Orton Wistow Primary School – Curriculum Plan

Subject : Science – Animals including Humans	Year : 5	Term : Autumn

			
Vocabulary	Knowledge What children will know	Understanding What children will understand	Skills What children will be able to do
Define the word and include etymology if useful.	Learning – Remembering Teaching – Telling Assessment – Testing	Learning – Practising Teaching – Coaching Assessment – Observing	Learning – Reflecting Teaching – Facilitating Assessment – Evaluating
Reproduce – to produce young. **Sexual reproduction** – a process where two parents – one male and one female – are required to reproduce new life. **Asexual reproduction** – a process where one parents produces new life. **Puberty** - the period during which adolescents become capable of reproduction. **Adolescence** - The period that follows the start of puberty, during which a child develops into an adult. **Fertilisation** – the process of the male and female sex cells fusing together. **Gestation** - The development of an animal inside its mother's womb. **Menstruation** – the process where the female body discharges the lining of the uterus. This happens approximately once a month.	Describe the changes as humans develop to old age, including • Changes in babies and children • Changes in puberty • Changes that occur in adults	Understand the changes that occur during puberty. Compare changes in growth and development between humans and other animals.	Research the gestation periods of other animals and comparing them with humans

Orton Wistow Primary School – Curriculum Plan

Subject : Science – Properties and changes of materials

Year : 5

Term : Autumn

			
Vocabulary	Knowledge What children will know	Understanding What children will understand	Skills What children will be able to do
Define the word and include etymology if useful.	Learning: Remembering Teaching: Telling Assessment: Testing	Learning: Practising Teaching: Coaching Assessment: Observing	Learning: Reflecting Teaching: Facilitating Assessment: Evaluating
Solution - a liquid mixture in which the minor component (the solute) evenly spread within the major component (the solvent). Solid - A solid can hold its shape (for example, water in solid form is ice) Liquid - A liquid like water forms a pool: it flows or runs but it can't be stretched or squeezed. Gas - A gas can flow, expand and be squeezed; if it is in an unsealed container it escapes (water in gas form is steam). Reversible - a change that can be undone or reversed. Irreversible - a change that cannot be undone or reversed Evaporate – when a liquid is heated and changes to a gas. Melt – when a solid is heated and change into a liquid. Filter - Removing small particles of insoluble or undissolved material from a liquid, usually by using a barrier with very small holes such as filter paper Dissolve - When a substance dissolves, it might look like it has disappeared,	Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution Demonstrate that dissolving, mixing and changes of state are reversible changes	Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic 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	***Compare*** & ***group together*** everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity, (electrical and thermal), and response to magnets. **Working Scientifically** Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.

but in fact it has just mixed with the water to make a transparent liquid called a solution.			

Orton Wistow Primary School – Curriculum Plan

Subject : Science – Forces | **Year : 5** | **Term : Spring**

			
Vocabulary	Knowledge What children will know	Understanding What children will understand	Skills What children will be able to do
Define the word and include etymology if useful.	Learning / Teaching / Assessment Remembering / Telling / Testing	Learning / Teaching / Assessment Practising / Coaching / Observing	Learning / Teaching / Assessment Reflecting / Facilitating / Evaluating
Friction - the resistance that one surface or object encounters when moving over another. Air resistance - Friction occurs when objects move through water or air. Air resistance is a type of friction between air and another material. Gravity - the force that attracts a body towards the centre of the earth, or towards any other physical body having mass. Levers - a rigid bar resting on a pivot, used to move a heavy or firmly fixed load with one end when pressure is applied to the other. Pulleys - a wheel with a grooved rim around which a cord passes, which	Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object	Identify the effects of air resistance, water resistance and friction, that act between moving surfaces Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	Design and make a variety of parachutes and carry out fair tests to determine which designs are most effective. Design and make products that use levers, pulleys, gears and/or springs and explore their effects. **Working Scientifically** Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs Use test results to make predictions to set up further comparative and fair tests

acts to change the direction of a force applied to the cord and is used to raise heavy weights Gears - a toothed wheel that works with others to alter the relation between the speed of a driving mechanism (such as the engine of a vehicle) and the speed of the driven parts (the wheels)			

