Year 3 – Rocks **Term – Autumn**

National Curriculum	*Pupils should be taught to:* • **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.**

	National Curriculum	Key Learning	Activities	Working Scientifically	Key Vocabulary	Exit Question
1	***Compare different kinds of rocks based on their appearance***	Children will be able to compare different types of rocks.	- Children to sort rocks depending on whether they are man-made or natural	**Identifying, Grouping and Classifying** Sort rocks depending on whether they are man-made or natural	***Rocks, igneous, sedimentary, metamorphic, form, formation, volcano, sea, seabed, changes, compare, types, natural, human-made, strata, anthropic.***	*Name one type of man-made rock*
2	***Group together different kinds of rocks on the basis of their simple physical properties***	Children will be able to group rocks based on their properties.	- Children to use adjectives to describe rocks - Children to test the permeability, durability and density of different rocks - Children to group rocks based on their properties	**Identifying, Grouping and Classifying** Group rocks based on their properties	***Igneous, sedimentary, metamorphic, rocks, group, properties, permeable, impermeable, hard, soft, durable, buoyancy, split.***	*Permeability is:* *How soft a material is* *How much water a material lets through* *How much light a material lets through*
3	***Describe in simple terms how fossils are formed when things that have lived are trapped within rock***	Children will be able to explain how fossils are formed.	- Children to order the fossilisation process - Children to write a caption for each stage of the process *Could make fossils using playdough if time but **need** to have captions*	**Identifying, Grouping and Classifying** Children will identify what's happening at the different stages of fossilisation	***Fossil, sedimentary, fossilisation, animals, bones, chemical fossils, change, body fossils, trace fossils, layers, pressure, coprolite, trackways, footprints.***	*Why do you think we have fossils for some animals and not others?*
4		Children will be able to explain Mary Anning's	- Children to answer comprehension questions about Mary Anning	**Research** Children will research the work of Mary Anning	***Mary Anning, fossils, ichthyosaur, trace fossils, coprolite, dinosaurs, Jurassic, Lyme***	*What is the job of a palaeontologist?*

		contribution to palaeontology.	*English lesson* *If time, children create a film recreating Mary Anning's famous ichthyosaur fossil find*		***Regis, seaside, beach, poverty, scientists, William Buckland***	
5	***Recognise that soils are made from rocks and organic matter***	Children will be able to explain how soil is formed.	- Create their own compost bin - Draw a diagram to show the formation of soil.		***Soil, formation, formed, rock, organic matter, animals, top soil, sub soil, bedrock, additions, losses, translocations, transformations.***	*Name the layers of soil*
6		Children will be able to observe how much water has filtered through different types of soil.	- Investigate soil permeability - Present their findings	**Comparative Testing** Children will investigate and compare the permeability of different soils	***Soil, formation, rock, rock type, igneous, sedimentary, metamorphic, properties, permeability, permeable, impermeable, semi-permeable.***	*Which soil was the most permeable?*
	Assessment		-			

Year 3 – Animals including Humans **Term – Autumn**

National Curriculum	*Pupils should be taught to:* • **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.**

	National Curriculum	Key Learning	Activities	Working Scientifically	Key Vocabulary	Exit Question
1	**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**	Children will need to be able to sort foods into food groups and find out about the nutrients that different foods provide	- Sort foods into groups - Compare meals by identifying the food groups and listing the nutrients it provides	**Identifying, grouping and classifying** Identify the food group different foods belong to Sort foods into the correct food group	***Food groups, nutrients, nutrition, nutritious, carbohydrates, proteins, fats, water, fibre, vitamins, minerals, sugars, Eatwell Guide, healthy, survive.***	*Show a picture of a snack- healthy or unhealthy? Why?*
2	**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**	Children will need to be able to explore the nutritional values of different foods by gathering information from food labels	- Predict then order the foods that contain the most and least saturated fat - Investigate statements to decide if they are true or false - Ext- can they find evidence from food labels to prove/disprove statements	**Research** Can they find evidence from food labels to prove/disprove statements	***Food groups, nutrients, nutrition, nutritious, carbohydrates, proteins, fats, water, fibre, vitamins, minerals, sugars, Eatwell Guide, healthy, survive, omnivore, carnivore, herbivore, saturated fats, unsaturated fats, sugar, salt, food labels.***	*What is saturated fat? Which food had the most?*
3	**Identify that humans and some other animals have skeletons and muscles for support, protection and movement.**	Children will need to be able to sort animal skeletons into groups, discussing patters and similarities and differences	- Sort animals into vertebrates and invertebrates - Sort animals into further skeleton groups. - List advantages and disadvantages of different types of skeletons	**Identifying, grouping and classifying** Sorting animals into skeleton groups	***Vertebrates, invertebrates, skeleton, exoskeleton, endoskeleton, hydrostatic skeleton, protection, support, movement, bones, advantages, disadvantages.***	*Name 2 animals with exoskeletons*
4	**Identify that humans and some other animals have skeletons and muscles for support, protection and**	Children will need to be able to investigate an idea about how the human	- Can people with longer femurs jump further? - Investigation, prediction, results, conclusion	**Comparative testing** Can people with longer femurs jump further?	***Skeleton, protection, support, movement, bones, skull, clavicle, scapula, ribcage, vertebral***	*What was the result of your investigation?*

