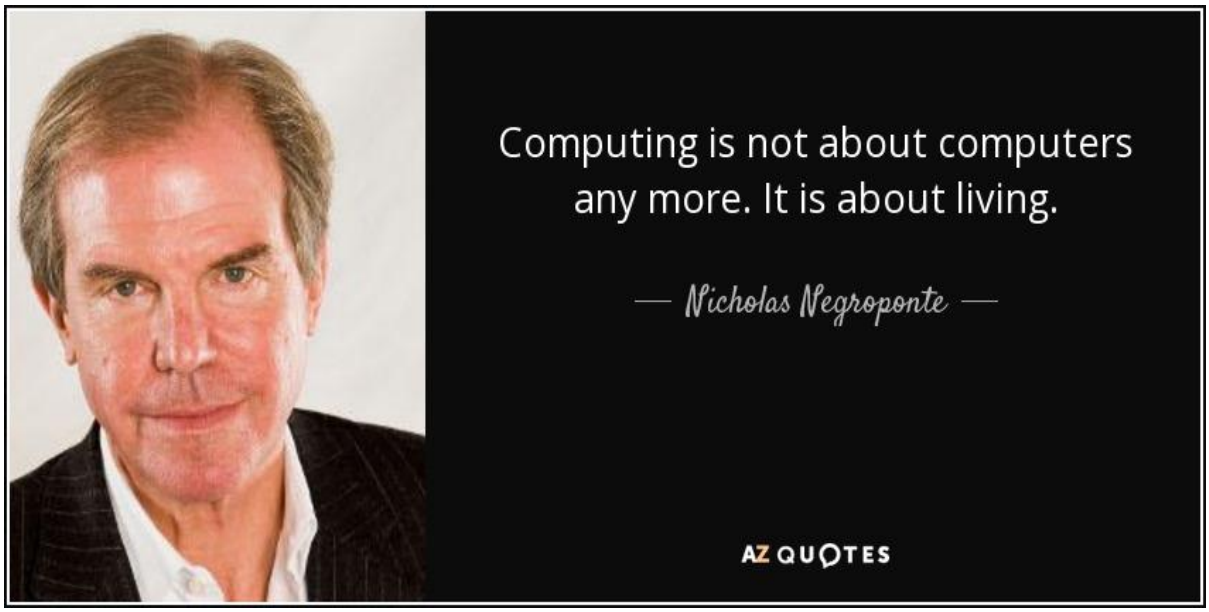
MELLING APPROACH TO 'CREATIVE COMPUTING'.



'A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.'

National Curriculum 2014

INTENTION - Aims and Principles

- To ensure children can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation.
- To ensure children can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.
- To ensure children can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
- To ensure children are responsible, competent, confident and creative users of information and communication technology.
- To develop and promote an interest in and enjoyment of Computing.
- To promote an awareness of internet safety in everyday life.
- To address pupils' misconceptions about computing and technology.

IMPLEMENTATION - Quality First Approach

In Melling, Computing lessons:

- Build and promote an atmosphere in which History lessons provide opportunities for children to explore, discover and interact with the digital world in which they live and understand how it came to be the way it is
- Use a variety of teaching styles in computing lessons.
- Offer first hand practical experiences
- Use and develop subject specific vocabularly throughtout lessons
- To provide contextual learning with cross-curricular links, although Computing should remain at the core of the lesson's objectives
- Have a Technological WOW Moment in each lesson
- Use the childrens interests to provide hooks and discussion at the start and throughout lessons
- Offer a challenge to all pupils
- Offer children the chance to devlop their skills and knowledge across a wide range of computing programs
- Offer pupils the opportunities to display/record their results in various ways e.g. charts, coding, spreadsheets and artistically.

- Minimise teacher planned/lead investigation and talk time at a level appropriate to the children's level of development
- Make learning in Computing engaging and exciting and provide experiences the children can apply outside of school.
- Children should have the opportunity to demonstrate their curiosities: question, analyse, think critically and identify fact, opinion and bias
- Allow children the opportunity to trial out and experiment with their own thoughts and opinions.
- Provide pupils the opportunity to research and collect data in a variety of ways – primary and secondary.

