TSS Primary Computing MTP 2022-2023
Year 6 Block 2 – Variables in Games

Week	Key Targets and Learning Objectives	Key Activities	Key Vocabulary
1	• To define a 'variable' as something that is changeable ○ I can identify examples of information that is variable ○ I can explain that the way that a variable changes can be defined ○ I can identify that variables can hold numbers or letters	• In this lesson, pupils will be introduced to variables. • Pupils will see examples of real-world variables (score and time in a football match), then they will explore them in a Scratch project. • Pupils will then design and make their own project including variables. • Finally, pupils will identify that variables are named and can be letters (strings) as well as numbers.	• Variable • Change • Name • value
2	• To explain why a variable is used in a program ○ I can identify a program variable as a placeholder in memory for a single value ○ I can explain that a variable has a name and a value ○ I can recognise that the value of a variable can be changed	• In this lesson, pupils will understand that variables are used in programs, and that they can hold a single value at a time. • Pupils will complete an unplugged task that will demonstrate the process of changing variables. Next, they will explore why it is important to name variables. • They will apply their learning in a Scratch project in which they will make, name, and update variables.	• Variable • Name • Value • Set • change
3	• To choose how to improve a game by using variables ○ 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 can recognise that the value of a variable can be used by a program	• In this lesson, pupils will apply the concept of variables to enhance an existing game in Scratch. • They will predict the outcome of changing the same change score block in different parts of a program, then they will test their predictions in Scratch. • Pupils will also experiment with using different values in variables, and with using a variable elsewhere in a program. • Finally, they will add comments to their project, explaining how they have met the objectives of the lesson.	• Variable • Set • Change • Design • event
4	• To design a project that builds on a given example ○ I can choose the artwork for my project ○ I can explain my design choices ○ I can create algorithms for my project	• This lesson focuses on the design elements of programming. • For the majority of the tasks, pupils will be working at the algorithmic level of abstraction. • Pupils will first design the sprites and backgrounds for their project, then they will design their algorithms to create their program flow.	• Design • Algorithm • code

5	• To use my design to create a project
	  o I can create the artwork for my project
	  o I can choose a name that identifies the role of a variable
	  o I can test the code that I have written
		• In this lesson, pupils will implement the algorithms that they created in Lesson 4 as code.
		• In doing this, they will identify variables in an unfamiliar project and learn the importance of naming variables.
		• They will also have the opportunity to add another variable to enhance their project.
			• Task
			• Algorithm
			• Design
			• Artwork
			• Program
			• Project
			• Code
			• Test
			• debug

6-7	• To evaluate my project
	  o I can identify ways that my game could be improved
	  o I can extend my game further using more variables
	  o I can share my game with others
		• This lesson gives pupils the opportunity to build on the project that they created in Lesson 5.
		• As the lesson develops, the scaffolding is gradually removed, so that the last main activity is without constraints.
		• Finally, pupils will evaluate each other's projects, identifying features that they like, and features that could be improved further.
			• Improve
			• Evaluate
			• share