



St Augustine's Catholic Academy

Computing Intent



Knowledge in red aimed at Y1, Knowledge in green aimed at Y2, Knowledge in black aimed at both Y1 and Y2.

Year 1/2 Cycle A Topic	Programming B1 Introduction to animation
National Curriculum	• Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. • Create and debug simple programs. • Use logical reasoning to predict the behaviour of simple programs.
Core Knowledge	1. Know how to make a sprite move on scratch Jr using a command. Know what a sprite is. Know how a sprite is different to a beebot. 2. Know that a series of commands can be joined together to create a program. Know a program must start with the start block. Know how to follow a given algorithm. Know how to create a program for a given purpose. 3. Know how to change the value on a command block. Know how to describe the effect of changing a value. Know how to predict what will happen when the value is changed on a command block. 4. Know how to run multiple programs. Know how to add and delete sprites. Know how to run 2 programs at the same time. 5. Know how to create an algorithm based on a given task. Know how to choose appropriate programming blocks for an algorithm. Know how to explain why the blocks chosen are appropriate for a specific task. 6. Know how to use an algorithm to create a program. Know how to test a program. Know how to debug a program to make changes.
Wider Knowledge	Know scratch jr is an onscreen programming platform. Know how to identify move programming blocks. Know how to edit the background on scratch jr and change the sprite. Know how to explain what will happen if the programming blocks are not joined to together. Know how to identify which programming blocks can have their values changed. Know how to explain why certain programming blocks cannot be changed. Know that each sprite will have its own programming space. Know how to write an algorithm using given programming blocks. Know how to predict the outcome of an algorithm. Know how to describe what worked in my program and what did not. Know that to improve a program after a test is called debugging.
	• Explain what a given command does. • Match a command to an outcome.



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Skills	• Recognise how to run a command (press a button) • Choose a command for a given purpose. • Predict what a command will do. • Understand that a program is a set of a commands that a computer can run. • Combine commands in a program. • Run a program on a device. • Debug a program.
Diversity Links	
Vocabulary	Sprite, background, command, block, algorithm, program, code, debug.
Evidence	Saved word documents onto class server.

Knowledge in red aimed at Y3, Knowledge in green aimed at Y4, Knowledge in black aimed at both Y3 and Y4.

Year 3/4 Cycle A Topic	Programming B3 Events and Actions
National Curriculum	• 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 an correct errors in algorithms and programs.
Core Knowledge	1. Know the relationship between events and actions – that an event will cause an action. Know how to choose different events to create different actions. Know how to improve on given actions to make them more effective. 2. Know how to create a program to move a sprite in multiple directions. Know how to create and duplicate a program. Know to create, duplicate and modify a program. 3. Know how to use a programming extension to adapt a program. Know how to set up a program to start in the same place each time it run. Know why it is important that a program begins in the same place each time it is run. 4. Know how to add further features to develop a program. Know how to predict the function of new blocks. Know how to choose suitable blocks and test their effectiveness. 5. Know that to debug means to identify and fix errors in a program. Know how identify errors in a program and begin to fix them. Know how to identify and fix errors in a program and explain how this has improved the effectiveness of a program. 6. Know how to design and create a program based on a design task. Know how to create a program based on a template.



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	Know how to justify design choices and use debugging to evaluate the effectiveness of a program.
Wider Knowledge	- Know that an action is what sprite will do. - Know an event is what happens to create the action e.g. pressing the up key to move a sprite forward. - Know how to control multiple sprites in the same project. - Know how to change the sizing of a sprite. - Know how to extend my program to show an intended outcome. - Know how to consider the real world in my design choices. - Know how to explain why a program is effective.
Skills	- Build a sequence of commands to create a program. - Choose appropriate keys to create events. - Explain why the keys chosen are appropriate. - Order commands in a program. - Explain how the order of commands impacts a program. - Identify bugs within a program. - Fix errors by debugging - Explain why this can improved on the effectiveness of a program.
Diversity Links	
Vocabulary	Events, action, sequence, sprite, pen block, code.
Evidence	Saved scratch project

Knowledge in red aimed at Y5, Knowledge in green aimed at Y6, Knowledge in black aimed at both Y5 and Y6.

Y5/6 Cycle A Topic	Programming B5 Selection in quizzes
National Curriculum	- 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 an 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.
Core Knowledge	- Know how selection is used in computer programs. Know how to identify conditions within a program. Know how to modify a condition in a program. - Know that a conditional statement connects a condition to an outcome.



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	Know how to use the 'if...then...else structure in algorithms and programs. Know how to identify outcomes and conditions in a program. Know how to write a program using selection with two outcomes. 3. Know how selection directs the flow of a program. Know how to create an algorithm in a branching structure. Know how to test a branching structure algorithm in a program. 4. Know how to design a program which uses selection. Know how to identify questions and outcomes within my algorithm. Know how to identify which outcomes will be selected. 5. Know how to create a program which uses selection. Know how test and debug my program. Know how to explain how I have improved my algorithm through testing the program. 6. Know how to evaluate the effectiveness of a program. Know how to create a set up for my program. Know why a program set up is needed when using selection.
Wider Knowledge	Know that conditions are statements that need to be met for a set of actions to be carried out. Know when the condition is met is referred to as true. Know when the condition is not met it is referred to as false. Know that the condition is the answer to the question. Know that condition can be used in loops. Know that a loop can be used to repeatedly check whether a condition has been met. Know that when decisions are made in a program these are called selections. Know that selections are implemented in a program using 'if' statement. Know the importance of instruction order in 'if...then...else' statements. Know how to give appropriate feedback to my peers. Know how to act on feedback given. Know how to explain how feedback has improved a program.
Skills	Explain that condition can only be true or false Choose a condition to use in a program. Create a condition-controlled loop. Use a condition in an if...then... statement to start an action. Use selection to switch program flow. Use 'if..then...else... to switch program flow in one of two ways.
Diversity Links	Kimberley Bryant Kimberley Bryant is the founder of Black Girls Code – an organisation that encourages Black girls to pursue careers in technology, and gives them the skills they need to do this. After discovering that there were no suitable courses for her daughter to study coding and having a similar experience herself at that age, Bryant established Black Girls Code to empower girls – especially those from minority populations – to get involved in STEM. The organisation aims to teach a million Black girls to code by 2040, and has taught 3,000 to date.
Vocabulary	Selection, condition, program, programming, algorithm, binary, binary question (yes or no answer)
Evidence	Scratch project saved onto class server.



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