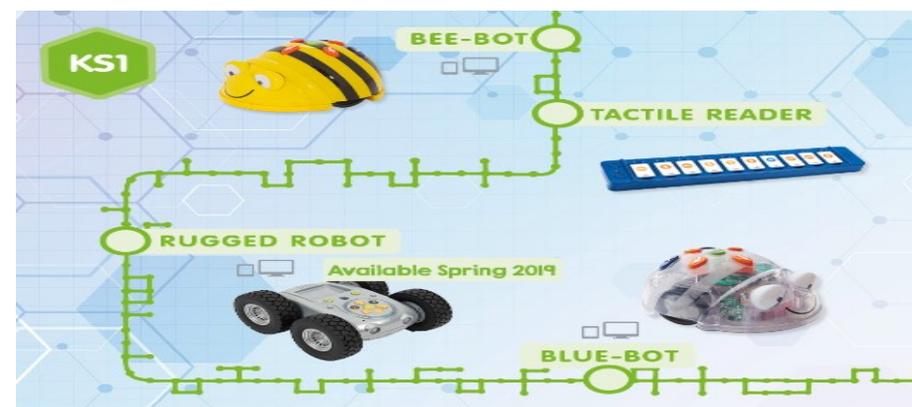


### Progression in Programming KS1

	Year One	Year Two
<b>Term 1</b>	<p><b>We are collectors</b> (Finding images on the web and sorting into different animal groups)</p> <ul style="list-style-type: none"> <li>• I can use clear and unambiguous rules to organise my pictures.</li> <li>• I am developing my understanding of what algorithms are.</li> </ul>	<p><b>We are Detectives</b> (Emails and E-Safety)</p> <ul style="list-style-type: none"> <li>• I can begin to understand how a computer processes instructions and commands (computational thinking)</li> </ul>
<b>Term 2</b>	<p><b>We are Treasure Hunters</b> Programming toys</p> <ul style="list-style-type: none"> <li>• I can create algorithms (step by step instructions) to achieve a goal.</li> <li>• I can convert these instructions by using a series of buttons to program on a robot.</li> <li>• I can begin to debug (correct) my program to fix mistakes.</li> <li>• I can use logical reasoning to predict what will happen when looking at algorithms or programs.</li> </ul>	<p><b>We are Astronauts</b> Writing and debugging programs – Scratch</p> <ul style="list-style-type: none"> <li>• I can program a robot or software to do a particular algorithm.</li> <li>• I can solve problems including algorithms (steps to follow) and programming (precise and unambiguous instructions)</li> <li>• I can debug (fix) my algorithms to ensure the most efficient program.</li> <li>• I can make a prediction using logical reasoning.</li> <li>• I can create multi programs using apps.</li> </ul>
<b>Term 3</b>	<p><b>We are TV Chefs</b> Filming the steps of a recipe</p> <ul style="list-style-type: none"> <li>• I can transfer my knowledge of algorithms into a different context (recipe).</li> <li>• I can create clear and unambiguous instructions.</li> <li>• I can decide on the most efficient algorithm.</li> </ul>	<p><b>We are Game Testers</b> Using algorithms to program and to predict behaviour of programs.</p> <ul style="list-style-type: none"> <li>• I can describe carefully what happens in computer games</li> <li>• I can use logical reasoning to make predictions of what a program will do.</li> <li>• I can test predictions</li> <li>• I can think critically about computer games and their use.</li> <li>• I can create, edit and refine sequences of instructions for a variety of programmable devices.</li> </ul>

		<ul style="list-style-type: none"> <li>I can watch a program execute and spot where it goes wrong so that I can debug it.</li> </ul>
<b>Notes</b>	A range of hand held robots and devices will be used as well as software to embed skills and knowledge.	

## Hand held resources for programming



### EYFS Focus:

- Select and use technology for particular purposes
- Develop basic understanding of action and reaction.

#### Stage 1- Clever Cats

Remote controlled cats that miaow when stroked and are controlled by one button. The control enables the cats to spin and go forwards. They develop awareness of cause and effect.

#### Stage 2 – Easi Cars and Rugged Racers

Remote controlled cars with a two button handset. The cars go forwards, reverse and reverse to change direction. They allow children to explore cause and effect and to control technology independently. The cars can be used to develop simple programs.

#### Stage 3 – Wonderbugs

This remote control Wonderbug can go forwards, backwards and left and right.

### KS1 Focus:

- Understand what algorithms are.
- Create and debug simple programs
- Use logical reasoning to predict the behaviour of simple programs.

#### Stage 3 - Bee Bots

Beebots allow the teaching of control, directional language and programming. Beebots move in steps of 15cm and turn through 90 degrees.

#### Rugged Robot

Robot controlled by tablet or the Tac Tile Reader. It has 3 speeds and an obstacle sensor that can be turned on or off to prepare students for more complex programming.

#### Blue Bots

Remote controlled floor robot which can be wisely controlled from a tablet or PC.