

| Year 5 knowledge progression               | Children working towards national standard...   | Children working at national standard...  | Children working beyond national standard...<br><i>*(taken from KS3 NC)</i>   |
|--|---|---|---|
| <b>Animals, including humans</b>           | -(from ks1) notice that animals, including humans, have offspring which grow into adults  | -describe the changes as humans develop to old age  | <i>-describe reproduction in humans, including the structure and function of the male and female reproductive systems, menstrual cycle (without details of hormones), gametes, fertilisation, gestation and birth, to include the effect of maternal lifestyle on the foetus through the placenta</i>   |
| <b>Living things in their habitats</b>     | -explore the part flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal<br>-explore and use classification keys to help group, identify and name a variety of living things in their local environment   | -describe the difference in the life cycles of a mammal, an amphibian an insect and a bird<br>-describe the life process of reproduction in some plants and animals   | <i>-describe the interdependence of organisms in an ecosystem, including food webs and insect pollinated crops<br/>- understand the importance of plant reproduction through insect pollination in human food security<br/>-identify differences between species<br/>-understand heredity as the process by which genetic information is transmitted from one generation to the next</i>  |
| <b>Properties and changes of materials</b> | -compare and group materials together, according to whether they are solids, liquids or gases<br><br>-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 | -compare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets<br>-know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution<br>-use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating<br>-give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic<br>-demonstrate that dissolving, mixing and changes of state are reversible changes<br>-explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, include changes associated with burning and the action of acid on bicarbonate of soda | <i>-describe the different states of matter in terms of particle model...<br/>-explain changes of state in terms of particle model<br/>-explain simple techniques for separating mixtures: filtration, evaporation, distillation and chromatography</i>   |
| <b>Earth and space</b>                     | -recognise that they need light in order to see things and that dark is the absence of light<br>-recognise that light from the Sun can be dangerous and that there are ways to protect our eyes   | -describe the movement of the Earth, and other planets relative to the Sun in the solar system<br>-describe the movement of the Moon relative to the Earth<br>-describe the Sun, Earth and Moon as approximately spherical bodies<br>use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky  | <i>-know our Sun as a star, other stars in our galaxy, other galaxies<br/>-understand how we have the seasons and the Earth's tilt, day length at different times of the year, in different hemispheres</i>   |
| <b>Forces</b>                              | -compare how things move on different surfaces<br><br>-notice that some forces need contact between two objects but magnetic forces act at a distance   | -explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object<br>-identify the effect of air resistance, water resistance and friction, that act between moving surfaces<br>-recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect   | <i>-describe forces as pushes or pulls, arising from the interaction between two objects<br/>-identify non-contact forces: gravity forces acting at a distance on earth and in space, forces between magnets ...<br/>-use force arrows in diagrams, adding forces in one dimension, balanced and unbalanced forces<br/>-explain forces: associated with deforming objects; stretching and squashing-springs; with rubbing and friction between surfaces, with pushing things out of the way; resistance to motion of air and water<br/>-describe forces being needed to cause an object to stop or start moving, or to change their speed or direction of motion<br/>-know forces can be measured in newtons...</i> |