**Y4 Computing Whole School Progression of Knowledge and Skills**

**Digital Literacy, Online Safety and ICT**

**Computational Thinking**

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| **YEAR FOUR** |
| **Vocabulary/Significant Knowledge** | **Communicating: Text and Images**How do I use a computer as an artist? | **Communicating: Multimedia**What makes an excellent multimedia story? | **Understanding and Sharing Data**How is data shared online? | **Programming A**How do I write efficient programs? | **Programming B**How do I use selection in a program? |
| Computer Technology Hardware Software Copyright Crop Resize Edit Filter Layer | Sound Text Image Video File Transition Onion skinning Duplicate Frame Animation Effect Soundtrack Narration | Data Information Network Server Web browser Internet Satellite Chart Infographic Database Personal information | program algorithm sequence sprite decomposition event to debug repetition loops code co-ordinates random | program algorithm sequence sprite decomposition event selection to debug repetition loops code broadcast |
| **Enquiry Questions** | Why do we use computers to create art?What do the different tools do in your art package? How do you create different effects?Can you create a photo montage on a theme?Can you use search engines to find different sizes of image, save and compare?Can you take photos on a theme, transfer the best to the computer and edit in a simple editing package or website?Can you use an internet service to share and display artwork? | What makes an animation good or bad? Can you create a success criteria checklist as a class?Can you create a simple flip book type animation?Can you create a simple animation using a toy or paper cut outs to introduce/revise how to use the software?Can you add titles and audio?How does sound effects can enhance a story, and the difficulty of animating lots of dialogue?Can you storyboard an animation on a given theme, and make the set and character(s)?Can you slide shows and photostories adding titles, motion effects, transitions and audio? | How are computers connected in school?How are computers connect together on the Internet?How does information travel around the Internet?What data shouldn’t we share online? Who can put information on the internet? How do we know that it is true? What do we do if we see content that upsets us?Can you investigate a website that shares data in a range of ways?Collect data on a topic related to another curriculum area?Can you investigate/revise ways of storing and presenting the data covered in this strand? | What is decomposition?Can you draw with the etcha sketch programme? Can you decompose what happens in the program? | What is selection?Can you complete the everyday selection activity?Explain that you need to use a loop in a program to tell the computer to keep looking out for events. What kind of loop will you need?Can you investigate flowcharts with every day activities, where something happens depending on the answer to a question? |
| **Skills** | - Collect, organise and present information using a range of media.- Design and create digital content for a specific purpose, e.g. poster, animation.- Edit digital content to improve it according to feedback.- Identify the features of a good piece of digital content and apply these in own design.- Explain the benefits of using technology to presentinformation.- Know where to find copyrightfree content, e.g. creative commons images.- Collaborate with peers using online tools, e.g. blogs, Google Drive, Office 365, if available. | - Draw conclusions frominformation stored in a database, chart or table.- Design a questionnaire and collect a range of data on a theme.- Choose appropriate formats to present data to convey information.- Recognise that school computers are connected together on a network.- Recognise that the Internet is made up of computers and otherdigital devices connected together all around the world.- Know that you use a web browser to access information stored on theinternet.- Appreciate that you need to use specific software to work withvideo, images, audio etc. | - Create a program using a range of events/inputs to control what happens. - Recognise that we can decompose a problem into smaller parts to help solve it. - Explain when to use forever loops and countcontrolled loops, and use them in programs.- Recognise selection in a program or algorithm. - Use selection in algorithms in programs to alter what happens when a condition changes, e.g. if…then… - Design a program for a purpose. - Decompose into parts and create an algorithm for each one. - Recognise common mistakes in programs and how to correct them. |