














Year group: Y3 – Autumn 1		Subject Area: Science		Unit: Animals		Subject Leader: K.Beetham	
Prior linked knowledge		National curriculum objectives				Future linked knowledge	
<u>Y2</u> <ul style="list-style-type: none"> • Children know the basic needs of animals and what they need to survive. • They can name a variety of animals in their habitat. • They know how animals obtain their food and can name simple food chains. • Children know animals have offspring which grow into adults. • They know the importance of exercise, hygiene and eating a balanced diet. 		<ul style="list-style-type: none"> • 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. 				<u>Y4</u> <ul style="list-style-type: none"> • Describe the simple functions of the basic parts of the digestive system in humans • Identify the different types of teeth in humans and their simple functions • Construct and interpret a variety of food chains, identifying producers, predators and prey. • recognise that living things can be grouped in a variety of ways • Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment • Recognise that environments can change and that this can sometimes pose dangers to living things. <u>Y5</u> <ul style="list-style-type: none"> • Describe the changes as humans develop to old age. 	
Common misconceptions		Cross-curricular links				Possible hooks/enrichment activities	
All fats are bad for you.		DT – moving animal				Sea monkeys in class linked to class text to look at animals with an exoskeleton.	
Lesson Sequence							
Research 	Identify, classify and group 	Identify and classify 	Research 	Identify, compare and classify 	Pattern seeking 	Problem solving	
Lesson 1 Where do I get my energy? To know that animals, including humans, get their nutrition from what they eat.	Lesson 2 <i>What is on my food label?</i> To know that food can contain more than one nutrient. To know that humans need the right amount and types of nutrients.	Lesson 3 <i>Are all pizzas unhealthy?</i> To know the names of the main food groups.	Lesson 4 <i>How can I stand up?</i> To know that humans and some animals have skeletons to protect, support and move their body.	Lesson 5 <i>Do all animals have a skeleton?</i> To know that some animals have skeletons and some do not.	Lesson 6 <i>Do my bones change as I grow older?</i> To know that skeletons change as part of their role in protecting our bodies.	Lesson 7 <i>Can a cat hold a pencil?</i> To know that muscles and bones work together to help the body to move.	

Key skills taught						
Lesson 1 Using straightforward scientific evidence to answer questions or to support their findings.	Lesson 2 Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions	Lesson 3 Setting up simple practical enquiries	Lesson 4 Recording findings using simple labelled diagrams.	Lesson 5 Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions	Lesson 6 Setting up simple practical enquiries, comparative and fair tests	Lesson 7 Asking relevant questions and using different types of scientific enquiries to answer them
Key vocabulary						
Lesson 1, 2 and 3 Carbohydrates Protein Fats Vitamin Minerals Dairy Sugar Nutrients/nutrition Food groups Fuel Food Energy			Lesson 4 Skeleton Bones Muscles Tendons Ligaments Body Protection Movement Support			
Resources						
Lesson 1 iPads/computers/textbooks	Lesson 2 Variety of food packaging Sorting hoops	Lesson 3 Pizza base Protein (ham) Tomato base Cheese Vitamins and minerals (spinach)	Lesson 4 Skeleton template Ipads/computer/textbooks	Lesson 5 Sorting hoops Images	Lesson 6 Children from a few different classes to measure.	Lesson 7 Cardboard String Straws Cellotape Scissors Elastic band

