**Creative Computing with **

**Explore Computing!**



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| **Title:Build A Computer and Learn!**  **Total Time: 1.5 hours** |
| Learning Objectives:   * Learners will grasp the difference between hardware and software * Learners will understand how the Kano computer Operating System works * Learners will gain an understanding of the different uses of code * Be able to use code to make basic creations |
| **Discovery: What makes a computer 10 min**  Watch this [video.](https://www.youtube.com/watch?v=PF7EpEnglgk)  After watching the video, can you identify the matching parts to your KANO system? How has the Software and Hardware changed? |
| **Discover: How do computers understand what we want: 25 min**  Today learners will build a computer! Open your KANO boxes and follow through the process of building your computer.  TO DO.  Power on your computer and go through the setup process. You can skip signing up with Kano if you like. Enjoy the rabbit hole!! |
| **Discover and Think:**  List all the parts that make up your Kano computer. For each part think if it is an input or output of the computer.  Now think about your phone. It’s a computer too by the way. What are the inputs and outputs of it? |
| **Procedure: Explore the Kano 45 min**  Open Make Art. This is an application that allows you to write code or instructions to your computer to make beautiful art.  **Discover and Think:**  To code a program to make art you had to give commands and parameters or options.  Write down a couple commands and their parameters.  Did you notice you can make many colours in your art? When coding or giving the computer our instructions, you should see that we always had to tell it what colour to use until we wanted to switch colours. The computer is very powerful as long as we give it proper instructions. Did you also notice that if you spelled a command or option wrong the computer would not understand what you wanted. What error message did you get? |
| **Kano Cleanup:** 5 min  Take apart your Kano and put it back in the box for the next student to enjoy. |
| **Evaluation: 5 min**  Once the computers are picked up, ask a few reflection questions:   * What was your favourite part about today’s session? * What was your least favourite part about today’s session? * What are 3 things you learned today? * Why is it important to create, not just consume, technology? |
| **Test Time !!** 5 min |