

# Progression guide for control and monitoring

## (Developing ideas and making things happen)

Concepts	Aspects of level	Control and monitoring aspect of National Curriculum level description		Expansion of level description	Illustration What might pupils do?
		Key characteristics of National Curriculum level			
Cause and effect, selecting options.	1	They recognise that many everyday devices respond to signals and instructions. They make choices when using such devices to produce different outcomes. Explore options and make choices.		At this level pupil can use instructions to make something happen.	<ul style="list-style-type: none"> <li>Use a TV remote to adjust the volume.</li> <li>Press a button on a toy to make it work.</li> </ul>
Purposeful use towards specific outcomes, using single instructions.	2	They plan and give instructions to make things happen and describe the effects. Purposeful use towards a specific outcome.		At this level pupil can use instructions to make something happen.	<ul style="list-style-type: none"> <li>Press buttons on a programmable toy to enter an instruction, e.g. Forward – 5.</li> <li>Use a photocopier to make a specific number of copies.</li> </ul>
Order a sequence of instructions, trial and error, to achieve a specific outcome – where order is important.	3	They use sequences of instructions to control devices and achieve specific outcomes. Development of instructions to solve problems.		At this level pupil can use a linear sequence of instructions to achieve a single goal. This could be a series of separate instructions developed through trial and error.	<ul style="list-style-type: none"> <li>Successively press buttons on a programmable toy to follow a given path.</li> <li>Write a series of instructions, in a turtle graphics application, to draw a specific shape.</li> </ul>
Separation of planning and execution.	4	They use ICT systems to control events in a predetermined manner and to sense physical data.		At this level pupil can create and refine a set of linear instructions and understand that processes can be repeated in a simple system. Sensing physical data does not need to happen in the same system.	<ul style="list-style-type: none"> <li>Plan instructions required to simulate a simple stop/go traffic light. Test program, refine if necessary (Unit 7.6 lesson 1).</li> <li>Create a flow chart to control light levels (Unit 7.6 lesson 3).</li> <li>Control the temperature of a room (Unit 7.6 lesson 4).</li> <li>Use a web camera to sense and log movement (Unit 7.6 lesson 3).</li> <li>Plan instructions to control a greenhouse (Unit 8.5 lesson 5).</li> </ul>