Orton Wistow Primary School – Curriculum Plan

Subject : Science – Space | **Year : 5** | **Term : Summer**

Vocabulary	Knowledge What children will know			Understanding What children will understand			Skills What children will be able to do		
Define the word and include etymology if useful.	Learning Remembering	Teaching Telling	Assessment Testing	Learning Practising	Teaching Coaching	Assessment Observing	Learning Reflecting	Teaching Facilitating	Assessment Evaluating
Planet - a celestial body moving in an elliptical orbit round a star. From the Greek 'asters planetai' which means wandering star. **Moon -** a celestial body that makes an orbit around a planet **Star -** an astronomical object consisting of a luminous spheroid of plasma held together by its own gravity.	Describe the movement of the Earth, and other planets, relative to the Sun in the solar system Know that the sun is a star at the centre of our solar system and that it has 8 planets; Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune. (Pluto was reclassified as a dwarf planet in 2006.)			Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. Understand how the geocentric model of the solar system gave way to the heliocentric model by considering the work of scientists such as Ptolemy, Alhazen and Copernicus.			Compare the time of day at different places on earth using internet links and direct communication. Construct simple shadow clocks and sundials. **Working Scientifically** Report and present findings from enquiries, including conclusions, causal relationships and explanations		

Solar System - the collection of eight planets and their moons in orbit round the sun, together with smaller bodies in the form of asteroids, meteoroids, and comets. **Orbit** the curved path of a celestial object or spacecraft round a star, planet, or moon, especially a periodic elliptical revolution.	Know that a moon is a celestial body that orbits a planet (Earth has 1 moon; Jupiter has 4 large moons and numerous smaller ones.) Describe the movement of the Moon relative to the Earth Describe the Sun, Earth and Moon as approximately spherical bodies		of and degree of trust in results, in oral and written forms such as displays and other presentations Identify scientific evidence that has been used to support or refute ideas or arguments.

Orton Wistow Primary School – Curriculum Plan

Subject : Science – Living Things and Their Habitats | **Year : 5** | **Term : Summer**

Vocabulary	Knowledge What children will know			Understanding What children will understand			Skills What children will be able to do		
Define the word and include etymology if useful.	Learning Remembering	Teaching Telling	Assessment Testing	Learning Practising	Teaching Coaching	Assessment Observing	Learning Reflecting	Teaching Facilitating	Assessment Evaluating
Mammal – a warm-blooded vertebrate animal that has hair or fur typically gives birth to live young and includes females that secrete milk to feed their young. *From the Latin – mamma – which means breast.*	Describe the life process of reproduction in some plants and animals including sexual and asexual reproduction in plants, and sexual reproduction in animals.			Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird Pupils should find out about			Study and raise questions about their local environment throughout the year. Observe life-cycle changes in a variety of living things, for		

Amphibian – cold- blooded animal, they are born in water and breath with gills. As the larva grows into an adult form they develop the ability to breathe air and they are able to live on land as well as in water. **Insect – animals that have 3 major body parts (head, thorax and abdomen), 3 pairs of legs and typically 1 or two pairs of wings. *From the Latin in which means into and secare which means to cut.*** **Bird – warm-blooded, egg laying animal with feathers, wings and a beak and typically able to fly.** **Reproduction – production of offspring by a sexual or asexual process.** **Plant – a living organism typified by growing in a permanent site, that absorbs water and inorganic matter through its roots and uses photosynthesis through its leaves.** **Animal – living organism that feeds on organic matter, typically having specialised sense organs and nervous system and being able to respond rapidly to stimuli.**		different types of reproduction, including sexual and asexual reproduction in plants, and sexual reproduction in animals.	example, plants in the vegetable garden or flower border, and animals in the local environment. Find out about the work of naturalists and animal behaviourists, for example, David Attenborough and Jane Goodall. **Working Scientifically** 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 Identify scientific evidence that has been used to support or refute ideas or arguments.