


<p style="text-align: center;">Science</p>  <p>Subject Lead: Connor Moore</p>	<p>Our vision for science here at St Columba Major Academy is to develop children’s natural curiosity and inquisitiveness for the world around them. We want children to approach the world around them scientifically: asking questions, thinking like scientists, and learning about their world around them. Our goal is to inspire our children through an engaging and purposeful curriculum, fostering a life-long love of science and valuing its purpose in both the world around them and their future.</p> <p>We aim to achieve this through a carefully planned and progressive curriculum that the children will follow across their time at our school. By developing pupils’ knowledge, working scientifically skills, enquiry skills, vocabulary and cultural capital, we aim to help pupils’ succeed as they progress through education and later in life.</p> <p>We are passionate in our belief that science is a subject for all and every pupil, regardless of their background, can achieve the key knowledge, skills and inspiring learning experiences that will equip them to be life-long, excited scientists. This underpins our values as a school where everyone can achieve their aspirations in an inclusive, diverse and aspirational environment.</p> <p>At St Columba Major Academy, we intend to implement the national curriculum for science to ensure that all pupils:</p> <ul style="list-style-type: none"> • develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics • develop understanding of the nature, processes, and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them • are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future (National Curriculum 2014) <p>We will strive hard to meet the needs of those pupils with special educational needs, those with disabilities, those with special gifts and talent, and those learning English as an additional language (EAL), and we take all reasonable steps to achieve this.</p>			<p style="text-align: center;">Covid Catch-Up Plans</p> <p>Practical resources to support with catching up pupils substantive and disciplinary skills through scientific enquiries.</p> <p>Regular monitoring to ensure science lessons are not missed out.</p> <p>Baseline assessments at start of topics to identify and fill gaps in previous learning.</p> <p>Transferable writing skills.</p> <p>Oracy: planned opportunities for speaking and listening within groupwork and direct teaching.</p>
<p style="text-align: center;">Teaching</p> <p>Chris Moyse approach: I do, we do, you do. Units of learning broken down to small steps progression in learning for each lesson. Knowledge organisers in place. Subject specific vocabulary embedded in lessons. Investigative activities and experiments used to enhance pupils’ knowledge and working scientifically skills. Embedding five main types of scientific enquiry.</p>	<p style="text-align: center;">Personalised Learning</p> <p>Quality First Teaching Differentiated Learning to meet needs of learners Groupings and seating within class Use of resources, models, images and word banks Variety of ways of recording outcomes.</p>	<p style="text-align: center;">Resources</p> <p>Resources are audited, reviewed and reordered where necessary each academic year. Knowledge harvest assessments. Ogden trust partnership. Primary science teaching trust subscription. PLAN and TAPS assessment resources. Practical resources to use when working scientifically.</p>	<p style="text-align: center;">Cultural Capital</p> <p>Space planetarium workshop. Cross curriculum approach through integrating science into maths, literacy, DT. Virtual science fair. Investigations and Experiments to develop awe, wonder and critical thinking Science ambassadors.</p>	<p style="text-align: center;">Assessment</p> <p>Formative assessments by all adults in all lessons to reframe learning (if required) Knowledge harvest quiz used for baseline assessment at start of unit. Teacher questioning using blooms taxonomy question steps to gauge progress and identify misconceptions. Marking of books using symbols in marking policy to gauge whether objective has been met. End of unit knowledge harvest activity or quiz to gather information on what pupils have learnt and remembered. Curriculum tracking grids – mark objective that have been met/not met by pupils in each class.</p>
<p style="text-align: center;">Inclusion - SEND</p> <p>Quality First Teaching Planned additional support from adults (and as required) High Quality Interventions Differentiated learning IEP Targets Guided group work and intervention withing lessons. Resources to differentiate learning. Subject specific vocabulary displayed.</p>	<p style="text-align: center;">Curriculum Scope and Progression</p> <p>Exceeds the requirement of the NC through:</p> <ul style="list-style-type: none"> - carefully planned, small steps in learning on subject progression grid. - Opportunities to develop science capital through planning that links children’s learning to the wider world. <p>Component parts are sequenced to build on prior learning</p>	<p style="text-align: center;">Working as a scientist</p> <p>Breadth of learning planned encompassing both disciplinary and substantive knowledge Planned opportunities for cross-curricular links as appropriate Working scientifically skills embedded within planning and lessons that are delivered. Use of sentence stems e.g. As a scientist, we are learning...</p>	<p style="text-align: center;">Monitoring</p> <p>O-Track – formative and summative assessments Book Looks Learning Walks Pupil Voice Intervention Tracking Sheets Teacher questionnaires. Outcomes from end of unit knowledge harvest assessments.</p>	<p style="text-align: center;">Outcomes</p> <p>Our pupils will become critical thinkers and problem solvers giving them skills which will be applicable in the rest of their lives in and out of the classroom. Foster a healthy curiosity about our universe and promotes respect for the living and non-living things. Acquire and develop the key knowledge that has been identified within each unit and across each year group.</p>

SEND document – support pupils to access science learning.	Disciplinary and Substantive knowledge mapped out across the school Reconnect lessons to fill any missed, rusty or lost learning Wider curriculum links – Interpreting and presenting data in maths, researching, recording and presenting knowledge in ICT, designing and constructing products in DT.	Providing opportunities within planning to cover five types of scientific enquiry in all year groups.		
<p style="text-align: center;">Disadvantaged Pupils</p> <p>Quality First Teaching Planned additional support from adults (and as required) Standards and interventions tracked termly by SLT and PP Lead Planned interventions as required School-Led Tutoring (Covid Catch Up Plan) Opportunities for collaborative learning Range of resources to support with learning. Visitors and workshops in school to provide experiences and develop science capital. Links to local science projects – spaceport.</p>	<p style="text-align: center;">Transition</p> <p>Information and data sharing with class teachers. Links with secondary school to share information. Visits to secondary school to see science classrooms and lessons. Workshops led by local secondary schools. Curriculum tracking grids – show attainment and gaps in learning to next teacher.</p>	<p style="text-align: center;">CPD</p> <p>Science leaders – termly meetings with Kernow Learning science leads. Science leaders – Ogden trust partnership meetings. Jan 2019 - engaging science, engaging learners course. Nov 2020 – Science staff meeting: working practically and scientifically in science. October 2020 – science staff meeting: sharing science assessment resources and details of Ogden trust partnership. February 2021 – science staff meeting: getting children to think and act like scientists. Feb 2022 – KTSA science inset day: science capital.</p>	<p style="text-align: center;">Strengths</p> <p>Development of children’s substantive knowledge. Engagement towards science learning. Increased profile of the subject through whole school science events and workshops. Working walls support learning Development of Vocabulary Outcomes and presentation in books. Emerging consistency of teaching in science.</p>	<p style="text-align: center;">Next Steps</p> <p>Kernow learning partnership with spaceport to produce a space residential and set of resources for the topic. Challenging MABLE pupils to deepen their understanding. Monitor teaching and learning of Thinking Scientifically – Is this purposeful? Is this progressive? Does this develop the disciplinary knowledge of being a Scientist? Whole school Science fair in the summer term – link in with Kernow Learning. Differentiated learning to enable pupils of all groups and backgrounds to make expected progress.</p>