



	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2	
National Curriculum Objectives	Forces and Magnets - compare how things move on different surfaces - notice that some forces need contact between two objects, but magnetic forces can act at a distance - observe how magnets attract or repel each other and attract some materials and not others - 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 - describe magnets as having two poles - predict whether two magnets will attract or repel each other, depending on which poles are facing.	Plants -explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	Rocks and Soils - compare and group together different kinds of rocks on the basis of their appearance and simple physical properties - describe in simple terms how fossils are formed when things that have lived are trapped within rock - recognise that soils are made from rocks and organic matter.	Plants - identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers - 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 - investigate the way in which water is transported within plants -explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. NB children will learn the parts of the flower and their function in y5.	Animals, Including Humans - 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 - identify that humans and some other animals have skeletons and muscles for support, protection and movement.	Light -recognise that they need light in order to see things and that dark is the absence of light - notice that light is reflected from surfaces - recognise that light from the sun can be dangerous and that there are ways to protect their eyes - recognise that shadows are formed when the light from a light source is blocked by an opaque object - find patterns in the way that the size of shadows change.	Plants -explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.
TAPS Assessment	-Set up simple practical enquiries, comparative and fair tests – shoe grip and strongest magnet. -Gather, record, classify and present data in a variety of ways to help in answering questions. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables –cars down ramps -Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Use straightforward scientific evidence to answer questions or to support their findings- balloon rockets		Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Identify differences, similarities or changes related to simple scientific ideas and processes – rock reports Geography link – rocks / volcanoes	Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. – measuring plants Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. Use straightforward scientific evidence to answer questions or to support their findings – function of a stem	Ask relevant questions and use different types of scientific enquiries to answer them – investigating skeletons.	Gather, record, classify and present data in a variety of ways to help in answering questions. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables –making shadows.	
Science Capital Opportunities	STEM ambassadors could be invited to complete a STEM challenge	Children should be given the opportunity to observe the lifecycle of plants in the local environment over time – using autumn to look at seed dispersal in particular.	Observe rocks, including those that are used in buildings and explore how they might have changed over time, classify by different properties including crystals and fossils. Look at evidence of rocks used in the stone and iron age and how they have weathered over time. Children should be given the opportunity to explore rocks and soils in the local environment for example a visit to Austerfield sand quarry to observe layers of rock which have been formed through pressure (sedimentary although the children do not need to use the terminology) and look at the components of soil in the woodland.	Pupils should work scientifically to grow their own plants and compare the effect of different factors such as the amount of light, the amount of fertiliser; discovering how seeds are formed by observing the different stages of plant life cycles over a period of time; looking for patterns in the structure of fruits that relate to how the seeds are dispersed. They might observe how water is transported in plants, for example, by putting cut, white carnations into coloured water and observing how water travels up the stem to the flowers.Children do not need to know how food is made or the process of photosynthesis. Children continue to observe the lifecycle of flowering plants over time, watching pollination in action.	Potential to make links with the local community by inviting sports players, or medical professionals into school to discuss the skeleton, food groups and how to provide the body with a healthy diet. Links could be made with sports teams to give children an opportunity to design healthy meals. Children may have x rays that they may be able to share and discuss with other pupils, discussing the role that science plays in keeping us fit and well. They should be given the opportunity to share photos of their pets and discuss how they care for them, including providing for their different dietary needs. Children should observe the animals in their environment and may be able to use first-hand experience at YWP to compare and contrast the diets of different animals, group them based on what they eat, whether they have a skeleton or no skeleton and their movement.	Children should be given the opportunity to observe the lifecycle of plants in the local environment over time –look at how flowers are developing into seeds.	