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| **Computing- assessment progression grid** |
| **Essential opportunities- Key stage 1**  | **Essential opportunities- Key stage 2** |
| * Understand algorithms and how they are made using digital devices.
* Create simple algorithms and programs that follow a sequence of instructions.
* Write and test simple programs.
* Use logical reasoning to predict the behaviour of simple programs.
* Organise, store, manipulate and retrieve data in a range of digital formats.
* Recognise common uses of information technology beyond school.
* Communicate safely and respectfully online, keeping personal information private and recognise common uses of information technology beyond school.
 | * Design and write programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.
* Use sequence (ordering) and repetition (repeated instructions) in programs; work with variables (if…then…) and various forms of input and output; generate appropriate inputs and predicted outputs to test programs.
* Use logical reasoning to explain how simple algorithm works, detect and correct errors in algorithms and programs (debugging).
* 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 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 concerns about content and contact.
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| **Essential LearningObjectives** | **Milestone 1 End of Year 2** | **Milestone 2 End of Year 4** | **Milestone 3End of Year 6** |
| **Programming (Using Beebot App, Scratch)** | **Motion** | Control motion by specifying the number of steps to travel, direction and turn (Beebots) | Use specified screen coordinates to control movement. (Scratch) | Set IF conditions for movements. (IF…..THEN….)(Scratch) |
| **Looks** | Add text strings, show and hide objects and change the features of an object. (Scratch) | Set the appearance of an object in a program (Scratch) | Change the position of objects between screen layers (send to back, bring to front) (Scratch) |
| **Sound** | Select sounds and control when they are heard, their duration and volume (Scratch) | Create and edit sounds. Control when they are heard, their volume and duration. (Scratch). | Create and edit sounds. Control when they are heard, their volume and duration. (Scratch). |
| **Draw** | From year 3 onwards.  | Create drawings and set the pen colour, size, shape and shade. (Scratch) | Use pens with movement to create interesting effects.  |
| **Events** | Specify user inputs (such ask clicking on an icon) to control events. (Scratch) | Specify conditions to trigger events (Scratch) | Set events to control other events by “broadcasting” information as a trigger (Scratch) |
| **Control** | Specify the nature of events (a single event or a loop). Beebot | Use IF THEN conditions to control events or objects (Scratch) | Use IF….THEN conditions to control events or objects.  |
| **Sensing** | Create conditions for actions by waiting for a user input. (Beebot and Scratch) | Create conditions for actions by sensing proximity or by waiting for a user input (such as proximity to a specified colour or a line or responses to questions) (Scratch)  | Use a range of sensing tools (including proximity, user inputs, loudness and mouse position) to control events (Scratch)  |
| **Operators** | From year 5 onwards.  | From year 5 onwards. | Use a range of formula in Excel to represent changes in data between cells.(Excel)  |
|  **Connect** | * Understand online risks and the age rules for sites (E-Safety).
* Send and receive emails as a class.
* Use a range of applications and decides in order to communicate ideas, work and messages (Email, zoom)
 | \* Give examples of risks posed by online communicators.\* Understand the term “copyright”\* Understand that comments made online that are hurtful or offensive are the same as bullying.\* Understand a range of online services and how they work.  | \* Collaborate with others online (email other schools using class email?)\* Give examples of the risks of online communities and demonstrate knowledge of how to minimise risk and report problems.\* Understand and demonstrate knowledge that it is illegal to download copyrighted material, including music or games, without express permission, from the copyright holder.\* Understand how simple networks are set up and used.\* Choose the most suitable applications and devices for the purposes of communication.  |
| **Communicate** | * Generate and communicate ideas using a variety of programs and apps. (Publisher, Word, Excel)
 | * Use some of the advanced features of programs and apps in order to communicate ideas, work or messages. (Publisher, Word, Excel)
 | * Use many of the advanced features in order to create high quality, professional or efficient communications. (Publisher, Word, Excel)
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| **Collect** | * Use tables in Word and Infant Video Toolkit to record data collected across the curriculum.
 | * Record and present numerical data using Excel in areas across the curriculum.
 | * Use Excel to devise, construct and manipulate data and present it in an effective and professional manner.
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