

**Subject: Computing****Year group: 6 Term: Spring 1****Title: Variables in games****What should I already know?**

- A condition can only be true or false
- A count-controlled loop can contain a condition
- There are similarities and differences between count-controlled and condition-controlled loops
- A condition-controlled loop will stop when a condition is met
- When a condition is met, a loop will complete a cycle before it stops
- Selection can be used to branch the flow of a program
- A loop can be used to repeatedly check whether a condition has been met
- The instruction order in 'if...then...else...' statements is important to the outcome

Facts I will learn

- A 'variable' is something that is changeable
- A football score during a match is an example of variable information
- A variable can be used in a program, e.g. 'score'
- A program variable can be defined as a placeholder in memory for a single value
- A variable has a name and a value
- The value of a variable can be used by a program
- The value of a variable can be updated
- Variables can hold numbers (integers) or letters (strings)
- A variable can be set as a constant (fixed value)
- It is important to set up a variable at the start of a program (initialisation)
- There is only one value for a variable at any one time
- If you change the value of a variable, you cannot access the previous value (cannot undo)
- If you read a variable, the value remains

Key questions

- What are 'variables?'
- How are variables used in programs?
- How can variables enhance an existing game?
- Can I design artwork and algorithms for my own project?
- How can variables enhance my own project?
- Can I evaluate my project?

	• The name of a variable is meaningless to the computer • The name of a variable needs to be unique		
Key Skills • To identify a variable in an existing program • To experiment with the value of an existing variable • To choose a name that identifies the role of a variable to make it easier for humans to understand it • To decide where in a program to set a variable • To update a variable with a user input • To use an event in a program to update a variable • To use a variable in a conditional statement to control the flow of a program • To use the same variable in more than one location in a program	Experiences that school will provide • Cross-curricular links with other subjects • Opportunities to use a range of hardware and software	Key vocab	Definition
		Variable	A named piece of data (often a number or text) stored in a computer’s memory, which can be accessed and changed by a computer program
		Value	The amount represented by a letter or symbol
		Algorithm	A precise set of ordered steps that can be followed by a human and implemented on a computer to achieve a task
		Code	The commands that a computer can run
		Program	A set of ordered commands that can be run by a computer to complete a task
		Debug	The process of finding and correcting errors in a program
		Prototype	The first design of something from which other forms are copied or developed
		Evaluate	To form an opinion of the quality of something after thinking about it carefully
Web links • Keeping children safe online NSPCC Information about internet safety for children • What makes a computer game great? - BBC Bitesize Information on creating computer games for KS2	Experiences that could be provided at home Create your own game that uses variables. This could be a score, or number of remaining lives. How does the value of your variable change?		