



Yearly Overview- Year 4- Science

| | Focus | Areas to cover | Resources |
|-------------------|---|---|--|
| Autumn One | Classification of Animals | <p>Scientists classify animals according to the characteristics they share, for example:</p> <ul style="list-style-type: none"> • Cold-blooded or warm-blooded • Vertebrates (have backbones and internal skeletons) or invertebrates (do not have backbone or internal skeletons) • Different classes of vertebrates <p>Become familiar with and recognise basic characteristics of:</p> <ul style="list-style-type: none"> • Fish • Amphibians • Reptiles • Birds • Mammals | <p><i>What Your Year 4 Child Needs to Know</i>, page 288</p> <p>Richard Spilsbury, <i>Animal Variation and Classification</i>, Wayland, 2009</p> <p>http://www.linnean.org/Education+Resources/who_was_linnaeus</p> <p>Oxford Primary Illustrated Science Dictionary, OUP, 2013</p> <p>A range of non-fiction texts on animals</p> |
| Autumn Two | The Human Body: Systems, Vision and Hearing | <ul style="list-style-type: none"> • The Muscular System • The Skeletal System • The Nervous System • Vision: How The Eye Works • Hearing: How The Ear Works | <p><i>What Your Year 4 Child Needs to Know</i>, page 302</p> <p>Fiona Chandler, <i>First Encyclopaedia of the Human Body</i>, Usbourne, 2011</p> <p>Anna Claybourne, <i>The Usbourne Complete book of the Human Body</i>, Usbourne Publishing Ltd, 2013</p> |
| Spring One | Light and Optics | <p>The speed of light: light travels at an amazingly high speed</p> <p>Light travels in straight lines (as can be demonstrated by forming shadows)</p> <p>Transparent and opaque objects</p> <p>Reflection:</p> <ul style="list-style-type: none"> • Mirrors: plane, concave, convex • Use of mirrors in telescopes and some microscopes • <p>The spectrum: use a prism to demonstrate that white light is made up of</p> | <p><i>What Your Year 4 Child Needs to Know</i>, page 312</p> <p>Terry Jennings, Honor Head, <i>Bright Light</i>, Franklin Watts, 2013</p> |

| | | | |
|-------------------|---------|--|---|
| | | <p>a spectrum of colours. Lenses can be used for magnifying and bending light (as in magnifying glass, microscope, camera, telescope, binoculars.</p> | |
| Spring Two | Sound | <p>Sound is caused by an object vibrating rapidly Sounds travel through solids, liquids and gases Sound waves are much slower than light waves</p> <p>Qualities of sound:</p> <ul style="list-style-type: none"> • Pitch: high or low, faster vibrations = higher pitch, slower vibrations = lower pitch • Intensity: loudness and quietness <p>Human voice:</p> <ul style="list-style-type: none"> • Larynx (voice box) • Vibrating vocal chords: longer, thicker vocal chords create lower, deeper voices <p>Sound and how the human ear works Protecting your hearing</p> | <p><i>What Your Year 4 Child Needs to Know</i>, page 322</p> <p>Catherine Veitch, <i>Sound and Hearing</i>, Heinemann Library, 2010</p> <p>Harriet MacGregor, <i>Sound</i>, Wayland, 2010</p> |
| Summer One | Ecology | <p>Habitats, interdependence of organisms and their environment The concept of a 'balance of nature' (constantly changing, not a static condition)</p> <p>The food chain: producers, consumers, decomposers Ecosystems: how they can be affected by changes in environment (for example, rainfall, food supply, etc.) and by man-made changes</p> <p>Man-made threats to the environment Air pollution: emissions, smog Water pollution: industrial waste, run-off from farming</p> | <p>Rosemary Feasey, Anne Goldsworthy, John Stringer, Roy Phipps, <i>Habitats</i>, Ginn, 2000</p> <p><i>What Your Year 4 Child Needs to Know</i>, page 294</p> |

| | | | |
|------------------------------|------------------|---|--|
| <p>Summer Two</p> | <p>Astronomy</p> | <p>The 'Big Bang' as one theory The universe: an extent almost beyond imagining Galaxies: Milky Way and Andromeda</p> <p>Our solar system:</p> <ul style="list-style-type: none"> • Sun: source of energy (heat and light) • The nine planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto [Notethat, in 2006, Pluto was classified as a dwarf planet] • Planetary motion: orbit and rotation • How day and night on Earth are caused by the Earth's rotation • Sunrise in the east and sunset in the west • How the seasons are caused by the Earth's orbit around the sun, tilt of the Earth's axis <p>Gravity, gravitational pull Asteroids, meteors ('shooting stars'), comets, Halley's Comet How an eclipse happens Stars and constellations Orienteering (finding your way) by using North Star, Big Dipper</p> <p>Exploration of space</p> <ul style="list-style-type: none"> • Observation through telescopes • Rockets and satellites: from unmanned flights • Apollo 11, first landing on the moon: 'One small step for a man, one giant leap for mankind' Space shuttle | <p><i>What Your Year 4 Child Needs to Know</i>, page 328</p> <p><i>Space: A Children's Encyclopaedia</i>, Dorling Kindersley, 2010</p> <p>Emily Bone, <i>The Solar System</i>, Usbourne Publishing Ltd, 2010</p> |
|------------------------------|------------------|---|--|