Year group: Y3 – Autumn 2		Subject Area: Science		Unit: Rocks		Subject Leader: K.Beetham	
Prior linked knowledge		National curriculum objectives				Future linked knowledge	
<u>Y2</u> <ul style="list-style-type: none"> Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Find out how shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. 		<ul style="list-style-type: none"> 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. 				<u>Y4</u> <ul style="list-style-type: none"> Compare and group materials together, according to whether they are solids, liquids or gases. Observe that some materials change state when heated or cooled, and measure and research the temperature at which this happens in degrees Celsius. Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. 	
Common misconceptions		Cross-curricular links				Possible hooks/enrichment activities	
All rocks are hard. A fossil are bits of animals.		History – stone age DT – stone paintings				Dinosaur fossil found in school	
Lesson Sequence							
Identify, classify and group 	Comparative testing 	Comparative testing 	Research 	Research 	Observe overtime 	Comparative testing 	
Lesson 1 <i>How can I sort the rocks?</i> To know the similarities and differences between rocks on the basis of their appearance.	Lesson 2 <i>Which type of rock should we use to build a new stage?</i> To compare the physical properties of rocks.	Lesson 3 <i>Which type of rock is best for drawing?</i> To know the different properties of rocks.	Lesson 4 <i>What is a fossil?</i> To know how fossils are formed.	Lesson 5 <i>Who is Mary Anning?</i> To know influential scientist and their role in the development of fossils.	Lesson 6 <i>What happens when you mix soil and water?</i> To know that soil is made from rocks and organic matter.	Lesson 7 <i>Which soil is the most absorbent?</i> To know that different soil have different amounts of rock and organic matter.	
Key skills taught							
Lesson 1 Gathering, recording, classifying and presenting data in a variety of ways to help in answering	Lesson 2 Asking relevant questions and using different types of scientific enquiries to answer them	Lesson 3 Setting up simple practical enquiries, comparative and fair tests	Lesson 4 Using straightforward scientific evidence to answer questions or to support their	Lesson 5 Reporting on findings from enquiries, including oral and written explanations,	Lesson 6 Setting up simple practical enquiries, comparative and fair tests	Lesson 7 Setting up simple practical enquiries, comparative and fair tests	

questions			findings.	displays or presentations of results and conclusions		
Key vocabulary						
Lesson 1 Grain Crystal Large Small Colour Dull Bright	Lesson 2 Granite Chalk Limestone Slate Sandstone Marble Durability Permeability Hardness	Lesson 3 Chalk Minerals Durable	Lesson 4 Fossil Animal Sedimentary rock Rare Incomplete Organisms	Lesson 5 Influential scientist Mary Anning	Lesson 6 Organic matter Soil Rock Prediction	Lesson 7 Vocabulary from lesson 6
Resources						
Lesson 1 Miniscopes Rocks Magnifying glasses Sorting hoops	Lesson 2 Granite Chalk Limestone Slate Sandstone Marble Durability Permeability Hardness	Lesson 3 Granite Chalk Limestone Slate Sandstone Marble Durability Permeability Hardness	Lesson 4 Fossils Miniscops Internet access/textbook	Lesson 5 iPad/computer/textbooks	Lesson 6 Rock Water Soil	Lesson 7 Rock Water Soil Organic soil





Prior linked knowledge	National curriculum objectives	Future linked knowledge
<u>Y2</u> <ul style="list-style-type: none"> Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. 	<ul style="list-style-type: none"> 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. 	<u>Y5</u> <ul style="list-style-type: none"> Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object Identify the effects of air resistance, water resistance and friction, that act between moving surfaces Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.

Common misconceptions	Cross-curricular links	Possible hooks/enrichment activities
All metals are magnetic A bigger magnet has a stronger magnetic force	DT – forces used in moving monster	Make a magnetic board game

Lesson Sequence












Identify, group and classify	Comparative testing	Comparative testing	Identify, group and classify	Comparative testing	Pattern seeking	Observation overtime
Lesson 1 <i>Which forces are needed for children’s games?</i> To know that forces can make things move. To know that some forces do not need contact.	Lesson 2 <i>Does the surface affect the speed of a car?</i> To know that friction can impact how things move on different surfaces.	Lesson 3 <i>Which forces require contact?</i> To know that some forces need contact between two objects but magnetic forces can act at a distance.	Lesson 4 <i>Which materials are magnetic? Are all metals magnetic?</i> To group objects as magnetic or not magnetic. To know that some metals are magnetic and others are not.	Lesson 5 <i>Do both poles of a magnet attract to each other?</i> To know that magnets have two poles. To predict whether two magnets will attract depending on which poles are facing.	Lesson 6 <i>Does the size of the magnet affect the distance of its force?</i> To know that the size of a magnet does not impact its strength.	Lesson 7 <i>How long does a pin stay magnetised for?</i> To know which materials are magnetic.

