|  |  |
| --- | --- |
|  | Lesson 1 Assignment 1 (1.1)  PLTW Gateway Computer Science for Innovators and Maker |

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_

LT: I can use algorithmic thinking to create basic software to operate hardware.

Students are challenged to creatively use inputs and outputs to develop computing systems that interact with their environment. Designing algorithms and using computational thinking practices, students code and download programs to a microcontroller to perform a variety of authentic tasks. This unit broadens students’ understanding of computer science concepts through meaningful applications.

Today you will begin to explore the capabilities of physical computing systems with The Digital Dive game, an engaging, unplugged activity where you will “become” computer hardware and transfer commands. You will learn to think algorithmically as you prepare to code. Block-based coding is used to program the micro:bit microcontroller. You will learn processes and gain skills to debug code.

|  |  |
| --- | --- |
|  | Concept Exploration |

|  |
| --- |
| 1. How did your definition of computer science change from the beginning of the card activity of the classroom computer? |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

Your task in this activity it to create a code for the micro bit to blink your name on the screen of the LED Chip.

|  |  |
| --- | --- |
| 2a. Insert Algorithm Image | 2b. Insert Flowchart Image |
| |  |  | | --- | --- | | Step | Code | | 1 |  | | 2 |  | | 3 |  | | 4 |  | | 5 |  | | 6 |  | | 7 |  | | 8 |  | | 9 |  | | 10 |  | |  |
| 2c. Compare and contrast the algorithm and flowchart methods. | |
| Algoritm method: Flowchart Method: | |
| Now, your done planning your code! It is time to write and download your code to the MircoBit please go to the website: <https://makecode.microbit.org/>  If you need help programing or downloading your code to the Microbit see my wesite elmstechnolgy.weebly.com under the design and modeling tab.  **-Attach a copy of your code to this document prior to turning it in.** | |