



Living things and their habitats. Research and Observations over time. Recording and Presenting evidence

	INVESTIGATE	RESEARCH	RECORD
	<ul style="list-style-type: none"> I can investigate about different types of reproduction, including sexual and asexual reproduction in plants. I can investigate and compare the differences in the life cycles of mammals, amphibians, insects and birds. 	<ul style="list-style-type: none"> I can describe the process of sexual reproduction in mammals. I can describe ways that plants are pollinated in order to reproduce. 	<ul style="list-style-type: none"> I can dissect and create observational diagrams with annotations and scientific labels to classify the different parts of a flower, identifying the male and female gametes I will learn about some famous naturalists and make observations, as a natural scientist would, recording data and reporting findings

Animals including humans. Pattern seeking and Research. Asking questions and recognising that they can be answered in different ways

	INVESTIGATE	RESEARCH	RECORD
	<ul style="list-style-type: none"> I can investigate if there is a relationship between a mammal's size and its gestation period. I can suggestion an enquiry question to investigate about the changes that occur to humans as they grow and develop. E.g., Why do people get grey/white hair when they get older? 	<ul style="list-style-type: none"> I can use a timeline to indicate the stages in the growth and development of humans I can understand the changes that occur as humans develop to old age (foetal development, baby, childhood, puberty, adulthood and old age). 	<ul style="list-style-type: none"> I can decide how to gather evidence to answer a scientific question, recognising how secondary sources can be used to answer questions that cannot be answered through practical. I can ask enquiry questions and communicate my findings using relevant scientific language and illustrations.

Earth and space. Research and Observation over time. Answering questions and concluding

	INVESTIGATE	RESEARCH	RECORD
	<ul style="list-style-type: none"> I can carry out shadow investigations that help support the idea that the Earth moves on its axis and it is this rotation that explains day and night. I can carry out a simulation investigation to demonstrate why the moon appears as it does in the sky and describe the movement of the moon relative to the Earth 	<ul style="list-style-type: none"> I can describe the sun, Earth and moon as approximately spherical bodies I can describe the movement of the Earth and other planets relative to the sun in the solar system 	<ul style="list-style-type: none"> I can understand how scientific ideas and theories about our solar system have changed over time due to new evidence and discoveries and how the geocentric model of the solar system gave way to the heliocentric model. I can discuss the work of scientists such as Ptolemy, Alhazen and Copernicus and explain the scientific evidence that has been used to support or refute their ideas or arguments.



Properties and changes of materials. Comparative and fair testing

and class and grouping

. Engaging in pra inquiry to answer questions

	INVESTIGATE	RESEARCH	RECORD
	<ul style="list-style-type: none"> I can investigate the properties of materials and recommend materials for particular functions (including metals, wood and plastic), giving reasons based on evidence from comparative and fair test I can use knowledge of solids, liquids and gases to select a range of practical resources to investigate and decide how mixtures might be separated, including through filtering, sieving and evaporating I can explore and demonstrate how dissolving, mixing and changes of state are reversible changes 	<ul style="list-style-type: none"> I can compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. I know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. I can explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda 	<ul style="list-style-type: none"> I can investigate into factors which affect rates of dissolving by carrying out fair tests, recognising and controlling variables. (Eg. Which type of sugar dissolves the fastest? How does the temperature of tea affect how long it takes for a sugar cube to dissolve?) I can use scientific knowledge gained from enquiry work to make predictions to set up further comparative and fair tests

Forces. Comparative and fair testing

and pattern seeking

. Making observations and taking measurements

	INVESTIGATE	RESEARCH	RECORD
	<ul style="list-style-type: none"> I can identify variables and plan a fair test to investigate effects of air resistance by investigating factors affect paper planes and air resistance. I can investigate the effects of water resistance on different shaped objects (boats). I can investigate the effects of friction created by different materials. 	<ul style="list-style-type: none"> I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. I can recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect by exploring and designing a simple mechanism 	<ul style="list-style-type: none"> I can select measuring equipment to give the most precise results e.g. ruler, tape measure or trundle wheel, force meter with a suitable scale. I can make decisions e.g. whether I need to: take repeat readings (fair testing); increase the sample size (pattern seeking); adjust the observation period and frequency (observing over time); in order to get accurate data (closer to the true value). I can evaluate my work and identify any limitations that reduce the trust they have in their data. For example, the choice of method used, the control of variables, the precision and accuracy of measurements