

Y5 - Human Growth

| Objective | Working towards expectation | Working at expectation | Working above expectation |
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| Describe the changes as humans develop to old age. | Identify that people change as they age, e.g. recognise differences in appearance, abilities etc. | Describe the changes as humans develop to old age, e.g. trends in changes to size, weight, mobility etc. | Suggest why some of the changes that take place in humans happen, e.g. suggest why babies have disproportionately large heads compared to adults. |

Y5 - Life Cycles and Reproduction

| Objective | Working towards expectation | Working at expectation | Working above expectation |
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| Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird | Explain what a life cycle is, e.g. that kittens grow into cats, have kittens and die. | Identify similarities and differences in two different life cycles, e.g. sparrow and butterfly, with reference to eggs and intermediate stages. | Suggest similarities in the life cycles of a number of vertebrates, e.g. comparison of dog, human and bird embryos. |
| Describe the life process of reproduction in some plants and animals | Describe the life process of reproduction in humans. | Describe in sequence the stages of reproduction in some plants and animals, e.g. dog and a thistle. | Compare the process of reproduction in animals and plants, e.g. compare and contrast fertilisation. |

Y5 - Forces

| Objective | Working towards expectation | Working at expectation | Working above expectation |
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| Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. | Describe the effect of gravity on unsupported objects. | Explain that gravity causes objects to fall towards Earth. | Recognise that gravity acts between all masses, e.g. the Sun and the Earth. |
| Identify the effects of air resistance, water resistance and friction, that act between moving surfaces. | Recognise that motion may be resisted by forces. | Describe how motion may be resisted by air resistance, water resistance or friction. | Identify ways in which forces that oppose motion may be useful (e.g. bicycle handlebar grips) or a nuisance (e.g. bicycle chain). |
| Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. | Recognise that simple machines transfer force. | Describe how some devices may turn a smaller force into a larger one. | Explain, with reference to everyday contexts, why a force multiplier might be useful. |

Y5 - Earth and Space

| Objective | Working towards expectation | Working at expectation | Working above expectation |
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| Describe the movement of the Earth, and other planets, relative to the Sun in the solar system. | Recognise that the planets move, relative to the Sun. | Draw a diagram or use a model to describe planetary orbits. | Identify that the further out a planet is, the longer its orbit is around the Sun. |
| Describe the movement of the Moon relative to the Earth. | Recognise that the Moon moves relative to the Earth. | Draw a diagram or use a model to describe the Moon's orbit around the Earth. | Relate the Moon's orbit of the Earth to the Earth's orbit of the Sun. |
| Describe the Sun, Earth and Moon as approximately spherical bodies. | Sketch the outlines of the Sun, Earth and Moon. | Describe the Sun, Earth & Moon as spheres. | Recognise that many heavenly bodies are approximately spherical.. |
| Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. | Relate day and night to the apparent position of the Sun. | Use a diagram or model to explain why the Sun seems to travel across the sky, and what causes day and night. | Explain the effect of a planet in the solar system rotating at a different rate to Earth. |

Y5 - Properties and Changes of Materials

| Objective | Working towards expectation | Working at expectation | Working above expectation |
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| Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets. | Compare and group together everyday materials on the basis of their appearance and feel. | Test and sort a range of materials based on their physical properties. | Suggest why those properties might influence the selection of those materials for certain uses. |
| Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. | Know that some materials will dissolve in liquid to form a solution. | Describe how some materials, e.g. sugar, will dissolve and can be retrieved. | Identify that some soluble materials are more soluble than others. |
| Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. | Suggest how mixtures might be separated. | Justify separation techniques proposed, with reference to materials being separated. | Explain why a particular separation method might be more effective. |
| Demonstrate that dissolving, mixing and changes of state are reversible changes. | Understand that some processes are reversible. | Show how the original materials can be retrieved from each of these changes. | Classify various processes relating to materials as reversible or irreversible. |
| Explain that some changes result in the formation of new materials and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda. | Understand that burning is irreversible. | Identify reactants and products of chemical changes and recognise these as being irreversible. | Provide examples of when changes being irreversible are a good thing, e.g. making bricks, or not, e.g. non-biodegradable plastic bags. |