

# Leintwardine Endowed CE Primary School Learning Journey Key

'Letting Our Light Shine'













SUBJECT : D&T

YEAR : A

TERM :Summer 2

YEAR GROUPS : 3/4

Key Question: How can I program something physical?

Question	Vocabulary to Use	Information which will help me	Can I....?
Can I explain how computers and computer programs are used in different products?	Computer program, embedded system, monitor, control, program, prototype, model, computer-aided designs, evaluate, hardware, trouble shoot, bug	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><b>Flow Blocks</b></p> <p> <b>Start Block</b> When used, always placed at the beginning of a program string. Press on it to start the program string you have written.</p> <p> <b>Start On Message Block</b> When used, always placed at the beginning of a program string. It will wait for the correct message and then start the program string you have written.</p> <p> <b>Send Message</b> Sends a message to the Programming Canvas. Every Start On Message Block with the same message will be activated. The message can be in the form of text or numbers.</p> <p> <b>Wait For</b> Use this block to tell the program to wait for something to happen. It can wait for a set amount of time or for input from a sensor. This block always requires input in order to work properly.</p> <p> <b>Repeat Block</b> Use this block to repeat actions. Blocks placed inside the Repeat Block will be looped. This can also be called the "loop block." The loop can be repeated forever, for a certain amount of time, or until something happens.</p> <p> <b>Start On Key Press Block</b> When used, always placed at the beginning of a program string. Press on it, or on the correct letter on the keyboard to start the program string you have written. All of the program strings with the same letter will start at the same time. To change the letter of activation, long press on the block to get access to the keyboard.</p> </div> <div style="width: 45%;"> <p><b>Motor Blocks</b></p> <p> <b>Motor This Way Block</b> Sets the motor to turn the axle in the direction shown and starts the motor. Tap on the block to quickly change the direction of the rotation.</p> <p> <b>Motor That Way Block</b> Sets the motor to turn the axle in the direction shown and starts the motor. Tap on the block to quickly change the direction of the rotation.</p> <p> <b>Motor Power Block</b> Sets the motor power to the specified level and starts the motor. The level can be set with a numeric input from 0 to 10.</p> <p> <b>Motor On For Block</b> Starts the motor for a chosen amount of time specified in seconds. The amount of time can be set with a numeric input, using whole or decimal numbers.</p> <p> <b>Motor Off Block</b> Stops any movement of the motor.</p> <p><b>LED Blocks</b></p> <p> <b>Light Block</b> Lights up the LED on the Smarthub in a specific color. The color can be changed with a numeric input between 0 and 10.</p> <p><b>Sound Blocks</b></p> <p> <b>Play Sound</b> Plays a sound. The sound is chosen from a list available within the software. You can choose a sound using a numeric input. Choose sound number 0 to play a sound that you have recorded yourself.</p> <p><b>Display Blocks</b></p> <p> <b>Display Background</b> Use this block to display an image chosen from a list available within the software. You can set an image using a numeric input.</p> </div> </div> <div style="text-align: center; margin-top: 20px;"> </div> <div style="text-align: center; margin-top: 20px;"> </div>	<ul style="list-style-type: none"> <li>&gt; communicate and develop their ideas by discussing, annotating diagrams and writing instructions?</li> <li>&gt; begin to explain how embedded systems monitor and control products?</li> <li>&gt; explain how computer scientists have helped shape the world?</li> <li>&gt; develop prototypes of a computer-controlled electrical system?</li> <li>&gt; incorporate one or more different electrical components in my system?</li> <li>&gt; develop a design brief for a product?</li> <li>&gt; develop my ideas for my product through discussion and annotated sketches?</li> <li>&gt; incorporate electrical systems in my product design?</li> <li>&gt; suggest ways in which a given product idea might be developed and improved?</li> <li>&gt; debug a defective algorithm for a given product idea?</li> <li>&gt; develop and debug my own computer controlled product ideas?</li> <li>&gt; suggest ways in which models can better communicate ideas than written/verbal descriptions alone?</li> <li>&gt; make prototype models to communicate their ideas?</li> <li>&gt; control my prototypes using electronic components and computers?</li> <li>&gt; explain ways in which I debugged and improved my programs for controlling products?</li> <li>&gt; identify ways in which my DT and programming skills have developed, and ways in which I could further develop my learning?</li> </ul>
Can I develop, model and communicate ideas for an embedded system which uses a motor and a motion sensor and then make and program?			
Can I improve my model by adding and programming other sensors and hardware?			
Can I develop ideas for a product, make a prototype model and start to write programs to monitor and control them?			
Can evaluate my design and think of ways I can improve it?			