Reviewing the 3Is - Year 1 - 6

Subject: Science

Intent (What is the aim and purpose of your subject at MV?)	Science is vital to our future prosperity and it is important that our children are engaged with all aspects of science. All pupils at Morley Victoria will be provided with the foundations to understand the specific disciplines of biology, chemistry and physics and to develop an understanding of the world around them at an age-appropriate level. We aim to develop children's natural excitement and curiosity and inspire them to pursue scientific enquiry now and in further life. Throughout the primary years, children should learn to work scientifically by investigating, explaining and analysing phenomena, making predictions, questioning the world around them and solving problems. Teachers should aim to nurture a love for the natural world, excitement for future possibilities in science and provide many opportunities for pupils to grow their own growth mindset and rational thinking.
Implementation (How do we teach your subject at MV?)	***The Curriculum*** • The National Curriculum statutory requirements are taught and assessed in each year as a basic minimum. • Teachers are familiar with previous and subsequent year groups' content in order to link learning and build on previous knowledge. • When planning, teachers refer to the progression document for their current topic and to the ASE PLAN resources to ensure teaching is progressive throughout school. ***Timetabling*** • Science is taught discretely once per week by the class teacher.

	• When there is a natural link between a science topic and other curriculum areas, teachers should endeavour to work in a cross-curricular manner e.g to link the teaching of evolution with the history topic of Stone Age. • Science content being covered through a cross-curricular approach must include a learning objective taken from the year group's science curriculum and recorded in the science exercise book. ***Teaching*** • Teachers follow children's interests and lines of inquiry. • Each lesson includes a working scientifically element to ensure working scientifically skills are covered over a two- year period. • Working scientifically skills are progressive. • Time should be taken to identify and teach the specialist vocabulary associated with each topic. • Knowledge organisers should be provided and discussed at the beginning of each topic – these also need to go home to parents. • Teaching is differentiated either by resource, support or ability grouping • Use of open ended enquires to allow all children to access learning at their level. • More able learners are challenged to make connections within science and to apply their knowledge to real world situations • Teachers help to develop open mindedness in relation to scientific theories. • Teachers aim to close the gap for PP children • Teachers support SEN children in line with IEPs. • Outside visitors and trips should be utilised as much as possible. • Challenging stereotypes where possible – encouraging girls into STEM careers • Resources made readily available to staff to carry out all lessons.

	• All science topics will encompass an element of both maths and English. • Science should make reference to SMSC concerns in the modern age e.g. climate change, genetic modifications. ***Assessment*** • Children rate vocabulary knowledge at the beginning and end of a topic. • Children given the opportunity to demonstrate prior knowledge and then add to this over time and new learning occurs. • Knowledge quiz allows the teacher to clearly see and address any misconceptions. • Chilli challenges allow for differentiation in a concept and should be used when appropriate. • Concept cartoons allow for knowledge to be explained at each child's level e.g. deeper understanding can be displayed through scientific reasoning and simple knowledge shown.
Impact (What difference does it make to the children?)	• Impact measured through: low-stakes quizzes; vocabulary learning; responses to open ended questions and concept cartoons; oral responses and observations by teacher within class. • Children acquire appropriate age related knowledge. • Children are equipped with investigative and experimenting skills. • Children develop their learning skills - concentration, imagination, self-improvement. • Children develop curiosity and excitement for the word around them. • Children have a rich vocabulary to help them in science and also to access the wider curriculum. • Children have high aspirations. • Children are inspired to continue science learning or pursue a STEM career. • Children develop their questioning skills. • Children develop a strong growth mind-set.

	• Children can make connections throughout the years e.g. fossils in y3 linked to evolution in y6. • Children can confidently report and explain outcomes, both written and orally. • Children can record findings using a range of graphs and tables. • Children can describe methodology accurately to allow for retesting. • Children are prepared for science in further education and are able to understand the world around them. • Children are able to work collaboratively with peers. • Children are aware of the SMSC concerns surrounding science in the modern age.