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 ideas  Learners are able to:  *listen to explanations of processes, sequences or points of view and identify the main points in order.*  Element: Writing accurately  Learners are able to:  *use varied and appropriate vocabulary accurately, including subject-specific words and phrases* | Element: Identify processes and connections  Learners 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 ratio  Learners are able to:  *use equivalence of fractions, decimals and percentages to compare proportions*  Element: Time  Learners are able to:  *measure and record time in hundredths of a second* |
| 8 | Element: Writing accurately  Learners are able to:  *use technical terms, language and expression consistent with the subject content.* | Element: Identify processes and connections  Learners 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: Time  Learners are able to:  *interpret fractions of a second appropriately* |
| 9 | Element: Writing accurately  Learners are able to:  *use a wide range of technical terms, language and expression consistent with the subject content.* | Element: Identify processes and connections  Learners 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, capacity  Learners 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 thinking  Producing | Problem solving and modelling  Learners 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 Improving  Learners are able to:  *respond to feedback.* |
| 8 | Producing  Data and computational thinking | Evaluating and improving  Learners are able to:  *suggest and make improvements depending on feedback and self-evaluation.*  Problem solving and modelling  Learners 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 modelling  Learners 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.* |