Key skills taught						
Lesson 1 Ask relevant questions when prompted and using different types of scientific enquiries to answer them	Lesson 2 Take accurate measurements using standard units.	Lesson 3 Ask relevant questions when prompted and using different types of scientific enquiries to answer them	Lesson 4 Set up simple practical enquiries, comparative and fair tests with guidance.	Lesson 5 Make careful observations, starting to work systematically.	Lesson 6 Set up simple practical enquiries, comparative and fair tests with guidance.	Lesson 7 Make careful observations, starting to work systematically.
Key vocabulary						
Lesson 1 Forces Push Pull Twist	Lesson 2 Friction Forces Push Pull Surface Slip Slide	Lesson 3 Vocabulary covered in lesson 1-2 in addition to: Contact Non-contact Distance Magnetic force Magnets	Lesson 4 Vocabulary covered in lesson 1-3 in addition to: Magnetic Materials	Lesson 5 Vocabulary covered in lesson 1-4 in addition to: Poles North South	Lesson 6 Vocabulary covered in lesson 1-5 in addition to: Strength Size Shape	Lesson 7 Vocabulary covered in lesson 1-6 in addition to: Magnetised
Resources						
Lesson 1 Children's games	Lesson 2 Toy car Ramp Different surfaces Ruler	Lesson 3 Magnets Balloon	Lesson 4 Magnets A range of everyday materials	Lesson 5 Magnets	Lesson 6 A range of magnets, different sizes and shape	Lesson 6 Needle/pin Wood

Year group: Y3 – Spring 2		Subject Area: Science		Unit: Light		Subject Leader: K. Beetham	
Prior linked knowledge		National curriculum objectives				Future linked knowledge	
Y1 Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.		Pupils should be taught to: <ul style="list-style-type: none"> • 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 				Y6 <ul style="list-style-type: none"> • Recognise that light appears to travel in straight lines. • Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye. • Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. • Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. 	
Common misconceptions		Cross-curricular links				Possible hooks/enrichment activities	
The moon is a light source. Shadows contain details. Shadows are objects giving off darkness.		•D&T: Make a puppet for a puppet show				•Puppet show – shadows •Blindfold activity – importance of light	
Lesson Sequence							
Research 		Sort, classify and group 		Comparative testing 		Problem solve 	
Lesson 1 <i>How can I see?</i> To know that light is needed in order to see things. To know that dark is the absence of light.		Lesson 2 <i>What should I wear on my bike?</i> To know that light is reflected from surfaces.		Lesson 3 <i>Which material is best for my curtains?</i> To know the definition of opaque, translucent and transparent.		Lesson 4 <i>Are my sunglasses safe?</i> To know that light from the sun can be dangerous. To know that there are ways to protect their eyes. To know the definition of translucent and transparent.	
Lesson 5 + 6 <i>Can I make my puppet show grow?</i> To know that shadows are formed when the light is blocked by an opaque object. To know that the size of shadows can change. To know there are patterns in the way that shadows change size.							
Key skills taught							
Lesson 1 Using straightforward scientific evidence to answer questions or to support their findings.		Lesson 2 Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions		Lesson 3 Setting up simple practical enquiries, comparative and fair tests		Lesson 4 Identifying differences, similarities or changes related to simple scientific ideas and processes	
Lesson 5 + 6 Using straightforward scientific evidence to answer questions or to support their findings.							

Key vocabulary				
Lesson 1 Eyes Sight Light Darkness Sunlight Light source	Lesson 2 Vocabulary from lesson 1 in addition to: Surface Shiny Matt Reflective Dangerous	Lesson 3 Vocabulary from lessons 1 & 2 in addition to: Opaque Translucent Transparent Solid	Lesson 4 Vocabulary from lessons 1 – 3.	Lesson 5 + 6 Vocabulary from lessons 1-4 in addition to: Shadow Block Absence Solid Size
Resources				
Lesson 1 iPads/computers/ textbook Torches Blindfolds	Lesson 2 Torches Mirrors Reflective material Matt material	Lesson 3 Torches Material Opaque filter Translucent filter	Lesson 4 Sunglasses Translucent materials Transparent materials	Lesson 5 + 6 Torch Puppets made in DT Projector White wall

