Nettleham Church of England

(Voluntary Aided) Junior School

Curriculum

Our School Vision

As a Christian school we believe that every member of our community should feel wonderful, amazing, loved, valued and unique, because God made us that way. We encourage all our children to achieve the highest possible standards and develop skills to be lifelong learners. Our school values are: Trust, Humility, Thankfulness, Koinonia, Friendship and Endurance.

Our Curriculum Vision

Our curriculum is rooted in our school's Christian identity and reflects our values and vision. Thorough academic learning is balanced and enriched by a wide variety of creative, sporting and musical experiences. We aspire to give all our pupils the opportunities, skills and knowledge to have the best possible chance in life.

Rationale

Intent

The Church family is at the heart of our curriculum and our curriculum is taught in such a way as to reflect our values and vision. Our curriculum is based on the principles of balance, coherence and relevance. The curriculum is infused with a well thought-out variety of academic challenges balanced with an array of creative, musical and sporting enrichment opportunities whilst also nurturing personal development. Spiritual, moral, social, cultural development, along with physical and mental wellbeing, underpins all our work. These elements have been carefully considered in designing a broad, balanced and ambitious curriculum for all, which gives children the knowledge to succeed and the skills to become lifelong learners, whichever path they take. We have an aspiration for our children to be successful, independent, resilient, proactive learners, well rounded, passionate pupils so they develop the skills, knowledge and understanding that will set them in good stead for future learning and to give them the best possible chance in life. This is provided in a safe atmosphere of mutual trust, respect and support. We strive to be an inspiring learning community for all which reflect the school and village locality, heritage and community.

Implementation

Pupils learn best when they are happy, confident and interested. They are supported and challenged by staff through a variety of teaching methods to make connections between different subjects and link this to their own life experiences and prior knowledge. In this way knowledge is retained and learning becomes secure and embedded. Misconceptions are closely monitored and children receive effective and timely feedback. Children are encouraged to take responsibility for their own learning and identify their own mistakes, rectifying them where possible and appropriate.

Staff have excellent subject knowledge, which is constantly being developed, and they use this effectively to motivate all children. They ensure that the learning environment is attractive, stimulating and conducive to the development of knowledge, skills and concepts.

The curriculum is thoroughly enriched with a broad range and variety of trips, visitors and engaging experiences both within lessons, throughout the day and extra-curricular activities to enhance pupil provision. Pupils are regularly encouraged to explore their creativity and imagination through diverse music, sports and art projects and experiences.

Formative and summative assessment are regularly used to inform teacher judgements of attainment and progress allowing staff to identify any gaps and provide suitable levels of intervention, support and challenge. Results are tracked and monitored through our own assessment system and then analysed by subject leaders and senior leaders. All subjects have clearly mapped out skills and knowledge progressions, so prior knowledge is effectively built upon. Marking and feedback is used effectively to further learning, set targets, praise, inform planning, correct misunderstanding, assess, recognise success and showing children next steps to improve through reflecting on comments and personal goal setting.

The whole school family work hard to motivate and inspire our pupils to prepare them for the world they live in today and for life.

Impact

As a result of our broad and rich curriculum, pupils develop detailed knowledge and skills across a range of subjects, recalling and retaining facts and ideas appropriately, and, as a result, achieve well. Where relevant, this is reflected in national test results, where children meet government age related expectations. All pupils read competently and fluently to gain knowledge, understanding and for pleasure. Pupils are given the necessary skills and values to be ready for both the next stage of their education and for their future lives in the wider world. We instil all our pupils with good morals and values to enable them to become tolerant and compassionate individuals.

The effectiveness of our curriculum design is regularly monitored and evaluated by leaders, and adjusted if necessary to ensure the best possible outcomes for all our pupils.

Science

Concept links are blue.

	Year 3	Year 4	Year 5	Year 6
Skills Progression				
Working scientifically	Ask relevant questions and use different types of scientific enquiries to answer them Set up simple practical enquiries, comparative and fair tests Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers Gather, record, classify and present data in a variety of ways to help in answering questions Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions Identify differences, similarities or changes related to simple scientific ideas and processes Use straightforward scientific evidence to answer questions or to support their findings. Responsibility – Take responsibility for recording and reporting findings. What do they mean? Resilience – Plan different types of scientific enquiry to answer relevant questions if results are unexpected. Have the resilience to make systematic and careful observations during investigations.		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 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 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 Morality – is animal experimentation acceptable? Resilience – the need for repeat reading and not giving up when things don't go to plan.	
Knowledge Progression				
Living things	**Plants** Identify and describe the functions of different parts of flowering plants: roots stem/trunk, leaves & flowers. Explore the requirements of plants for life & growth (air, light, water, nutrients from the soil and room to grow) and how they vary from plant to plant. Investigate the way in which water is transported within	**Classification** Recognise that living things can be grouped in a variety of ways. Explore & use classification keys to help group, identify & name a variety of living things in their local & wider environment. Recognise that environments can change and that this can sometimes pose dangers to living things. Responsibility – what impact do humans have	**Living things and their habitat** Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. Describe the life processes of reproduction in some plants and animals.	**Living things & their habitats** Describe how living things are classified into broad groups according to common observable characteristics & based on similarities & differences, including micro-organisms, plants & animals. Give reasons for classifying plants & animals based on specific characteristics. Community – animal communities, how can

