Computing Progression Map

|  |  |  |
| --- | --- | --- |
|  | Computing Milestones in the Foundation Stage | |
| Developmental Bands | Early Years Outcomes | |
| 30-50 Months | * Knows how to operate simple equipment e.g. turns on CD player and uses remote control. * Shows an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones. * Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images. * Knows that information can be retrieved from computers. | |
| 40-60 Months+ | * Complete a simple program on a computer. * Uses ICT hardware to interact with age appropriate computer software. | |
| Early Learning Goal | * Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes. | |
| National Curriculum | End of Key Stage One | End of Key Stage Two |
| Computing Science | 1. Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.  2. Create and debug simple programs.  3. Use logical reasoning to predict the behaviour of simple programs. | 4. Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.  5. Use sequence, selection and repetition in programs; work with variables and various forms of input and output.  6. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.  7. Understand computer networks including the internet; how they can provide multiple services, such as the World Wide Web.  8. Appreciate how [search] results are selected and ranked. |
| Information Technology | 1. Use technology purposefully create, organise, store, manipulate and retrieve digital content. | 2. Use search technologies effectively.  3. 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 | 1. Recognise common uses of information technology beyond school.  2. Use technology respectfully and safely, 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. | 3. Understand the opportunities [networks] offer for communication and collaboration.  4. Be discerning in evaluating digital content.  5. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| National Curriculum | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| Computers | Recognise common uses of information technology in the home and school environment. | Recognise common uses of information technology beyond school. | Recognise familiar forms of input and output devices and how they are used.  Make efficient use of familiar forms of input and output devices. | Use other input devices such as cameras or sensors. |  |  |
| Networks |  |  | Understand that computer networks enable the sharing of data and information.  Understand that the internet is a large network of computers and that information can be shared between computers. | Understand what servers are and how they provide services to a network. | Begin to use internet services to share and transfer data to a third party. | Understand how computer networks enable computers to communicate and collaborate.  Begin to use internet services within his/her own creations to share and transfer data to a third party. |
| Using Computers | Use technology purposefully to create digital content. | Use technology purposefully to create, organise, store, manipulate and retrieve digital content.  Use technology purposefully to create digital content comparing the benefits of different programs. | With support select and use a variety of software to accomplish goals. | With support select and use a variety of software on a range of digital devices.  With support select, use and combine a variety of software on a range of digital devices to accomplish given goals. | Independently select and use appropriate software for a task.  Independently select, use and combine a variety of software to design and create content for a given audience. | Independently select, use and combine a variety of software to design and create content for a given audience, including collecting, analysing, evaluating and presenting data and information.  Design and create a range of programs, systems and content for a given audience.  Independently select, use and combine a variety of software to collect, analyse, evaluate and present data and information. |
| Online Safety | Understand where to go for help and support when he/she has concerns about content or contact on the internet or other online technologies. | Use technology safely and keep personal information private. | Use technology safely and respectfully, keeping personal information private.  Use technology safely and recognise acceptable and unacceptable behaviour. | Use technology responsibly and understand that communication online may be seen by others.  Understand where to go for help and support when he/she has concerns about content or contact on the internet or other online technologies. | Understand the need to only select age appropriate content. | Use technology respectfully and responsibly.  Identify a range of ways to report concerns about content and contact in and out of school. |
| Net Searching |  |  | Use simple search technologies.  Use simple search technologies and recognise that some sources are more reliable than others. | Understand how results are selected and ranked by search engines. | Use filters in search technologies effectively.  Use filters in search technologies effectively and appreciates how results are selected and ranked. | Be discerning when evaluating digital content.  Use filters in search technologies effectively and is discerning when evaluating digital content. |
| Coding | Predict the behaviour of simple programs. Understand what algorithms are and how they are implemented on digital devices. | Use logical reasoning to predict the behaviour of simple programs.  Create simple programs.  Create and debug simple programs.  Debug simple programs by using logical reasoning to predict the actions instructed by the code.  Understand that programs execute by following precise and unambiguous instructions. | Design, write and debug programs that control or simulate virtual events.  Use logical reasoning to explain how some simple algorithms work. | Decompose programs into smaller parts. Use logical reasoning to detect and correct errors in algorithms and programs.  Select, use and combine a variety of software, systems and content that accomplish given goals. | Design, input and test an increasingly complex set of instructions to a program or device.  Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems.  Design, write and test simple programs that follow a sequence of instructions or allow a set of instructions to be repeated.  Design write and test simple programs with opportunities for selection, where a particular result will happen based on actions or situations controlled by the user.  Use logical reasoning to explain how increasingly complex algorithms work to ensure a program's efficiency. | Include use of sequences, selection and repetition with the hardware used to explore real world systems.  Solves problems by decomposing them into smaller parts.  Create programs which use variables.  Use variables, sequence, selection, and repetition in programs.  Use logical reasoning to explain how increasingly complex algorithms work and to detect and correct errors in algorithms and programs efficiently |