River Bank Primary Knowledge Organiser	Year 1	Computing – Spring 2	We are treasure hunters

Overview and facts:

‘We are treasure hunters’

In this unit, you will program a toy to move around a map to find buried treasure. You will start by thinking of instructions for your routes, then give these instructions to the robot by programming it. You will predict how the robot will move and will debug their programs.

This unit will enable you to:

- understand that a programmable toy can be controlled by giving it a sequence of instructions
- develop and record sequences of instructions
- program the toy to follow your instructions (algorithm)
- sort out problems in programs (debug)
- predict how your programs will work.

In this unit, we will remind that sometimes your programs won’t work as planned. In these cases, you will need to correct (debug) your programs to fix your mistakes. When looking at others’ algorithms or programs, you should have a clear idea of what the program will do by using your reasoning skills to predict what will happen from the instructions.

(information from ‘Rising Stars Computing’)

Useful websites/links and app suggestions to support you at home:

The Bee-Bot app (https://itunes.apple.com/gb/app/bee-bot/id500131639) is free. Although more advanced, the Daisy the Dinosaur app provides a good platform for introductory programming: https://itunes.apple.com/gb/app/daisy-thedinosaur/id490514278

View on-screen simulators for Bee-Bots (www.tts-group.co.uk/shops/tts/Products/PD1722395/Focus-on-Bee-Bot-Lesson-Activities-1/?rguid=1c6eb9f8-7fe8-4b52-b244-891972ce6b40) and the original Roamer (www.valiant-technology.com/uk/pages/roamer_rworld.php?cat=1id0).

The Make a block function in Scratch 2.0 allows you to create your own simulator of a floor turtle. See http://scratch.mit.edu/projects/20050141/#editor

Online tutorials

Bee-Bot: www.youtube.com/watch?v=52ZuenJlFyE

Roamer Too: http://vimeo.com/49152214

Why not try this at home:

You could repeat the same exercises you are taught at school at home, either programming, or being programmed, by your parents.

You could talk to your parents about sets of instructions you use at home, such as for getting dressed for school or for brushing your teeth.

If you have access to tablets or phones at home, you could play with the free Bee-Bot app on these!

Key vocabulary:

Algorithm: is a detailed step-by-step instruction set (or formula) for solving a problem or completing a task.

Debug: to eliminate errors in a computer program.

Instructions: an outline of how something is to be done.

Predict: to make a statement about what **will** happen or **might** happen in the future.

Quiz	**A**	**B**	**C**
A detailed step-by-step set of instructions is an	algorithm.	programme.	prediction.
Why would you need to debug a program?	It does not work	It works correctly	Bugs are stuck together
If you able to _____ the future, you have made a statement about what will happen.	see	predict	debug
What would a robot need to move?	A toy	A map	An algorithm
What is ‘Daisy the Dinosaur’?	Car	App	iPad