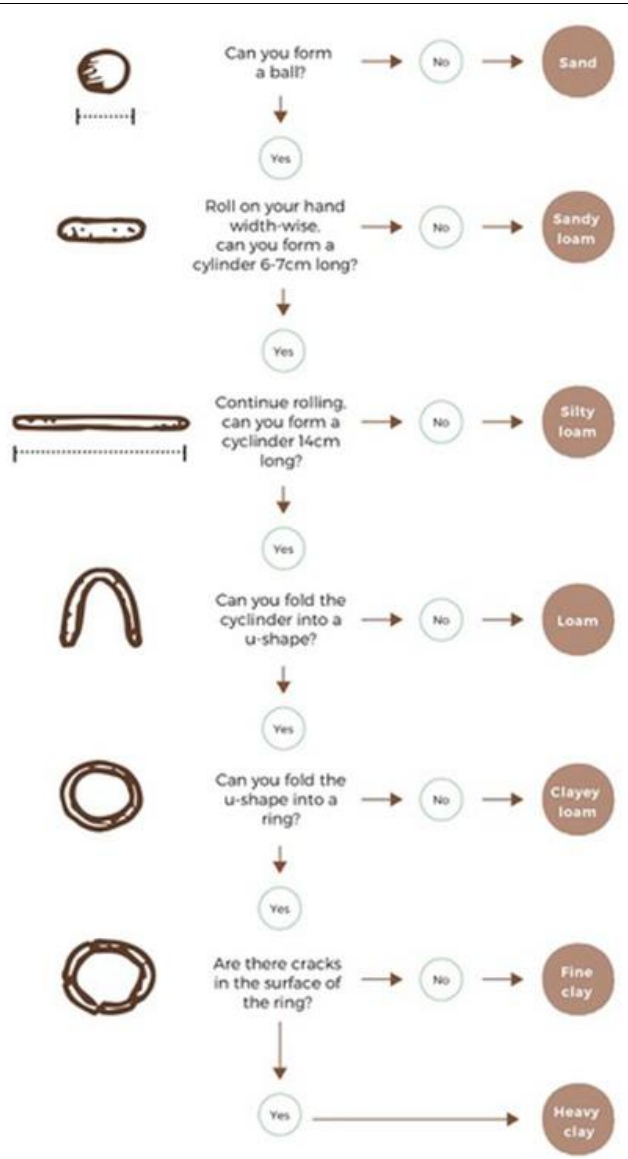
Subject: **Science -Chemistry**	
Year group: 3	Unit of Learning: Rocks and Soils
Prior Learning Children should be able to identify the different material objects are v made from including objects that are made from rock or brick and describe the properties of these materials.	**Future Learning** In year 4 pupils will learn to compare and group materials together, according to whether they are solids, liquids or gases. They will observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) In year 6 pupils will learn that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago

	Learning Objective	Component knowledge	Suggested Activity
Session 1 (1 hr)	**Are all rocks the same?** **How are they similar?** **How are they different?** **What are characteristics / properties of different rocks?** To begin to compare and group together different kinds of rocks on the basis of appearance and simple physical properties.	To know that rocks have different **properties** and **characteristics** including **- hardness** **- permeability** **- texture** **- lustre** **- density** **- particle size** **- crystals** **- layers**	**Are all rocks the same?** Use a hand-lens or microscope to look closely at a range of rocks. - identify particle size, crystals, layers, lustre (shiny / not shiny) Establish hardness rubbing rocks with sandpaper / scratching with a nail /rubbing on paper. Drip water on some rocks to establish if they are permeable. Place rocks in water to establish how dense (closely packed the particles) they are Dense rocks will sink to the bottom but some rocks will float. Pupils list the properties and characteristics of a small selection of rocks or have a tick sheet with opposing characteristics on E.g. hard / soft permeable / impermeable rough / smooth shiny / dull high density / low density large particles / small particles crystals / no crystals Discuss Why aren't all rocks the same? What makes them different?
Session 2 (1 hr)	**How can we group rocks based on their appearance**	To know that rocks can be grouped based on their **properties** and **characteristics**.	Slides 1-18 introduce rock formation – igneous, sedimentary, metamorphic Focus on **vocabulary**: slide 13+ Magnifying glasses

	or their physical properties? **What are the similarities and difference between igneous, metamorphic and sedimentary rocks?** To compare and group together different kinds of rocks on the basis of their appearance and simple physical properties **WS -** To gather, record, classify and present data in a variety of ways to help in answering questions **WS -** To identify differences, similarities or changes related to simple scientific ideas and processes	To know that rocks can be split into three main categories: **igneous, metamorphic** and **sedimentary**. To know that **igneous** rocks were formed when **molten rock (magma)** from **volcanoes** cooled. To know that **sedimentary** rocks are formed when **layers of sand, small pieces of rock** and other **natural material** are **compressed** (squashed) over a long time To know that **metamorphic** rocks are formed when **sedimentary** or **igneous** rocks are changed due to **heat** or **pressure**.	**Discovery**: sort rocks initially into two groups giving reasons (natural/ human made), then attempt to sort into three categories: igneous, sedimentary, metamorphic Use photos + rocks https://www.youtube.com/watch?v=2LwUV4VL1eY https://www.youtube.com/watch?v=FBd6du_3tDw + Rock workshop at Creswell Craggs
	How are fossils formed?	To know a fossil is the **preserved remains** or traces of a **dead** creature.	Cross curricular link -Mary Anning – in reading, not science

