

## Science Scheme of Work

### Year 1 – Autumn 1 and 2

#### Topic: Incredible Me and My Super Senses

Activities	Intended Outcomes	Key Vocabulary and Questions
<p><u>Senses</u></p> <ul style="list-style-type: none"> <li>Hook – The aliens have landed!</li> </ul> <p>Create a crash site for an alien spacecraft on the playground. You could place cones around it and some safety tape. Leave some evidence showing that the aliens had left the site. Have something that the aliens have left behind which is a communication between them and you. The aliens could ask the children to help them with their mission. They are trying to find out about humans and other animals on our planet.</p> <p>Identifying – What are the names of the different parts of our bodies?</p> <p>-Discuss with the children what all animals have in common. Ask the children “Are humans animals?” – i.e. do we move, sense, eat, get rid of waste, grow, breathe and make more of ourselves?</p> <p>-Sing and do actions to ‘Head, Shoulders, Knees and Toes’ to begin to establish the names of the parts of the body.</p> <p>-Play a game in a group. One child calls out, ‘We use this part of the body to ...’. The other children must try to point to the correct part of their bodies.</p> <p>Recording</p> <p>-Children can draw an outline of the human body and label the main parts or take a photo of child laid on floor and print for labelling.</p> <p>Extension-Some of the children could use this as a way of telling the aliens what the functions are for the different parts of our bodies.</p>	<p><u>Animals, including humans-:</u></p> <ul style="list-style-type: none"> <li>To be able to identify, name, draw and label the basic parts of the human body.</li> </ul>	<p>Animals including Humans-; Head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth Hear, see, touch, taste, smell</p>
		<p><b>Assessment Opportunities</b></p> <p>Link to end of unit on Insight-:Animals including Humans (human part)</p>
		<p><b>Resources</b></p> <ul style="list-style-type: none"> <li>Resources for making a crash site for an alien spaceship, Posters of the humans body, Model skeletons of human and other animals</li> <li>Foods for tasting (check for allergies)</li> </ul>

<p>Simple test – What can our different senses do?</p> <p>Hook - Explain that the aliens are interested in how humans sense the world around them. You could invent some special senses that the aliens might have: they have a feature that allows them to read the mind of others, and even telescopic eyesight!</p> <p>Observations – Using the senses</p> <p>Introduce and teach the children how to use simple pre prepared tables to gather and present their results in.</p> <ol style="list-style-type: none"> <li>1. Taste table – fruit pastille challenge, guess the flavour (hold nose). Record on simple pre prepared table.</li> <li>2. Sight – use the digital microscopes and hand lenses to look carefully at a range of objects/materials. What do they think the images are? Make colour spinners to observe mixing colours. Make observations of other physical phenomena e.g. reflections in mirrors.</li> <li>3. Sound – play some sound through the computer. Which ones can they identify? Record in a simple pre prepared table. Make pairs of shakers(plastic eggs or lidded pots) with different contents(rice, coins, beads, dried peas or lentils, paper clips) for the children to shake. Can they find the pairs?</li> <li>4. Feeling – Place objects in a mystery bag. Which ones can they identify by feeling? Now try it with a sock on your hand or glove on! Does it make it harder? Make a feely book or fill in a simple pre prepared table.</li> <li>5. Smell – Place different flavours of crisps in a bowl. Can they identify the flavour by only smelling the crisps? Record in a simple pre prepared table. Observe a bonfire- which senses can you use? I can see..hear...smell..</li> </ol> <p>Recording -Children now add to their labelled body diagram where the senses can be found.</p> <p>Research – How good are the senses of other animals?</p> <p>Present some information (books, internet) to children about the incredible senses of other animals; e.g. how well badgers can smell, bats can hear, owls can see etc.</p>	<p><u>Animals, including Humans-:</u></p> <ul style="list-style-type: none"> <li>• To know which part of the body is associated with each sense.</li> <li>• To be able to use their senses to compare different textures, sounds and smells (non-statutory)</li> </ul> <p><u>Working Scientifically-:</u></p> <ul style="list-style-type: none"> <li>• To be able to take part in practical activities.</li> <li>• To be able to observe closely, using simple equipment.( Hand lenses)</li> <li>• To be able to gather relevant data with support.</li> <li>• To be able to record data and fill in simple pre prepared tables pictorially (including a tick or cross) or with numbers or simple observations.</li> </ul> <p><u>Working Scientifically-:</u></p> <ul style="list-style-type: none"> <li>• To be able to use secondary sources with support to find out answers to questions and research areas of interest.</li> </ul>	<p>Hand held magnifiers, digital microscopes or images from microscopes.</p> <p>Mystery sounds on the computer. Pairs of shakers with contents.</p> <p>Feely bag and objects, sock or glove</p> <p>Fruit pastilles or other flavoured chewy sweets.</p> <p>Different flavours of crisps.</p> <p>Pre prepared tables.</p>
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## Science Scheme of Work

### Year 1 – Autumn 1 and 2 continued Topic : Incredible Me and My Super Senses

Activities	Intended Outcomes	Key Vocabulary and Questions
<p>This unit of study cannot be covered in just one term. Throughout the year the children will make observations in each season. What do we mean by seasons and weather? Take the children outside. Talk about what the weather is like. Ask them to name different types of weather. Is the weather is the same all year through in our country?</p> <p>Establish a time-line Show children the names of different months. With the children's help, place them in the correct order in a line on the playground. Find the present month on the timeline and ask one of the children to stand there. Establish which season you are in. Although the Seasons start and finish mid -month officially, they can basically be divided into Winter- December, January, February, Spring-March ,April, May and so on. Place 2 colour cones on the months that show the start and end of that season. Repeat with the other three seasons using different colours of paired cones. Show pictures of the weather in different seasons. Place this in a pile face-down on the playground. Choose children to select a picture and then place it in the correct place on the time-line.</p> <p>How can we observe and measure the weather? After watching the following videos, the children can name all the different types of weather that they know. They can then share stories about their warmest day, or when they played in snow, etc. <a href="http://www.bbc.co.uk/learningzone/clips/an-introduction-to-weather/481.html">http://www.bbc.co.uk/learningzone/clips/an-introduction-to-weather/481.html</a> , <a href="http://www.bbc.co.uk/learningzone/clips/how-does-the-weather-affect-what-we-do/479.html">http://www.bbc.co.uk/learningzone/clips/how-does-the-weather-affect-what-we-do/479.html</a></p>	<p><u>Seasonal Changes-:</u></p> <ul style="list-style-type: none"> <li>Observe changes across the four seasons.</li> <li>To be able to observe and describe weather associated with the seasons and how day length varies.</li> </ul>	<p>Seasonal Change-; Seasons; spring, summer, autumn, winter Year, months, days Hot, warm, mild, cold Sunny Cloudy Rain, sleet, snow, hail, thunder, lightning, rainbow Wet, damp, dry Windy, breezy, gust Temperature Degrees Celsius Thermometer Weather vane Anemometer Plants-: Deciduous, evergreen</p>
		<p style="text-align: center;"><b>Assessment Opportunities</b></p>
		<p>Link to unit on Insight-: Seasonal Changes</p>

