Autumn 1	Lostwithiel Primary School	Year 5/6
Computer Science - Coding	Computing Knowledge Organiser	Conkers Class

Prior Learning: Programing and Coding will have been taught throughout the school Y1 – Y5. Children will have a good understanding of the key principles and will have used programmable robots, Bee Bot App, Daisy the Dinosaur App, Hopscotch and Scratch.

Key Computing Learning:

- Use external triggers and infinite loops to control sprites.
- Create and edit variables
- Use conditional statements.
- Pupils should know that:
  - * algorithms can be split (decomposed) into parts (called procedures) each of which has its own algorithm.
  - * algorithms can include selection (if) and repetition (loops)
  - * programmes are planned
  - * values (variables) can select which procedure is performed.
- Use loops and conditions to create games.
- Use variables to configure external outputs within scratch
- Use external inputs to control external outputs
- Use conditional statements and infinite loops.
- Design their own game using sprites, backgrounds, scoring and/or
- timers
- The game has a clear 'win' and 'lose' end.
- Evaluate and debug their game as required.
- Know that:
  - * algorithms can be symbolic flowcharts or in a defined language
  - * algorithms are created from a plan and tested
  - * algorithms are corrected if they fail testing
  - * algorithms can include selection (if) and repetition(loops)
  - * good code tells computers and humans how a programme works.
  - * computers can be programmed to make 'choices' but really the programmer has created the choice.
  - * Know that the computers can be programmed to make the outputs react to what the sensors detect.

Software/Hardware Resources	Key Computing Vocabulary	
An Hour of Code **Scratch 3** **Kodu Game Lab**	Triggers	An action which activates part of the algorithm.
	Infinite Loops	A set of instructions which will endlessly repeat.
	Sprites	A graphic that can be programmed to do things and move on screen.
	Conditional Statements	A set of rules performed if a certain condition is met.
	Algorithms	A sequence of instructions that solves a task or problem.
	Procedures	Parts of an algorithm.
	Decomposed	When an algorithm is split.
	Configure	Arrange or order (a computer system or an element of it) so as to fit it for task.
	variable	Something that can be changed.
	debug	Process of identifying and removing errors from computer hardware or software.

Computing Outcomes	Cross Curricular Links
• Create a series of procedures to complete a set of actions, debug to improve the final piece. • Design and create own game, with a partner, with multiple answers / an end total / score.	• Maths – animate shapes (identify properties of regular polygons, angles) • English – working collaboratively, following instruction, speaking and listening – sharing ideas to animate a short story / poem • Science – animate a scene (electrical safety)

Linked documents: Class Overview, Computing Whole School Progression document and Class Medium Term Planning.