**Hillside Computing Curriculum Overview 2024**

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|  | **EYFS Curriculum Links** |
| **Reception** | **Links with Barefoot Computing skills evidenced through the rest of the EYFS.****Collaboration:** ELGs related to speaking, listening and building relationships.**Creating:** ELGs related to expressive arts and design**Tinkering:** ELGs related to creating with materials, fine and gross motor skills.**Persevering:** ELGs related to self-regulation and managing self.**Pattern:** ELGs related to numerical patterns and creating with materials.**Logical Reasoning:** ELGs related to understanding the world (asking how and why questions) and numerical patterns.**Abstraction:** Self-regulation, creating with materials.**Algorithms:** Comprehension, numerical patterns.**Decomposition:** Creating with materials, comprehension, self-regulation |

**Key Stage 1**

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|  | **Topic 1** | **Topic 2** | **Topic 3** | **Topic 4** | **Notes** |
| **Y1** | **Systems and networks:****Technology Around Us**Recognising technologyin school and usingit responsibly. | **Programming A:****Moving****a robot**Writing shortalgorithms andprograms for floorrobots, and predictingprogram outcomes. | **Creating Media:****Digital****Writing**Type on a keyboard and begin using tools to change the look of the text.  | **Handling Data:****Grouping****data**Exploring objectlabels, then usingthem to sort andgroup objects byproperties. |  |
| **Y2** | **Systems and networks:****Short unit****Information technology****around us**Identifying IT and howits responsible useimproves our world inschool and beyond. | **Creating Media:****Digital****photography**Capturing andchanging digitalphotographs fordifferent purposes. | **Programming:****Robot****algorithms**Creating anddebugging programs,and using logicalreasoning to makepredictions. | **Programming B (Year 1 unit):****Programming****animations**Understand sprites and backgrounds. Use programming blocks to use, modify, and create programs.  | **Extension:** could begin to look at ‘quizzes’ in Scratch. |

**Key Stage 2**

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|  | **Topic 1** | **Topic 2** | **Topic 3** | **Topic 4** | **Notes** |
| **Y3** | **Systems and networks:****Connecting****computers**Identifying that digitaldevices have inputs,processes, and outputs,and how devices canbe connectedto make networks. | **Programming A:****Sequencing sounds**Creating sequencesin a block-basedprogramminglanguage tomake music. | **Handling Data:****Branching databases**Building andusing branchingdatabases to groupobjects usingyes/no questions. | **Creating Media:****Stop-frame****animation**Capturing and editingdigital still images toproduce a stop-frameanimation thattells a story. | **Programming B:****Events and actions in programs (Scratch intro to KS2 – sprite/background****1 or 2 lessons)** |
| **Y4** | **Creating Media:****Audio editing**Capturing and editingaudio to produce apodcast, ensuringthat copyrightis considered. | **Programming A:****Repetition in shapes**Using a block-basedprogramminglanguage to explorecount-controlledloops whendrawing shapes. | **Creating Media:****Photo editing**Manipulating digitalimages, and reflectingon the impact ofchanges and whetherthe required purposeis fulfilled. | **Programming B:****Repetition in games**Using a block-basedprogramminglanguage to explorecount-controlled andinfinite loops whencreating a game. | Complete practical lesson from **Systems and networks:****The Internet** |
| **Y5** | **Systems and networks:****Systems and Searching** Learn how information is transferred between systems and devices. Explain the input, output, and process aspects of a variety of different real-world systems. Learners how to use advanced features to perform precise searches | **Creating Media:****Video production**Create short videos working in pairs or groups. Develop the skills of capturing, editing, and manipulating video. Reflect on and assess their progress in creating a video. | **Programming A:****Selection in physical computing**Use microcontroller (Crumble controller) connect and program components (including output devices- LEDs and motors). Make use of repetition and conditions when introduced to the concept of selection (through the if, then structure). | **Programming B:****Selection in quizzes**Learn how the If… Then… Else structure can be used to select different outcomes depending on whether a condition is true or false. Constructing programs using Scratch to design a quiz. |  |
| **Y6** | **Programming A:****Variables in games**Exploring variableswhen designing andcoding a game. | **Handling Data:****Introduction to****spreadsheets**Answeringquestions by usingspreadsheetsto organise andcalculate data. | **Creating Media:****3D modelling**Planning, developing,and evaluating 3Dcomputer models ofphysical objects. | **Programming B:****Sensing**Designing and codinga project thatcaptures inputs froma physical device. |  |