**Lesson Plan – Intro to Programming**

**Content Summary:**

**Variables:** A container that holds information or a value.

**Data Types:**

* String – characters.
* Boolean – true or false.
* Integer – whole number.
* Float – decimal number.

**Class:** A blueprint for an object/thing

**Intro to the project:**

* Describe the project.
* Have the students start thinking about their groups and brainstorming ideas for a mini game.

**Warm-Up/Opening**

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| Time estimate:  **5 minutes** | **Content to cover:**  15 Second Picture | **Collaborative Learning Technique:**  Group Discussion | **Learning Strategy used (pp. 17, 64-83):**  15 Second Picture |
| **DETAILED BREAKDOWN:**  Students are all given a sticky note. They will have 15 seconds to draw an animal. They will then show it to their neighbor to guess what it is. These will be used later in the lesson. | | |

**Cool Down/Closer**

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| Time estimate:  **15 minuets** | **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:**  Variables & Data Types | **Collaborative Learning Technique:**  Pairs | **Learning Strategy:**  Sorting |
| Time estimate:  20 min | **DETAILED BREAKDOWN:**  First describe what the different data types are as well as what a variable is.  In pairs the students will be given some data types on note cards, and they will sort them into the different categories with a partner. They will then compare and contrast with their neighbors to see if they got em all sorted. | | |
| **Main Activity 2** | **Content to cover:**  Variables & Data types cont. | **Collaborative Learning Technique:**  Clusters | **Learning Strategy:**  Whiteboarding |
| Time estimate:  40 min | **DETAILED BREAKDOWN:**  Now 2 sets of pairs will combine so that there are groups of 4. They will look back at their animal that they drew in the beginning and brainstorm what variables could be used to hold information about that animal.  They need to come up with…   * A string * A float * A boolean * An integer   Ex)  Animal: Cat   * String name * Float weight * Boolean hasClaws * Integer Age   Once they have that all figured out they will go around and share which animal out of the group that they picked and what variables they came up with.  After this activity take a 15-minute break | | |
| **Main Activity 3** | **Content to cover:**  Classes | **Collaborative Learning Technique:**  Clusters | **Learning Strategy:**  Big Idea |
| Time estimate:  60 min | **DETAILED BREAKDOWN:**  Now describe classes. Code an example together with the students in C# on the sample animal from before. You do not need to make getters and setters since they won’t be necessary in unity scripts. Do not make constructors either. They can break things in unity.  You can do unformatted strings.  Next have them code their class on the whiteboards or in their IDE if no whiteboards are available.  After that teach them about creating objects and have them make some objects for their animals.  Take another 15-20 minute break. | | |

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| **Main Activity 4** | **Content to cover:**  Intro To Project | **Collaborative Learning Technique:** | **Learning Strategy:** |
| Time estimate:  Remaining time leaving 15 minutes for closer | **DETAILED BREAKDOWN:**  The project outline document will be handed out to the students. They will then begin to brainstorm ideas and form their groups. Make sure that they don’t scope creep too heavily. | | |