

Science

Science - Year One

	Head	Hands
Uses of Everyday Materials	<ul style="list-style-type: none"> Can they talk about what they see, touch, feel, hear or taste? (3) Can they use simple equipment to help them make observations and perform a simple test? Can they tell other people about what they have done? Can they identify and classify things they observe? (1, 2, 3, 4) Can they think of and answer some scientific questions? Can they give a simple reason for their answers? (2, 5) Can they explain what they have found out? Can they show their work and record their findings? 	<ol style="list-style-type: none"> 1. Can they identify and name plants and trees including their parts? 2. Can they point out some of the differences between different animals and group living and non-living things? 3. Can they identify the main parts of the human body and link them to their senses? 4. Can they distinguish between an object and the material from which it is made using scientific words? 5. Can they explain why a material might be useful for a specific job? 6. Can they observe changes across the four seasons? 7. Can they observe and describe weather associated with the seasons and describe how day length varies?
Seasonal Changes		
Animals including Humans		
Plants		
<h3 style="margin: 0;">Heart</h3>		
<ul style="list-style-type: none"> Do they show an age appropriate desire to extend their own learning and find out more? Do they actively share what they have found with others? Do they show enthusiasm and commitment to the topic? Do they show curiosity in the world around them? 		

	Head	Hands
Everyday Materials	<ul style="list-style-type: none">• Can they use their senses to help them answer questions?• Can they use some scientific words to describe what they have seen and measured?• Can they compare several things?• Can they carry out a simple fair test and explain why it might not be fair to compare two things?• Can they say whether things happened as they expected?• Can they suggest how to find things out?• Can they organise things into groups?• Can they find simple patterns (or associations)?• Can they measure and record their observations?	<ol style="list-style-type: none">1. Can they describe how a habitat provides for the basic needs of things living there?2. Can they describe some of the life processes common to plants and animals, including humans?3. Can they decide whether something is living, dead or non-living?4. Can they describe why exercise, balanced diet and hygiene are important for humans?5. Can they explore how the shapes of solid objects can be changed? (squashing, bending, twisting, stretching)6. Can they find out about people who developed useful new materials?7. Can they explain how things move on different surfaces?
Animals including Humans		
Plants		
Living things and their habitats		
<h3>Heart</h3>		
<ul style="list-style-type: none">• Do they show an age appropriate desire to extend their own learning and find out more?• Do they actively share what they have found with others?• Do they show enthusiasm and commitment to the topic?• Do they show curiosity in the world around them?		