<p>Allow children to discuss how they could observe and measure the weather throughout the year. The following video is a good introduction to how to measure different aspects of the weather: <a href="http://www.bbc.co.uk/learningzone/clips/making-weekly-weather-recordings/11176.html">http://www.bbc.co.uk/learningzone/clips/making-weekly-weather-recordings/11176.html</a></p> <p>What do you want to know? As a class gather children’ questions about what they want to know about the seasons. Recorded on the white board and/or in the class floor book. As part of the Class book, select a tree that the class can have a photo next to each month or at least once during each season. Use pupil voice to describe the tree.</p> <p>Being a detective This game is designed to enable the children to first recognise that there are a range of ways we can find out things in science, and then secondly for them to choose the most appropriate method for a particular question. Begin by sharing with children the ways in which we can find things out in science. You could show these on the white board alongside a symbol or picture that they would recognise as that method again in the future. (This would be good to have as whole school symbols. TBC)</p> <ol style="list-style-type: none"><li>1. Survey – count the number of things</li><li>2. Do a test - find out what happens to something when we change something about it</li><li>3. Classifying – put things into groups</li><li>4. Investigation over time – watch or measure something over time</li><li>5. Secondary source – use a book or internet</li></ol> <p>Display each of these different types of enquiry on posters at the front of the room. Call out one of the children’s questions. With help, in a group, they can decide which type of enquiry/enquiries would be best for finding out the answer. When asked, one member from each group can place a post-it on the poster showing the enquiry that they have chosen.</p>	<p><u>Working Scientifically:-</u></p> <ul style="list-style-type: none"><li>• To be able to ask simple questions and recognise that they can be answered in different ways.</li><li>• To begin to understand the different ways that we can find answers to questions and begin to suggest a relevant way of gathering information.</li></ul>	<table><tr><th>Resources</th></tr><tr><td>Big Class book for Seasons observations. A UK map on display. Weather chart Weather symbol pictures for display Laminated names of the months Coloured cones Laminated pictures of different British weather Two trees in the school grounds for observations. Jug for measuring rainfall.</td></tr><tr><td>Poster showing the different types of scientific enquiry TBC</td></tr></table>	Resources	Big Class book for Seasons observations. A UK map on display. Weather chart Weather symbol pictures for display Laminated names of the months Coloured cones Laminated pictures of different British weather Two trees in the school grounds for observations. Jug for measuring rainfall.	Poster showing the different types of scientific enquiry TBC
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Poster showing the different types of scientific enquiry TBC					

<p>What types of weather (Autumn-late October)</p> <p>Put up on display a large map of the UK or weather chart. Children place up symbols to show what the weather is like in your part of the UK.</p> <p>Pick <u>one week</u> in the Autumn Term to keep your observations. Update your weather diary/big book every day, showing the types of weather for that day. Photograph the weather chart or map with symbols on for each day of your observations. You may decide to collect any rain in a jug and then record how many ml were collected. Observe one tree in the school grounds (pick a deciduous one). Take a photo of a tree that you have chosen as your class tree in Autumn for class book.</p> <p>Link to <u>Plants</u> -Deciduous and Evergreen</p> <p>Teacher to pick a Deciduous tree and another tree that they know is an Evergreen tree. In each of the four season look at the class tree. But also look and one from the other group as a comparison throughout the year. Does it have leaves (evergreen) or is it (deciduous) losing its leaves. The children could take photos of these trees so that they can compare these to the same trees later in the year. Add pupil voice to the big book of observations made by children. Look up sunrise and sunset times-record in book.</p>	<p><u>Seasonal Changes-:</u></p> <ul style="list-style-type: none"> <li>• To be able to observe and describe weather associated with the seasons and how day length varies.</li> <li>• To be able to observe and talk about changes in the weather and the seasons(non-statutory)</li> </ul> <p><u>Working scientifically-:</u></p> <ul style="list-style-type: none"> <li>• To be able gather data and record simple data e.g. on a weather chart or table</li> <li>• To be able to use simple equipment, with support to gather data (jug with ml)</li> </ul> <p><u>Plants-:</u></p> <ul style="list-style-type: none"> <li>• Be able to identify and name a variety of deciduous and evergreen trees.</li> </ul>	
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## Science Scheme of Work

### Year 1 – Spring 1 Topic: I'll Huff and I'll Puff

Activities	Intended Outcomes	Key Vocabulary and Questions
<p>What types of weather (Winter- January)</p> <p>Look at a large map of the UK and weather chart. Children place up symbols to show what the weather is like at school in focus week. You may want to look at weather in other parts of the UK too if it is more extreme.</p> <p>Before we move into Spring, record 1 week of your weather observations. Update your weather diary/big book every day, showing the types of weather for that day. Photograph the weather chart or map with symbols on for each day of your observations. Observe one tree in the school grounds. Take photos of the trees in Winter for class book. Add pupil voice to the big book of observations made by children. Look up sunrise and sunset times-record in book.</p> <p>Hook – The Science Laboratory!</p> <p>In order to get the children engaged in this area of science, try to create a laboratory within your classroom. A 'Careful, scientists at work' sign could be placed on the door. On entering the 'laboratory' for the first time the children could be faced with tables on which you have placed a range of scientific equipment including hand lenses, rulers, measuring cylinders, pipettes. Images from a microscope could be on the white board.</p> <p>Observe, identify and classify – What are objects made from?</p> <p>Establish with the children that all things are made from materials. Play 'Kim's game'. Hold up one object at a time and ask the children to name</p>	<p><u>Seasonal Changes-:</u></p> <ul style="list-style-type: none"> <li>To be able to observe and describe weather associated with the seasons and how day length varies.</li> </ul> <p><u>Working scientifically-:</u></p> <ul style="list-style-type: none"> <li>To be able to gather and record simple data with support</li> </ul> <p><u>Plants-:</u></p> <ul style="list-style-type: none"> <li>Be able to identify and name a variety of deciduous and evergreen trees.</li> </ul> <p><u>Everyday Materials-:</u></p> <ul style="list-style-type: none"> <li>To be able to distinguish between an object and the material from which it is made.</li> </ul>	<p>(Seasonal Change and Plants see Autumn Term)</p> <p>Hand lenses, rulers, measuring jugs, pipettes</p> <p>Types of materials: wood, plastic, glass, metal, water, rock, brick, fabric, sand, paper, flour, butter, milk, soil</p> <p>Properties of materials: hard/soft, stretchy/not stretchy, shiny/dull, rough/smooth, bendy/not bendy, transparent/not transparent, sticky/not sticky</p> <p>Verbs associated with materials: crumble, squash, bend, stretch, twist</p> <p>Senses: touch, see, hear, smell and taste</p> <p><b>Assessment Opportunities</b></p> <p>Link to unit on Insight-: Everyday Materials</p> <p><b>Resources</b></p>

