Lesson 5 - Variables, Selection and Incrementing a Stored Value

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| The Big Picture – Why Is This Relevant? | Learning Objectives |
| * Functions and variables are staples of any program. This lesson explores how to use inputs to write to and overwrite the contents of a variable. This is a useful skill for the healthy eating quiz project | * Know what a variable is * Create a variable * Use selection, buttons and variables to keep a running total, similar to that used in a game |
| Engagement – How Can I Engage Learners? | Assessment for Learning |
| Begin the lesson s=with some boxes and Learners to label or name them. Then invite them to write their name on a piece of paper and place it in one of the boxes. Discuss how this is now a variable, it contains a data which can be read, deleted or edited. | **Expected Progress:**   * Learners can create a variable   **Good Progress:**   * Learners update variables using the buttons * Learners add and subtract values from a variable   **Exceptional Progress:**   * Learners use selection to update and edit the values stored in a variable |
| Key Concepts | Key Words |
| * Learning what the role of variables is * How to update the value or contents of a variable * Using inputs to change the contents of a variable | * Variable * Selection * Increment |
| Differentiation | Resources |
| When completing the activity, check for the indentation levels as this will stop the program from working.  Pair Learners up to support those slower at typing out the program code. | * Lesson 5 ppt * Lesson 5 Activity Sheet * Sample Python code * 1 micro:bit per learner * 1 USB cable to connect the micro:bit to a PC * A PC * Access to <https://python.microbit.org/v/3> |
| Lesson Flow | |
| * Teacher recaps what a variable is * Discuss how variables are similar to boxes that can store data * Use box example to identify what the variable is called, and what is stored on the variable. * Learners identify the difference between the two program in the activity * Learners build program that keeps a running total stored in a variable based on which button is pressed * Learners adapt program to add questions and then use buttons to respond and store answer. This supports the basics of the Healthy Eating Quiz Project * Recap what a variable is | |
| Making | |
| There are no making elements in this lesson. | |