Y3 – Science (Forces and magnets)	Autumn 1
Learning Intention	To explore how a force is required to make something start to move
Targets	I can use pushes, pulls and twists to make objects move in different ways I can draw and label a diagram to show the force I can explain how to make an object start, change direction and stop
Activity	Create a carousel – table tennis ball and drinking straw, table tennis ball and card, cotton wool and rubber band, spinning tops and clockwork toys. Each table will explore how to make each object move using force. Task – Children to draw an image of each station and then a brief explanation of how they got each to start, change direction or stop.
Learning Intention	To explore how air can make things move
Targets	I can explain how the air pushes the windmill I can plan and carry out a comparative test I can compare how the windmills move I can say what I have found out
Activity	Demonstrate blowing soft and hard on a plastic windmill and then ask children to use key words to explain what is happening. Discuss how air is the acting force. Make own windmills to take outside. Investigate how the direction in which we hold the windmill changes the way it moves.
Learning Intention	To explore how objects move on different materials
Targets	I can make a prediction I can compare how an object moves on different surfaces I can explain my findings
Activity	Children to investigate moving an object along different surfaces. This could be using the force push or pull. Children to predict before carrying out the investigation and then write about their findings.
Learning Intention	To explore which materials are magnetic
Targets	Test a material to find out if it is magnetic Group materials according to what I find out Use findings to draw simple conclusions
Activity	Bury a variety of objects in a large container with sand, ask a child to use a magnet to dig in the sand to find the buried treasure and place these items in a hoop. Dig the remaining objects out and place in a second hoop – discuss how the ones found with the magnet are all magnetic. Explain what magnetic means. On the tables, the children will need a range of

	objects to investigate whether they are magnetic or not. Children to provide a prediction first about whether they think they will be magnetic or not. Task – complete a venn diagram of what they have found.
Learning Intention	To measure the strength of a magnet in different ways
Targets	Carry out an investigation to answer questions Use equipment accurately Record observations in a table
Activity	Ask the children if they can name any magnets found in their homes and discuss which magnets may be used for in their homes. Task – investigate the strength of a magnet by doing a carousel activity. 'How many paper clips can a magnet hold in a chain?' 'What is the distance between the magnet and table when the paperclip jumps up?' 'What is the distance between the magnet and paper clip when it slides along the table?' 'What is the weight of the heaviest object your magnet can pick up?' Record their findings in the table.
Learning Intention	To carry out an investigation comparing the strength of different magnets
Targets	Choose a suitable method to investigate Use results to compare
Activity	Display the concept cartoon on the board and ask children to discuss what they think and who they agree or disagree with and why. Recap previous learning on strength of a magnet. Task – Each group are given a range of magnets of different sizes and labelled. They choose an investigation from the previous lesson but adapt it to find out which magnet is the strongest. Children to order their magnets in order of strength and then explain their findings.
Learning Intention	To identify the two poles on a magnet and investigate how magnets attract or repel each other
Targets	Know that a magnet has two poles Describe the effect of bringing two poles together Use the terms attract and repel
Activity	Show the children the movement of magnets when the same poles are placed next to one another. Discuss the movement and the meanings of the words attract and repel. Task- Allow the children time to explore with the magnets and witness what happens when the magnets attract or repel. Children to show their findings at what poles do what.

Y3 – Science	**Autumn 2**

Learning Intention	To explore light sources
Targets:	Identify light sources Explain why some objects aren't light sources Sort objects
Activity	Ask children to sort the cards into light sources and not light sources based on their current knowledge. Discuss where they have placed each object and why and share information linked to light sources. Ask the children if there are any they would change and to now re-sort the cards into the correct categories based on their new knowledge.
Learning Intention	To investigate the reflectiveness of materials
Targets :	Explain what reflective means Identify objects that reflect light Use results to offer suggestions
Activity	The children will be creating a reflective tester to investigate how reflective different materials are. Record results in a table and from results decide which material would be best to use as a reflective strip on a child's book bag.
Learning Intention	To explore how mirrors reflect light
Targets:	Explain how a mirror reflects light Investigate how a mirror works Discuss findings
Activity	Complete a carousel of activities linked to reflection of light and mirrors. Complete the following activities: Mirror and torch reflecting light Mirror maze Mirror messages Mirror movements Mirror symmetry
Learning Intention	To explore how shadows are formed
Targets:	Describe how a shadow is formed Recognise that shadows are similar is shape Use scientific language
Activity	Ask the children to make hand shadows by fixing a piece of paper to a wall and then using a torch and their hand they are to draw around the shadow created. Write an explanation of how shadows are created.
Learning Intention	To investigate how to change the size of a shadow

