**Lesson Plan – Conditionals**

**Content Summary:**

**Review variables and classes.**

**Conditionals:**

>= - greater than or equal to

<= - less than or equal to

> - greater than

< - less than

== - equal to

&& - and

|| - or

!= - not equal to

! - not

**If Statements:** if statements are used to perform a task given that a condition is true. They have 3 main parts to form blocks in a single statement.

if (condition)

else if (another condition) NOTE: can have as many as you want.

else NOTE: optional block

**Warm-Up/Opening**

|  |  |  |  |
| --- | --- | --- | --- |
| Time estimate:  **10-15 minutes** | **Content to cover:**  5-minute debate | **Collaborative Learning Technique:**  Group Discussion | **Learning Strategy used (pp. 17, 64-83):**  5-minute debate |
| **DETAILED BREAKDOWN:**  **Pose the following question to the students. Direct them to the fork side of the room or the spoon side of the room.**  Should mac & cheese be eaten with a spoon or a fork?  They then have 5 minutes to discuss together as their respective sides and come up with points as to why their side is superior.  Each side will then present their argument and they will get 1 round of rebuttal. | | |

**Cool Down/Closer**

|  |  |  |  |
| --- | --- | --- | --- |
| Time estimate:  **10 min** | **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**

|  |  |  |  |
| --- | --- | --- | --- |
| **Main Activity 1** | **Content to cover:**  Address W’s and L’s  + Review | **Collaborative Learning Technique:**  Group Discussion | **Learning Strategy:**  Big Idea |
| Time estimate:  45 minutes | **DETAILED BREAKDOWN:**  Go over any W’s or L’s that related to the previous lesson.  **Variables:**  **Variable relay:** Students are split into groups of 4. Each student is given a different variable name. Each variable will be associated with a data type. The goal is for each student to go up to a space on the whiteboard or pass a notebook. They will declare their variable with the type they think fits it best and they will pass it to the next person in their group.  Once each person has declared their variable the groups will swap whiteboards/notebooks and see if it looks good or if there are errors to fix.  **Classes:**  Now students will put their variable declarations into a class they think could fit that data. They will do this in an IDE.  Have them create 3 objects from that class and print them out in the console. Display a sample class and object declarations on the projector for them to reference.  After this take a 15-minute break. | | |
| **Main Activity 2** | **Content to cover:**  Conditionals | **Collaborative Learning Technique:**  Group Discussion and Pairs | **Learning Strategy:**  Whiteboarding, Big Idea |
| Time estimate:  45 min | **DETAILED BREAKDOWN:**  Teach the students about conditionals and all the listed types in the content summary. Use the alligator for > and < because its fun. Go through a few examples together with the students and then have them work on all the below examples. They will then compare with their neighbor pair and come back and go through them all as a group.    Take a 15-minute break | | |
| **Main Activity 3** | **Content to cover:**  If Statements | **Collaborative Learning Technique:**  Clusters | **Learning Strategy:** |
| Time estimate:  45 minutes | **DETAILED BREAKDOWN:**  Teach them about if statements and the 3 different blocks. Then have them get into their groups from the previous day and reference the code for their class.  Have them come up with a condition for each variable they created for example. In the cat class example, we had 4 attributes.    Some conditions for this example would be  If their name is equal to Felix then print Hello Felix!  They could have a condition telling if the cat is at a healthy weight or not  If the cat has claws then print “The cat scratched their tree”  If the cat’s age is below 2 years old then they are still a kitten  They will then add these conditions to their code after they created their objects.  Take a 15 minute break. | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Main Activity 4** | **Content to cover:**  Project | **Collaborative Learning Technique:**  Clusters | **Learning Strategy:** |
| Time estimate: | **DETAILED BREAKDOWN:**  The rest of class time will be work time for drawing and brainstorming for their project leaving 15 minutes for the closer. | | |