Year group: Y3 – Summer Term	Subject Area: Science	Unit: Plants	Subject Leader: K.Beetham
Prior linked knowledge <u>Y2</u> <ul style="list-style-type: none"> Observe and describe how seeds and bulbs grow into mature plants Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy 	National curriculum objectives <ul style="list-style-type: none"> 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. 	Future linked knowledge <u>Y4</u> <ul style="list-style-type: none"> Recognise that environments can change and that this can sometimes pose dangers to living things <u>Y5</u> <ul style="list-style-type: none"> Describe the life process of reproduction in some plants and animals. 	
Common misconceptions Food comes from the soil Flower is the plant	Cross-curricular links DT – plant and grow vegetables to use when cooking.	Possible hooks/enrichment activities Plant a range of plants. Trip to Broomhouse Farm to observe bees.	

Lesson Sequence										
Research 	Observation overtime 	Identify, group & classify 	Observation overtime 	Comparative testing 	Comparative testing 	Problem solve 	Research 	Research 	Pattern seeking 	Research 
Lesson 1 What are the functions of the roots, stem/trunk, leaves and flowers? To know the functions of different parts of flowering plants.	Lesson 2 <i>Do all plants need roots and leaves?</i> To know the functions of roots and leaves.	Lesson 3 <i>What is the function of the flower?</i> To know the functions of flowers.	Lesson 4 <i>How long does coloured water take to change the petals?</i> To know the function of a stem. To know how water is transported.	Lesson 5 <i>Do plants need soil to grow?</i> To know that nutrients from soil are required for some plant growth.	Lesson 6 <i>Does soil type impact the growth of plants?</i> To know that nutrients from soil are required for some plant growth.	Lesson 7 <i>How many plants can we fit in the flower bed?</i> To know that room to grow is a requirement for plants life and growth.	Lesson 8 <i>Do all plants require the same conditions?</i> To know that requirements for growth vary from plant to plant.	Lesson 9 What are the different types of seed dispersal? To know the role of seed dispersal in the lifecycle of a plant.	Lesson 10 <i>Are there more pollinators on the school field or in the woodland area?</i> To know the role that pollination is part of the life cycle of a plant.	Lesson 11 Who is Jan Ingenhousz? To know influential scientists.
Key skills taught										
Lesson 1 Asking relevant questions and using different types of scientific enquiries to answer them	Lesson 2 Setting up simple practical enquiries, comparative and fair tests	Lesson 3 Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions	Lesson 4 Setting up simple practical enquiries, comparative and fair tests	Lesson 5 Setting up simple practical enquiries, comparative and fair tests	Lesson 6 Setting up simple practical enquiries, comparative and fair tests	Lesson 7 Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a	Lesson 8 Asking relevant questions and using different types of scientific enquiries to answer them	Lesson 9 Asking relevant questions and using different types of scientific enquiries to answer them	Lesson 10 Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	Lesson 11 Asking relevant questions and using different types of scientific enquiries to answer them

							range of equipment.			
Key vocabulary										
Lessons 1-3			Lesson 4	Lesson 5	Lesson 6	Lesson 7	Lesson 8	Lesson 9	Lesson 10	Lesson 11
Roots	Transport		Stem	Nutrients	Nutrients	Vocabulary covered in lessons 1-6.	Vocabulary covered in lessons 1-6 in addition to:	Vocabulary covered in lessons 1-8.	Vocabulary covered in lessons 1-8.	Photosynthesis
Stem	Water		Transport water	Soil	Soil					
Trunk	Photosynthesis				Fertiliser					
Leaves	Attract									
Flowers	Pollinators									
Functions	Seed dispersal									
Anchor	Pollen						Conditions		Nectar	
							Desert		Pollen	
							Ocean		Stamen	
							Woodlands		Stigma	
Resources										
Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5	Lesson 6	Lesson 7	Lesson 8	Lesson 9	Lesson 10	Lesson 11
iPads/computers/textbooks	1 plant with no roots 1 plant with no leaves	Flowers Magnifying glasses Scissors	Coloured water Stopwatch White carnation	Seeds Cotton wool Water Soil	Different soil types Plants	Seed packets Ruler Flower pot	iPads/computers/textbooks	iPads/computers/textbooks	Outdoor area Record sheet	iPads/computers/textbooks