St John's Primary School

Computing, Coding and Robotics Skills Progression

Year A	Autumn		Spring		Summer	
	Term 1	**Term 2**	**Term 3**	**Term 4**	**Term 5**	**Term 6**
EYFS	Use a simple program Play with the Beebots					
Y1	Term 6 Understand and use this language: **algorithm, programming, coding, debugging.** Think of an everyday algorithm (e.g for brushing teeth). Create simple sequence algorithms and follow algorithms by: • Work in pairs to program each other as robots in the hall or playground, (forward 4 etc). Using the above language. • Using counters on a treasure map or grid, write a simple algorithm and move counters to follow the algorithm. (e.g UP2, Left1 etc). Debug an algorithm that doesn't work. • Using **bee bots** to: Write their own algorithm and put it into the beebot to reach a particular square. • Create and debug simple programs on the beebot given by the teacher. • As above using Bee Bot App/Daisy Dinosaur App/Scratch Jr App					
Y2	Term 6 Understand and use this language: **algorithm, programming, coding, debugging, Scratch, Sprite, Script Blocks** Revise using physical algorithms, either with children or counters, as above. **Scratch -** *Scratch Cards to be covered in brackets to support with meeting these skills.* Understand the following event blocks: When Space Clicked, When Green Flag clicked, When Sprite clicked. Understand the function of the Control script blocks: Wait, Forever loop, Repeat loop Insert and choose a Spite. Change the background. Make a Sprite change colour (Card 1) Animate a Sprite by Changing Costume (Card 2) Make a Sprite Say something (Card 3)					

	Animate a moving Sprite (Card 4) Make their own simple animation using the skills above and a Sprite of their choice. Debug their own coding errors and look at Debugging Examples 1.1 to 1.3 as whole class discussion.					
Y3&4	NA	<u>We are software designers (Light at the end of the tunnel)</u> Maze game. Understand and use this language: **algorithm, programming, coding, debugging, Scratch, Sprite, Script Blocks, Variables.** Degug their own programs and debugging examples 1.1 to 1.5 All Skills from Year 2 AND: Make a Sprite move with the mouse (Card 5) Make a Sprite move with the keys (Card 7).	<u>We are toy designers (Tomb Raiders)</u> Egyptian Toy Continue skills learnt last term, left. AND: what is an input and output to a Computer. Using 'Broadcast' on Scratch to send a message to another sprite.	NA	<u>Lego We Do</u> Follow step by step instructions to build a robot. Enter and edit code to control their robot. Understand code: Forever Loops Debug their own problems. Use a sensor on the robot.	NA

		Use a variable, Score/Timer (Card 11) Use the above skills to create their own game.				
Y5&6	We are game developers (Anglo Saxons). Understand and use this language: **algorithm, programming, coding, debugging, Scratch, Sprite, Script Blocks, Variables.** All Year 2 and 3 /4 skills. Using Scratch to: Import 2 Sprites and backgrounds from Google Drive. Use a Variable. Design their own game and code it using 2 interacting Sprites.	NA	NA	NA	Lego We Do (Integalatic) Build and code a physical system (robot). Use a distance sensor and messaging code.	Code.org/Bebras

	Debug their own and their friend's code. Debug their own and their friend's code. Debugging examples: 2.1 - 2.5					

Year B	Autumn		Spring		Summer	
	Term 1	**Term 2**	**Term 3**	**Term 4**	**Term 5**	**Term 6**
EYFS	Use a simple program Play with the Beebots					
Y1	Term 4 Understand and use this language: **algorithm, programming, coding, debugging.** Think of an everyday algorithm (e.g for brushing teeth). Create simple sequence algorithms and follow algorithms by: • Work in pairs to program each other as robots in the hall or playground, (forward 4 etc). Using the above language. • Using counters on a treasure map or grid, write a simple algorithm and move counters to follow the algorithm. (e.g UP2, Left1 etc). Debug an algorithm that doesn't work. • Using **bee bots** to: Write their own algorithm and put it into the beebot to reach a particular square. • Create and debug simple programs on the beebot given by the teacher. • As above using Bee Bot App/Daisy Dinosaur App/Scratch Jr App					
Y2	Term 4 Understand and use this language: **algorithm, programming, coding, debugging, Scratch, Sprite, Script Blocks**					

	Revise using physical algorithms, either with children or counters, as above. **Scratch -** *Scratch Cards to be covered in brackets to support with meeting these skills.* Understand the following event blocks: When Space Clicked, When Green Flag clicked, When Sprite clicked. Understand the function of the Control script blocks: Wait, Forever loop, Repeat loop Insert and choose a Spite. Change the background. Make a Sprite change colour (Card 1) Animate a Sprite by Changing Costume (Card 2) Make a Sprite Say something (Card 3) Animate a moving Sprite (Card 4) Make their own simple animation using the skills above and a Sprite of their choice. Debug their own coding errors and look at Debugging Examples 1.1 to 1.3 as whole class discussion.					
Y3&4	NA	Computations Thinking Skills from Bebras Competition.	We are Programmers/Bug Fixers Understand and use this language: **algorithm, programming, coding, debugging, Scratch, Sprite, Script Blocks, Variables.** Degug their own programs and debugging examples 1.1 to 1.5 All Skills from Year 2 AND: Make a Sprite move with the mouse (Card 5) Make a Sprite move with the keys (Card 7). Use a variable, Score/Timer (Card 11) Use the above skills to create their own game.	Lego We Do Build and code a physical system (robot). Follow step by step instructions to build a robot. Innovate the robot design. Understand code: Forever Loops Debug their own problems. Use message coding blocks. Use a distance sensor.	NA	NA

Y5&6	NA	NA	NA	<u>Lego We Do (Rainforests)</u> Build and code a physical system (robot). Follow step by step instructions to build a robot. Innovate the robot design. Understand code: Forever Loops Debug their own problems. Use picture coding blocks. Use a motion sensor.	NA	<u>We are Game Developers.</u> Understand and use this language: **algorithm, programming, coding, debugging, Scratch, Sprite, Script Blocks, Variables.** All Year 2 and 3 /4 skills. Using Scratch to: Import 2 Sprites and backgrounds from Google Drive. Use a Variable. Design their own game and code it using 2 interacting Sprites. Debug their own and their friend's code. Debugging examples: 2.1 - 2.5