Year 3 Scheme of Work – Science

Unit	Time (Wks)	Activities	Outcomes	Differentiation	Assessment	NC Links	Other Subject Link
Previous learning: Y2 – use and suitability of everyday materials;				**Next learning:** Y5 – forces acting on object; gravity, air resistance, friction; streamlined shapes; mechanisms			
3.1 Forces & Magnets	6-8	L1 - Identify the forces acting on objects. L2 - Investigate the effects of friction on different surfaces. L3 - Sort magnetic and non-magnetic materials. L4 - Investigate the strength of magnets. L5 - Explore magnetic poles. L6 - Explain that magnets attract some materials.	- Identify the type of force required to carry out an action. - Investigate the force of friction produced by different surfaces. - Explain that magnets produce an invisible pulling force. - Identify magnetic materials. - Identify different types of magnet. - Investigate the strength of different magnets. - Identify when magnets will repel or attract based on their poles. - Construct a bar chart of results. - Explain predictions and conclusions using key words or prompts. **Working scientifically** - Identify pushing and pulling forces. - Test objects with a magnet to identify magnetic and non-magnetic materials and sort them into groups. - Conduct a comparative test, investigating which surfaces will create the greatest amount of friction for a toy car. - Test magnet strength by carrying out a comparative test to see which type of magnet will hold the longest chain of paperclips.	- Modelling - Practical activities/ investigations. - Knowledge organiser	Continuous throughout. Observations. Discussions.	To notice that some forces need contact between two objects. To compare how things move on different surfaces. To notice that magnetic forces can act at a distance and attract or repel each other and attract some materials and not others. To compare and group materials according to whether they are magnetic. To describe magnets as having two poles and to predict whether two magnets will attract or repel each other, depending on which poles are facing.	DT – materials
Previous learning: Y2 – stages of human/animal timeline; how animals get air/food/water; exercise and diet; hygiene				**Next learning:** Y4 – digestive system; types and function of teeth; food chains			
3.2 Animals including Humans	6-8	L1 – Sort foods into food groups and find out about the nutrients that different foods provide. L2 - Explore the nutritional values of different foods by gathering information from food labels.	- Talk about what animals and humans need to stay healthy, showing an understanding of the food groups and the nutrients humans need for a healthy diet. - Talk about how and why different animals require a different balance of nutrients and can gather and understand a range of information from food labels.	- Practical activities/investigations. - Modelling - Knowledge organiser	Continuous throughout. Observations. Discussions. Investigation.	Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. 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	Islamic Studies –

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		L3 - Sort animal skeletons into groups, discussing patterns and similarities and differences. L4 - Investigate an idea about how the human skeleton supports movement. L5 - Explain how bones and muscles work together to create movement. L6 - design and carry out my own investigation.	- Name, describe then start to discuss the features and advantages and disadvantages of different types of skeleton. - Name the main parts of the human skeleton. - Give a simple explanation of how muscles work. **Working scientifically** - Group and classify foods into food groups and identify the nutrients that different foods provide. - Present data from food labels in a table to help in answering questions. - Group and classify animal skeletons and can use scientific vocabulary to talk about animal skeletons. - Decide how to set up a test that is fair and can draw simple conclusions from their results. - Show their understanding of a process by using scientific language and a labelled diagram. - Set up and carry out a test that is fair, including making decisions about what measurements to take.			eat. Identify that humans and some other animals have skeletons and muscles for support, protection and movement. Setting up simple practical enquiries, comparative and fair tests. Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. Asking relevant questions and using different types of scientific enquiries to answer them.	Allah created the human body
Previous learning: In year 1 and 2, pupils described the properties of various materials and compared them based on these characteristics and explored their various uses. In year 2, pupils classified objects into categories of living, dead and never alive. They also began to understand the significance of soil in supporting plant growth.				**Next learning:** In year 5, pupils will build on this knowledge by investigating the hardness and permeability of different materials. They will also learn about states of matter and discover that water is a universal solvent. They will revisit the concept of buoyancy in the context of forces. In year 6, children will explore how fossil evidence shows changes in living things over time and provides information about life on Earth millions of years ago.			
3.3 Rocks	6-8	L1 - Compare and identify types of rock. L2 - Group rocks based on their properties by making careful and thorough observations. L3 - Understand the terms 'weathering' and 'erosion' and identify evidence of these processes through observations. L4 - Explain how fossils are formed. L5 - Explain how soil is formed and identify different types of soil. L6 - Compare soils based on their permeability.	- Name the three types of naturally occurring rock and describe how they are formed; compare different types of rock based on their appearance. - Group rocks based on their properties and describe similarities or differences between the properties of different rock types. - Explain how weathering and erosion cause rocks to change over time; understand the different types of weathering. - Describe in simple terms how fossils are formed and how their formation links to the rock cycle. - Explain that soils are made from rocks and organic matter; describe the properties of common soil types, including physical appearance and	- Modelling - Practical activities/investigations. - Knowledge organiser	Continuous throughout. Observations. Discussions/ debates. Investigation.	Compare different types of rock based on their appearance. Gather, record and present findings from research (such as secondary sources) in a variety of ways, e.g. fact files, answers to questions or giving explanations. Group together different types of rocks based on their physical properties. Making systematic and careful observations. Explore how rocks change over time. Use straightforward scientific evidence	Islamic Studies – Allah created rocks

