YEAR 3	Science	
Topic 1: Amazing Archaeology (5)		
KNOW	DO	UNDERSTAND
Topic 2: Feel The Force (3)		
KNOW	DO	UNDERSTAND
NC Content: S: compare how things move on different surfaces S: notice that some forces need contact between 2 objects, but magnetic forces can act at a distance S: observe how magnets attract or repel each other and attract some materials and not others S: compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials S: describe magnets as having 2 poles S: predict whether 2 magnets will attract or repel each other, depending on which poles are facing *Vocabulary:* *Friction, surface, force, properties, repel, attract, magnetic, poles, direct contact, hypothesis, fair test, push, pull, twist, contact force, non-contact force, magnetic force.* Children know that objects will move differently on different objects, e.g. a car will move quickly on a smooth surface, but slower over a bumpier surface. Children know that friction is a force, that affects how objects move. Children know which objects are similar, in terms of their properties, and which are different. Children know that magnets can attract or repel each other. Children know some magnetic materials. Children will know that magnets have 2 poles.	**NC Content:** WS: asking relevant questions and using different types of scientific enquiries to answer them WS: setting up simple practical enquiries, comparative and fair tests WS: recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables WS: reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions Children will begin to ask questions about different surfaces and how objects move differently. Children will design their own experiment using different materials to test their hypothesis. Children will discuss how to make this a fair test – just letting it go, same height, same angle, same object etc. Children will set up another simple experiment to find out which materials are magnetic. Children will draw diagrams and tables to log their results. Children will investigate the question "can you move an object without touching it?" – use magnets. *Questions:* - *How could I test whether something is magnetic?* - *If I was testing how fast a car goes, using a ramp and different materials, what would I need to change and what would I need to keep the same?*	*PRIOR LEARNING: In year 1 and 2, children have been exposed to the idea of whether something is magnetic. However, they have not learnt the terminology repel or attract.* Children will build on their understanding of materials to test them with magnets. Children will understand that all objects have different properties and that some properties may be helpful in certain jobs, but not in others – cranes using big magnets etc. Children have not been taught about fair tests before. This will be their first exposure to variables. *Questions:* - *When might magnets be used to help humans do jobs in the world?*

Children will know how the poles affect whether they repel or attract each other. Children know that magnets do not have to have direct contact with the object for it attract or repel the object. *Questions:* - *Will a car move faster or slower over a bumpier surface than a smooth surface? Why?* - *Can you name 2 materials that are magnetic?* - *If I put two magnets together, what would happen?* - *How could I move a paper clip, if nothing could touch it?*		
Topic 3: Genius Geology (5)		
KNOW	DO	UNDERSTAND
NC Content: S: compare and group together different kinds of rocks on the basis of their appearance and simple physical properties S: describe in simple terms how fossils are formed when things that have lived are trapped within rock S: recognise that soils are made from rocks and organic matter *Vocabulary:* *Appearance, physical properties, fossils, soils, organic matter, decay, metamorphic, sedimentary, igneous, Rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb water, soil, fossil, marble, chalk, granite, sandstone, slate, soil, peat, sandy/chalk/clay soil.* Children know that rock is made from soil and other organic materials (leaf decay etc). Children know that there are different types of rock (sandstone, granite, chalk etc) and that they have different properties.	**NC Content:** WS: identifying differences, similarities or changes related to simple scientific ideas and processes WS: using straightforward scientific evidence to answer questions or to support their findings Children can group and compare different rocks, in regards to their properties. Children research and investigate different types of rocks – they will use this to answer simple questions. *Questions:* - *If I was trying to find out the differences between sandstone and granite, how could I find out?*	*PRIOR LEARNING: Distinguish between an object and the material from which it is made, Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. Describe the simple physical properties of a variety of everyday materials. Compare and group together a variety of everyday materials on the basis of their simple physical properties.* This topic is based on mountains, volcanoes and earthquakes. Children understand that mountains and volcanoes are made from rock – link to geography. Children understand how different rocks are found in different mountains – children will look at different mountains. Children will start to question why people live in volcanic areas – what is the benefit from the rock and soil? *Questions:* - *Why might people live in volcanic areas? What are the benefits?*

Children know what type of rock is formed by volcanoes – metamorphic. Children know that fossils are formed by objects getting trapped in the soil, then decomposing, leaving the imprint on the rock. *Questions:* - *What is rock made from?* - *Can you name 3 different types of rock? How are they different?* - *Which type of rock is made from volcanoes?* - *How are fossil formed?*		
Topic 4: Gods and Heroes (5)		
KNOW	DO	UNDERSTAND
DT WEEK		
KNOW	DO	UNDERSTAND
Topic 5: You Are What You Eat! (4)		
KNOW	DO	UNDERSTAND
NC Content: S: identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat S: identify that humans and some other animals have skeletons and muscles for support, protection and movement, nutrients, involuntary, voluntary. *Vocabulary:* *Nutrition, carbohydrates, protein, diary, sugar, fat, fruit, vegetables, skeleton, muscles, support, protection, movement, spine, rib cage, skull, vertebrates, invertebrates.* Children know that nutrition is the process of eating and drinking to stay healthy. Children know that animals, including humans, get their nutrition from what they eat. Children know the names of the different parts of a healthy diet: carbohydrates; protein; diary; sugar and fat; and fruit and vegetables.	**NC Content:** WS: gathering, recording, classifying and presenting data in a variety of ways to help in answering questions WS: identifying differences, similarities or changes related to simple scientific ideas and processes Children will compare different types of animals, looking at similarities and differences – vertebrates, invertebrates, muscles, bones etc. Children will classify different animals by looking at their bone structures. Children will do an investigation looking at which muscles are voluntary or involuntary (e.g. can you control your heart, bicep, eyes, triceps, tongue etc). *Questions:* - *How are similar to a bear?* - *How are we different to a snake?*	PRIOR KNOWLEDGE: Children will build on their understanding from year 1 and 2 about different body parts. They will learn new names for the different muscles and bones. Children can identify and name a variety of common animals that are carnivores, herbivores and omnivores. Describe and compare the structure of a variety of common animals. Find out about and describe the basic needs of animals, including humans, for survival. Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. Children will link their understanding of nutrients to their own diet to promote healthy eating and how we look after our bodies – PSHE and PE link. Children will have a better understanding of how we are similar and different to other animals. *Questions:*

