LONG TERM PLANNING: 2024/25 Cycle B

Computing

With an ever changing and technological world, our pupils will rely heavily on their digital and computer skills in order to support their progress within chosen career paths. Our curriculum aims to equip pupils with the relevant skills and knowledge that is required to understand the three core areas of Computing (Computer Science, Information Technology and Digital Literacy). These 'pillars' of progression are recognised as areas of the curriculum by the Royal Society and are visible in the aims of the national curriculum for computing. The Purple Mash Computing scheme is delivered in school which is aligned to the National Curriculum.

Age Phase	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	**Purple Mash/Mini Mash Sounds 1/ Sounds 2** *See Nursery/Reception Long Term planning for overview*	**Exploring Technology in the home/Purple Mash Technology in our World**	**Purple Mash/Mini Mash – Robots** *See Nursery/Reception Long Term planning for overview*	**Purple Mash/Mini Mash – Digital media (Paint projects)** *See Nursery/Reception Long Term planning for overview*		**Purple Mash – Photography** *See Nursery/Reception Long Term planning for overview*
Key Stage 1 *Condensed*		**Computing systems and networks:** Improving mouse skills/track pad (lessons 1-3 only) Pupils will learn to log in to a computer and access a website. **They will recognise the importance of keeping themselves safe online.** Pupils will develop their mouse skills to enable them to click and drag. They apply their acquired mouse skills to draw and edit shapes within a programme.	**Programming:** Algorithms unplugged (4 lessons; 1,2,4 and 5) Using an unplugged approach so that algorithms, decomposition and debugging are made relatable to familiar contexts, such as dressing up and making a sandwich, while learning why instructions need to be very specific.	**Computing systems and networks:** What is a computer? (3 lessons: 1,2 and 5 only) Pupils further explore computers and recognise its' parts. They recognise how technology is controlled and understand the variety of roles computers play in our world today.	**Programming:** Algorithms and debugging (4 lessons: 1,2,4 and 5 only) Developing an understanding of what algorithms are, how to program them and how they can be developed to be more efficient through a range of unplugged and plugged-in activities.	**Creating media:** Digital imagery (3 lessons: 1-3 only) Pupils will use Photo Story to understand and create a sequence of pictures. They will take understand how to take clear photos using our iPads. They will edit these photos to create their own 'story'.

Lower Key Stage 2	**Computing systems and networks:** Emailing Learning how to send and edit emails, add attachments and how to be a responsible digital citizen by thinking about the contents of what is sent.	**Programming:** Scratch Building on the use of the 'ScratchJr' application in Year 2, progressing to using the more advanced application called 'Scratch', learning to use repetition or 'loops' and building upon skills to program an animation, a story and a game.	**Creating media:** Video trailers Developing filming and editing video skills through the storyboarding and creation of book trailers.	**Creating media:** Website design Developing their research, word processing, and collaborative working skills whilst learning how web pages and web sites are created, exploring how to change layouts, embed images and videos and link between pages.	**Programming:** Further coding with Scratch Learning the basics of programming in Scratch, children will create a simple script, use decomposition and understand what variables are.	**Programming:** Computational thinking Developing the four areas of computational thinking through a range of plugged and unplugged activities.
Upper Key Stage 2	**Programming: Micro:bit** Clipping blocks together in a program and predicting what will happen while making connections with previously used programming interfaces. Children create animations, recognise inputs/outputs, choose appropriate blocks, and break programs down into smaller steps.	**Data Handling:** Mars Rover 1 identifying some of the types of data that the Mars Rover collects and explaining how the Mars Rover transmits the data back to Earth. Children will read binary numbers, and understand binary addition as well as identifying input, processing and output on the Mars Rovers.	**Skills showcase:** Mars Rover 2 Learning about pixels and binary, creating a pixel picture and saving a JPEG as a bitmap to understand the transfer of image data. Children will learn about the 'fetch, decode, execute' cycle and its real-world applications while beginning to use 3D design tools.	**Computing systems and networks:** Bletchley Park Discovering the history of Bletchley Park, historical figures and computer science. Children learn about code-breaking and password hacking as well as decoding messages. Children present information about historical figures and look back in time at how computers have evolved, finally designing a computer of the future and creating an audio advert for their designs.	**Creating media:** History of computers Writing, recording and editing radio plays set during WWII, looking back in time at how computers have evolved and designing a computer of the future.	**Skills showcase:** Inventing a product Designing a new electronic product and using CAD software to design appropriate housing for it. Developing skills in website design, video editing, and persuasive language to promote their product. Evaluating and adapting existing code, debugging programs, and searching for accurate information online.