



Computing

Programming A – Variables in Games

Year 6

Summer 1

Key Knowledge

To define a 'variable' as something that is changeable	<ul style="list-style-type: none"> I can explain that the way that a variable changes can be defined I can identify examples of information that is variable I can identify that variables can hold numbers or letters
To explain why a variable is used in a program	<ul style="list-style-type: none"> I can explain that a variable has a name and a value I can identify a program variable as a placeholder in memory for a single value I can recognise that the value of a variable can be changed
To choose how to improve a game by using variables	<ul style="list-style-type: none"> I can decide where in a program to change a variable I can make use of an event in a program to set a variable I can recognise that the value of a variable can be used by a program
To design a project that builds on a given example	<ul style="list-style-type: none"> I can choose the artwork for my project I can create algorithms for my project I can explain my design choices
To use my design to create a project	<ul style="list-style-type: none"> I can choose a name that identifies the role of a variable I can create the artwork for my project I can test the code that I have written
To evaluate my project	<ul style="list-style-type: none"> I can extend my game further using more variables I can identify ways that my game could be improved I can share my game with others

Possible experiences

- Design your own project using variables, using the Scratch software; [Scratch - Imagine, Program, Share \(mit.edu\)](#)
- Design, create and improve a game on Scratch. Compare it to other existing games and investigate how you can change the variables to make it more appealing to the user.
- Ask an adult or sibling at home to try out your game, testing if the code works.
- Share your game with others for them to try out. You can do this by copying the 9 digit number on the end of your project by adding it after [scratch.mit.edu/projects/](#)

Statutory requirements

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- "use sequence, selection, and repetition in programs; work with variables and various forms of input and output"
- "use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs"

Key vocabulary

Spelling	Definition
Variable	A variable is a placeholder in the memory of a computer and can hold one value at a time.
Algorithm	An algorithm is a precise sequence of instructions , or set of rules, for performing a task.
Chatbot	A computer program designed to simulate conversation with human users, especially over the internet. We can include these in our project designs on Scratch.

Adding comments

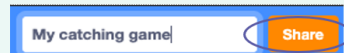
Comments are a good way of showing that you understand how your code is working.

To add a comment, right-click on the block that you want to comment on and add your comment in the text box.



Share your project

Name your project and click on **Share**.



Write your name and the 9-digit number at the end of the project's URL on the activity sheet.