Session 3 1 hour	To describe in simple terms how fossils are formed when things that have lived are trapped within rock.	To know that fossils are formed through a process called **fossilisation**, and this takes place over many, many years. To know that **fossilisation** only happens in certain conditions and that is why not every living creature that dies becomes a fossil. To know how fossils are formed (see suggested activity)	A bit of fun – Hey Duggee – Fossil Badge https://www.youtube.com/watch?v=KHytG_mNRgI https://www.youtube.com/watch?v=KHytG_mNRgI https://www.bbc.co.uk/bitesize/topics/z9bbkqt/articles/z2ym2p3 Look at a variety of clips and create a study guide for other children explaining fossilisation through a summary or comic strip. After an animal dies, the soft parts of its body **decompose**. The hard parts, like the skeleton, are left behind. They become **buried** by small particles of rock called **sediment**. As more layers of sediment build up on top, the sediment around the skeleton begins to **compact** and turn to rock. The bones then start to be **dissolved** by water that passes through the rock. **Minerals** in the water replace the bone, leaving a **rock replica** of the original bone called a fossil. Collect soil samples for next sessions – from villages children live in linking to geography
Session 4 1 hour	**What is soil made from?** **Are all soils the same?** **Is soil from different places made up of the same component parts?** **WS** – To ask questions that can be investigated scientifically and begin to decide	To know that **soils** are made up of different natural ingredients and **organic matter including** particles of **dead and rotting plants and animals (humus), rock, air and water**	https://www.bbc.co.uk/bitesize/topics/z9bbkqt/articles/zgqkcmn Use classification key below to identify what types of soil we have on the school grounds

	how to find the answers. To begin to recognise that soils are made from rocks and organic matter.		

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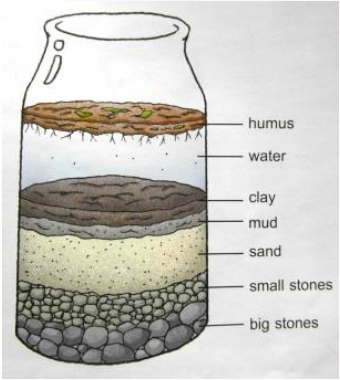
<td>Investigation
Enquiry Question: How do rocks and soils from different places differ?
Complete group fair test planning/ predicting sheet

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<tr>
<td>Session
5
1 hour</td>
<td>Is soil from different places made up of the same component parts?
To recognise that soils are made from rocks and organic matter.
WS -To set up simple practical enquiries, comparative and fair tests</td>
<td>To know that soils from different places will have a different amounts of
-humus
-clay
-mud
-sand
-small rocks
- large rocks

To know that the different parts of the soil can be separated into layers using a sediment jar and allowing the densest parts to sink to the bottom</td>
<td>Conduct investigation(s) – sediment jar/ sorting soil

Use collected soil samples for creating sediment jars and sorting soil with magnifying glasses and hands.
Measure each layer of sediment and complete table
<table>
<tr><td></td><td>Sample 1</td><td>Sample 2</td><td>Sample 3</td><td>Sample 4</td></tr>
<tr><td>Humus</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Clay</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Mud</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Sand</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Small stones</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Big stones</td><td></td><td></td><td></td><td></td></tr>
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	WS -To make systematic and careful observations and, where appropriate, taking accurate measurements using standard units **WS** -To gather, record, classify and present data in a variety of ways to help in answering questions. **WS** -To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables **WS** -To report on findings from enquiries, including oral and written explanations, of results and conclusions		Science vocabulary used in cross curricular writing **Challenge**: how might a soil or rock sample from La Palma in the Canary Islands differ from our soil samples?

Session 6	ASSESSMENT	<u>Key Assessment Criteria</u> To know rocks have different properties and appearances and we can use these to sort them into different groups (NC- To compare and group together different kinds of rocks on the basis of their appearance and simple physical properties) To know that soils are made up of different natural ingredients and organic matter including particles of dead and rotting plants and animals (humus), rock, air and water. (NC - To recognise that soils are made from rocks and organic matter.)	