<p>the object and then what material/s it is made from. Now (without the children seeing) take away one of the objects and ask the children to work out which one is missing and what it is made from.</p> <p>Challenge the children to find many different materials. They could collect the objects and place them on their tables. Provide the children with hoops in which to place objects made from the same material. Some of the children might be able to work out that some of the hoops might have to overlap if there is an object made from 2 different materials.</p> <p>Recording</p> <p>Children could simply take a photo of their sorting circles that could then be printed and stuck in their book or a whole class record for Learning wall. Alternatively, the children could draw and label their circles and then draw the objects in each of them.</p> <p>Observation – What are the properties of the different materials? Talk with the children about how they sense the world around them (touch, see, hear, smell and taste). Inform them that they are going to be great sense detectives; able to identify materials by using their senses to work out the properties of the materials.</p> <p>Hook – Mystery pictures. Use a digital microscope to take some pictures of various materials within your classroom or print off images from the internet. Display these pictures on your whiteboard. Challenge the children to find the materials that match the photo. Hand held lenses can be used too.</p> <p>Touch challenge. Begin by asking a child to hold an object and describe what it feels like: rough/smooth, flat/bumpy, sharp/blunt. In small groups, children could be given ‘feely’ bag in which one of the children in the group will place an object from a collection. The other children take it in turn just to feel what is in the bag, and then describe it.</p>	<ul style="list-style-type: none"> <li>• To be able to identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock.</li> <li>• To be able to explore and experiment with a wide variety of materials including-brick, paper, elastic, fabrics, foil (non-statutory)</li> </ul> <p><u>Working Scientifically-:</u></p> <ul style="list-style-type: none"> <li>• To be able to identify and classify.</li> <li>• To be able to use simple equipment to gather data (hand lenses)</li> </ul> <p><u>Everyday Materials-:</u></p> <ul style="list-style-type: none"> <li>• To be able to describe the simple physical properties of a variety of everyday materials.</li> <li>• To be able to compare and group together a variety of everyday materials on the basis of their physical properties.</li> <li>• To become familiar with properties such as hard/soft, stretchy/not stretchy, shiny/dull, rough/smooth, bendy/not bendy, transparent/not transparent, sticky/not sticky (non-statutory)</li> </ul>	<ul style="list-style-type: none"> <li>• Digital microscope or images from one</li> <li>• A variety of objects made from various materials</li> <li>• Hoops</li> <li>• Digital microscopes or images from a microscope</li> <li>• Pictures of a range of materials taken with the digital microscope <ul style="list-style-type: none"> <li>• Hand held lenses</li> <li>• Feely bags</li> </ul> </li> <li>• A range of objects made from a variety of materials <ul style="list-style-type: none"> <li>• measuring jugs, pipettes</li> </ul> </li> </ul>
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<p>Recording</p> <p>The children could decide on a property, record this as a title and write or draw objects that have that property. Alternatively, the children could make a simple 'Materials book' which focuses on the property of the materials in it.</p> <p>Sight challenge. Again, begin by asking a child to describe what a particular object looks like. Display key words and read them through with the children. Working again in small group, one child will sit behind some kind of partition (e.g. a large book standing up). On their side of the 'screen' there will be a set of objects. He/she must describe the properties of each of these to his/her partners sitting on the other side of the screen.</p> <p>Play I spy. A child, for example, could call out 'I spy with my little eye something that is smooth and transparent'.</p> <p>What is the property? Teacher could demonstrate this activity to begin with. Place objects that have the same property in a sorting circle. The children must work out what the property is.</p> <p>Identifying and classifying – What are the properties of different materials?</p> <p>Creating a key</p> <p>Provide partners/small groups with a large sheet of paper and some small slips of paper. On each slip there is the same questions stem – 'Is it...?'. Provide the children with a range of objects made from different materials. Each pair/group places some objects at the top of their piece of paper. Under the objects they place their first question slip (e.g. 'Is it shiny?'). They then lay two lolly sticks/straws; one going to the right ('yes') and the other to the left ('no'). The children can then move all the objects into the two new piles. Starting with just one of these piles the children must then select another property that will divide this pile, again write it on a slip and place it under the pile. This pile can then be divided according to the question on the slip.</p>	<p><u>Working Scientifically-:</u></p> <ul style="list-style-type: none"> <li>To be able to observe carefully, using simple equipment. (Hand lenses)</li> </ul> <p><u>Everyday Materials-:</u></p> <ul style="list-style-type: none"> <li>To be able to describe the simple physical properties of a variety of everyday materials.</li> <li>To be able to compare and group together a variety of everyday materials on the basis of their physical properties.</li> <li>To become familiar with properties such as hard/soft, stretchy/not stretchy, shiny/dull, rough/smooth, bendy/not bendy, transparent/not transparent, sticky/not sticky (non-statutory)</li> </ul>	<p>Lolly sticks Large sheets of paper Slips of card with questions written on them Slips of card on which children can write questions A range of objects made from different materials</p>
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<p>Recording – The children could stick the questions where they are on the paper. They could draw or write the names of the materials where they are above the questions. Alternatively, take a photo of the children’s keys.</p> <p>Game – Property chain</p> <p>In a group, the first child lays down an object and describes one of its properties (e.g. ‘My ruler is bendy’). The next child lies down another object, repeats the property given for the first object, and then adds one of their own for their object (e.g. Your ruler is bendy and my rock is rough). Children are knocked out of the game if they can’t remember the property of the object that had been mentioned.</p>	<p><u>Working Scientifically-:</u></p> <ul style="list-style-type: none"> <li>• To be able to ask simple questions.</li> <li>• To be able to identify and classify.</li> </ul>	
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## Science Scheme of Work

