Micro:bit Coding KS3: Literacy and Numeracy Framework and Digital Competence Framework Mapping

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| Year Group | Literacy | Numeracy |
| 7 | Element: Developing and presenting information and ideasLearners are able to:*listen to explanations of processes, sequences or points of view and identify the main points in order.*Element: Writing accuratelyLearners are able to:*use varied and appropriate vocabulary accurately, including subject-specific words and phrases* | Element: Identify processes and connectionsLearners are able to:*transfer mathematical skills across the curriculum in a variety of contexts and everyday situations**select, trial and evaluate a variety of possible approaches and break complex problems into a series of tasks**identify, measure or obtain required information to complete the task*Element: Fractions, decimals, percentages and ratioLearners are able to:*use equivalence of fractions, decimals and percentages to compare proportions*Element: TimeLearners are able to:*measure and record time in hundredths of a second* |
| 8 | Element: Writing accuratelyLearners are able to:*use technical terms, language and expression consistent with the subject content.* | Element: Identify processes and connectionsLearners are able to:*transfer mathematical skills across the curriculum in a variety of contexts and everyday situations**select, trial and evaluate a variety of possible approaches and break complex problems into a series of tasks**identify, measure or obtain required information to complete the task*Element: TimeLearners are able to:*interpret fractions of a second appropriately* |
| 9 | Element: Writing accuratelyLearners are able to:*use a wide range of technical terms, language and expression consistent with the subject content.* | Element: Identify processes and connectionsLearners are able to:*transfer mathematical skills across the curriculum in a variety of contexts and everyday situations**select, trial and evaluate a variety of possible approaches and break complex problems into a series of tasks**identify, measure or obtain required information to complete the task*Element: Length, weight/mass, capacityLearners are able to:*make links between speed, distance and time.* |

Digital Competence Framework

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| Year Group | Strand | Element and learner statement |
| 7 | Data and computational thinkingProducing | Problem solving and modellingLearners are able to: *identify different parts of a process, e.g. variables, loops, case statements and comments**predict process outcome after modifying inputs, e.g. predicting the effect of changing/editing a set of instructions**modify a given flowchart to change the variables of an algorithm, e.g. add a process or a counter to it that would increment or decrement values.*Evaluating and ImprovingLearners are able to:*respond to feedback.* |
| 8 | ProducingData and computational thinking | Evaluating and improvingLearners are able to:*suggest and make improvements depending on feedback and self-evaluation.*Problem solving and modellingLearners are able to:*identify patterns and opportunities for re-using code (instructions), e.g. parts of a method or instruction list that can be used to solve similar problems in different situations and/or systems**apply logical reasoning to a problem to formulate a solution, e.g. explain and justify how and why a solution to a problem is suitable**modify a given flowchart to change rules of an algorithm, e.g. adjust conditions of actions in a flowchart, for instance changing the boundaries of a counter in a loop to change how the program functions**change an algorithm and predict the outcome.* |
| 9 | Data and computational thinking | Problem solving and modellingLearners are able to:*decompose complex processes and determine the actions of individual parts, e.g. multiple WHILE, FOR and IF in either text-based or block-based programming environments**follow given written instructions or flowcharts to determine the function or output of a process**recognise that algorithms are language agnostic**follow and develop logical solutions, e.g. demonstrate how a problem could be solved selecting a suitable method to illustrate**detect and correct simple errors in algorithms, e.g. can identify and correct where a syntax error will occur, for instance missing equal signs, variable names spelled incorrectly.* |