Subject: **Science - Physics**			
Year group: 3			Unit of Learning: Forces and Magnets
Prior Learning Pupils should be able to: identify objects made from metal and explain some of the properties associated with this material. Pupils may benefit from recapping how to draw suitable graphs depending on whether this has been covered in maths so far this year.			Future Learning: In Year 5 pupils will learn that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. They will identify the effects of air resistance, water resistance and friction, and recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.
	Learning Objective		Suggested Activity
Session 1 (1 hr)	**What is a force?** **Do all forces need to contact between two objects to work?** To notice that some forces need contact between two objects, but magnetic forces can act at a distance	To know that some **forces** need contact between two objects, but **magnetic** forces can act at a distance.	**Discovery** Set up a carousel of activities that require force Hockey stick and ball, tug of war, rolling a hula-hoop, tennis bat and ball, ripping paper, stretching elastic band, car moving down the ramp Can you move the ball without anything touching it? Can you pull the rope without anything touching it? Can you roll the hoop without anything toughing it? Can you rip the paper without anything touching it? Can you stretch the elastic band without touching it? Explain that many forces need contact between two objects but magnetic forces do not. Can you make a magnet move without touching it? Can you make a paperclip move without anything touching it? Discuss what people have learned about forces. Some forces need contact but magnets can work at a distance. Can they think of other forces that work at a distance? (Record learning - Photos and a statement in books)
Session 2 (1 hr)	**What are the parts of a magnet called?** **What is attraction and repulsion?** **Do magnets attract or repel each other?**	To know that magnets have two **poles** called the **north pole** and the **south pole**. To know what the **forces** of **attraction** and **repulsion** are. To know that **opposite poles attract** each other To know that the **same** poles **repel** each other.	Watch https://www.bbc.co.uk/bitesize/topics/zyttyrd/articles/zpvcrdm Complete investigation Predict: South to South Attract or Repel South to North Attract or Repel North to North Attract or Repel North to South Attract or Repel

	Are all objects or materials are attracted to magnets (magnetic)? To describe magnets as having two poles To predict whether two magnets will attract or repel each other, depending on which poles are facing. To observe how magnets attract or repel each other and attract some materials and not others	To BEGIN know **magnetic materials** are always made of **metal,** but not all **metals** are **magnetic.**	…And test (Photos) Provide pairs of children with a magnet and allow them to explore the classroom finding items that are attracted to the magnet. Pupils list magnetic items and begin to hypothesise… "what do you think you have found out?"
Session 3 (1 hr)	**Which materials are magnetic (attracted to magnets)?** **What do magnetic objects have in common?**	To know that **magnets attract** some **materials** such as **iron** and **steel** but not others including **copper, aluminium brass, glass, plastic, wood** To know that **magnets attract** objects made from **metals** such as **iron** and **steel** but not others including those made from	Provide pupils with a variety of metal and non-metal / magnetic and non-magnetic items. Pupils predict which items/materials will be magnetic then test their theories. Pupils draw conclusions Non-metal objects are not magnetic. Not all metal objects are magnetic https://www.bbc.co.uk/bitesize/topics/zyttyrd/articles/zw889qt

	To 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	**copper, aluminium brass, glass, plastic, wood**	
Session 4 (1 hr)	**Are bigger magnets stronger?** **Does the size of the magnet affect its strength?** **How could we answer this question or test Hogarth's idea?** **WS -** To set up simple practical enquiries, comparative and fair tests **WS -** To gather, record, classify and present data in a variety of ways to help in answering questions **WS -** To record findings using simple scientific language,	To know that **stronger magnets** can lift more or heavier objects. To know that a fair test involves changing one variable – the independent variable To know that a fair test involves measuring one variable – the dependent variable To know that a fair test involves controlling all the other variables – the control variable To know how to write a scientific question and make a prediction To know how to record findings in a table.	Iron man has sustained damage in battle. Many of his small screws have been scattered out of reach. He needs them back but only the strongest magnet will do the job. Hogarth thinks the biggest magnet will be the strongest. Design a simple test to find out if Hogarth is correct. Provide groups of children various magnets. Discuss methods of testing the magnets strength – stressing that the test should not be based on opinion but on something we can count or measure. Demonstrate making a paperclip chain and explain that the magnet with the longest chain has the strongest magnetic pull Question: Does the size of the magnet affect its strength? Prediction: I think the bigger magnet the more paper clips it will hold. Share equipment with children purposely offering different sized and styles of paper clip Discuss fair testing and the need to change only one variable Independent variable - change - Magnets Dependent variable – measure – number of paper clips Control variables – remain the same – type / size of paperclips / pole of magnet Pupils work in small groups to complete results table

<table>
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<td>drawings, labelled diagrams, keys, bar charts, and tables
WS - To report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
WS - To use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</td>
<td>To know how to record findings in a bar chart

To know how to report and explain findings and draw conclusions based on the results</td>
<td>
<table>
<tr><th>Magnets ordered from largest to smallest</th><th>Number of paper clips</th></tr>
<tr><td>1</td><td></td></tr>
<tr><td>2</td><td></td></tr>
<tr><td>3</td><td></td></tr>
<tr><td>4</td><td></td></tr>
<tr><td>5</td><td></td></tr>
</table>
Pupils record findings and draw conclusions
Conclusion: The size of the magnet did /did not affect its strength.