Targets for Success	Predict what will happen to the shadow Perform an accurate investigation Explain my findings
Activity	Children to use their hand and a torch to investigate what happens to the shadow as you move the torch further from the hand. Children to discuss their findings.
Learning Intention	To understand how and why to protect our eyes from the sun
Targets for Success	Know that light from the sun can be dangerous to our eyes Explain ways in which we can protect our eyes
Activity	Discuss with the children how light enters the eye and discuss the dangers of UV rays. Look at a range of different sun protection products and discuss how they are effective. Design their own sun protection products.

Y3 – Science	**Spring 1**
Learning Intention	To explore what nutrients different foods provide
Targets:	Name the seven nutrients Identify foods within each category Explain the benefit of some nutrients
Activity	Discuss with the children the seven different types of nutrients found within food, explaining that all animals, including humans, don't produce their own food like plants and therefore we have to make sure we are getting a balanced diet. Using information provided children create a meal containing a variety of nutrients. Explain why they have chosen what they have and what benefit it provides for them.
Learning Intention	To identify different types of skeleton
Targets :	Define the terms vertebrates and invertebrates Sort animals according to skeleton type Explain advantages and disadvantages of the skeleton types
Activity	Share information about the three different skeleton types, sort animals into the correct categories, and write an explanation including information about the advantages and disadvantages of each of the skeleton types.
Learning Intention	To investigate if the size of a skeleton affects movement
Targets:	Understand what makes a fair test Make a prediction Record results and conclusions
Activity	*This investigation will be carried out over 2 lessons*

	Discuss what it would be like for a human to not have a skeleton. Expose children to the different names of the bones which make up the skeleton and talk about the main functions and its importance. Carry out an investigation to answer the question 'Can people with longer femurs jump further?'
Learning Intention	To investigate if the size of a skeleton affects movement
Targets:	Understand what makes a fair test Make a prediction Record results and conclusions
Activity	*This investigation will be carried out over 2 lessons* Discuss what it would be like for a human to not have a skeleton. Expose children to the different names of the bones which make up the skeleton and talk about the main functions and its importance. Carry out an investigation to answer the question 'Can people with longer femurs jump further?'
Learning Intention	To explain how bones and muscles work together to create movement
Targets	Use scientific vocabulary linked to muscles Show how muscles work together Explain how muscles work to create movement
Activity	Discuss the different types of muscles in the body some being voluntary and other involuntary and explain how muscles work to help us move, use biceps and triceps as an example. Create a scientific model using a moving arm template to explain how the triceps and bicep work together.

Y3 – Science	Spring 2
Learning Intention	To compare different types of rock
Targets:	Name he three types of natural rock Give examples of the three types of rock Describe features of the three types of rock
Activity	Children to sort different types of rock by naturally occurring and manmade by drawing a chart in their books. After this, children are to write about the different types of uses of naturally occurring rock.
Learning Intention	To group rocks together based on their properties
Targets :	Name different types of rock Identify features of different types of rock Use a specific criteria
Activity	Children learn about the three different types of rock, as well as different properties we can use to describe rock. They will then be carrying several different investigations or research to group rocks together based on their properties; focusing specifically on density, permeability and durability.
Learning Intention	To identify rocks that are used for particular purposes
Targets:	Identify characteristics of rocks Explain their uses
Activity	Children will be carrying out some of their own research to find out how different rocks are used and why they are used for that purpose using a range of sources.
Learning Intention	To explore fossils and how they are formed
Targets:	Define what a fossil is Organise explanations accurately Explain how palaeontologists use fossils