	movement.	skeleton supports movement			***column, humerus, ulna, radius, femur, tibia, fibula***	
5	**Identify that humans and some other animals have skeletons and muscles for support, protection and movement.**	Children will need to be able to explain how bones and muscles work together to create movement	- Make a model of the muscles working in the arm - Describe how their model works and what it is showing - Draw and label their model	**Identifying, grouping and classifying** Identify the parts of the body their models relate to.	***Muscles, movement, skeletal muscles, voluntary muscles, involuntary muscles, tendons, joints, biceps, triceps, contract, shorten, relax, lengthen, humerus, radius, ulna, bones, skeleton, scientific model.***	*Which muscle contracts and which relaxes?*
6	**Identify that humans and some other animals have skeletons and muscles for support, protection and movement.**	Children will need to be able to design and carry out their own investigation	- Children to come up with a question to investigate and then design and carry out their own investigation involving the human skeleton	**Comparative testing** Children to come up with a question to investigate and then design and carry out their own investigation involving the human skeleton	***joints humerus, ulna, radius, femur, tibia, fibula, skeleton.***	*What were the results of your investigation?*
	Assessment		-			

Year 3 – Light **Term – Spring**

National Curriculum	*Pupils should be taught to:* • **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.**

	National Curriculum	Key Learning	Activities	Working Scientifically	Key Vocabulary	Exit Question
1	***Recognise that they need light in order to see things and that dark is the absence of light.***	Children will be able to explain why we need light to see things, and that dark is the absence of light.	- Identify light sources in the room - Classify objects as light sources or not - Discuss- what is dark? - Feely bag activity- 1- dark/ 2-with light	**Identifying, Grouping and Classifying** Identify light sources Group objects as light sources or not	***Light*** ***Source*** ***Dark*** *Illuminate** *Visible**	***Name 3 light sources***
2	***Notice that light is reflected from surfaces.***	Children will learn how to test which surfaces reflect light and make predictions about the most reflective materials.	- Discuss why reflective materials are helpful - Identify colours that are most reflective - Design a reflective book bag - Test materials to see which is most reflective	**Comparative Testing** Test materials to see which is most reflective	***Light*** ***Source*** ***Dark*** ***Reflect***	***Name a time when reflective materials keep people safe***
3	***Notice that light is reflected from surfaces.***	Children will be able to use a mirror to reflect light and explain how mirrors work.	- Explore using a mirror to reflect light onto an object - Reflect a message using a mirror - Follow a wavy line whilst using a mirror		***Reflect*** ***Mirror*** ***Smooth*** ***Shiny*** ***Rays*** ***Reverse***	***Draw a diagram to explain how mirrors work***
4	***Recognise that light from the sun can be dangerous and that there are ways to protect their***	Children will be able to explain the dangers of the	- Test the effect of UV on paper - Create a poster for sun safety including keeping eyes and skin safe.	**Research**	***Sun*** ***Dangerous*** ***UV*** ***Glare***	***Why is wearing a sun cap a good idea in the sun?***

	eyes.	sun and describe ways to protect our eyes.		Use the internet to research ways in which we can keep safe in the sun	***Damage*** ***Protect***	
5	***Recognise that shadows are formed when the light from a light source is blocked by an opaque object.***	Children will investigate and classify materials according to whether they are opaque, transparent or translucent.	- Plan and conduct an investigation to test different materials to see how well they block out light. - Decide which material would be best for black out curtains.	**Identifying, Grouping and Classifying** Identify objects that are opaque, transparent and translucent	***Beam*** ***Ray*** ***Travel*** ***Opaque*** ***Translucent*** ***Transparent*** ***Block*** ***Shadow***	***Name one object that is opaque and one that is transparent***
6	***Find patterns in the way that the size of shadows change.***	Children will plan an investigation about how shadows change size and draw simple conclusions.	- Plan and investigate shadows and the distance between the light source and the object. - Explore the pattern that their results show	**Pattern Seeking** Identify patterns when investigating how shadows change size	***Shadow*** ***Source*** ***Opaque*** ***Distance*** ***Pattern***	***Describe the conclusions you have come to***
	Assessment		-			

Year 3 – Plants **Term – Spring**

National Curriculum	*Pupils should be taught to:* • **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.**

	National Curriculum	Key Learning	Activities	Working Scientifically	Key Vocabulary	Exit Question
1	**Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers**	Children will be able to name the different parts of flowering plants and explain their jobs.	- Label a plant with the names of its parts - Label the parts of a plant with their function	**Identifying, classifying and grouping** Name plants and identify parts of a plant, along with their functions. **Researching** Use sources to find out about parts of a plant and their functions to then create a leaflet about each part.	***roots, stem, trunk, leaves, flowers, anchor, nutrients, transport, seeds, carbon dioxide, sunlight, absorb.***	Which part do you think is the most important? Why?
2	**Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow)**	Children will be able to set up an investigation to find out what plants need to grow well.	- Design, plan and set their own investigation to explore what plants need to grow, predicting what might happen.	**Observing over time** Observe the growth of a plant when it has been placed in certain conditions. **Comparative and fair testing** Carry out a fair test looking at several plants of the same type and how much they grow in comparison to how much water they are given.	***air, light, water, nutrients, soil, investigate, explore, predict, observe.***	Prediction of the exp.