Pupils could complete write up during session or in a subsequent session

Complete write up
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<td>Session 5 (1 hour)</td>
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<td colspan="2">ASSESSMENT WEEK
<u>Key Assessment Criteria</u>
To know that magnets have two poles called the north pole and the south pole.
To know that opposite poles attract each other and that the same poles repel each other.
(NC- To predict whether two magnets will attract or repel each other, depending on which poles are facing.)
To know that magnets attract objects made from metals such as iron and steel but not others including those made from copper, aluminium brass, glass, plastic, wood
(NC- To 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.)</td>
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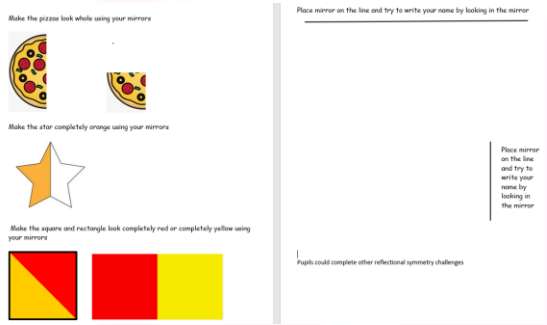
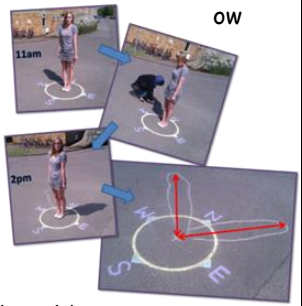
Subject: **Science - Physics**			
Year group: 1			Unit of Learning: **Light**
Prior Learning These is no specific teaching about light prior to year 3. In foundation stage pupils will have learned about light sources through role play and provision and in year one may have learned about lighting in the home through studying life in Victorian times. In year 2, pupils learn that plants need sunlight to survive.			**Future Learning:** In Year 5 pupils will learn about the solar system and the light sources with it. In Year 6 pupils will learn that light appears to travel in straight lines and use this understanding to explain that objects are seen because they give out or reflect light into the eye. The will also use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.
Theme	Learning Objective		Suggested Activity
Session 2 1 hour	**What is light and why is it important to us?** **What happens if…** **…there is no light?** **…something blocks the light?** **… you shine light of objects?** **…you look at the sun?** To recognise that they 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	To know that **light** is a type of **energy** To know that they need **light** in order to **see** things To know that **dark** is the **absence** of light To know that light is **reflected** from some **surfaces** To know that light from the **sun** can be **dangerous** and that there are ways to **protect** their eyes To know that **shadows** are formed when the **light** from a **light source** is blocked by an **opaque** object	Introduce Science topic using these clips. Display or share vocabulary first and ask children to listen out for these words in the videos. https://www.bbc.co.uk/bitesize/topics/zbssgk7/articles/z2s4xfr https://www.bbc.co.uk/bitesize/clips/zg6r82p Provide children with a range of light sources and allow them to investigate and make discoveries about 'what happens if…' Carousel of activities 1. **OHP and a range of transparent, translucent and opaque objects** 2. **Torches** Investigate shadows making shadows / changing size 3. **Torch's and a range of reflective and non-reflective materials** sorting 4. **Visit the Purple Room to experience total darkness** To recognise that they need light in order to see things and that dark is the absence of light 5. **iPads or Laptop station** To recognise that light from the sun can be dangerous and that there are ways to protect their eyes Pupils record what they discover and share findings. Some ideas could lead nicely on to investigation…

	their eyes To recognise that shadows are formed when the light from a light source is blocked by an opaque object **WS** - To ask relevant questions and using different types of scientific enquiries to answer them		
Session 3 1 hour	**What happens to light when it hits a surface?** To notice that light is reflected from surfaces.	To know that **reflection** involves light **travelling** towards a surface and **bouncing off** of it. To know that **mirrors reflect** lots of **light**, but most objects **reflect** at least some **light**. To know that smooth, shiny surfaces such as mirrors and polished metals reflect light well. To know that dull and dark surfaces, such as dark fabrics, absorb light so they do not reflect it well.	Light is a type of energy that we can see, and mirrors are a great way to teach the properties of light. When light meets the surface of an object, three things can happen. The light can be bounced (reflected), bent (refracted), or absorbed. https://www.bbc.co.uk/bitesize/topics/zbssgk7/articles/zqdxb82 https://www.youtube.com/watch?v=QJYhDINUEys Complete mirror challenges / games - 