Year 1 – Spring 2

Topic: Make, Create and Wonder

Activities	Intended Outcomes	Key Vocabulary and Questions
<p><b>Generating questions</b> Explain to children that scientists, working in their laboratories, must come up with questions that they can then try to find the answers to. Ask the children to look at the different types of paper that you have provided them with. Ask them to come up with questions about the properties of paper. You could provide them with question stems in order to scaffold their questioning; ‘Does paper...’, ‘Which paper is the best at ...’, ‘I wonder what would happen if we...’, etc. Ask the children to choose some of their questions. They then must explain to a friend how they could find the answer to their question. Revisit the Autumn Term discussion about different ways that we can find answers to questions. Share some of the children’s questions on the white board. Ask the children how they could answer these questions. Encourage them, when appropriate, to think of more than one method for finding out the answer.</p> <p><b>Recording</b> The children could record some of their favourite questions. Some of these could be written in cut-out speech bubbles that could then be added to the Learning wall.</p> <p><b>Simple test – How well do different kitchen paper towels absorb water?</b> This activity will introduce the children to the idea of a simple test and will also introduce some of the Scientific equipment that will aid their test. Show children different types of kitchen paper towel and ask them what they are used for.</p>	<p><u>Everyday Materials -:</u></p> <ul style="list-style-type: none"> <li>To able to describe the simple physical properties of a variety of everyday materials.</li> <li>To be able to compare and group together a variety of everyday materials on the basis of their physical properties.</li> </ul> <p><u>Working Scientifically-:</u></p> <ul style="list-style-type: none"> <li>To be able to ask simple questions and recognise that they can be answered in different ways.</li> <li>To be able to perform simple tests</li> <li>To use simple equipment including measuring jugs, syringe, sand timer</li> </ul>	<p>Types of materials: wood, plastic, glass, metal, water, rock, brick, fabric, sand, paper, flour, butter, milk, soil</p> <p>Properties of materials: hard/soft, stretchy/not stretchy, shiny/dull, rough/smooth, bendy/not bendy, transparent/not transparent, sticky/not sticky</p> <p>Verbs associated with materials: crumble, squash, bend, stretch, twist</p>
		<b>Assessment Opportunities</b>
		End of unit on Insight-: Material Changes
		<b>Resources</b>
		<p>Many different types of paper Various kitchen towels Beakers of water measuring jugs, syringe, clock, sand timer</p>

<p>Hook – A scenario – Inform children that as scientists will be making up their own test to help the office decide which is the best paper to buy for wiping up spills at lunchtime. This can be performed in small groups. Give children an opportunity to talk about how they could find out which paper towel is best at absorbing water. There are a variety of methods the children could use, or choose from:</p> <ol style="list-style-type: none"> <li>1. They could use a syringe to drop 5ml of water on a table so that it makes a small puddle. They could then place the paper on top of it for a set period of time (use sand timer) and see how much water is left on the table.</li> <li>2. They could cut a strip from each of the papers and then dangle these over the side of a beaker into some water so that edge of the paper just touches the water. They could either time how long it takes for the water to reach a line drawn on each of the papers, or they could count to a number and then take out each of the pieces of paper and see how far up each strip the water has travelled.</li> </ol> <p>Recording</p> <p>The children could either draw what the paper looked like each time, or describe/draw the amount of water that was left on the table. They could report back to the office which type of paper towel will be best to buy</p> <p>Problem-solve/simple test – Which fabric will be best for a jacket for a Harry. (Link to Harry and the Jaggedy Daggers)</p> <p>Hook – Harry needs a jacket to protect him from the storm. The children need to be scientists to help him. He has a new jacket, but it doesn't have the properties that it should. Can the children/scientists help?</p> <p>Allow the children to discuss which properties a jacket for Harry should have. Record these on the white board. Decide as a class how you would find out which fabric had the best properties.</p> <ol style="list-style-type: none"> <li>1. Waterproof. Show children different clothes that are made from different fabrics and talk about how these clothes might be used.</li> </ol>	<p><u>Everyday Materials-:</u></p> <ul style="list-style-type: none"> <li>• To able to describe the simple physical properties of a variety of everyday materials.</li> <li>• To be able to compare and group together a variety of everyday materials on the basis of their physical properties.</li> </ul> <p><u>Working Scientifically-:</u></p> <ul style="list-style-type: none"> <li>• To be able to record simple data in order to answer a question.</li> </ul>	<p>Variety of fabrics Teaspoons Measuring containers Elastic bands water</p>
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<p>With the children's help, develop an investigation which will test just how well different fabrics will let water through. Recap on previous paper testing. To make the measurements more accurate, the children could use a measuring beaker. This quantity of water could be poured over a fabric that has been attached using an elastic band to a small tub. The children could then use the teaspoon to measure how much water was collected in the tub after a minute (sand timer).</p> <p>Recording The children could complete a bar graph that has been prepared for them on squared paper. The different fabrics can be list along the bottom of the graph, whilst the number of ml can be recorded along the Y axis. Finally, you could report back to Harry!</p> <p>Simple test – Which materials make the best crash mat for Humpty Dumpty? Allow children to feel balloons that have been filled with air. By pushing in on them they will find that also push back. Can they think of any other materials that do that?</p> <p>Hook – A message from Humpty Dumpty 'Humpty Dumpty' could be asking for help. He is always falling off the wall and cracking. Ask the children for ideas as to how they could test whether a material would make a good crash mat for Humpty Dumpty. The children could test their ideas by dropping bouncy rubber eggs from a set height into a washing-up bowl that contains the material being tested. The children could observe how high the egg bounces.</p> <p>Recording The children could be provided with the table below. They could simply record the height bounced by the egg in the following terms: low, medium and high or with support they could use a metre stick.</p>	<ul style="list-style-type: none"> <li>To be able to make simple measurements with equipment, with support (non-statutory) (pipette and measuring jugs with ml)</li> </ul> <p><u>Everyday Materials-:</u></p> <ul style="list-style-type: none"> <li>To be able to compare and group together a variety of everyday materials on the basis of their physical properties.</li> </ul> <p><u>Working Scientifically-:</u></p> <ul style="list-style-type: none"> <li>To be able to record simple data in order to answer a question</li> <li>To be able to use simple equipment, with support to collect data (non-standard or Ruler-cm/m)</li> </ul>	<p>rubber eggs Hard-boiled eggs Ruler -optional</p>
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Type of material	Height bounced – first try	Height bounced – second try	Height bounced – 3 <sup>rd</sup> try

After initial testing maybe three or four ‘good’ materials could be tested as a class using real hard-boiled eggs!

What types of weather (Spring-late March/April)

Refer to a large map of the UK or weather chart. Children place up symbols to show what the weather is like in focus week.

Pick one week at the end of the Spring Term to keep your observations. Update your weather diary/big book every day, showing the types of weather for that day. Photograph the weather chart or map with symbols on for each day of your observations. Make observations of your trees. Take of photo of the trees in Spring for class book. Add pupil voice to the big book of observations made by children. Look up sunrise and sunset times and record in book.

#### Seasonal Changes-:

- To be able to observe and describe weather associated with the seasons and how day length varies.

