Silver Springs Primary Academy
Computing Curriculum Overview

Key Stage Two						
Computer Science				**Information Technology**		**Digital Literacy**
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.**	**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.**	**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 technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a range of ways to report concern about content and contact. Covered via Internet Legends.**
Year 3						
Children can turn a simple real-life situation into an algorithm for a program by deconstructing it into manageable parts. Their design shows that they are thinking of the	*Children demonstrate the ability to design and code a program that follows a simple sequence. They experiment with timers to achieve repetition effects in their programs. Children are beginning to understand the difference in the*	*Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, 'if*	*Children can list a range of ways that the internet can be used to provide different methods of communication. They can use some of these methods of communication, e.g. being able to open, respond to*	*Children can carry out simple searches to retrieve digital content. They understand that to do this, they are connecting to the internet and using a search engine such as*	*Children can collect, analyse, evaluate and present data and information using a selection of software, e.g. using a branching database (**2Question**), using software such as **2Graph**. Children can consider what software*	*Ways to develop safe habits online, including the importance of protecting personal information How to respect online privacy boundaries for themselves and others Ways to seek or ask for help if they or others feel unsafe*

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desired task and how this translates into code. Children can identify an error within their program that prevents it following the desired algorithm and then fix it. **Unit 3.1 Coding**	*effect of using a timer command rather than a repeat command when creating repetition effects. Children understand how variables can be used to store information while a program is executing.* **Unit 3.1 Coding**	*statements, repetition and variables. They make good attempts to 'step through' more complex code in order to identify errors in algorithms and can correct this. e.g. traffic light algorithm in* **2Code.** *In programs such as Logo, they can 'read' programs with several steps and predict the outcome accurately.* **Unit 3.1 Coding**	*and attach files to emails using* **2Email**. *They can describe appropriate email conventions when communicating in this way.* **Unit 3.1 Coding** **Unit 3.5 Email**	*Purple Mash search or internet-wide search engines.*	*is most appropriate for a given task. They can create purposeful content to attach to emails, e.g.* **2Respond**. **Unit 3.6 Simulations** **Unit 3.7 databases** **Unit 3.5 Email**	*How to develop respectful, empathetic and healthy online relationships* *Ways to manage and respond in a healthy and safe way to hurtful online behaviour* ***Be Internet Legends handbook*** **Unit 3.5 Email**
When turning a real life situation into an algorithm, the children's design shows that they are thinking of the required task and how to accomplish this in code using coding structures for selection and repetition. Children make more intuitive attempts to debug their own programs.	*Children's use of timers to achieve repetition effects are becoming more logical and are integrated into their program designs. They understand 'if statements' for selection and attempt to combine these with other coding structures including variables to achieve the effects that they design in their programs. As well as understanding how variables can be used to store information while a program is*	*Children's designs for their programs show that they are thinking of the structure of a program in logical, achievable steps and absorbing some new knowledge of coding structures. For example, 'if' statements, repetition and variables. They can trace code and use step-through methods to identify errors in code and make logical attempts to correct this. e.g.*	*Children recognise the main component parts of hardware which allow computers to join and form a network. Their ability to understand the online safety implications associated with the ways the internet can be used to provide different methods*	*Children understand the function, features and layout of a search engine. They can appraise selected webpages for credibility and information at a basic level.* **Be Internet Legends Handbook**	*Children are able to make improvements to digital solutions based on feedback. Children make informed software choices when presenting information and data. They create linked content using a range of software such as* **2Connect** *and* **2Publish+**. *Children share digital content within their community, i.e. using Virtual* **Display Boards**. **Unit 4.1 Coding** **Unit 4.6 Animation**	*What having a positive digital footprint means. Ways in which they can start to build a positive digital footprint* *How to be a critical consumer while online* *About different online scams, including phishing* ***Be Internet Legends Handbook***