Session 4 1 hour	**What is transparent, translucent, opaque?** **How are shadows formed?** To recognise that shadows are formed when the light from a light source is blocked by an opaque object	To know what the terms **transparent** means lets lots of **light** through allowing us to see through it clearly. To know what the terms **translucent** means lets some of **light** through. To know that **opaque** means lets no light through meaning we cannot see through it. To know a **shadow** is a **dark shape** made when **light** is **blocked** by an **opaque** object. To know that **light bounces** back off the **opaque** object and a **shadow** is formed on the **opposite** side to the **light source**.	Give children a range of transparent translucent and opaque all ow children to investigate making shadows. Take figures / small world toys on the playground on a bright sunny day and ask children to investigate how they can make the shadow grow bigger. Children could also make shadows with own body at different times of day and discuss what they notice and why they think that happens.  In the classroom children use torches to make the shadow of a small world toys grow and record by drawing around the shadow. Plenary children complete true or false quiz Shadows are the same size as the object that is blocking the light Shadows are created when light is reflected from a surface The nearer the object to the light source the bigger the shadow it makes. Shadows are the same shape as the object blocking the light.
Session 5 1 hour +	**How do shadows change throughout the day?** **Does the time of day affect the length of shadow produced by the sun?** To find patterns in the way that the size of shadows changes. WS - To set up simple practical enquiries,	To know that **light bounces** back off the **opaque** object and a **shadow** is formed on the **opposite** side to the **light source**. To know that the **closer** to the **light source** an object is, the **bigger** the shadow will be because the object blocks more of the light. To know the **further away** from the light source an object is, the **smaller** the shadow will be because it can't block as much light.	Pupils set up an enquiry to answer the question Does the distance from the light source affect the size of the shadow?

	comparative and fair tests WS - To gather, record, classify and present data in a variety of ways to help in answering questions WS - To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables WS - To report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions WS - To use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions		

Session 6	ASSESSMENT WEEK	Key Assessment Criteria To know that light is reflected from some surfaces and that shadows are formed when the light from a light source is blocked by an opaque object (NC- To predict whether two magnets will attract or repel each other, depending on which poles are facing.) To know that the size and position of the shadow changes depending on the position of and distance from the light source. (NC- To find patterns in the way that the size of shadows changes.)

Subject: **Science - Biology**			
Year group: 3		Unit of Learning: **Plants**	
Prior Learning: Children should be able name a variety of plants and identify their different parts. They should know how seeds and bulbs grow into mature plants understand that plants need water, light and a suitable temperature to grow and stay healthy.		**Future Learning:** In Year 4 pupils will use classification keys to identify plants in their local environment they will also recognise plants' role as producers in food chains. In Year 5, Pupils will learn about sexual and asexual reproduction in plants. Finally Pupils in year 6 will learn about how living things including plants adapt in order to survive in different environments	
Theme	Learning Objective		Suggested Activity
Session 1 1 hour	**What are the different parts of a plant called and what is their function?** To identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers **WS -** To gather, record, classify and present data in a variety of ways to help in answering questions. **WS -** To record findings using simple scientific language, drawings, labelled diagrams, keys	To know the **roots** of a plant take up **water** and **nutrients** from the soil and also keep the plant steady and upright in the soil. To know the **stem** carries **water** and **nutrients** to different parts of the plant. To know the **leaves** use light from the sun, along with carbon dioxide from the air and water to make food for the plant. This process is called **photosynthesis**. To know some plants have **flowers** which are involved in **reproduction** and **produce seeds** from which new plants grow.	HOOK: Cress seeds Share/ display vocabulary again identify familiar terms https://www.bbc.co.uk/bitesize/topics/zy66fg8/articles/zcjnp39 Labels: • The **roots** of a plant take up water and nutrients from the soil. The roots also keep the plant steady and upright in the soil. • The **stem** carries water and nutrients to different parts of the plant. • The **leaves** use light from the sun, along with carbon dioxide from the air and water to make food for the plant. This process is called photosynthesis. • Some plants have **flowers**. These are involved in reproduction and produce seeds from which new plants grow. Provide children with plants / vegetables (Mr Wilson) identify roots, stem/trunk, leaves and flowers **What are the different parts of the plant and what do they do?** Pupils label the parts.
Session 2 1 hour	**How is water transported in plants?**	To know the **roots** of a plant take up **water** and **nutrients** from the soil and also keep the plant steady and upright in the soil.	Pose the question Pupils share ideas – Kagan

	How can we test our ideas? To investigate the way in which water is transported within plants. WS - To gather, record, classify and present data in a variety of ways to help in answering questions. WS - To record findings using simple scientific language, drawings, labelled diagrams, keys WS - To make systematic and careful observations WS - To record findings using simple scientific language, drawings, labelled diagrams, keys	To know the **stem** carries **water** and **nutrients** to different parts of the plant.	Sandeep says if you put a stick of celery in coloured water the the leave will turn that colour because the liquid will be transported through the stem to the leaves Do you agree disagree with Sandeep? How could you test his theory?  Revisit and draw conclusions Strong solution and time may be necessary for this to work effectively.