## Science Scheme of Work

### Year 1 – Summer 1

**Topic: Here, there and back again.**

Activities	Intended Outcomes	Key Vocabulary and Questions
<p>Naming and identifying animals Excellent videos of all types of animals can be found on - <a href="http://www.bbc.co.uk/nature/animals/">http://www.bbc.co.uk/nature/animals/</a></p> <p>Hands-on experience with mini-beast or any other creatures can be planned.</p> <p><u>Birds.</u></p> <ul style="list-style-type: none"> <li>Talk with children about the different ways in which birds can be identified: colours, shape, song and flight patterns. Show them pictures of common birds, talk about how they fly, and let them listen to recording of bird song. Sounds of birds and other very useful information can be found on the RSPB website: <a href="http://www.rspb.org.uk/wildlife/birdguide/name/a/">http://www.rspb.org.uk/wildlife/birdguide/name/a/</a></li> <li>Identify birds. Find a quiet place to watch birds. Children could note down the size of the bird (provide them with cut-outs of outlines/pictures of some common birds to use for comparisons – e.g. robin, blackbird, feral pigeon and mallard). The children could also note down any colours, shape of beak, and length of legs, noise it made and how it flew. The children can then try to identify their birds by either looking at bird pictures or going on a website such as <a href="http://www.rspb.org.uk/wildlife/birdidentifier/">www.rspb.org.uk/wildlife/birdidentifier/</a></li> </ul> <p><u>Land invertebrates</u></p> <ul style="list-style-type: none"> <li>Talk with children about how invertebrates can be recognised – e.g. number of body parts, number of legs, whether it has a shell, etc. Show some common invertebrate pictures to the children and practise their names.</li> <li>Find and identify invertebrates. Great places for children to find invertebrates are: under logs and stones, in long grasses, on leaves, and on flowers. Catch mini-beasts on plastic spoons and then place in tubs for viewing.</li> </ul>	<p><u>Animal including Humans-:</u></p> <ul style="list-style-type: none"> <li>To be able to identify and name a variety of common animals that are birds, fish, amphibians, reptiles and mammals.</li> <li>To be able to describe and compare the structure of a variety of common animals.</li> <li>To understand how to take care of animals taken from their local environment and the need to return them safely after study (non-statutory)</li> </ul> <p><u>Working Scientifically-:</u></p> <ul style="list-style-type: none"> <li>To be able to use secondary sources to find out more about animals (non-statutory).</li> </ul>	<ul style="list-style-type: none"> <li>Birds, fish, amphibians, reptiles, mammals and invertebrates</li> <li>Feathers, scales, gills, fins, hair, land, water, backbone, skeleton</li> <li>Carnivores, herbivores, omnivores               <ul style="list-style-type: none"> <li>Meat, plants</li> </ul> </li> <li>(Common parts/structures of animals)</li> <li>(Names of animals that can be found in the school grounds)</li> <li>(Names of animals that the children keep as pets)</li> </ul>
		<b>Assessment Opportunities</b>
		End of unit assessments on Insight-: Animals including Humans (animal part)
		<b>Resources</b>
		<ul style="list-style-type: none"> <li>Animals ID charts</li> </ul> <p>Bug collecting pots and an old sheet for tree shaking</p>

<p>You could also try: pitfall traps, using a sheet to collect mini-beasts that can be knocked off leaves, and using sweep nets in long grasses. Use identification sheets .</p> <ul style="list-style-type: none"> <li>• Take part in some national surveys:</li> </ul> <ol style="list-style-type: none"> <li>1. <a href="http://www.buglife.org.uk/getinvolved/surveys">http://www.buglife.org.uk/getinvolved/surveys</a> - this site will list many invertebrate surveys taking place.</li> <li>2. <a href="http://www.opalexplorenature.org/bugscout">http://www.opalexplorenature.org/bugscout</a> - this site will allow children to survey invertebrates in different areas in the wildlife area.</li> <li>3. A range of specific surveys, looking at one particular invertebrate - <a href="http://www.harlequin-survey.org/">http://www.harlequin-survey.org/</a>, <a href="https://www.societyofbiology.org/newsandevents/biologyweek/flyingantsurvey">https://www.societyofbiology.org/newsandevents/biologyweek/flyingantsurvey</a> , <a href="http://www.ladybird-survey.org/">http://www.ladybird-survey.org/</a> , and <a href="http://butterfly-conservation.org/4291/big-butterfly-count-2013.html">http://butterfly-conservation.org/4291/big-butterfly-count-2013.html</a> .</li> </ol> <ul style="list-style-type: none"> <li>• Invite in an expert or have a hands- on visit.</li> </ul> <p>If possible, collect butterfly eggs from nettles and observe the life cycle. Small Tortoiseshell butterflies lay batches of 80-100 eggs on the underside of nettle leaves late April and May in direct sunlight</p> <p><u>Aquatic animals</u></p> <ul style="list-style-type: none"> <li>• Pond dipping- This is an opportunity for children to find invertebrates that live in the water, as well as amphibians such as newts, toads and frogs.</li> <li>• Take part in a national/regional survey. There is probably a reptile and amphibian group in your area. For example: Krag - <a href="http://www.kentarg.org/">http://www.kentarg.org/</a></li> </ul> <p><u>Mammals</u></p> <ul style="list-style-type: none"> <li>• Spotting British mammals is often quite difficult. However, the children might to be able to find clues – e.g. prints, fur, droppings, scraps (small pits where they have dug for food), where they have moved through long grass, etc.</li> <li>• Maybe your class could become involved in any mammal survey. Keep an eye on the Bat Conservation Trust website (<a href="http://www.bats.org.uk/">http://www.bats.org.uk/</a>) and the Mammal Society website (<a href="http://www.mammal.org.uk/">http://www.mammal.org.uk/</a> ).</li> </ul>		<p>Pond dipping equipment</p>
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### Classifying animals

- Sit down on the carpet with the children and provide each group with a set of pictures of animals from all animal classes. Ask them to find different ways of putting them into groups. They might decide on: number of legs, size, where it lives, etc.

- Explain that scientists all use the same way of sorting animals into different groups – i.e. classes. Explain the different animal classes to the children.

The following website shows an animated video which is a terrific introduction to classifying animals -

<http://www.brainpopjr.com/science/animals/classifyinganimals/>

- a) Vertebrate/Invertebrate – Show some animal skeletons to the children and ask them to name an animal it belongs to. Get them to feel their own backbones. Discuss the animals that they might have stroked that have backbones. Ask them whether they think ‘minibeasts’ have backbones. Ask them whether they have ever found any mini skeletons of minibeasts. Introduce the term ‘invertebrate’.
- b) Mammals – Ask children to think about what babies drink when they are little (i.e. milk). [www.arkive.org](http://www.arkive.org) is a good website for images of animals. Ask children to think of animal that have hair on their bodies.
- c) Birds – Ask children to name what birds have that no other animals have (i.e. feathers). Allow children to feel some feathers from birds.  
[http://photography.nationalgeographic.co.uk/photography/photos/patterns-scales-feathers/#/albatross-feathers-eastcott-momatiuk\\_18515\\_600x450.jpg](http://photography.nationalgeographic.co.uk/photography/photos/patterns-scales-feathers/#/albatross-feathers-eastcott-momatiuk_18515_600x450.jpg)  
This website provides a few pictures of feathers close up.  
Ask them to name any birds that they have seen or heard about.
- d) Fish – To establish what animals in this class have in common, children need to know particular body parts: fins, gills and scales.  
[http://www.microscopy-uk.org.uk/mag/artnov08macro/CaitShannon/caitlinshannon\\_fishpage.html](http://www.microscopy-uk.org.uk/mag/artnov08macro/CaitShannon/caitlinshannon_fishpage.html) This webpage has a good sketch of the different parts of a fish, as well as photos of their fins, scales and gills.  
[http://photography.nationalgeographic.co.uk/photography/photos/patterns-scales-feathers/#/albatross-feathers-eastcott-momatiuk\\_18515\\_600x450.jpg](http://photography.nationalgeographic.co.uk/photography/photos/patterns-scales-feathers/#/albatross-feathers-eastcott-momatiuk_18515_600x450.jpg)  
This website also has a good close-up picture of scales.

