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<tr><td rowspan="4">Intention</td><td>Our Values and Expectations</td><td colspan="5">A School Family Learning for Life in all its Fullness (John 10:10)</td></tr>
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<tr><td>Curriculum Threads</td><td>Our Values</td><td>Our Place in the World</td><td>Our Well-Being</td><td>Our Voice</td><td>Our Aspirations</td></tr>
<tr><td>Subject

Science</td><td colspan="5">At Mary Dean’s our aim is to provide a rich and varied curriculum, focused on the delivery of the knowledge, skills, attitudes and values we feel every child needs – thus providing the basis for academic success, a life-long love of learning, and ultimately for our pupils to flourish, aspire and achieve.

Our school motto, ‘A school family, learning for life in all its fullness’ (John 10:10), helps us to place Christ at the centre of everything we do. From this starting point, combined with our school values and vision, we plan our curriculum with the whole child in mind. Our aim is to provide a rich and varied curriculum, focused on the delivery of the knowledge, skills, attitudes and values we feel every child needs- thus providing the basis for academic success, a life-long love of learning, and ultimately, for our pupils to flourish, aspire and achieve.

Our five school values drive and shape our curriculum:
Our values- Christian values, British values, individuality, empathy, moral standards
Our place in the world-being part of a local and wider community, belonging, responsibility, diversity and careers
Our wellbeing-physical and mental wellbeing, healthy relationships, emotional literacy, keeping safe
Our voice-communication and self-expression, vocabulary, connections, critical thinking, knowing and remembering more
Our aspirations-breadth and depth, resilience, organisation, teamwork, problem solving, leadership

These values are embedded to provide a value driven, inclusive and ambitious curriculum which is delivered through a connected and cohesive subject delivery.

We thought carefully about the local and cultural capital that we think every child leaving Mary Dean’s Primary should know, as the basis for our curriculum design, and aligned them to fully incorporate the core knowledge set out in The National Curriculum. Our choice of topics and resources also reflect the inclusive and diverse society we live in. Our curriculum is designed to cater for the needs of all pupils and aims to create an environment in which children keep up, not catch up. We scaffold learning appropriately, so that it is accessible to all, and record learning in a variety of ways.

The objectives for learning in, and between, subjects -our ‘know thats’-are sequenced to reinforce learning, and to see connections and links in order to build understanding and make sense. Both basic and subject- specific skills-our ‘Know hows’- are interwoven throughout</td></tr>
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		so that children learn how to apply their learning and master the discipline of individual subjects. We provide rich and engaging experiences to enthuse our learners and enhance our provision. Science (the study of the natural world) is taught in accordance with the National Curriculum and following the spiral curriculum implicit in the NC objectives The most important aim is to enthuse and inspire children to acquire a love of science to enable them to flourish and achieve in the fullness of life in accordance with our school values, for example, by appreciating nature. Asking questions and closely observing the natural world is actively encouraged, helping to develop respect for our world and empathy for the creatures that live in it. Practical activities should be enjoyable, targeted to the NC objectives including learning scientific skill as outlined in the skills progression map (the children recognise this as 'thinking scientifically') and increase children's experience of the natural world. Above all, science learning should be FUN.
Implementation		Our curriculum design is based on evidence from cognitive science and underpinned by three main principles: 1. Learning is most effective when classroom instruction breaks learning down into small steps and links prior knowledge, so that cognitive load is managed. 2. Children need access to a skills rich (*procedural*) and knowledge rich (*declarative*) framework. 3. Retrieval of previously learned content is frequent and regular, which increases both storage and retrieval strength. In addition, we have designed a spiral curriculum which revisits learning, and links knowledge between subjects and phases; a strong focus is on a subject-specific delivery, but meaningful connections that reinforce learning are made between subjects. Pupils return to the same concepts over and over, and gradually build understanding. Progressive vocabulary for each subject has been clearly identified and embedded in every stage of planning. Medium term plans show a sequence of learning, where steps of learning (*components*) are clearly identified and built upon to achieve an end point (*composites*). Knowledge Organisers clearly set out the content, skills and vocabulary for each learning unit, and are shared with pupils at the start of each lesson and reflected on throughout the unit. A two-year rolling-programme ensures coverage for mixed year group classes. Due consideration is given to the school and trust values; the development of respect and empathy for the natural world should be emphasised at every opportunity. For example, the effects of climate change should be explored when looking at adaptations or food webs. Each phase plans for the classes within the phase. Medium term planning is presented as a week-by-week outline for each half term. Scientific enquiry should be carefully addressed, preferably by taking advantage of opportunities as they arise (e.g. news cover of space probes when studying space or snow when studying materials) and/or by finding out about how famous scientists made their discoveries. At the start of each unit, prior knowledge is reviewed. Knowledge Organisers present the information to be learnt in a child friendly, compact form. Each lesson starts with a review of previous learning (retrieval practice) including vocabulary, giving children the

		opportunity to consolidate knowledge and catch up on any area of weakness. Carefully selected practical activities are used to engage the children with subject content and to teach skills. Ongoing, low stakes, informal assessment is used to monitor the children's learning; this enables children to review and consolidate their learning as the lesson and term progresses. At the end of each half term unit, summative assessment is used to track progress. In addition to the formal science teaching in accordance with the national curriculum, the whole school will come together to celebrate and foster a love of science. This will be achieved through assemblies (for example The Big Question assemblies in KS2) special focus days and opportunities outside school (for example a visit to the aquarium). The school grounds will be used for nature walks and mini field trips.
Impact		We will evaluate the effectiveness of our curriculum through how successfully pupils learn and remember more. This is done through AFL (assessment for learning) and summative testing. Throughout a unit, pupils will experience low-stake retrieval processes, such as mini quizzes and sorting activities, to gauge how well they have retained prior learning, and how well they have retained new learning. Knowledge Organisers will be used as a tool for ongoing formative assessment, and end of unit tasks are planned to show pupils' depth of understanding. All units have clear endpoints, and progress towards these are assessed through end of unit tests and tasks. Pupil meetings and surveys will enable us to judge the effectiveness of our curriculum; pupils should be able to confidently talk about what, why and how they have learned and what they have enjoyed. We have designed curriculum milestones for each phase and subject, which serve as endpoints for assessment of longer-term knowledge acquisition. Benchmark tasks, based on these milestones, will assess how successfully children have remembered objectives across a longer timeframe and to demonstrate sustained mastery. Lesson observations and book scrutiny, in conjunction with pupil conferencing, will provide further evidence of how effective our curriculum is. The most compelling evidence for good science learning is in the children's heads. In their journey through the school, children's science knowledge is nurtured to ensure that they have covered the national curriculum and can express their appreciation of, and wonder at, the natural world. By Y6, children are able to observe, question, test, record, evaluate and classify; they can ask questions based on observations, suggest and execute interesting investigations to address these questions, record and evaluate their results, and use classification systems appropriately, using scientific language, as evinced by teacher assessment. They are fully prepared to immerse themselves in the joys of science that secondary school can offer.