Knowledge Mat - Computer Science – Year 4 - Repeat

National Curriculum Links: KS2 Computing

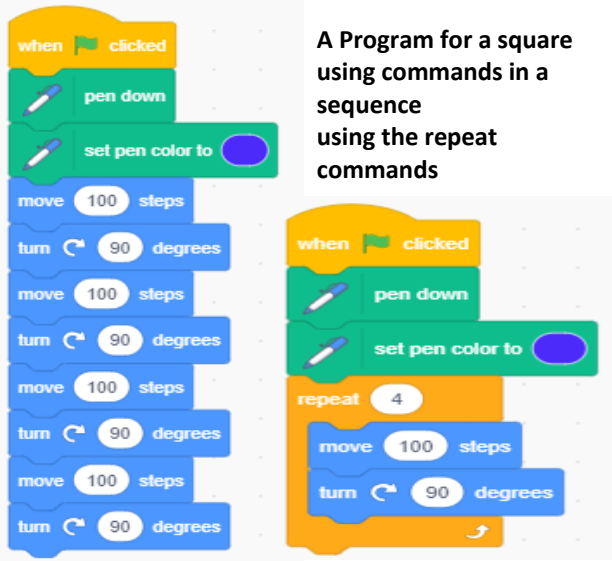
- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- use logical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

CS4.1 I know what a **repeat** is **CS4.2** I know that a repeat is used to repeat a set of instructions **CS4.3** I can use repeats in programs confidently **CS4.4** I can independently select repeat and sequence code to make my own program	**CS4.5** I can detect and debug errors in algorithms and programs. **CS4.6** I can transfer my coding skills between software **CS4.7** I can explain why it is important to use the repeat function in a particular place in my sequence

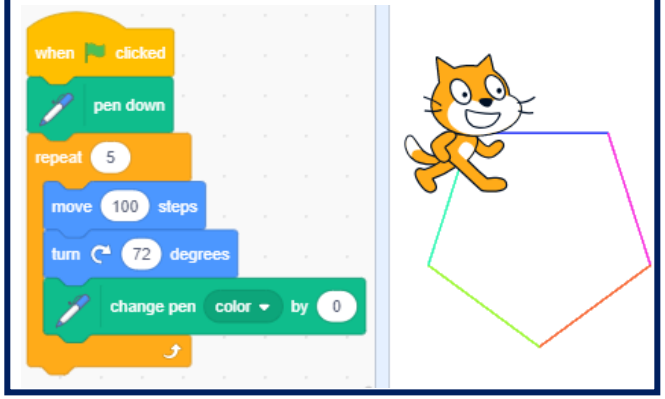
Computer Science Vocabulary

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

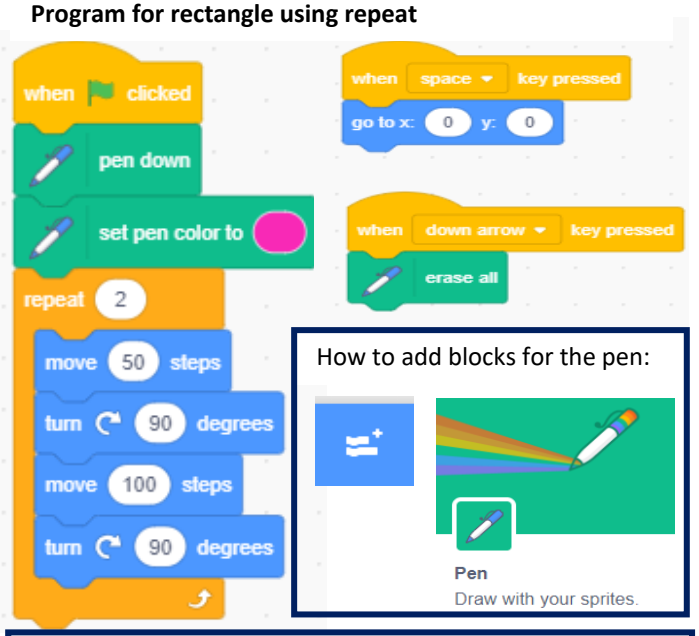
A Program for a square using commands in a sequence using the repeat commands



Program for pentagon using repeat.



Program for rectangle using repeat



Program for 'Spirograph' using repeat – hexagon