### Animals including Humans:-

- To be able to identify and name a variety of common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates.

### Working Scientifically:-

- To be able to sort and group animals with some help (non-statutory).
- To be able to describe how they identify and group them (non-statutory)

- Websites to view images of animals
- Pictures of animals from all classes. Enough sets of pictures so that children can sort them when they are in small groups.
- Animal skeleton pictures
  - Bird feathers
- A fish in a fish tank or pictures of fish.



<p>If possible, allow children to look at a real fish in fish tank. Identify the different body parts and try to describe their function.</p> <p>e) Reptiles. Reptiles are a class of animal with scaly skin. They are cold blooded and are born on land. Snakes, lizards, crocodiles, alligators and turtles all belong to the reptile class. <a href="http://animals.nationalgeographic.co.uk/animals/reptiles/">http://animals.nationalgeographic.co.uk/animals/reptiles/</a> This is a great website to find images of many animals. Does anyone in school have a pet snake or other reptile that they can bring in for children to look at. Alternatively, consider booking a company that will bring a range of animals into school.</p> <p>f) Amphibians. Amphibians are born in the water. When they are born, they breathe with gills like a fish. But when they grow up, they develop lungs and can live on land. <a href="http://animals.nationalgeographic.co.uk/animals/amphibians/">http://animals.nationalgeographic.co.uk/animals/amphibians/</a> Again, good for images of amphibians. During the Spring and Summer, look out for frogs and newts in the pond, whereas during the autumn and winter you might find them hiding away in dark places.</p> <ul style="list-style-type: none"> <li>• Read out a description of an animal group and the children must find any of their pictures of animals from that group. The terms to use here are: birds, fish, amphibians, reptiles, mammals and invertebrates.</li> </ul> <p>Recording</p> <p>Every child could stick in their books pictures of animals that all belong in the same group. The teacher can assess if the children understand the classification being used by providing them with more pictures of animals and asking them to stick the pictures in the correct group.</p> <p>Extension- - Making your own animal</p> <p>Children can design their very own animal. They must decide which 'class' of animal it comes from and therefore the features that it must have. They can also think about where it might live, what it eats, how it hides from predators, and if it breathes.</p>		
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Naming and classifying – Which animals are herbivores, carnivores and omnivores?

Ask children to name some of the food that they eat. Make a list of these on the board under two headings: meat and not meat. Show pictures of some British animals and ask children to name whether they eat meat (carnivore), plants (herbivore), or both (omnivore). They may need help finding out what some animals eat.

Provide children with following information about the aliens they may have met earlier in their studies. Alternatively, you could then ask them to sort their real animal pictures from the previous session into these groups and provide a similar information table for them.

Name of animal	Does it eat meat?	Does it eat plants?
Doobe	Yes	No
Wasto	Yes	Yes
Shamo	No	Yes
Lingle	No	Yes
Tropee	Yes	Yes

Give small groups of children two PE hoops; one for animals that eat meat and one for animals that eat plants. Provide them with cards on which are the names and pictures of the aliens (or animals). They must place them in the correct place in the overlapping hoops.

#### Recording

Children could draw their hoops and animals, or take photos of them with their sorting hoops.

#### Animals including Humans:-

- To be able identify and name a variety of common animals that are carnivores, herbivores and omnivores.
- To be able to group animals according to what they eat (non-statutory)

#### Working Scientifically:-

- To be able to record data in simple ways (Venn diagram).

Survey– Link this to previous activity-. How many animals can be found in the school grounds that are carnivores, herbivores and omnivores?

Take the children into the outdoor area. The children can draw or write down the name of any animals that they might find. Remember to also look for birds. Back in the class; try to help the children to find out whether the animals that they found were herbivores, carnivores or omnivores. Place two overlapping PE hoops on the ground. One hoop is for meat eaters and the other for plant eaters. Place in pictures of other animals. Children could then do this activity for themselves in small groups.

#### Recording

Provide children with a drawing of two overlapping circles; labelled herbivores, carnivores and omnivores. Children can stick pictures of animals that they have found in the correct section of the circles. This they could add to throughout the term as they find out more about animals.

#### Naming and identifying - Describing the structures of common animals

Show the children of a video clip of a scientist describing an animal. For example, Bill Oddie finding and describing a slow worm-Youtube.

Tell them that they are going to pretend that they are on a nature programme on TV. Their job is to try and describe what some of our animals look like to the aliens. You could start by doing one together. So, for example, using a photo of a stag beetle, describe how: it has no skeleton, it has a hard case, and it has pincers, six legs, a head, thorax and abdomen. The children could work in small groups, each taking a turn to describe a photo to the other children in the group.

Outside, the children could sketch any animals that they might find and label or talk about the different body parts. Back as a class, children could take it turns to talk about one of their animals found without naming it, so that the other children have to work out which animal it could be.

#### Animals including Humans-:

- To be able to describe and compare the structure of a variety of common animals.

- Video clip of a scientist talking about an animal
- Pictures of various British animals

### Recording

Make short videos of children providing information about the features of different animals – in the style of a natural history presenter or make a simple 'who am I book'.

### Extension-Animals mix-up.

Provide small groups of children with pictures of parts of different animals. They can try to create new animals with these parts. Ask the children to name the different body parts and possibly explain how these parts are beneficial for this new animal.

### Identifying and naming - Describing the structures of pets

Have a day when the children can bring in suitable pets. To supplement this, make sure you have some pictures of pets that other people keep. The children can then try to describe each of these pets.

### Recording

Children could draw some of the animals. With support, they could label the main features of the different animals.

Provide children with a chart. They can fill in the names of the animals (or draw pictures of them) and place a cross or tick under each of the headings. The children could then play a game when one of them chooses an animal and the other children have to work out which one it is by asking questions that relate to the features mentioned on the chart.

Animal	Has 4 legs	Has fur	Has a tail	Has eyes on the front of its head	Has claws	Has teeth	Has a shell

### Animals including Humans-:

- To be able to describe and compare the structure of a variety of common animals.