Session 3 1 hour	**How do flowering plants reproduce?** To explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. **WS -** To make systematic and careful observations **WS -** To record findings using simple scientific language, drawings, labelled diagrams, keys	To know many **plants** rely on **insects** like **bees** to **reproduce**. To make a **seed**, a flower needs to be **pollinated**. To know that **insects** are **attracted** to **flowers** by their bright colours and strong smells. **Insects** drink the sugary **nectar** and collect **pollen**. Insects fly to a second flower to **pollinate** it. The flower starts to **die** and make **seeds**. **Seeds** are **dispersed** (spread).	Share/ display vocabulary again discuss familiar terms Focus on flower vocab stamen stigma sepal petal ovary pollen style https://www.bbc.co.uk/teach/class-clips-video/science-ks1-ks2-ivys-plant-workshop-the-anatomy-of-the-flower/zjmhkmn Ask children to dissect a large flower carefully keeping all the parts ready for identification later. Give pupils the name and function of each part and ask them to predict/match the part they have dissected to the correct label Share learning and correct misconceptions
Session 4 1 hour	**What are the different ways plants disperse their seeds?** To explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.	To know that **seeds** contain everything a new **plant** needs to start growing (**germinate**). To know different plants, have different methods of **dispersal**. To know the main method of **seed dispersal** are: **gravity, animal, wind, water and explosive.** To know that the new seed will only **germinate** and grow into a new plant when the conditions are right.	https://www.bbc.co.uk/bitesize/topics/zy66fg8/articles/zrrk4xs#zrgttrd8 Explore the school environment and look for examples of different types of seed dispersal. Make predictions about the methods of seed dispersal in different plants. Pupils could use iPads to research using QR codes https://www.youtube.com/watch?v=nJAbo-F6tO4 https://www.youtube.com/watch?v=eHQXBCJhuZ0 https://www.youtube.com/watch?v=3G1arGl8RvA

			Pupils could create a revision guide or poster to support other children learning about seed dispersal.	
	ASSESSMENT WEEK		<u>Key Assessment Criteria</u> To know the functions of a plant's roots, stem/trunk, leaves and flowers (NC- To identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers) To know the role of flowers in the life cycle of flowering plants, including, pollination, seed formation and dispersal (NC-To explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.)	
Throughout the year			Explore the school environment at different points of the year looking for examples of plant life cycles and the varying stages different plants are at as research for poster To explore the part that flowers play in the life cycle of flowering plants, including seed dispersal. https://www.youtube.com/watch?v=aC3pQ9RU9YA Stand Alone lesson in Autumn - Foraging	

Subject: **Science - Biology**			
Year group: 3			Unit of Learning: **Animals including humans – nutrition**
Prior Learning: Children should be able name animals that are carnivores, herbivores and omnivores and describe how animals obtain their food from plants and other animals, using the idea of a simple food chain. They will be able to describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.			**Future Learning:** In Year 4 pupils will use classification keys to identify plants in their local environment they will also recognise plants' role as producers in food chains. They will also learn about the different types of teeth and their specific function.
	Learning Objective		Suggested Activity
Session 1 1 hour	**Why do we need food? What is a healthy diet and why is it important?** 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.	To know that **humans** cannot make their own **food**. To know that **humans** get nutrition from what they eat. To know that **humans** need the right amount and types of **nutrition**. To know that the **food** we **eat** can be grouped into; **proteins, carbohydrates, milk and dairy products, food high in fat or sugar, fruit and vegetables**. To know a **balanced, healthy diet** is made of the right amounts of all these foods.	Last Half tem we were learning about plants. We learned that plants can make their own food using energy from the sun. **Can humans do that?** Ask children to answer the question using chosen Kagen technique. **Why do we need food?** Have vocabulary displayed and tick or highlight words that children use in their answers. The next part of the session will be split into two tasks. <u>Task A</u> – Sorting food items in different ways Healthy / unhealthy Should eat large amounts / should only eat small amounts Eat regularly / Eat occasionally Rank them from best for our bodies to worst *Discuss, ask questions, clarify and identify misconceptions,* <u>Task B</u> – interview Mr Halstead. **What is a healthy diet and why is it important?**

