



**micro:bit**  
the next gen

# Lagging

## Make a Hot Potato game

Computing topics covered		
<b>Hardware</b> <ul style="list-style-type: none"> <li>Connecting a micro:bit to a laptop</li> <li>Using the LED display and speaker outputs</li> <li>Using the built-in timer</li> </ul>	<b>Coding and Programming</b> <ul style="list-style-type: none"> <li>Sequencing</li> <li>Using repeat loops including “while loops”</li> <li>Selection and conditionals</li> <li>Events and triggers</li> <li>Debugging</li> </ul>	<b>Computational Thinking</b> <ul style="list-style-type: none"> <li>Logical reasoning</li> <li>Decomposition</li> <li>Algorithms</li> <li>Abstraction</li> </ul>
Curriculum links		
<b>England</b> <i>Computing NC: KS2</i> <ul style="list-style-type: none"> <li>Select, use &amp; combine a variety of software on a range of digital devices to design &amp; create a range of programs, systems &amp; content that accomplish given goals</li> <li>Design, write &amp; debug programs that accomplish specific goals, including controlling or simulating physical systems</li> <li>Work with variables &amp; various forms of input &amp; output</li> </ul> <i>Design Technology KS2</i> <ul style="list-style-type: none"> <li>Use research &amp; develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular audience</li> <li>Apply their understanding of computing to program, monitor &amp; control their products</li> </ul>	<b>Northern Ireland</b> <i>Thinking Skills &amp; Personal Capabilities: Thinking, Problem Solving &amp; Decision Making KS2</i> <ul style="list-style-type: none"> <li>Generating possible solutions</li> <li>Trying out alternative approaches</li> <li>Evaluating outcomes</li> </ul> <i>Using ICT: Computational Thinking and Coding Desirable Features</i> <ul style="list-style-type: none"> <li>Look at and talk about examples of coding projects, including the use of motion, looks, lights or sounds, sensors, control and events such as ‘if...then’ and ‘loop until’ (or equivalent) that make the code more efficient (L4)</li> <li>Recognise that these projects are composed of different components and break the task into smaller manageable tasks (decomposition) (L4)</li> <li>Use a range of commands to create a project including triggering commands that allow scripts to continue across different devices to facilitate a more efficient method of interaction (L4)</li> <li>Use a range of commands to create a project, including variables, operators and control statements such as ‘if... then...’ alongside the use of ‘if...then...else’ and comparators (L5 extension)</li> </ul>	
<b>Wales</b> <i>Science &amp; Technology: Design thinking &amp; engineering offer technical and creative ways to meet society’s needs and wants. Progression Step 3</i> <ul style="list-style-type: none"> <li>I can use design thinking to test and refine my design decisions without fear of failure</li> <li>I can combine component parts, materials &amp; processes to achieve functionality and improve the effectiveness of my outcomes</li> <li>I can apply my knowledge &amp; skills when making design decisions in order to produce specific outcomes</li> </ul>	<b>Scotland</b> <i>Technologies: Computing Science 2nd</i> <ul style="list-style-type: none"> <li>I can explain core programming language concepts in appropriate technical language. TCH 2-14a</li> <li>I can create, develop and evaluate computing solutions in response to a design challenge TCH 2-15a</li> </ul>	
Cross-curricular opportunities		
<b>Maths</b> <ul style="list-style-type: none"> <li>Revise understanding of probability and statistics</li> <li>Discuss random numbers – look at numbers generated by throwing different sorts of dice</li> <li>Program the micro:bit to behave like a dice when shaken using the built in accelerometer – compare to numbers generated by a real dice.</li> </ul> <b>Art</b> <ul style="list-style-type: none"> <li>Design and create a poster to advertise the Micro Hot Potato game using artwork, typography etc – use traditional media and/or ICT graphic design tools</li> </ul> <b>Music - link to DT</b> <ul style="list-style-type: none"> <li>Listen to musical excerpts that suggest a timer counting down – TV quiz show sound effects etc – discuss how they achieve their effects</li> <li>Explore using traditional and digital instruments to create music to accompany a timer – a countdown sequence</li> </ul>	<b>History/Geography/Science</b> <ul style="list-style-type: none"> <li>Create questions and lists of correct/acceptable answers for the Hot Potato Game based on learning in current topics/units</li> <li>Play them with a real potato and/or a micro:bit to develop confidence in subject knowledge/recall</li> </ul> <b>Design Technology/Technologies - link to Science</b> <ul style="list-style-type: none"> <li>Create a decorated case for the micro:bit that makes it look like a real potato – include design criteria – e.g. “must allow sound from speaker to be heard” and test and evaluate the product against these criteria</li> </ul> <b>PHSE/PDMU/Health and Wellbeing</b> <ul style="list-style-type: none"> <li>Discuss the issue of feeling negative when losing or being knocked out of a game or quiz</li> <li>Talk about ways of staying positive and keeping things fun and friendly</li> </ul>	