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			permeability. - Recognise that soils are made from rocks and organic matter. **Working scientifically** - Gather, record and present findings from research (such as secondary sources) in a variety of ways, e.g. fact files, answers to questions or giving explanations. - Make systematic and careful observations. - Use straightforward scientific evidence (from observations, measurements or secondary sources) to answer questions or support their understanding. - Identify, group and classify things, using simple keys when appropriate. - Set up a simple enquiry and use straightforward scientific evidence from their observations to answer questions or support their conclusions; use correct scientific vocabulary when answering enquiry questions. - Set up and carry out simple comparative and fair tests.			(from observations, measurements or secondary sources) to answer questions or support their conclusions. Describe in simple terms how fossils are formed when things that have lived are trapped within rock. Identify, group and classify things, using simple keys when appropriate. Recognise that soils are made from rocks and organic matter. Setting up simple practical enquiries, comparative and fair tests.	
Previous learning: Y1 – sun safety				**Next learning:** Y6 – how light travels; reflection and refraction; angles of incidence/reflection; visible spectrum; how we see colours; size and shape of shadows			
3.4 Light	6-8	L1 - Recognise that I need light to see things, and that dark is the absence of light. L2 - Investigate which surfaces reflect light. L3 - Use a mirror to reflect light and explain how mirrors work. L4 - Know that light from the sun can be dangerous and that there are ways we can protect our eyes. L5 - Investigate which materials block light to form shadows. L6 - Find patterns when investigating how shadows change size.	- Understand that dark is the absence of light. - Set up an investigation and make predictions. - Understand how surfaces reflect light. - Recognise that a mirror appears to reverse an image. - Identify some parts of the eye. - Understand how the sun can damage parts of the eye. - Identify opaque, translucent and transparent objects. - Know how shadows change size. **Working scientifically** - Observe the effect of sunlight on a piece of card over time. - When conducting a fair test, notice patterns in the way a shadow changes when the light source moves.	- Practical activities/investigations. - Modelling. - Knowledge organiser	Continuous throughout. Observations. Discussions. Investigation.	To recognise that we need light in order to see things and that dark is the absence of light. To notice that light is reflected from surfaces. To recognise that light from the sun can be dangerous and that there are ways to protect our eyes. To recognise that shadows are formed when the light from a light source is blocked by a solid object. To find patterns in the way that the size of shadows change.	PSHCE – sun safety

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			- Identify sources of light. - Recognise how the sun can be dangerous by sorting statements about the sun into positives and negatives. Identify objects that are opaque, translucent or transparent. Test materials to identify if they are opaque, translucent or transparent and sort them into groups. - Carry out a comparative test, investigating which materials are most and least reflective. - Carry out a fair test, investigating how the size of a shadow changes when the distance between object and light source changes. - Use the information on the Lesson Presentation to create a quiz about mirrors.				
Previous learning: Y2 – label parts of plants/trees; plant life cycle; plants need water/light/temperature; measure/record growth of plants				**Next learning:** Y5 – function of parts of flower; wind/insect pollination; asexual/sexual reproduction in plants			
3.5 Plants	6-8	L1 - Name the different parts of flowering plants and explain their jobs. L2 - Set up an investigation to find out what plants need to grow well. L3 - Record my observations. Present the results of my investigation using scientific language. L4 - Investigate how water is transported in plants. L5 - Name the different parts of a flower and explain their role in pollination and fertilisation. L6 - Understand and order the stages of the life cycle of a flowering plant.	- Explain the functions of the different parts of plants. - Set up an investigation and make predictions. - Make observations and conclusions. - Identify different parts of a flower. - Identify and describe the stages of the life cycle of flowering plants. - Be able to answer questions based on their learning. **Working scientifically** - Observe the growth of a plant when it has been placed in certain conditions. Observe water (and food colouring) transportation in plants. - Name plants and identify parts of a plant, along with their functions. - Identify and name parts of a flower. - Identify the correct parts of a flower to order the life cycle of a flowering plant. - Carry out a fair test looking at several plants of the same type and how much they grow in	- Practical activities/ investigations. - Modelling. - Knowledge organiser	Continuous throughout. Observations. Discussions. Investigation.	To identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. To explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow). To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. To report on findings from enquiries, including oral and written explanations and presentations of results and conclusions. To investigate the way in which water is transported within plants. To explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	Islamic Studies – Allah brings forth plants

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			comparison to how much water they are given. - Conduct a comparative test comparing the growth of different types of plants when put under the same conditions. - Carry out a fair test exploring how the length of a carnation stem or celery affects the time it takes water (and food colouring) to travel to the top.				

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