

Knowledge Mat - Computer Science - Year 6 - Variable

National Curriculum Links: KS2 Computing

- 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
- CS6.1 I can explain what a variable is
- **CS6.2** I can confidently use events, repeats, selection and variables
- CS6.3 I can use a variable in a variety of programming software

CS6.4 I can confidently decompose a problem and methodically create a program to solve it, testing and adapting as I go

CS6.5 I can evaluate the effectiveness of my programming and suggest improvements

CS6.6 I confidently use the Blockly programming language

Computer Science Vocabulary BBC Bitesize Computing KS2 computer science Computer scientists design new software, solve computing problems and develop different ways to use technology involves looking at a problem and working out a way a computational computer might be able to help you solve it thinking algorithm a set of instructions in everyday language, e.g. 'get ready for school', 'go out to play' a precise set of instructions for a computer program a program with a number of steps in the right order sequence recognising patterns within a program that can be repeat repeated conditional / a decision must be made for the program to carry on (i.e. if dark, turn the light on) selection a part of a program that can change value, e.g. scores, variables times, lives, hit points decompose breaking a program down into smaller steps debugging/ Identifying and correcting mistakes when the program deglitching doesn't work as expected being able to focus on the problem and ignoring detail, abstraction focus on program before look and feel e.g. colour, size, background data or information that a computer receives in or displays Input / output computer science without using the computer unplugged event blocks all programs need an event which acts like a start button mathematical Directional language-backward, left, right, angles, clockwise / Anti-clockwise language

Program for a timetable quiz, using a variable



What is the 'job' of a VARIABLE in a program?

Variables can be used to add scores, lives, time to your program

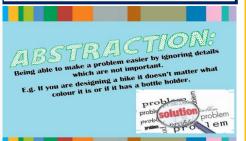
Tips: Once your program is correct, Right Click blocks of code to copy and duplicate ask what is 2×15 and wait Duplicate Add Comment Delete Block play sound Chapping • until done say Correct! for 2 seconds etse start sound Drum Boing •

Do you want your Sprites to be seen at the beginning of your program or later in your program?



DO NOT get distracted by the look and feel of your program.

Your program is more important!



If the answer was inputted wrong?
How could you amend the program?

Further Challenges

Can you program a timed True or False quiz linked to your topic learning?

Can you add a score into your program?
Points for the right answer and loose points if wrong.

Can you program a multiple choice quiz with a time and a score linked to your topic?

Can you transfer your Scratch knowledge?

Use Purple Mash Free Code Gibbon, to program your own quiz or game including the following variables time, points or lives.