**Lesson Plan – Lists**

**Content Summary:**

A list is a collection of items.

List operations:

- add()

- remove()

- indexing

**Warm-Up/Opening**

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| Time estimate: | **Content to cover:** | **Collaborative Learning Technique:** | **Learning Strategy used (pp. 17, 64-83):** |
| **DETAILED BREAKDOWN:** | | |

**Cool Down/Closer**

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| Time estimate: | **Content to cover:**  K-W-L | **Collaborative Learning Technique:**  Individual | **Learning Strategy:**  K-W-L |
| **DETAILED BREAKDOWN:**  K-W-L is a method of checking students understanding as well as getting a handle on how they perceived the content that was covered.   K – What they know/ what they have learned for the day  W – What they want to learn or questions that they still have  L – What they are completely lost on  Students will be given a notecard to write these 3 points on then they will be handed into the instructor who will go over any questions or re-address lost topics the following day. | | |

**Main Session/Workout**

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| **Main Activity 1** | **Content to cover:**  Review Conditionals + W’s and L’s | **Collaborative Learning Technique:**  Group Discussion & Pairs | **Learning Strategy:**  Structured problem solving, whiteboarding |
| Time estimate:  45 minutes | **DETAILED BREAKDOWN:**  **Address any W’s and L’s**  Have the students work in pairs on the following problems then go through them as a group.    **Describe The If Statement:**  In pairs the students will describe each block of code to their partner. Alternating who describes.          **Take a 15-minute break** | | |
| **Main Activity 2** | **Content to cover:**  Lists | **Collaborative Learning Technique:**  Group Discussion | **Learning Strategy:**  Live Demo |
| Time estimate:  45 minutes | **DETAILED BREAKDOWN:**  In order to display the concept of a list a live demo will be done. Bring up 5 empty chairs to the front of the room and line them in a row. Describe what a list is and then demonstrate how the list operations work by adding and removing students from the list. Also describe indexing and have the students read off their indices.  Show how to access/index the list by having the indexed person move forward or raise their arms.  Show how swapping 2 items in a list works with this live list. If there are 2 identical twins in the room use them as the copy. (or maybe 2 people with the same color shirt or shoes or something).  Now have them return to their class code that they have been building. Have them create an empty list for their animal and then add their 3 objects to that list. Then have them individually print out each object from the list.  Code together how you would add up the numbers in a list.    Now have the students work together in groups of 3 to write some code to determine if the list contains the number 10.  Below is a sample.    Take a 15 minute break | | |
| **Main Activity 3** | **Content to cover:**  Project work | **Collaborative Learning Technique:**  Clusters | **Learning Strategy:**  N/A |
| Time estimate:  Rest of time leaving 15 minutes for closer | **DETAILED BREAKDOWN:**  Start the scan in process for artwork and show students how to get each piece put into a tile sheet. Then show them how to color in the tiles and let them get to work helping as needed. They can continue to brainstorm and make new art as well.  Resources and tutorials for this is posted in the project instructions folder. | | |