### Working Scientifically-:

- To be able to record data in simple ways (chart).

Pets or photos of pets

## Science Scheme of Work

### Year 1 – Summer 2 Topic: Nature Detectives

Activities	Intended Outcomes	Key Vocabulary and Questions
<p>What types of weather (Summer- End of June/beg of July) Refer to large map of the UK or weather chart. Children place symbols to show what the weather is like in the focus week.</p> <p>Record 1 week of your weather observations. Update your weather diary/big book every day, showing the types of weather for that day. Photograph the weather chart or map with symbols on for each day of your observations. Observe one tree in the school grounds. Take of photo of the tree in Summer for class book. Add pupil voice to the big book of observations made by children. Look up the sunrise and sunset times. Record in book.</p> <p>Observation - Become familiar with the habitats Try to get in the habit of observing the same outdoor spaces at different times of the year. The class tree will show the children the changes through the seasons. From an early age it would be useful if children were helped to understand the range of plants that exist and know the different structures that they have – e.g. trees and grass are both plants, and the flower is a particular part of a plant.</p> <p>The following video introduced the term ‘plants’ to the children: <a href="http://www.bbc.co.uk/learningzone/clips/how-plants-are-different/2482.html">http://www.bbc.co.uk/learningzone/clips/how-plants-are-different/2482.html</a></p>	<p><u>Seasonal Changes-:</u></p> <ul style="list-style-type: none"> <li>To be able to observe and describe weather associated with the seasons and how day length varies.</li> </ul> <p><u>Plants-:</u></p> <ul style="list-style-type: none"> <li>Be able to identify and name a variety of deciduous and evergreen trees.</li> </ul> <p><u>Plants-:</u></p> <ul style="list-style-type: none"> <li>To be able to identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</li> </ul>	Assessment Opportunities
		<p>For Seasonal Changes vocabulary see Autumn Term.</p> <p>Link to end of year unit on insight-: Seasonal Change and Plants</p>
		Resources
		<ul style="list-style-type: none"> <li>•Poster showing the different types of scientific enquiry</li> <li>•Digital camera/iPad</li> </ul>

