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| **Term: Lent 1: Variables in games**  **Subject Computers Year 6 Medium Term Planning** | | | | | | |
| **National Curriculum Objectives**   * 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 * Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information | | | | | | |
|  | Lesson 1 | Lesson 2 | Lesson 3 | Lesson 4 | Lesson 5 | Lesson 6 |
| **Learning intention for each lesson:** | I know how to define a ‘variable’ as something that is changeable | I know how to explain why a variable is used in a program | I know how to choose how to improve a game by using variables | I know how to design a project that builds on a given example | I know how to use their design to create a project | I know how to evaluate their project |
| **Recall and retrieval** | Esafety: What personal information should you give out. | What is a variable and examples | How would you use specific variables in a computer program? | Name ways games can be improved by using variables. | How do I create an algorithm? | How can a program be improved- linked to a design. |
| **Sequence of knowledge throughout the lesson** | * I know how to identify examples of information that is variable * I know how to explain that the way a variable changes can be defined * I know how to identify that variables can hold numbers or letters | * I know how to identify a program variable as a placeholder in memory for a single value * I know how to explain that a variable has a name and a value * I know how to recognise that the value of a variable can be changed | * I know how to decide where in a program to change a variable * I know how to make use of an event in a program to set a variable * I know how to recognise that the value of a variable can be used by a program | I know how to choose the artwork for their project  I know how to create algorithms for their project  I know how to explain their design choices | I know how to create the artwork for their project  I know how to choose a name that identifies the role of a variable  I know how to test the code that they have written | I know how to identify ways that their game could be improved  I know how to use variables to extend their game  I know how to share their game with others |
| **Scaffolding** | Supported to understand what a variable is. | To change one variable. | I to be told which variable to change. | Supported to create an algorithm. | Supported for testing and modifying. | Small group evaluation. |
| **Challenge** | to investigate different variables. | To recognise the values of more than one variable. | To change more than one variable. | Create at least 3 algorithms. | independent debugging. | 2 ways to expand the game using variables. |
|  | **Key Vocabulary**  Variable, change, name, value | **Key Vocabulary**  Variable, name, value, set, change | **Key Vocabulary**  Variable, set, change, design, event | **Key Vocabulary**  Design, algorithm, code | **Key Vocabulary**  Task, algorithm, design, artwork, program, project, code, test, debug | **Key Vocabulary**  Improve, evaluate, share |