Progression Map: Computing

KS2 National Curriculum	Year 3	Year 4	Year 5	Year 6
Algorithms & Programming Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection, and repetition in programs; work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	*Design and write programs that accomplish specific goals Use Scratch to draw 1 sprite to follow a path using simple commands *Use sequence programs Use set sequence to create a given 2D shape *Work with various forms of input (Numbers to represent angles) Work with various forms of output. (To manipulate the number of degrees and repetition to generate the geometric shape) Delete sprite and create own sprite on computers, draw a 2D shape and convert into a geometric shape. Task – Make a geometric shape	*Design and write a programs that accomplish specific goals Use basic x and y function to make a butterfly move *Design and create programs - Design a set of traffic lights using draw tool. *Control and simulate physical systems Build the script that will control the physical system(traffic light) *Use repetition in programs. *Debug programs that accomplish specific goals Run the script and correct any errors that prevent the script from accomplishing a specific goal * Use logical reasoning to detect and correct errors in programs If the script does not produce the correct output use logical reasoning to correct the errors by looking carefully at the script Task – Design and run a set of traffic lights	*Solve problems by decomposing them into smaller parts *Use selection in programs Use Scratch Make a sprite glide across the screen using the X and Y axis, control two sprite simultaneously *Work with variables to control timing and transition within the script *Use logical reasoning to explain how some simple algorithms work. Look carefully at the algorithm and explain what will happen when run *Use logical reasoning to detect and correct errors in algorithms. Use Scratch to create a melting clock Salvador Dali style, using minute changes to create a smooth running animation. Task – Design and make a Salvador Dali style clock melt use variables to slow the speed of melt down	*Work with variables and various forms of input and output. Use costumes in Scratch to create an animated poppy field *Use logical reasoning to detect and correct errors in algorithms **Identify and correct** any detected errors before running the script *Solve problems by decomposing them into smaller parts. When working on building a poppy fields use multiple scripts to break down each stage of the work **Use Makey Makey to create a human circuit to make a banana drum.** Task – Create a battlefield scene that will change to a poppy field

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Information Technology Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.	*Use a variety of software to accomplish given goals (including internet services) Docs *Collect information Internet *Design and create content Use a blank page to design *Present information Present findings on a doc Task - *Story jumper – online book creating software link to topic and print off or share on website,	*Select, use and combine a variety of software (including internet services) Use the internet to research information then use sheets to create a graph showing the data collected, combine this data into a Docs. *Select, a variety of software to accomplish given goals *Analysing & Evaluate information. *Collect & Present data Task - Research hours of sun on North & South Europe collect evaluate and present data	*Select and Combine a variety of software to accomplish given goals Use the internet to research information then use sheets to create a graph showing the data collected, combine this data into a Docs. *Analysing & Evaluate information. *Design and create a range of programs Use slides to design a program that shows a process involving research, consultation, initial design, testing and redesign Task - Slides North & South America	*Select, use and combine a variety of software (including internet services) on a range of devices to design and create a range of programs, systems and content Use Sites to develop a Web Site embed links and forms where possible *Accomplish given goals, including collecting, analysing, evaluating and presenting information Task - Biographies –Select an artist and use Sites (Web Site) to present a selection a data. Use different devices to carry out research.

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Digital Literacy/E-Safety Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.	*Use search technologies effectively *Use technology responsibly *Identify a range of ways to report concerns about contact. Task - **Digital Hub activity** *Origin of the Christmas tree information poster, read aloud speaking and listening, core skills. **E-Safety** *Passwords/online community *Show respect online *Writing good emails	*Understand how computer networks can provide multiple services, such as the world wide web Use the internet to research William Morris *Understand the opportunities computer networks offer for communication. Insert hyperlinks, images and sound *Appreciate how search results are ranked Understand why and how the first results are at the top * Identify a range of ways to report concerns about content Remind where to go for help if they feel uncomfortable *Recognise acceptable and unacceptable behaviour *Use i-Pads to research Tree Octopus. Task - Biography about William Morris or an artist that links to curriculum **E-Safety** *Rings of responsibility/ personal info *The power of words *Whose is it anyway	*Understand the opportunities computer networks offer for collaboration *Be discerning in evaluating digital content *Use search engines selectively *Use technology safely, respectfully and responsibly *Recognise acceptable and unacceptable behaviour **E-Safety** *Strong passwords/Digital citizen pledge *How to cite a site *Picture perfect	*Understand the opportunities networks offer for collaboration *Appreciate how search results are ranked *Be discerning in evaluating digital content Check facts with other sites *Use search engines selectively *Use search technologies Effectively *Use technology safely, respectfully and responsibly *recognise acceptable and unacceptable behaviour * Identify a range of ways to report concerns about content and contact. **E-Safety** *Talk safely online/citizen pledge *Privacy rules and cyber bullying (Safer Internet day assembly) *Writing a blog (school trip)