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Session 2 1 hour	**What is a healthy diet and why is it important?** **What are the different food groups and what do they do for our bodies?** • 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.	To know that the **food** we **eat** can be grouped into; **proteins, carbohydrates, milk and dairy products, food high in fat or sugar, fruit and vegetables**. To know a **balanced, healthy diet** is made of the right amounts of all these foods. To know that **protein** helps our body to **grow and repair** itself. To know that **carbohydrates** give our body to **energy**. To know that **milk and dairy products** make our **bones and teeth strong**. To know that **fruit and vegetables** provide **vitamins and minerals** that help our body work properly.	To keep our bodies healthy, it is important to eat a healthy balanced diet. A child's diet should include: • at least five portions of a range of fruit and vegetables every day • meals based on starchy foods for energy, such as potatoes, bread, pasta and rice • some milk and dairy products to provide calcium • some foods that are good sources of protein, such as meat, fish, eggs, beans and lentils. Discuss the statement above. Do they think their diet included all those things. Look at healthy food plate. Why is it important to include these things in a diet? https://www.bbc.co.uk/bitesize/topics/zrffr82/articles/zppvv4j
			DT links – Design food to fit brief Retrieval practise throughout
	ASSESSMENT WEEK		To know that the **food** we **eat** can be grouped into; **proteins, carbohydrates, milk and dairy products, food high in fat or sugar, fruit and vegetables**. To know which category some foods belong to. To know a **balanced, healthy diet** is made of the right amounts of all these foods. (NC - 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.)

Food and health

(a) Damon has a balanced diet. It helps him to keep healthy.

Which of the following **best** describes a **balanced** diet?

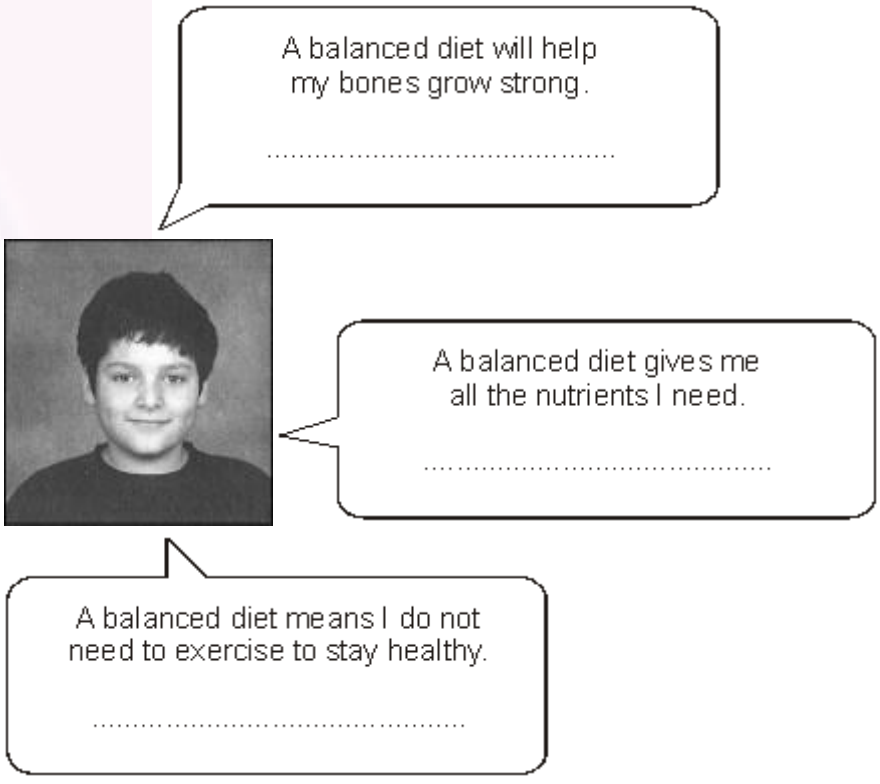
Tick **ONE** box.

eating mostly fruit and vegetables	☐	eating foods from different food groups	☐
taking vitamin pills	☐	not eating sweets	☐

1 mark

(b) Damon has some ideas about his balanced diet.

Write **true** or **false** next to each idea below.



(c) In a balanced diet, each food group has a special function in the body. Each food below is a good source of something the body needs.

Draw **THREE** lines below to match each food to its special function.

Food	Function: Good source of...
carrots and oranges	fuel for activity.
chicken and eggs	new material for growth.
bread and cakes	vitamins for health.

1 mark

(d) Nasreen makes a poster to show how to stay healthy. Only some of the ideas on her poster are good.

Tick **TWO** boxes to show the best ideas on the poster below.

To stay healthy you should:

- eat lots of fried food. ☐
- eat different kinds of food. ☐
- never eat sugary foods ☐
- exercise often. ☐

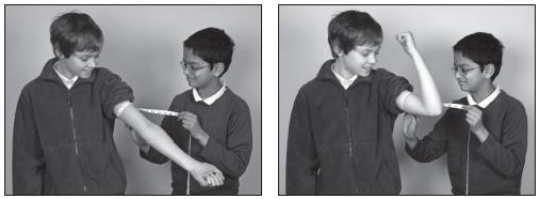
Subject: **Science - Biology**		
Year group: 3		Unit of Learning: **Animals including humans – Skeletomuscular system**
Prior Learning Children should be able name and label the basic parts of the human body and say which part of the body is associated with each sense. (Year 1)		**Future Learning** In Year 4 pupils learn about the digestive system. In year 6 pupils learn about the respiratory and circulatory system.
Theme	Learning Objective	Suggested Activity
Session 1 1 hour	**Do all animals have skeletons?** **What similarities and differences are there amongst skeletons from different species?** **What is the purpose of an animal's skeleton?** To identify that humans and some other animals have skeletons and muscles for support, protection and movement.	To know that some animals have **skeletons** on the inside, some have an **exoskeleton** and some have no **skeleton** at all. To know that although **skeletons** of different animals may look different they have many of the same parts.