				Conduct a comparative test comparing the growth of different types of plants when put under the same conditions.		
3	***To record findings using simple scientific** **language, drawings, labelled diagrams,** **keys, bar charts and tables***	Children will be able to record their observations. Children will be able to present the results of their investigation using scientific language.	- Describe and record what they observed last week - Answer their question based on findings. - Plan and perform in a television programme on how to grow healthy plants using scientific language	**Observing over time** Observe the growth of a plant when it has been placed in certain conditions.	***observation prediction conclusion***	
4	**Investigate the way in which water is transported within plants**	Children will be able to investigate how water is transported in plants.	- Sort the predictions into those they agree with and those they don't - Plan and set up a comparative investigation to learn how water is transported in a plant and understand the function of a stem. - Observe changes throughout the day	**Observing over time** Observe water (and food colouring) transportation in plants. **Comparative and fair testing** 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.	***transport, stem, evaporate, compare, temperature, leaves, flower, observe, prediction, conclusion.***	Which parts of the plant are involved in water transportation?
5	**Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.**	Children will be able to name the different parts of a flower and explain their role in pollination and fertilisation.	- Dissect a flower and identify the parts - Identify the functions of the parts - Describe the process of pollination and fertilization	**Identifying** Identify and name parts of a flower. **Researching** Use sources to find out about pollination and explain the process. Use sources to learn about the different parts of a flower and the function of each part	***Petals, sepal, stamen, anther, filament, stigma, style, ovary, ovule, pollen tube, pollen, pollination, fertilisation.***	Which of these is not a part of the flower: petals, stamen, kidney, anther, stigma

6	**Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.**	Children will be able to order the stages of the life cycle of a flowering plant.	- Act out a method of dispersal- photos and caption in books - Order the stages of the life cycle and identify what is happening in each stage	**Identifying** Identify the correct parts of a flower to order the life cycle of a flowering plant. **Researching** Use sources to learn about the life cycle of a flowering plant	***Dispersal, pollination, fertilisation, germination,***	What comes next after pollination in the life cycle?
	Assessment		-			

Year 3 – Forces and Magnets **Term – Summer**

National Curriculum	*Pupils should be taught to:* • **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.**

	National Curriculum	Key Learning	Activities	Working Scientifically	Key Vocabulary	Exit Question
1	**To notice that some forces need contact between two objects**	Children will be able to identify the forces acting on objects	- Freeze frames of an action to show a pushing or pulling force - Identify the forces acting on the objects in pictures	**Identifying, Grouping and Classifying** Identify the forces acting on the objects in pictures	***Force, push, pull.***	*Show me an action with a pull force/ push force*
2	**To compare how things move on different surfaces**	Children will be able to investigate the effects of friction on different surfaces	- Friction investigation with prediction, results and conclusion	**Identifying, Grouping and Classifying** Identify the forces acting on the objects in pictures	***Force, push, pull, friction, surface.***	*What did your results show?*
3	**To notice that magnetic forces can act at a distance and attract some materials and not others**	Children will be able to sort magnetic and non-magnetic materials	- Use magnets to sort through a pile of mixed materials into magnetic and non-magnetic materials	**Identifying, Grouping and Classifying** Sort magnetic and non-magnetic materials	***Force, magnet, magnetic, attract, magnetic field.***	*Name a magnetic and a non-magnetic material*

	To compare and group materials according to whether they are magnetic or not					
4	**To observe how magnets attract or repel** **each other and attract some materials and not others**	Children will be able to investigate the strength of magnets	- Magnet strength investigation with results, graph and conclusion	**Comparative Testing** Testing and comparing the strengths of different magnets	***Magnet, attract, force.***	*What did your results show?*
5	**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**	Children will be able to explore magnetic poles	- Make a magnetic compass - Use their compass to find 'treasure' hidden in the playground	**Identifying, Grouping and Classifying** Identify the poles of a magnet	***Magnet, pole, north, south, attract, repel, compass, direction.***	*How does a compass work?*
6	**To observe how magnets attract or repel each other and attract some materials and not others**	Children will be able to explain that magnets attract some materials	- Design and make a magnetic game	**Identifying, Grouping and Classifying** Identify materials that are attracted to magnets	***Force, magnet, attract.***	*How have you used magnets in your game?*
	Assessment		-			