<p>Being a camera - In the outdoor environment allow the children to form a field of vision by holding up their thumbs and looking between them.</p> <ul style="list-style-type: none"> <li>• 'How many different plants can you see?' 'How can we recognise a plant?'</li> <li>• 'Which plant is the tallest/shortest, widest, thinnest?' etc.</li> </ul> <p>By increasing the distance between you thumbs you can get the children to observe through a 'wide-angled lens'.</p> <p>Form your hands into tubes, place one above the other and use them to zoom in on particular plants.</p> <p>Recording</p> <p>Use a digital camera/ipad to capture plants that the children are interested in. These photos can be printed and stuck in a whole-class floor-book on 'plants' or on the learning wall.</p> <p>What do you want to know?</p> <p>As a class gather children's questions about what they want to know about plants in the local habitats. These could be recorded in a book or on the learning wall.</p> <p>Being a detective <b>Whole school symbols TBC -</b></p> <p>This game is designed to enable the children to first recognise that there are a range of ways we can find out things in science, and then secondly for them to choose the most appropriate method for a particular question.</p> <p>Begin by sharing with children the ways in which we can find things out in science. You could show these on the white board alongside a symbol or picture that they would recognise as that method again in the future:</p> <ol style="list-style-type: none"> <li>1. Survey – count the number of things</li> <li>2. Do a test - find out what happens to something when we change something about it</li> <li>3. Classifying – put things into groups</li> <li>4. Investigation over time – watch or measure something over time</li> <li>5. Secondary source – use a book or internet</li> </ol> <p>Look at the whole school symbols-Call out one of the children's questions. With help, in a group, they can decide which type of enquiry/enquiries would be best</p>	<p><u>Working Scientifically-:</u></p> <ul style="list-style-type: none"> <li>• To be able to observe closely. (hand lenses)</li> <li>• To be able to ask simple questions and recognise that they can be answered in different ways.</li> <li>• To be able to compare and contrast familiar plants (non-statutory)</li> </ul>	
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<p>for finding out the answer. When asked, one member from each group can place sticker on the poster showing the enquiry that they have chosen.</p> <p>Observing – How many different roots can be found? Can we describe what they look like close-up? Explore the outdoor area with the children. Introduce the terms ‘shoot’ and ‘root’. Shoot being the parts of the plant above the ground and ‘root’ the parts below the ground. Use some marker with plant names on to show children which plant you would like them to investigate, and also to help reinforce the learning of the names. Ask the children to try and pull up a few weeds. Ask them to talk about the job of the roots. Take the children to some trees. Ask them to describe what they think these plants will look like under the ground. Observing – How many different roots can be found? Can we describe what they look like close-up? Explore the outdoor area with the children. Introduce the terms ‘shoot’ and ‘root’. Shoot being the parts of the plant above the ground and ‘root’ the parts below the ground. Use some marker with plant names on to show children which plant you would like them to investigate, and also to help reinforce the learning of the names. Ask the children to try and pull up a few weeds. Ask them to talk about the job of the roots. Take the children to some trees. Ask them to describe what they think these plants will look like under the ground.</p> <p>Dig up some ‘weeds’ with a ball of undisturbed soil around their roots. Put these uprooted plants into a bowl of water for a few minutes, and then shake the root system to dislodge the soil. Now place the washed roots into a small clear plastic bottle filled with water. The children could use microscopes and hand lenses to look carefully at the roots. The children can now describe the roots, compare them to the shoot of the plant, and begin to think about why these roots are good for the plant in the environment in which it was found</p>	<p><u>Plants-</u></p> <ul style="list-style-type: none"> <li>• To be able to identify and describe roots.</li> </ul> <p><u>Working Scientifically-</u></p> <ul style="list-style-type: none"> <li>• To be able to observe carefully using simple equipment- Hand lenses</li> </ul>	<ul style="list-style-type: none"> <li>• ‘Weeds’ with roots</li> <li>• Plastic bottles/pots</li> <li>• Microscopes</li> <li>• Hand lenses</li> <li>• Markers with plant names on</li> </ul>
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<p>Recording</p> <p>The children could draw a range of different roots that they have found. They could label each one with the name of the plant.</p> <p>Observing – How many different types of flowers can be found? Can we use the flower to work out the name of the plant?</p> <p>Prepare your identification chart of the flowers that children will find in your outdoor areas. If possible, include flowers with different colours and shapes. <a href="http://www.shootgardening.co.uk/plant/identify">www.shootgardening.co.uk/plant/identify</a> will help you to identify some of the plants. You will need to make these charts close to the time that you want the children to go out and find them as some plants only flower for a short period of time. There should be quite a few to choose from in this term.</p> <ol style="list-style-type: none"> <li>1. Colour – Provide the children with paint charts from DIY shops. They can try to find the nearest shade of a particular colour that matches the colour of the petals.</li> <li>2. Shape and number of petals – Encourage the children to look carefully and describe the different flower shapes and how many petals it has.</li> </ol> <p>Recording</p> <p>Try not to pick too many flowers. Instead, ask the children to draw some of the flowers in situ. Photos of each of the plants in flower can be put in a book or on the learning wall. Possibly take one example of each of the different flowers to put into a class flower-press. These can be removed after a couple of weeks and stuck with sticky-back plastic or laminated for a class book or learning wall.</p> <p>The Great Plant Hunt identikit will help children to identify: cleavers (sticky weed), coltsfoot, daisy, dandelion, garlic mustard, mallow, mugwort, red clover, self heal, shepherd's purse, sorrel, spear thistle, white campion, white deadnettle and yarrow (some do not flower until June and not all are present in the school grounds)</p> <p>.</p> <p>Observation - How are the trunks of trees similar and different from each other?</p>	<p><u>Plants:-</u></p> <ul style="list-style-type: none"> <li>• To be able to identify and describe the basic structure of a variety of common flowering plants (incl leaves/petals/bulb/seed/stem)</li> </ul>	
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<p>Bark rubbings. Attach a sheet of paper with masking tape to a tree. Rub over with a wax crayon. Encourage children to describe the texture of the bark. Ask the children to group trees according to their texture and/or colour.</p> <p>Recording Children can label their bark rubbings with the name of the tree. They can label with descriptive words.</p> <p>Measuring - How far is it around the trunk of the tree? The children can use a length of string to measure how far it is around the circumference of a tree. Ask these children to work out how the diameter of the trees helps to work out the tree's age. If possible, show a cut-out section from a tree's trunk so that children can see and possibly count the growth rings.</p> <p>Recording An adult could record the children's measurements in a table that could be shown to the children on the white board. It would be useful to have photos of the tree as well as its name so that all the children are always clear which trees are being discussed.</p> <p>Recording The children could possibly make a simple fact sheet on one of the trees. As well as adding some descriptive words, they could show the circumference of the trunk.</p> <p>Identifying and classifying – What are the leaves like on the different trees? The easiest way to identify trees is by looking at their leaves. Possibly construct your own identification chart that children can then use. Alternatively use free charts from Woodland Trust. Obviously, try not to pick too many leaves; use ones that have fallen if you can. Leaf hunt.</p>	<p><u>Working Scientifically:-</u></p> <ul style="list-style-type: none"> <li>To be able to observe carefully using simple equipment- Hand lenses</li> </ul>	<ul style="list-style-type: none"> <li>Paper and wax crayons for bark rubbing</li> <li>String</li> <li>A cut-out piece of tree trunk showing its growth rings.</li> </ul>
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<p>Give the children a purpose for their hunt. 'Who can find the biggest leaf/smallest leaf/the leaf with the most colours/fewest colours/most holes/two leaves that are exactly alike. Ask children to try and describe the different leaves. Challenge the children to find different ways of comparing the leaves: width, length, shape, number of leaves on a stalk, and colour (compare to green paint charts from DIY shops).</p> <p>Recording Place a leaf, lower side up, on a folded newspaper which acts as a smooth pad. Place a sheet of paper on top. Rub a crayon over the paper. Cut out when finished and stick in their books. They could add any descriptive words.</p> <p>Recording Children can press their leaves between two pieces of blotting paper, or old newspaper, weighted down with heavy books to keep them flat. After a week or two they should be properly dry and can be stuck in the whole-class book or on the learning wall.</p> <p>Deciduous and evergreen Look at trees to find out which ones have leaves (evergreen) and which haven't (deciduous). The children will have already taken a series of photos of two trees so they can look back to see the changes. Recording- select 2 photos of trees and place in correct section- Deciduous and Evergreen.</p> <p>Whole class Pattern-seeking investigations – How are the same parts on different plants the same and different? Children could be helped to think of a question that will compare two parts of a plant – e.g. 'Do the weeds with the longest leaves have the longest roots?' Together, decide how to answer this question. Collect many examples of the same weed – keep the roots intact. If children are unable to use standard units, make sure that you have prepared some 'length</p>	<p><u>Plants:-</u></p> <ul style="list-style-type: none"> <li>To be able to identify and describe the basic structure of trees (trunk/branches)</li> </ul> <p><u>Plants:-</u></p> <ul style="list-style-type: none"> <li>To be able to identify and name a variety of deciduous and evergreen trees (by looking at their leaves)</li> <li>To be able to use simple features of living things and with help decide how to sort and group them (non-statutory)</li> </ul> <p><u>Working Scientifically:-</u></p> <ul style="list-style-type: none"> <li>To be able to raise questions, with support</li> <li>To be able to make simple observations</li> <li>To be able to make measurements (non standard)</li> </ul>	<p>•OPAL tree identifier - <a href="http://www.opalexplorenature.org/sites/default/files/7/file/OPAL-Tree-chart-web.pdf">http://www.opalexplorenature.org/sites/default/files/7/file/OPAL-Tree-chart-web.pdf</a></p> <p>•Woodland Trust tree leaves identifier - <a href="http://www.naturedetectives.org.uk/download/hunt%20leaves">http://www.naturedetectives.org.uk/download/hunt leaves</a> Or type in free tree identifiers</p> <ul style="list-style-type: none"> <li>Many of the same weed (keep the roots intact)</li> <li>Rulers</li> <li>Home made 'length chart' (red,yellow,green)</li> </ul>
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charts'. Before the lesson, make sure the 'length chart' that you provide the children has 3 coloured lines that are the correct length for the roots and leaves that they will be measuring; i.e. the roots and leaves being measured will range from 'red' to 'green'.

Set the children the task to measure the length of the leaves and the lengths of the roots. You could have 2 or 3 plants per group.

Recording - The children can record their findings on a scatter graph. Along the base of the graph there will 3 colours (representing the length of the root) and up the side of the graph will be the same 3 colours (representing the length of the leaf). The children can place sticker in the section that represents each of their weeds: e.g. 'red' length of leaf' and 'green' length of root.

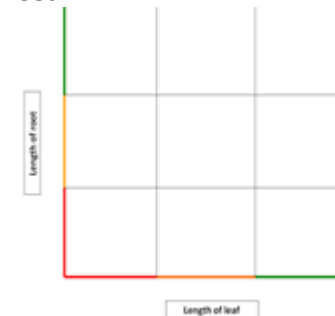
The more able children should be helped to develop any generalisations resulting from any patterns found – e.g. the longer the roots the longer the leaves.

- To be able to gather and record data, with support to help answer questions

Plants:-

- To be able to identify and describe the basic structure of a variety of common flowering plants, including trees.  
(including leaves, flowers, petals, fruit, roots, bulb, seed, trunk, branches, stem)

- Scatter graph recording sheet



Stickers to represent each plant