Activity	Children will learn what a fossil is and how they are formed. They will also discuss what information we can gather from fossils and how palaeontologists use fossils to help them find out about living things from millions of years ago. The children will then be explaining the fossilisation process and describe each step.
Learning Intention	To group fossils
Targets	Identify a range of fossils Explain the conditions needed for fossilisation
Activity	Children will be reminded about what a fossil is and then shown a range of different fossils and what they show us. They will then organise fossils depending on their properties.
Learning Intention	To understand soil formation
Targets	Identify that soil is composed of different things Describe the four process of soil formation
Activity	The children will learn about what soil is made up of and the layers within it, then they will learn about the four main processes involved in soil formation. The children will then create their own mini compost bin, explaining why they have had to use each of the different layers and what its purpose is.

Y3 – Science	**Summer 1**
Learning Intention	To explore the parts of a plant
Targets:	Identify parts of a plant from a picture Suggest what might happen if parts were missing
Activity	Focus on prior knowledge of plants for this session. Complete a whole- parts relationship graphic organiser for a flowering plant. The visual structure will support children in using prior knowledge to discuss what they know and suggest answers to the question, 'what would happen if the … was missing?'
Learning Intention	To name parts of a plant and explain their function
Targets :	Draw and label parts of a plant Explain the role of different parts of a plant
Activity	Share image of a plant and encourage children to label the parts. Share the role of each part of the plant. In their books, children to draw a labelled diagram of a plant, including information about the importance of each part.

Learning Intention	To set up an investigation to find out what plants need to grow well
Targets:	Make a prediction Plan an investigation Set up an investigation
Activity	Discuss 7 life processes and what plants may need to stay alive. Have a discussion about looking after plants and if they have ever cared for one. Children work in pairs to investigate what plants might need to grow well. Create an investigation planner to record ideas.
Learning Intention	To investigate what plants need to grow well
Targets:	Measure and record results Describe observations Suggest answers to a scientific question
Activity	This lesson will take place for 15 minutes each day over the course of the final week. Children will measure and observe their plants each day and on the final day suggest an answer to their chosen question.

Y3 – Science	Summer 2
Learning Intention	To explain how water is transported in a plant
Targets:	Draw a representation of water transportation Identify the parts of a plant in water transportation Explain using key phrases and terminology
Activity	From information shared and acting out, children to create a labelled diagram to show the process of water transportation in a plant.
Learning Intention	To explore water being transported through plants
Targets :	Make predictions Explain observations Draw conclusions
Activity	Show an image of an investigation set up before it takes place. Children to predict what they think is going to happen from looking at the white flowers, water and food colouring. They then need to observe what happened to the white of the flower as the water was transported. Discuss which parts of the plant are transporting the water here. Complete the investigation themselves.
Learning Intention	To name the main stages of a flowering plant's life cycle
Targets:	Put stages of a life cycle in order Present life cycle in a sequenced diagram
Activity	Read the poem 'growing apples'. Look at the life cycle of an apple tree from a video. Sequence and complete the stages of the life cycle of an apple tree, annotating their diagram with any additional informational from the video.

Learning Intention	To understand the process of insect pollination
Targets:	Know the importance of insects and pollination Recognise that pollen is produced by flowers Know roles of parts of the flower in pollination
Activity	Share information about the role of insects and pollination. Create an explanation text to show the insect pollination including clear steps and diagrams. Children should include key vocabulary, including parts of the flower.
Learning Intention	To demonstrate an understanding of the methods of seed dispersal
Targets:	Name methods of seed dispersal Match features of seeds to their method of dispersal Explain why seed dispersal is important
Activity	Share information about different types of seeds and how they are dispersed. Discuss what might happen if seeds were not dispersed through role-play. Complete sorting activity to group seeds and their dispersal methods.