**Y5 Computing Whole School Progression of Knowledge and Skills**

**Digital Literacy, Online Safety and ICT**

**Computational Thinking**

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| **YEAR FIVE** | | | | | |
| **Vocabulary/Significant Knowledge** | **Communicating: Text and Images**  How do we collaborate online? | **Communicating: Multimedia**  How do I create a radio advert or podcast? | **Understanding and Sharing Data**  How do I find and share data safely and responsibly? | **Programming A**  How do I program physical systems? | **Programming B**  How do I use variables in programs? |
| Blog URL Wiki World wide web Webpage Digital footprint Hyperlink Web browser | Sound Text Image Video File Record Play Stop Pause Media Trim Podcast Narration Clip Soundtrack Sound | Data Information Network Server Web browser Internet World Wide Web Search engine Algorithm Personal information Terms & Conditions | program algorithm sequence repetition loops selection procedure event to debug code sensor physical system input output decomposition LED | program algorithm sequence repetition decomposition selection variable input output sprite to debug loops code operators |
| **Enquiry Questions** | What is the difference between the Internet and the World Wide Web?  How can we be safe and responsibly use images and other content online?  What are the advantages/disadvantages of online collaboration? What information should we share online and what should we keep private?  What are the features of a good page/blog/wiki?  Can you create a webpage, blog post or wiki page? | Listen to existing radio adverts or podcasts and identify key features – what makes a good one?  Can you explore audio editing software?  Can you record and add audio into the software, and move and delete clips?  Can you review the quality of the audio – how could it be improved?  Can you plan, script and rehearse a radio advert or podcast?  Can you record and peer review with reference to success criteria. Edit to improve according to feedback? | What is the difference between mobile, physical and wireless networks?  What is the difference between a web browser and a search engine?  Can you use several different search engines to search for the same thing?  Can you investigate Help, Search Tips, Advanced Search link, Search Operators to learn about the special features of each search engine?  Can you ) investigate how websites are ranked by search engines?  Is content found on the World Wide Web always reliable?  how do we share and control our own data? | What are the the main components of a computer, and input/output devices?  What is a sensor?  Can you identify key features and computer science concepts?  Can you investigate a physical system with an input and output?  Can you decompose the system and write an algorithm (flowchart) to describe it?  Can you review and improve it? | Can you create a human function machine and produce an output?  Can you write simple algorithms for a function machine that use more than one operator?  What kind of problems can’t be solved easily by a computer?  What is a variable? |
| **Strand Skills** | - Identify and use appropriate hardware and software to fulfil a specific task.  - Remix and edit a range of existing and their own media to create content.  - Consider the audience when designing and creating digital content.  - Recognise the benefits of using technology to collaborate with others  - Identify success criteria for creating digital content for a given purpose and audience.  - Evaluate their own content against success criteria and make improvements accordingly. | | - Explain the difference between data and information.  - Appreciate that different programs work with different types of data, e.g. text, number, video.  - Explain the difference between the Internet and the World Wide Web.  - Know the difference between a search engine and a web browser.  - Explain the basics of how search engines work, and that different search engines may give different results.  - Perform complex searches for information using advanced settings in search engines.  - Recognise the benefits and risks of sharing data online | - Name a range of sensors in physical systems.  - Recognise that different solutions may exist for the same problem.  - Predict what will happen in a program or algorithm when the input changes (e.g. sensor, data or event).  - Use two-way selection in programs and algorithms, i.e. if…then…else…  - Recognise variables in a program and what they do. - Create programs including repeat until loops.  - Create and use simple variables, e.g. to keep score. - Evaluate a program and make improvements to the code or design accordingly.  - Create an algorithm for a physical system containing a sensor | |