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	plants. Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation & seed dispersal Well-being – what do plants require to live well? How might his differ for humans? Resilience – Resilience of plants in the natural world. Can we learn from this? Morality – Is GM food acceptable? Diversity – Diversity of plant life and habitats. How can we ensure this is enhanced, not damaged?	on living things? What is our responsibility towards the planet we live on? Well-being – How can we ensure/work towards the well-being of all living things?		they live in harmony? Diversity – animal and plant diversity, why is this important? **Evolution and inheritance** Recognise that living things have changed over time and that fossils provide information about living things that inhabited the earth millions of years ago. Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. Identify how animals and plants are adapted to their environment in different ways and that adaptation may lead to evolution. Spirituality – Can you believe in both evolution and God?
Animals, including humans	Identify that animals, including humans, need the right types & amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. Identify that humans & some other animals have skeletons & muscles for support, protection & movement. Morality – Should people eat meat? Well-being – How can we promote good bone and muscle health? Why is this important?	Describe the simple functions of the different parts of the digestive system in humans. Identify the different types of teeth in humans & their simple functions. Construct & interpret a variety of food chains, identifying producers, predators & prey. Well-being – How can we maintain healthy teeth? Community – Develop understanding of inter-reliance among animal/plant communities. How can we learn from this?	Describe the changes as humans develop to old age. Well-being – How can we maintain good health as we get older?	Identify, describe & name the main parts of the human circulatory system, & describe the functions of the heart, blood vessels & blood. Recognise the impact of and describe the effects of diet, exercise, drugs & lifestyle on the way their bodies function. Describe the ways in which nutrients & water are transported within animals, including humans. Well-being – Why are physical and mental well-being important? How can we maintain/improve this?

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Chemistry	**Rocks** Compare & group together different kinds of rocks on the basis of their appearance & simple physical properties. Describe in simple terms how fossils are formed when things that have lived are trapped within rock. Recognise that soils are made from rocks & organic matter. Diversity – Understand the huge diversity of rock formations that are generated by three very simple processes.	**States of matter** Compare & group materials together, according to whether they are solids, liquids or gases. Describe the characteristics of different states of matter. Describe how materials change state at different temperatures and observe that some materials change state when they are heated or cooled, & measure or research the temperature at which this happens in degrees Celsius. Using the above objective to explain everyday phenomena, including the water cycle, identify the part played by evaporation & condensation in the water cycle & associate the rate of evaporation with temperature. Well-being – Appreciate the fact that every living thing has a reliance on water to some degree for survival and well-being.	**Properties & changes of materials** 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. Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. Give reasons, based on evidence and fair tests, for particular uses of everyday materials, including metals, wood and plastic. Demonstrate that dissolving, mixing and changes of state are reversible changes. 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. Morality/Responsibility – Do we use the world's resources responsibly? How can we improve this?	
Physical processes	**Light** Recognise that they need light in order to	**Sound** Identify how sounds are made, associating some	**Earth & space** Describe the movement of the Earth and other	**Light** Recognise that light appears to travel in

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	see things & that dark is the absence of light. Notice that light is reflected from surfaces. Recognise that light from the sun can be dangerous & that there are ways to protect their eyes. Recognise that shadows are formed when the light from a source is blocked by a solid object. Find patterns in the way that the size of shadows change. Responsibility/Well-being – Understand the potentially harmful effects of the Sun and how to protect ourselves from these.	of them with something vibrating. Recognise that vibrations from sounds travel through a medium to the ear to explain how sounds are heard Find patterns and describe the relationship between the pitch of a sound & features of the object that produced it. Find patterns and describe the relationship between the volume of a sound & the strength of the vibrations that produced it. Recognise that sounds get fainter as the distance from the sound source increases.	planets relative to the Sun in the solar system. Describe the movement of the Moon relative to Earth. Describe the Sun, Earth and Moon as approximately spherical bodies. Use the idea of the Earth's rotation to explain and the apparent movement of the Sun across the sky.	straight lines and use this to explain that objects are seen because they give out or reflect light into the eye. Explain that we see things because light travels from light sources to our eyes or from light sources to objects & then to our eyes. Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.
Physics	**Forces and Magnets** Compare how things move on different surfaces. Notice that some forces need contact between two objects, but magnetic forces can act at a distance. Observe how magnets attract or repel each other & attract some materials & not others. Compare & group together a variety of everyday materials on the basis of whether they are attracted to a magnet, & identify some magnetic materials. Describe magnets as having two poles. Predict whether two magnets will attract or repel each other, depending on which poles are facing.	**Forces and Magnets** Compare how things move on different surfaces. Notice that some forces need contact between two objects, but magnetic forces can act at a distance. Observe how magnets attract or repel each other & attract some materials & not others. Compare & group together a variety of everyday materials on the basis of whether they are attracted to a magnet, & identify some magnetic materials. Describe magnets as having two poles. Predict whether two magnets will attract or repel each other, depending on which poles are facing.	**Forces** Explain that unsupported objects fall towards Earth because of the force of gravity acting between 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, gears and pulleys allow a smaller force to have a greater effect.	**Electricity** Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in a circuit. Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. Use recognised symbols to represent simple series circuit diagrams. Morality/Responsibility /Community/Well-being – Electricity is vital to life. Are current generating methods sustainable?