Children know humans and some other animals have skeletons. Children know the difference between vertebrates and invertebrates. Children know that skeletons give shape, form and protection to the bodies of vertebrate animals. Children can name some of the bones in the body, e.g. spine, skull etc. Children know that muscles that some muscles work without us thinking, e.g. intestines, heart etc, whereas other muscles are controlled by our thoughts, e.g. arm muscles etc. Muscles also assist the skeleton - they move bones. *Questions:* - *How do humans get nutrients?* - *Can you name 3 different examples of carbohydrates?* - *What food should we eat as part of a balanced diet?* - *Why should we not just eat fruit and vegetables to keep healthy?* - *Why do humans have a skull? What is it protecting?*	- *Which muscles can you move and which muscles move without you thinking about them?*	- *How do you keep yourself healthy?*
Topic 6: Brilliant Botanists (5)		
KNOW	DO	UNDERSTAND
NC Content: **PLANTS:** S: identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers S: explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant S: investigate the way in which water is transported within plants S: explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal	**NC Content:** WS: making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers WS: setting up simple practical enquiries, comparative and fair tests WS: using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions	*PRIOR KNOWLEDGE: Children will build on their knowledge from Year 2, where they investigated what plants need. In Year 2, they have looked at how much water plants need to grow and how much sun they need too. In Year 3, there is a focus on different plants, nutrients and how much room they need to grow.* Children will make the links between what humans need and what plants need – what is similar and different?

Vocabulary: *Life, growth, nutrients, transported, life cycle, pollination, seed dispersal, seed formation, photosynthesis, pollen, insect/wind pollination, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal)* Children know the different parts of a flowering plant: roots, stem/ trunk, leaves and flowers. Children know the different functions for these different parts. Children know that plants need light, water, room to grow and nutrients from the soil. Children know that different plants need different amounts of the list above – e.g. cactus compared to tomatoes etc. Children know that water is transported through the roots, to the stem to the rest of the plant. Children know the definitions of pollination, seed formation and seed dispersal. They can talk about how flowers disperse their seeds – bees, wind, animals etc. *Questions:* - *Why does a plant need roots?* - *How do seeds travel (disperse)?* - *What does pollination mean?* **<u>LIGHT</u>**: S: recognise that they need light in order to see things and that dark is the absence of light S:notice that light is reflected from surfaces S: recognise that light from the sun can be dangerous and that there are ways to protect their eyes S: recognise that shadows are formed when the light from a light source is blocked by a solid object S: find patterns in the way that the size of shadows change	WS: identifying differences, similarities or changes related to simple scientific ideas and processes Children will ask questions about how plants transport water – do experiment with carnations and food colouring. This experiment will help them to answer this question. Children will set up practical enquires about what plants need to survive – they can investigate different plants, different amounts of water, sunlight etc. Using what they have found, they can draw conclusions and make predictions about similar experiments. Children will set up a pratcical invetsigation about shadows and how the sun and the time of day affects their shadows. *Questions:* - *Will a plant grow if it is given no water? Why?* - *How does the sun affect our shadows throughout the day?*	Children have been exposed to the word opaque before, but this is the first time they will have heard it in regards to shadows. Children will understand how everything has to be 'right' for plants to thrive – how does this link to the environment? *Questions:* - *How are plants and humans similar to each other in terms of what nutrients they need?* - *In the world, there are droughts. What would happen to the plants in these areas?*

Vocabulary: *Light, dark, sun, dangerous, protection, shadows, opaque, light source, reflection, absence of light, transparent, translucent, opaque, shiny, matt, surface, shadow, reflect, mirror, sunlight, dangerous.* Children know that dark is the absence of light. Children can give different examples of light sources. Children know what reflection means and they can talk about different surfaces that might reflect light. Children know that the light from the sun can be dangerous and they know different ways to protect themselves – hat, suncream, shade etc. Children know that shadows are formed when light is blocked by a solid object. Children know that shadow size changes throughout the day. *Questions:* - *Name 3 types of light source.* - *Which surfaces reflect light?* - *How can the sun be dangerous? What can we do to protect ourselves?* - *How are shadows formed?*		
MUSIC WEEK: ABBA		
KNOW	DO	UNDERSTAND
Topic 7: The Roman Empire (6)		
KNOW	DO	UNDERSTAND
ART WEEK		
KNOW	DO	UNDERSTAND