# Variables

## Lesson 1 – Expert Coding in Minecraft with JavaScript

1. What is a computer network?



2. A computing system is a group of _____

   and programs working together for a _____.



3. What is a computing device?



4. What is a variable?



5. To create variables in JavaScript, first you need to

   _____. In MakeCode, we use the the word _____

   to declare the variable.



6. When naming variables, what are the 3 things they can begin with?



7. Why are these 2 variable names different?

   Score

   score

8. Variables can only have _____, _____, the _____, and the _____ in their names.

9. What should your variable be named?

10. What is camel case?

11. What is the assignment operator?

12. Write the code to declare a variable named score with a value of 6 below.

13. What type of variable is used to represent numeric values such as integers, decimals, and fractions?

14. Name 5 Arithmetic Operators.

15. Write the symbol for each comparison operator next to it's name below.

equal to: _____

greater than: _____

less than: _____

greater than or equal to: _____

less than or equal to: _____

16. What is a string?

17. Write a string variable with the name playerName and the value of your name below.

18. What is concatenation?

19. A _____ is a string enclosed in backticks that can contain placeholders for variables, constants or expressions using the '${}' syntax.

20. What are the only 2 values a Boolean variable can hold?

**In Game Assessment References:**

Activity Assessment 1:

Build code that declares the variable length with the value of 6, a variable width with the value of 4. Then they will have the agent build a 1 level rectangle out of stone using the variables. Then have the player say, "The agent built a rectangle." When it is complete.

Note, you will need to use the agent destroy obstacles and agent set Items codes. They are below for your reference:

    agent.setAssist(DESTROY_OBSTACLES, true)

    agent.setItem(STONE, 64, 1)

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

Final Assessment – Debug the Game

This game is intended to track the number of diamond blocks broken by the player with the variable score. The goal is to break 30 diamond blocks. You will also need to set a player name (to Jack) and player age (they can not play if they are not 12 or older) variable. Once you have debugged the code, you will be able to play the game.

You will need to debug the code so you can play the game. Then you must save the code and upload it to the portal for grading.