	Head	Hands
Rocks	<ul style="list-style-type: none"> • Can they use different ideas and suggest how to find something out? • Can they make and record a prediction before testing? • Can they plan a fair test and explain why it was fair? • Can they set up a simple fair test to make comparisons? • Can they explain why they need to collect information to answer a question? • Can they measure using different equipment and units of measure? • Can they record their observations in different ways? • Can they describe what they have found using scientific language? • Can they make accurate measurements using standard units? • Can they explain what they have found out and use their measurements to say whether it helps to answer their question? • Can they use a range of equipment in a simple test? 	<ol style="list-style-type: none"> 1. Can they compare and group together different rocks on the basis of their appearance and simple physical properties? 2. Can they describe and explain the differences between sedimentary and igneous rocks, considering the way they are formed? 3. Can they describe in simple terms how fossils are formed when things that have lived are trapped within rock? 4. Can they recognise that dark is the absence of light and that light is reflected from surfaces? 5. Can they recognise that light from the sun can be dangerous and that there are ways to protect their eyes? 6. Can they explain the importance of a nutritionally balanced diet and how nutrients are transported within animals and humans? 7. Can they describe and explain the skeletal system / muscular system of a human? 8. Can they explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal? 9. Can they compare how things move on different surfaces? 10. Can they observe that magnetic forces can be transmitted without direct contact? 11. Can they compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet?
Light		
Animals including Humans		
Plants		
Forces and Magnets		
Heart		
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	Head	Hands
Animals including Humans	<ul style="list-style-type: none"> • Can they plan a fair test and isolate variables, explaining why it was fair and which variables have been isolated? • Can they suggest improvements and predictions? • Can they decide which information needs to be collected and decide which is the best way for collecting it? • Can they use their findings to draw a simple conclusion? • Can they take measurements using different equipment and units of measure and record what they have found in a range of ways? • Can they explain their findings in different ways (display, presentation, writing)? • Can they find any patterns in their evidence or measurements? • Can they evaluate what they have found using scientific language, drawings, labelled diagrams, bar charts and tables? 	<ol style="list-style-type: none"> 1. Can they describe the simple functions of the basic parts of the digestive system in humans? 2. Can they identify the simple function of different types of teeth in humans and compare the teeth of herbivores and carnivores? 3. Can they construct and interpret a variety of food chains, identifying producers, predators and prey? 4. Can they identify common appliances that run on electricity and construct a simple series electric circuit? 5. Can they recognise that a switch opens and closes a circuit? 6. Can they recognise some common conductors and insulators and associate metals with being good conductors? 7. Can they compare and group materials together, according to whether they are solids, liquids or gases and explain what happens to materials when they are heated or cooled? 8. Can they measure or research the temperature at which different materials change state in degrees Celsius? 9. Can they identify the part that evaporation and condensation has in the water cycle? 10. Can they compare sources of sound and explain how the sounds differ and explain how to change a sound (louder/softer)? 11. Can they recognise how vibrations from sound travel through a medium to a ear? 12. Can they explore and use a classification key to group, identify and name a variety of living things? (plants, vertebrates, invertebrates) 13. Do they recognise that environments can change and this can sometimes pose a danger to living things?
Electricity		
States of Matter		
Sound		
All Living Things		
<h2 style="margin: 0;">Heart</h2>		
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	Head	Hands
Forces	<ul style="list-style-type: none"> • Can they plan and carry out a scientific enquiry to answer questions, including recognising and controlling variables where necessary? • Can they use test results to make predictions to set up comparative and fair tests? • Can they present a report of their findings through writing, display and presentation? • Can they take measurements using a range of scientific equipment with increasing accuracy and precision? • Can they record more complex data and results using scientific diagrams, labels, classification keys, tables, scatter graphs, bar and line graphs? • Can they report and present findings from enquiries through written explanations and conclusions? • Can they use a graph to answer scientific questions? 	<ol style="list-style-type: none"> 1. Can they explain that unsupported objects fall towards the earth because of the force of gravity acting between the earth and the falling object? 2. Can they recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect? 3. Can they explain how some materials dissolve in liquid to form a solution and describe how to recover a substance from a solution? 4. Can they use their knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving, evaporating? 5. Can they demonstrate that dissolving, mixing and changes of state are reversible changes and that some changes result in the formation of new materials. 6. Can they describe the changes as humans develop to old age? 7. Can they describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird? 8. Can they explore the work of well-known naturalists and animal behaviourists? (David Attenborough and Jane Goodall) 9. Can they identify and explain the movement of the Earth and other planets relative to the sun in the solar system?
Properties and Changes of Materials		
Animals including Humans		
Living things and their habitats		
Earth and Space		
Heart		
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	Head	Hands		
Animals including Humans	<ul style="list-style-type: none"> • Can they plan and carry out an investigation by controlling variables fairly and accurately? • Can they make a prediction with reasons? • Can they explain, in simple terms, a scientific idea and what evidence supports it? • Can they present a report of their findings through writing, display and presentation? • Can they explain why they have chosen specific equipment? (incl ICT based equipment) • Can they decide which units of measurement they need to use? 	<ol style="list-style-type: none"> 1. Can they identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood? 2. Can they recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function? 3. Can they describe the ways in which nutrients and water are transported within animals, including humans? 4. Can they give reasons for classifying plants and animals based on specific characteristics? 5. Can they recognise that living things have changed over time and that fossils provide information about living things that inhabited the earth millions of years ago? 		
Living things and their habitats				
Evolution				
Light				
Electricity			<ul style="list-style-type: none"> • Can they take measurements using a range of scientific equipment with increasing accuracy and precision? • Can they find a pattern from their data and explain what it shows? • Can they use a graph to answer scientific questions? • Can they suggest how to improve their work and say why they think this? • Can they identify scientific evidence that has been used to support to refute ideas or arguments? • Can they report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations? 	<ol style="list-style-type: none"> 6. Can they give reasons why offspring are not identical to each other or to their parents? 7. Can they explain the process of evolution and describe the evidence for this? 8. Can they identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution? 9. Can they use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye? 10. Can they compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers, the on/off position of switches? 11. Can they use recognised symbols when representing a simple circuit in a diagram?
Heart				
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