Collections
Lesson 10 – Expert Coding in Minecraft with Python

1. Why is it important for a program to handle a variety of inputs and situations?

2. What is the significance of a program's behavior during execution?

3. What are program inputs?

4. List and describe the forms of program inputs.

5. What sources can input come from?

6. What is a collection?

7. What are the built-in collection types provided in Python?

8. What is a list?

9. What types of values can be stored in a list?

10. What does it mean to traverse a list in Python?

11. What are the two types of traversal?

12. Why would a programmer use a text list?

13. What is a dictionary?

14. What are key-value pairs in an dictionary?

In Game Assessment References:

**For Activity Assessments, students will build the code completely on their own. They need to press C at the activity area and create a new project. When complete, they will save their MakeCode file and upload it to the portal for grading.

Activity Assessment 1:

For this activity assessment, students will be instructed to do the following:

Create code that uses a list named playerName with the following names: Todd, Ashley, Sara. And an list named material with the following blocks: Oak planks, Crimson planks, and cherry planks. First have the player say Hello to the playerName in place 2 of the playerName list. Then use a for loop to have the agent place down 2 of the each of the blocks in the material list.

Activity Assessment 2:

For this activity assessment, students will be instructed to do the following:

Create code with a list named blockTypes with the blocks of diamond, gold, and emerald. Also create a dictionary called wall with a key called length with a value of 5 and a key called width with a value of 3. Create a function called build and have the agent build a 1 level rectangle that calls from the dictionary the length and width and uses a random block from the list for each side.

Final Assessment: Mini Game

This game is intended to randomly choose food from an list. The player must then find that food and eat it. The goal is that the player will eat five golden apples and then the player will say "You win!" Each time the player eats something, a different food is added into the list. When they eat mutton, a carrot replaces the 0 spot. When they eat a carrot, mutton

replaces the 0 spot. When they eat a cake, a cookie replaces the 2 spot. When they eat a cookie, a cake replaces the 2 spot. When they eat an apple, a potato replaces the 1 spot. When they eat a potato, an apple replaces the 1 spot. After eating anything, the game function is called to have the player say the next food that needs to be eaten.