COMPUTING SUBJECT RATIONALE (Oct'20)

CONTENT & SEQUENCING

Our Computing curriculum fully meets the statutory requirements. The subject narrative details how each of the three themes: Computer Science, Information Technology and Digital Literacy are integrated across each Key Stage.

At KS1, the children predominantly use IPads as the most accessible form of technology. We make particular use of the Purple Mash platform, alongside popular Apple learning apps such as Scratch Junior, Book Creator and Puppet Pals. Coding is introduced from Year 1 and revisited regularly. E-safety is also revisited at the start of each new half-term, with resources used regularly reviewed to check that they are up to date and relevant. By Year 2, the children begin to use our Google suite of resources, and learn how to log on and make use of some of the basic apps.

At KS2, the children develop and embed the use of Google Drive and Apps as a key tool for cloud-based working. This is intended to equip them for the next stage in their education, along with being an invaluable skill for life– brought sharply and successfully into focus during the period of lockdown in which a very high % of children used the platform for home learning. Purple Mash is also used at lower Key Stage 2, and increasingly too the Espresso learning platform is used for their new coding units. By upper Key Stage 2 many children have progressed with their coding onto using the full Scratch online resource, and some are chosen to represent the school at the local university annual competition– see enrichment. Using the internet as a safe research tool, is also a key theme explored, with research tasks linked into key learning in other curriculum areas, for example History or Science.

LINKS WITH OTHER SUBJECTS

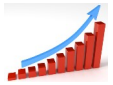
Lesson planning seeks always to firmly root Computing within a cross-curricular context. For example at Key Stage 1, Purple Mash data-handling applications are used to support work in Maths lessons, and an animated story using Puppet Pals reflects the story genre studied In English. Children in Key Stage 1 are shown how the internet can be a valuable way of finding out more about a subject, with teachers modelling how this can be done and just starting to talk about how some websites might not be entirely accurate, and how we might check. Children are encouraged also to talk to their parents about how computers are used in their jobs and home lives, so that they reinforce the relevance and importance of their studies at school.

Throughout Key Stage 2, the internet is used routinely for research to support topic work, and as a means for effectively communicating and presenting the finished task. For example at Lower Key Stage 2, The Ten Commandments are researched using selected websites, and the notes made are recorded on Google Drive and form the basis, finally, of a Google Slide show to present to the class. At Upper Key Stage 2 this theme continues, and increasingly children also use the Share function to work collaboratively on projects, supporting each other and utilising their shared skills to achieve an ambitious end goal. This collaborative learning is intended again as a key skill for life.

RETRIEVAL PRACTICE

Each child is given a 'Knowledge Organiser' at the beginning of each topic. This contains key facts and vocabulary linked to the computing topic. It also includes a nudge towards further learning, eg apps at home, or websites to explore because we are keen to emphasise that the 'Knowledge Organiser' does not represent the totality of learning in a subject, but is just a starting point. A range of teaching strategies are used in each class to utilise the knowledge organiser, ranging from low stakes retrieval testing to using them as a reference material. Children are also given a copy to take home to explore with an adult to supplement learning in school.

In addition to this, teachers routinely revisit taught content and vocabulary during lessons, both during introductions, recaps and consolidation sessions in plenaries. Use is made of questioning strategies such as 'no hands up', to test retrieval. Due to the clear mapping of the subject narratives; teachers are also able to look back on prior taught subjects and refer to them when teaching their related year group content. Teachers also use the first lesson of each teaching sequence to do an informal pre-assessment of existing knowledge, to help shape the teaching that will follow.



PROGRESS

Each subject, including Computing, has a '**skills progression'** table, with key thematic skills to be taught progressively at each stage of the learning journey in each discipline. These subject skills are drawn from a **recognised national subject authority**, in this case, **STEM learning**.

Progress at the end of each of the stages is recorded simply as 'below', 'at' or 'above' for each child. This information is shared with receiving teachers at transition.

Subject leaders, as part of the **'20 minute monitoring'** process, also conduct book scrutinies and have conversations with teachers about progress against the key skill themes for children in each class. Recommendations emerging from this process are fed back to all teachers at staff meetings, and may also form part of subject or whole school action planning.

ENRICHMENT

Computing is a popular topic for after school clubs at Little Melton. From Year 2 onwards we offer an annual Scratch Junior club, where children follow enrichment tasks. At Key Stage 2, in addition, the children can take part in using the full Scratch program, allowing considerable freedom and space for creativity. To build on this, each year, selected children form a Scratch Coding team, and compete against other schools at the UEA Scratch Off event– often with success.

The school also offers (from Year 2) a very popular Apple Robot club, with children work collaboratively to program and control a Spherio robot to perform a range of tasks. This builds successfully on the block coding developed in the classroom and also in the after school Scratch clubs

VISION FOR CHILDREN

Each subject, including Computing, has a clear statement of intent for children. These are recorded on both the 'subject narratives' and the 'skills progression' documents for each subject. They were developed through discussion with staff and Governors (including parents) at Little Melton and in other local schools we work with. They are driven by a consideration of being 'skills for life', to equip children with the tools for the next stage in their academic journey, and also for their future lives. We try also, through all of our curriculum offer– including the 'hidden curriculum' of daily informal interactions with children and modelling of attitudes and behaviour , to instil the core values identified as valuable for children growing up in our locality and local context. These are listed in our ' Being a Citizen of Little Melton and the World' vision– displayed in all classes.