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Unit 4.1 Coding **Unit 4.5 Logo**	*executing, they are able to use and manipulate the value of variables. Children can make use of user inputs and outputs such as 'print to screen'. e.g.* **2Code.** **Unit 4.1 Coding** **Unit 4.5 Logo**	*traffic light algorithm in 2***Code**. *In programs such as Logo, they can 'read' programs with several steps and predict the outcome accurately.* **Unit 4.1 Coding** **Unit 4.5 Logo**	*of communication is improving.*			
Year 5						
Children may attempt to turn more complex real-life situations into algorithms for a program by deconstructing it into manageable parts. *Children are able to test and debug their programs as they go and can use logical methods to identify the approximate cause of any bug but may need some support identifying the specific line of* **code**. **Unit 5.1 Coding** **Unit 5.5 Game creator**	*Children can translate algorithms that include sequence, selection and repetition into code with increasing ease and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures. They are combining sequence, selection and repetition with other coding structures to achieve their* **algorithm design**. **Unit 5.1 Coding**	*When children code, they are beginning to think about their code structure in terms of the ability to debug and interpret the code later, e.g. the use of tabs to organise code and the* **naming of variables** **Unit 5.1 Coding**	*Children understand the value of computer networks but are also aware of the main dangers. They recognise what personal information is and can explain how this can be kept safe. Children can select the most appropriate form of online communications contingent on audience and digital content, e.g.***2Blog**, **2Email**, **Display Boards**.	*Children search with greater complexity for digital content when using a search engine.* *They are able to explain in some detail how credible a webpage is and the information it contains.* **Unit 6.4 Blogging** **Be Internet Legends Handbook.**	*Children are able to make appropriate improvements to digital solutions based on feedback received and can confidently comment on the success of the solution. e.g. creating their own program to meet a design brief using* **2Code**. *They objectively review solutions from others. Children are able to collaboratively create content and solutions using digital features within software such as collaborative mode.* *They are able to use several ways of sharing digital content, i.e.* **2Blog**, **Display Boards** *and* **2Email**.	*What having a positive digital footprint means (pg65-71)* *Ways in which they can start to build a positive digital footprint* *How to be a critical consumer while online (pg 65-71)* *About different online scams, including phishing* *Ways to develop safe habits online, including the importance of protecting personal information (pg 68-71)* *How to respect online privacy boundaries for themselves and others* *Ways to seek or ask for help if they or others feel unsafe* *How to develop respectful, empathetic*

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					Children make clear connections to the audience when designing and creating digital content. The children design and create their own blogs to become a content creator on the internet, e.g. **2Blog**. *They are able to use criteria to evaluate the quality of digital solutions and are able to identify improvements, making some refinements.* **Unit 5.1 Coding** **Unit 5.5 Game Creator** **Unit 6.4 Blogging**	*and healthy online relationships (pg68-71) Ways to manage and respond in a healthy and safe way to hurtful online behaviour* **Be Internet Legends handbook.** **Unit 6.4 blogging**
Year 6						
Children are able to turn a more complex programming task into an algorithm by identifying the important aspects of the task (abstraction) and then decomposing them in a logical way using their knowledge of possible coding structures and	*Children translate algorithms that include sequence, selection and repetition into code and their own designs show that they are thinking of how to accomplish the set task in code utilising such structures, including nesting structures within each other. Coding displays an improving understanding of variables in coding,*	*Children are able to interpret a program in parts and can make logical attempts to put the separate parts of a complex algorithm together to explain the* ***p*****rogram as a whole**. **Unit 6.1 Coding**	*Children understand and can explain in some depth the difference between the internet and the World Wide Web. Children know what a WAN and LAN are and can describe how they access the* **internet in school**. **Unit 6.6 Networks**	*Children readily apply filters when searching for digital content. They are able to explain in detail how credible a webpage is and the information it contains. They compare a range of digital content sources and are able to rate them in terms of content quality and*	*Children make clear connections to the audience when designing and creating digital content. The children design and create their own blogs to become a content creator on the internet, e.g.* **2Blog**. *They are able to use criteria to evaluate the quality of digital solutions and are able to identify improvements, making some refinements.*	*To recover objectives as appropriate and based on the needs of the class.*

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applying skills from previous programs. Children test and debug their program as they go and use logical methods to identify the cause of bugs, demonstrating a systematic approach to try to identify a particular line of code causing a **problem**. **Unit 6.1 Coding**	*outputs such as sound and movement, inputs from the user of the program such as button clicks and the* **value of functions**. **Unit 6.1 Coding**			*accuracy. Children use critical thinking skills in everyday use of online communication.*	**Unit 6.1 Coding** **Unit 6.7 Quizzing**	