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| **Strand** | **Year 3** | **Year 4** |
| **Computer Science**  **(Algorithms and Programming)**  Link to NC statements:  Pupils should be taught to:   * 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 | * To read a simple algorithm * To use an algorithm to create a program * To know when there is a bug in my program * To use a simple sequence in a program * To use a simple repetition (loops/repeat commands) in a program * To decompose (break up into smaller parts) a problem both on and off screen * To predict (using logical reasoning) problems in a program * To test my program and recognise when I need to debug it. | * To read a simple program and predict what will happen * To design an algorithm for a program (including with pencil and paper) * To use a more complex sequence in a program * To use a program that controls or simulates control of a physical system * To begin to see similarities and differences between programming languages * To predict (using logical reasoning) problems (bugs) in a program * To predict (using logical reasoning) how to debug a problem in a program * To use logical thinking to solve an open-ended problem by breaking it up into smaller parts (decompose). . |
| **Understanding technology (Communication and Networks)**  Link to NC statements:  Pupils should be taught to:   * 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 | * To know examples of inputs * To know examples of outputs * To know how computers can form a local network * To say when I am and when I am not using an online technology * To be able to save and retrieve work on the Internet, the school network or my own device. * To begin to talk about the parts of a computer * To be able to describe the World Wide Web as the part of the Internet that contains websites. * To use search tools to find an age appropriate website. * To think about if I can use images that I find online in my own work. | * To know and give examples of inputs used * To know and give examples of outputs used * To know there is a difference between the Internet and the World Wide Web * To recognise some of the services offered by the internet for communication and collaboration * To be able to identify key words to use when searching safely and effectively on the World Wide Web. * To begin to know how to check who owns photos, text and clipart. |
| **Digital Literacy (Data & Data Representation, Hardware & Processing and Information Technology):**  Link to NC statements:  Pupils should be taught to:   * 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 | * To know what an app or application is * To use technology to create simple digital content e.g. documents, film etc. * Give example of an app used and some of the skills learnt, e.g. iMovie * To combine a mixture of text graphics and pictures * To combine a mixture of text, graphics, pictures and sound/film * To create and save using a word processing app e.g. Word * To print out my digital work * To use an increasing number of digital resources and apps * To collect data to help me answer a question. * To present data as information for an audience * To know some examples of search technology * To choose good key words when searching the internet * To use a data logger to monitor changes and can talk about the information collected * To evaluate my work and improve its effectiveness. | * To use a presentation app e.g. PowerPoint * To create, modify and present documents or other media for a particular purpose. * To use an appropriate tool to share my work and collaborate online e.g. a wiki. * To give feedback to my peers to help them improve their work and refine my own work. * To collect data and identify where it could be inaccurate. * To plan, create and search a database to answer questions * To choose the best way to present data to my friends. * To use a data logger to record and share my readings with my friends * To evaluate my work and improve its effectiveness by thinking about the audience it is aimed at * To identify key words to use when searching safely online |
| **E-safety**  Over lower and upper key stage 2 pupils will have increasing knowledge and skills with each statement  Link to NC statements:  Pupils should be taught to:   * use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; * identify a range of ways to report concerns about content and contact.   Linked to SWGFL plans  And Be Internet Legends plans | * To be familiar with the Be Smart e-safety rules * To know how to comment and discuss another person’s work respectfully either offline or online * To know some things, I can share and some I should not share * To know when to ask for another person’s permission when sharing online * To identify risks about who and who not to contact online * To know who to contact about content or contacts that worry me * To recognise acceptable and unacceptable behaviour when online * To know about passwords and begin to create good ones and keep them safe | * To be familiar with the Be Smart e-safety rules * To comment positively and respectfully * To explain how to check who owns photos, text and clipart (copyright) * To check the reliability of the information I find or that appears on my device * To protect myself and my friends from harm online, including reporting concerns to a trusted adult * To I know that anything I share online will stay there to be seen and used by others * To choose apps, games and websites that are appropriate for my age and explain my reasons to friends |