St. Benedict's Primary School COMPUTING KNOWLEDGE AND SKILLS BUILDER: Computer Science (Apply & Analyse)		
Year group	**ILP and Context for Learning**	**Skills and Knowledge**
Year 1	**Summer 2 Dinosaur Planet** Big Question: How do we know about dinosaurs and their diets? Context – Using programmable toys Programmes of study: KS1: Co1 Co2 Co3	**Skill** Follow and input simple instructions to control a device. **Knowledge** Know that a programmable toy can be controlled using a sequence of instructions.
Year 2	**Autumn 1 ILP Street Detectives** Big Question: What do you find on a street? Context – Creating a programmable game Programmes of study: KS1: Co1 Co2 Co3	**Skill** Program a sprite to move in Scratch Jnr. Spot and correct mistakes in a program (debug). **Knowledge** Know what the terms 'algorithm', 'debug' and 'code' mean. Understand that an algorithm is a set of instructions used to solve a problem.
	Summer 2 ILP Wriggle and Crawl Big Question: How many facts do you know about a mini beast? Context – Exploring how computer games work Programmes of study: KS1: Co1 Co3 Co5 Co6	**Skill** Use logical reasoning to predict what will happen in a computer game. **Knowledge** Know that a computer game works by following instructions.
Year 3	**Autumn 2 ILP Predator** Big Question: Where do predators fit into the food chain? Context – Programming an animation Programmes of study: KS2: Co1 Co2 Co3 ***Co6***	**Skill** Create an algorithm for an animated scene in the form of a storyboard. Write a program in Scratch to create an animation. Correct mistakes (debug) in an animation program. **Knowledge** Know and understand the terms 'script' and 'script block'. Know how to put script blocks in the right order.

Year 3 (cont.)	**Summer 2 ILP Tribal Tales** Big Question: How have the people of Britain developed over the last thousand years? Context – Finding and correcting bugs in programs Programmes of study: KS2: Co1 Co2 Co3	**Skill** Develop strategies for problem solving. Find and correct bugs in a program. **Knowledge** Have an increased knowledge and understanding of how to use Scratch. Know a number of strategies for finding errors in programs. Explain how to correct 'bugs' in a program.
Year 4	**Autumn 2 ILP Potions** Big Question: What is the difference between a solid, liquid and gas? Context – Editing and writing HTML to create a website Programmes of study: KS2: Co4 ***Co6 Co7***	**Skill** Use some simple HTML tags. Edit the HTML for a web page. **Knowledge** Understand the difference between the web and the internet. Explain the different parts of a URL.
	Summer 2 ILP Blue Abyss Big Question: How does pollution affect habitats? Context – Designing and programming a toy prototype Programmes of study: KS2: Co1 Co2 Co3	**Skill** Use Scratch to create a toy with computer-controlled input and output. Test input and output on a simulation of a toy using simple scripts. **Knowledge** Know and understand the terms 'input' and 'output'. Know how to find and correct 'bugs' in a program.
Year 5	**Autumn 2 ILP Off with her head** Big Question: Why were the Tudors known as the Terrible Tudors? Context – Fusing geometry and art Programmes of study: KS2: Co2 Co3	**Skill** Write a program to draw a simple shape. Write blocks of script in Scratch to create a complicated geometric shape. Use repetition in Scratch to draw a complicated geometric shape. **Knowledge** Know how to use repetition and selection in Scratch.

Year 5 (cont.)	**Spring 1 ILP Alchemy Island** Big Question: Which materials make the best switch for an electrical circuit? Context – Developing an interactive computer game Programmes of study: KS2: Co1 Co2 Co3 ***Co6***	**Skill** Create artwork and music for a game. Design and create a computer program which uses sequence, selection, repetition and variables. Detect and correct errors in a computer game. **Knowledge** Explain how to find and correct 'bugs' in a program. Know how to use sequence and variables in Scratch.
	Summer 1 ILP Pharaohs Big Question: Why are the gods so important to the Pharaohs? Context – Encrypting and decrypting messages Programmes of study: KS2: Co3 Co4 Co7	**Skill** Send and receive messages using Morse code and semaphore. Encrypt and decrypt messages using the Caesar and substitution ciphers. **Knowledge** Know how to check to see if a webpage is encrypted.
Year 6	**Autumn 1 ILP A Child's War** Big Question: How did WWII affect children? Context – Exploring computer networks Programmes of study: KS2: Co4 Co7	**Knowledge** Name hardware used in connecting computers together. Understand that computer networks transmit and receive information digitally. Understand how computer names are converted into numerical computer addresses.
	Spring 1 ILP Frozen Kingdom Big Question: What are the similarities and differences between the Arctic and Antarctic? Context – Making an adventure game Programmes of study: KS2: Co1 Co2 Co3	**Skill** Use the print command in Python. Use variables and selection in Python. Use if / elif / else statements in Python. Use procedures in Python. Create lists in Python. Spot and correct syntax errors in Python. **Knowledge** Learn some of the syntax of a text-based programming language.

Year 6 (cont.)	**Summer 1 ILP Hola Mexico** Big Question: Who were the Mayans? Context – Mastering algorithms Programmes of study: KS2: Co1 Co2 Co3	**Skill** Use a random, linear and binary search to play a game. Implement a search algorithm as a program. Use an algorithm to sort things into order. Debug a program to sort numbers.