm human food in space. She needs you to find out what plants need to grow strong and healthy. Effect of light on plant health (compare flowers/plant to seeds) Effect of warmth of seed germination (compare flowers/plant to seeds) Effect of water amount (compare flowers/plant to seeds) Investigating which part of plats is eaten: fruit, seed, leaf, stem or root Progress test using Headstart	Light *Letter /email/text message from all of the Scientists for your topic asking for the children's help during the topic* Most effective surface for reflecting light (road safety clothing/cycling safety clothing) Investigating the ways shadows change size with the object's distance from the light source. Create shadow puppets to investigate Progress test using Headstart

		Scaled score assessment (End of term assessment)		Scaled score assessment (End of term assessment)		Scaled score assessment (End of term assessment)
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1 and 2**	
Year 4 **Outstanding Science, Twinkl, Rising Star and Hamilton Trust resources**	Electricity *Letter /email/text message from all of the Scientists for your topic asking for the children's help during the topic* Material of the switch to allow the electrical current to flow through the circuit. (electrical conductors) Changing the number of wires in a circuit. Rewiring a plug Creating a windmill? Link with D&T Progress test using Headstart	State of matter *Letter /email/text message from all of the Scientists for your topic asking for the children's help during the topic* Water cycle in a bag Effects of ice melting – ice hands (surface area, wind speed, outside temperature…) Evaporation rate of water – wind speed/wind temperature (use a hair dryer) Weight of gases (helium compared to carbon dioxide) Progress test using Headstart	Sound *Letter /email/text message from all of the Scientists for your topic asking for the children's help during the topic* Muffling sound – suitable materials to muffle sound. Effect of wind on sound (hair dryer) Effect of material on sound travelling Progress test using Headstart	Animals, including humans (Digestion) *Letter /email/text message from all of the Scientists for your topic asking for the children's help during the topic* Effect of enzymes on food breakdown Effect of sugar on teeth (Y3 progression needed) Stomach experiment Intestine experiment Rate of digestion of food groups Progress test using Headstart	Living things and habitats (groups of living things, classification) *Letter /email/text message from all of the Scientists for your topic (or a local councillor) asking for the children's help during the topic* Littering picking in our local environment (helping habitats) (PSHE) Creating new areas of habitats for our local animals (bird boxes, minibeast areas) Climate change in a jar Create habitats in tubs: dessert, sea/ocean, forest floor, Arctic (with sugar cubes) and use plastic animals and images of plants found in these habitats to show which habitats belong to which animal) Change the animals into different habitats and explain the impact this would have on the animal. Progress test using Headstart	

		Scaled score assessment (End of term assessment)		Scaled score assessment (End of term assessment)		
	Autumn 1	**Autumn 2**	**Spring 1 and 2**		**Summer 1**	**Summer 1**
Year 5 **Outstanding Science, Twinkl, Rising Star and Hamilton Trust resources**	Earth, Sun and Moon *Letter /email/text message from all of the Scientists for your topic (or a local councillor) asking for the children's help during the topic* observing the cycle of the moon over a month Oreo lunar cycle Fruit to substitute as planets: Melon, apple, plum, water melon etc… Changes in shadows (use sundial)	Forces *Letter /email/text message from all of the Scientists for your topic (or a local councillor) asking for the children's help during the topic* *Mr Newton (Year 3) writes to explain how Year 5 children need help him again as he needs to see what new information he can use, from us, since Year 3.* How does the SA of a parachute effect the length of time to fall? Which surface material produces the greatest friction? Create their own catapult – levers (How does the length of the lever effect how far the object can be catapulted? Goldilock path challenge – 3 paths of different surfaces – investigate surfaces which wouldn't get her there too quickly or too slowly Progress test using Headstart	Properties of materials *Letter /email/text message from all of the Scientists for your topic (or a local councillor) asking for the children's help during the topic* Mr Raw sends a letter to Year 5 asking for help in investigating materials for their use in food standards (keeping food safe to eat) - transporting frozen foods without using refrigeration (saving the environment) Materials suitable for keeping food cold/frozen for the longest time Materials suitable for keeping food warm on delivery to elderly people (Meals on Wheels) Material suitable for carrying different food items: soup, cheesy pasta, sandwich, jacket potatoes with beans Most suitable cleaning material to get rid of different spillages Cloth, kitchen roll, sponge etc… on dried on spillages, wet spillages Dissolving rate of sugar types/salt (stirring or water temperature)		Living things *Letter /email/text message from all of the Scientists for your topic (or a local councillor) asking for the children's help during the topic* Letter from David Attenborough/scientist study person Flower dissection – tulips or daffodils Observing the life cycle of a butterfly Growing plants from bulbs and unexpected seeds (potatoes) Observe life cycle of the frog in Year 2 and chicken in Reception	Animals, including humans *Letter /email/text message from all of the Scientists for your topic (or a local councillor) asking for the children's help during the topic* Investigate life cycle – ask chn to bring in photos of members of their family from a baby to old age (different family members OK) Create timeline from real life photos Purple Mash – human time line activity Nurse in to discuss puberty, hygiene…

	Progress test using Headstart	Scaled score assessment (End of term assessment)	Progress test using Headstart Scaled score assessment (End of term assessment)	Progress test using Headstart	Progress test using Headstart Scaled score assessment (End of term assessment)
	Autumn 1	**Autumn 2**	**Spring 1**	**Spring 2**	**Summer 1 and 2**
Year 6 **Outstanding Science, Twinkl, Rising Star and Hamilton Trust resources**	Electricity Dragon's Den (Hamilton Science) intro to topic Playing with circuits to come up with possible investigative questions… How does the length of a wire effect the brightness of a bulb? How does the number of cells in a circuit effect the brightness of a bulb/rotation speed of a fan/loudness of a buzzer?	Evolution and inheritance *Letter /email/text message from all of the Scientists for your topic (or a local councillor) asking for the children's help during the topic* Inheritance detectives – photos of members of the family to observe and discuss traits passed on through genes. Mutations and adaptations Beak evolution (STEM – Battle of the Beaks) Progression from Year 4 – extreme survival of animals in habitats Meet Darwin, Anning and Wallace - the evolutionary dream team - and find out the scientific	Animals, including humans *Letter /email/text message from all of the Scientists for your topic (or a local councillor) asking for the children's help during the topic* Circulatory system Make a heart Real heart dissection How exercise effects the heart rate. Recovery rates Explore how nutrients and water pass through your body (skittles and jelly work in water) Drugs and Alcohol link – nurse talk? Community police officer (PSHE link)	Light *Letter /email/text message from all of the Scientists for your topic (or a local councillor) asking for the children's help during the topic* Letter from the crime lab, which uses light (cameras/CCTV) to investigate crimes. Investigating light travelling in a straight line. Splitting white light – prisms. Linking light and space from Y5 (STEM) Periscope – investigate light travelling around corners (reflection)? Not always in straight lines! Deception of shadows investigation (Y3 progression) Thieves shadow sizes (Hamilton Science) Splitting white light using a prism	Living things and their habitats *Letter /email/text message from all of the Scientists for your topic (or a local councillor) asking for the children's help during the topic* Spreading of germs – hair gel Yeast – collection of carbon dioxide Swabs – Moreton for petri dishes and agar jelly Comparing the use of different food containers and how effective they are at keeping food fresh

	Progress test using Headstart	importance of their work and have a go at proving their theories. Biscuit evolution! Similarities and differences Progress test using Headstart Scaled score assessment (End of term assessment)	Progress test using Headstart	Progress test using Headstart Scaled score assessment (End of term assessment)	Progress test using Headstart Scaled score assessment (End of term assessment)