Lesson plan model forMelling'sCreative Curriculum

THE MELLING APPROACH TO TEACHING

RETRIEVAL

Previous learning in subject and other subjects

(quiz; quiz,quiz trade; bingo/splat; knowledge organiser blanks; quick sort)

VOCABULARY

Swipe books & display reminders previous vocabulary new vocabulary introduced & explained (action)

NEW TEACHING – SMALL CHUNKS

PLANNING FOR LEARNING – YOU CAN DO THIS

(Introduce the objective – make a link to what's come before; What information do we know already; What might we need to use; What is the key vocabulary that give us a clue; What strategies can we use; What else do I know strategy; WAGGOLL; Provide a model; What is going to be difficult – what will be easy; Success criteria)
AVOID INFORMATION OVERLOAD

PARTNER TALK

PLANNING EXPLORED – HOW CAN I DO THIS

(Discussing above)

INDEPENDENT TASK

MONITORING & REGULATING – I WILL TRY THIS

(Mini plenary; Checklist; Success criteria check; Class/pair marking; Work backwards; Think pair share; Proof read; three reads (content, punctuation, spelling); Misconception table discussion)

REVIEW & EVALUATE – PRAISE EFFORT

(What have you done well; Gallery of work walk around; Grade your work gold, silver, bronze – why; two stars and a wish; marking ladders; what would I change; visualise - anonymised work – be the teacher)

Inclusion

At Melling Primary, Computing forms part of a broad and balanced inclusive curriculum which provides all children with relevant and challenging learning. Through each topic/ scheme taught, suitable learning challenges are set in response to children's diverse learning needs. At Melling Primary, we have both Google Chromebooks and Laptops available to teach the computing curriculum from. Both have the installment of speech to text for children who may be unable to type write. Furthermore, both devices all children to zoom in or out to make text easier to read and more accessible. Also, there is an installment on all the computing devices for text on screen to be read out to you.

Enhancement

In each year group, learning is enhanced through trips and visitors to the school to give children first hand learning experiences in order to bring computing to life. Children are able to handle a range of technological devices/ parts and are encouraged to ask questions about them in order to be able to draw their own conclusions. Melling Primary also have digital leaders/ champions in each class who help members of staff within that class use certain applications and look after the devices being used. Melling Primary have visits from Barclays who come in and teach Code Playground.

Home learning 'own work'

Children are encouraged to take responsibility for their own learning by choosing their own lines of technological enquiry to pursue to create a project linked to topics that they learn about. Great emphasis is placed on children completing 'own work' to show what they have learned independently or with support from adults at home. Children are encouraged to use computing as a cross curicular link where they might research a topic from another subject but produce their findings using a digital application. 'Own work' is displayed in class and children receive rewards in line with school policy for effort with furthering their own learning.

Champions

Children who are particularly enthusiastic about Computing are encouraged to become champions of the subject; ambassadors for Computing across the school. They are recognised for putting exceptional effort into their learning about Computing. Champions assist in ways to promote Computing across the school as well as have a say in how to improve teaching and learning of the subject.

IMPACT

Pre and post topic knowledge

Children will complete a mind map at the beginning of each topic to record their existing knowledge. At the end of a topic, they will revisit the mind map and add to it in a different colour to show what they have learned.

Assessment in Computing

Teachers will assess children's work in Computing by making informal judgements during lessons. On completion of a piece of work, the teacher will assess it against age-related learning objectives, and then use this assessment to plan for future learning. Written or verbal feedback is given to the child to help guide his/her progress. Older children are encouraged to make judgements about how they can improve their own work. A record of how children are achieving the learning objectives is kept on an Excel Spreadhseet. This data is used to report achievements to parents at the end of the academic year and also to be passed onto their teacher for the following academic year.

Monitoring

The monitoring and evaluating of practice in Computing enables the progress of children to be seen within the class and whole-school contexts of school and staff development. Monitoring of teaching and learning takes place through electronic work saved via Purple Mash, lesson observations and pupil interviews to ensure coverage, continuity and progression in Computing. The subject leader for Computing, will sit down and discuss with the Computing champions what learning has taken place in their class over the last term. This will provide an insight into the Computing approach through the eyes of the children. Findings will then be used to inform future planning to enhance teaching and learning.