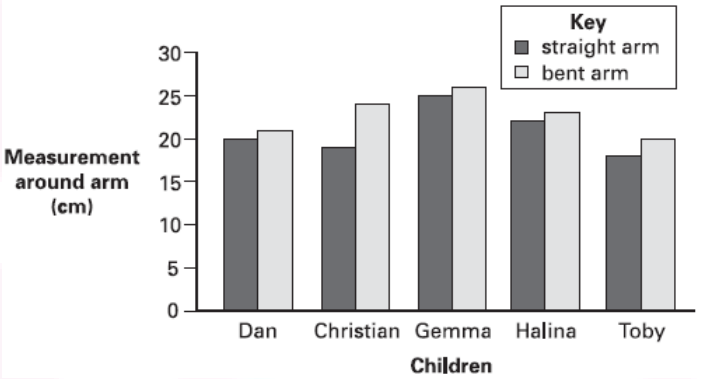
Introduce new vocab in one of the following ways or one of your own:
Ralley Coach
Children tick off words that they can already define. Then work with their shoulder partner to help coach partner on unfamiliar words.

Look at different skeletons (models or photographs)

Choose two photographs of different skeletons and children use vocabulary to write a list of similarities and differences.

Ask:
Do all animals have skeletons?
What is the purpose of an animal's skeleton?

Session 2 1 hour	**What are the different parts of a skeleton called?** **Do all parts of a skeleton have the same purpose?** **What is the purpose of each part of our skeleton?** To identify that humans and some other animals have skeletons for support, protection and movement.	To know that many animals have a skeleton **to support and protect** their body and to **help it move**. To know the **human skeleton** is made of **bones**. To know our **skull** protects our **brain** and our **ribs** protect our **heart and lungs**. The **skeleton** bends at **joints** such as knees and ankles. To know that **joints** are where **two or more bones join together** To know that **muscles** are attached to **bones** by **tendons** and help them to move.	If children feel comfortable draw around a child alternatively draw the outline of a body. In groups children draw the skeleton and label the bones. Introduce the concept that parts of our skeleton provide support, protection or movement using these clips https://www.bbc.co.uk/bitesize/clips/ztfnvcw https://www.bbc.co.uk/bitesize/topics/z9339j6/articles/zqfdpbk https://www.bbc.co.uk/bitesize/topics/zv9qhyc/articles/zr942sg Pupils review the diagram they created earlier and add information about support, protection or movement
Session 3 1 hour	**Can skeletons move without muscles?** **How do muscles make our bodies (bones) move?** To identify that humans and some other animals have muscles for movement. WS- To ask relevant questions and using different types of scientific enquiries to answer them	To know that **muscles** are attached to **bones** by **tendons** and help them to move. When a **muscle contracts** (bunches up), it gets **shorter** and so **pulls** on the bone it is attached to. To know when a **muscle relaxes**, it goes back to its **normal size**. To know **muscles** can only pull and cannot push so they work in **pairs** to move a **joint**. One **muscle** will **contract** and **pull** a **joint** one way and **another muscle** will **contract** and **pull** it the other.	Explain that bones couldn't move without muscle pulling them. (muscles can only pull that's why they work in pairs) Muscle Bitesize clip Aziz is comparing the size of straight arms and bent arms. He measures around the top of his friend's arm when it is straight and when it is bent.  He repeats his investigation with other friends. Aziz makes sure his investigation is fair. Write **true** or **false** next to each statement to show if it would make Aziz's investigation fair. **True** or **false**?

	WS- To set up simple practical enquiries, comparative and fair tests WS - To make systematic and careful observations taking accurate measurements using standard units		To make his investigation fair, Aziz must... make sure everyone rolls up their sleeves ..... measure the arms of lots of children ..... measure around the arms in the same place .....  Discuss what the findings show and what that means? Children recreate Aziz's investigation with the people on their table. Do they get similar results
Session 4 1 hour	**ASSESSMENT WEEK**		<u>Key Assessment Criteria</u> To know the role of some of the different bones (support, protection, movement) (NC- To identify that humans and some other animals have skeletons for support, protection and movement.) To know that muscles work in pairs, when a muscle contracts it pulls the bone connected to it. (NC - To identify that humans and some other animals have muscles for movement.)