Lesson 5 – Project – Healthy Eating Quiz Machine  
Planning the Quiz

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| The Big Picture – Why Is This Relevant? | Learning Objectives |
| * Healthy eating and exercise are an important part of children lives. This project asks a Learner to create a healthy eating quiz that asks a young child questions and then provides some form of feedback to them. | * Understand the requirements of the project * Plan the design and structure of solution * Plan the quiz questions and method of delivery * Develop the code and display |
| Engagement – How Can I Engage Learners? | Assessment for Learning |
| * Introduce the project and set the scene * You could ask Learners to make a list of healthy and unhealthy foods * It may be useful for Learners to take an online quiz and see what type of questions are asked | **Expected Progress:**   * Learners create a healthy eating quiz * Learners provide some feedback   **Good Progress:**   * Learners use selection to enable child to input different responses * Learners build a suitable display for the quiz   **Exceptional Progress:**   * Learners use images in the quiz * Learners use variables to keep track of the child’s responses * Learners program feedback based on the responses given by the child |
| Links to KS3 Programme of Study | |
| * design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems * use 2 or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions * undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users * create, reuse, revise and repurpose digital artefacts for a given audience, with attention to trustworthiness, design and usability | |
| Key Concepts: | Key Words |
| * Understanding the project brief * Planning a solution * Identify the target audience * Planning the program structure * Planning and design the display box * Programming the quiz, * Using variables * Inputs and storing data * Developing the program | * Variables * Lists * Functions * Event handling * Buttons * Selection * Strings * Storing data in variables * Using the pins * Responses * loops |
| Differentiation | Resources |
| Learners will benefit by being placed into groups with the required skills set for the project. For example, programming, ideas, design of the display, fast at typing.  This will ensure that all groups have the opportunity to meet the requirements of the project | * Lesson 5 ppt * Lesson 5 Activity Sheet * Planning Sheet * Teacher Example 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/1.1> * Arts and crafts |
| Lesson Flow | |
| * Teacher to introduce the project scenario * Discuss healthy and unhealthy foods with examples * Learners could complete an online quiz to get ideas and see how they are structured * Discuss the Success Criteria and how these could be met, learners could note down their ideas * Learners complete the planning sheet and think about the design of the display box that will hold the micro:bit * Learners could work in groups and deploy one team to start thinking about the questions that the quiz will ask. * Learners will also need to decide on whether the question will be displayed on the micro:bit or as a separate set of questions on paper. The micro:bit is used to answer each question. * Teacher to refer to the ‘ideas’ section in the Activity Sheet as possible ways to create a solution for the project. * Learners should focus on developing the program code of the quiz * Learned can use the Activity Sheets from the previous lessons to support the development of the program code * Teacher to support students and groups as required * Learners may be working in groups so one team can work on the program code and others could be creating the display box * The display box could be set as a Homework task if lesson time runs out. * Teacher to refer to the Success Criteria section in the activity brief as possible ways to create a solution for the project * Teacher can also refer to Stretch Task for more able groups | |
| Making | |
| * A suitable display box | |