ALL SAINTS' SCIENCE KNOWLEDGE GEMS

YEAR 6 - DIAMOND CLASS

LIVING THINGS & THEIR HABITATS – identifying & classifying & observation over time.

	INVESTIGATE	RESEARCH	RECORD
	- I can investigate and describe how microorganisms grow in our everyday environment for example; mold growing on bread. - I can decide what observations or measurements to make over time and for how long.	- I know that Carl Linnaeus conducted pioneering research in classification. He classified living things using hierarchy of biological classification; kingdom, phylum, class, order, family, genus, species. - I know there are 5 kingdoms; animals, plants, bacteria, fungi and protists.	-I can group and classify plants, animals and microorganisms based on their characteristics and I can give reasons for how living things are classified. - I can use and create my own classification keys. - I can use microscopes to identify the structure of some microorganisms.

ANIMALS including Humans (circulatory system) – fair/comparative testing enquiry.

	INVESTIGATE	RESEARCH	RECORD
	- I can investigate and explain the impact of exercise on the body by recognising and controlling variables in a fair test. - I can recognise the impact of diet, exercise, drugs and lifestyle on the way our bodies function.	- I know that the circulatory systems includes the heart, blood vessels and blood. - I know that the heart is the organ which pumps blood around the body, blood vessels (veins, arteries and capillaries) are tube like structures that carry blood through the tissues and organs. - I know blood transports nutrients and water around the body via capillaries.	- I can record my observations using annotated photographs, videos, labelled diagrams etc. - I can take measurements and use tables to record my results. I can decided whether it is valuable to take repeat readings to support fair testing. - In my conclusion, I can explain my findings using my subject knowledge and vocabulary.

EVOLUTION & INHERITANCE – pattern seeking enquiry & research

	INVESTIGATE	RESEARCH	RECORD
	- I can investigate and explain how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution e.g. shape of a bird's beak adapted to the food it will eat. - I can look for patterns and relationships using a suitable sample.	- I can describe that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. - I can describe that living things produce offspring of the same kind but normally offspring vary and are not identical to their parents.	- I can choose a type of enquiry to carry out and justify my choice. - I can identify any limitations that reduce the trust I have in my data.

Big Ideas links: Investigate – Creativity, Research – People and Record - Language

ALL SAINTS' SCIENCE KNOWLEDGE GEMS

YEAR 6 - DIAMOND CLASS

LIGHT – fair/comparative testing enquiry & pattern seeking.

	INVESTIGATE	RESEARCH	RECORD
	- I can make predictions based on my scientific knowledge of light and shadows. - I can investigate and find patterns in the way that light travels and is refracted. - I can investigate and explain how light is reflected from different surfaces.	- I know that light appears to travel in straight lines. - I can explain that objects are seen because they reflect light into our eyes. - I can explain we can see things because light travels from the light source to our eyes or from the light sources to objects and then to our eyes. - I can explain that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.	- I can record how my scientific ideas change due to new evidence that I have gathered about how light travels. - I can draw and label diagrams to explain how light travels and how it is refracted. - I can select from a range of practical resources to gather evidence to answer my questions.

ELECTRICITY – fair testing enquiry

	INVESTIGATE	RESEARCH	RECORD
	- I can ask questions based on my scientific knowledge about electricity. - I can investigate and describe how the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in a circuit.	- I can explain a series circuit only has one route for the current to take and when a circuit breaks it stops the flow of current. - I know and can describe when more bulbs are added the power has to be shared so they will dimmer. - I can explain how resistance effects the flow of current.	- I can identify and draw symbols in a simple circuit. - I can use practical equipment for making circuits and record my findings using a appropriate method. - I can answer my own and others' questions based on the measurements I have taken.

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