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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Big Idea** | **Aspect** | **Reception** | **Year One** | **Year Two** | **Year Three** | **Year Four** | **Year Five** | **Year Six** |
| **Computer Science** | **Substantive**  **knowledge** | Can follow instructions in the correct order. | Understand what algorithms are; how they are implemented as programs on digital devices; and  that programs execute by following precise and unambiguous instructions | Understand what algorithms are; how they are implemented as programs on digital devices; and  that programs execute by following precise and unambiguous instructions. | Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems;  solve problems by decomposing them into smaller parts. | Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems;  solve problems by decomposing them into smaller parts. | Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by  decomposing them into smaller parts. | Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by  decomposing them into smaller parts. |
|  | **Disciplinary**  **knowledge:** | Can understand that instructions need to go in the correct order. If you mix them up then the task will not be completed correctly. Eg: making toast- you can’t butter the bread and then put it into the toaster. | Create and debug simple programs. | Create and debug simple programs. | Use sequence, selection and repetition in programs; work with variables and various forms of input and output. | Use sequence, selection and repetition in programs; work with variables and various forms of input and output. | Use sequence, selection and repetition in programs; work with variables and various forms of input and output. | Use sequence, selection and repetition in programs; work with variables and various forms of input and output. |
|  | **Computation**  **al thinking:** | Explore games and devices that move forwards, backwards, left and left. | Use logical reasoning to predict the behaviour of simple programs. | Use logical reasoning to predict the behaviour of simple programs. | Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. | Use logical reasoning to explain how some simple algorithms work and to detect and correct errors  in algorithms and programs. | Use logical reasoning to explain how some simple algorithms work and to detect and correct errors  in algorithms and programs. | 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. | 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. | 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. | 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. |
| **Information Technology** |  | Understand how to give instructions to make things move eg: bee bots to make them move to a certain location. | Use technology purposefully to create, organise, store, manipulate and retrieve digital content. | Use technology purposefully to create, organise, store, manipulate and retrieve digital content. | Use search technologies effectively, appreciate how results are selected and ranked, and be discerning  in evaluating digital content. | Use search technologies effectively, appreciate how results are selected and ranked, and be discerning  in evaluating digital content. | Use search technologies effectively, appreciate how results are selected and ranked, and be discerning  in evaluating digital content. | 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. | 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. | 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. | 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. |
| **Digital Literacy** | **Technology beyond school:** | Able to sort different pieces of technology that they may find at school and what they may find at home eg: A washing machine in the kitchen not in the classroom. | Recognise common uses of information technology beyond school. | Recognise common uses of information technology beyond school. | Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a  range of ways to report concern about content and contact. | Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a  range of ways to report concern about content and contact. | Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a  range of ways to report concern about content and contact. | Use technology safely, respectfully and responsibly; recognise acceptable/ unacceptable behaviour; identify a  range of ways to report concern about content and contact. |
|  | **Online safety:** | Is aware that we need passwords to protect our work and will use them with an adult eg: for teachers to log onto their computers or a passcode for a program. | Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns  about content or contact on the internet or other online technologies. | Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns  about content or contact on the internet or other online technologies. | 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.  Understand the need to communicate in a safe way while online. | 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.  Understand the need to communicate in a safe way while online. | 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. | 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. |