



Unit: Robotic Toys

ICT Year 1

Overview of this Unit:

The children show understanding that machines and devices in the home, the school and in the outside world can be controlled and use ICT appropriately in role play situations. They will make a robotic toy move by giving it a sequence of step by step instructions and will begin to predict and test programmable toy journeys. The children will share their experiences and work collaboratively to show others the basic functions of a programmable toy.

Appropriate use of the Welsh language should be encouraged.

Expectations at the end of this unit:

Most pupils will be able to: talk about how machines and devices are controlled. They can devise a sequence of steps to make a robotic toy move and predict and test their instructions. They can work collaboratively with others to plan and test robotic toy journeys.

Some pupils will only be able to: talk with encouragement about how machines and devices are controlled. They can make a robotic toy move randomly but show little understanding about building in step by step commands to complete a task.

Some pupils will also be able to: talk confidently about and demonstrate in their play how machines and devices are controlled. They can devise a sequence of instructions, both independently and collaboratively, to program a robotic toy for a given task and can make up tasks for others. They are beginning to combine commands, predict and test their instructions.

KEY:

Personal and Social Development, Well-Being and Cultural Diversity (PSDWBCD)	Welsh Language Development (WLD)	Creative Development (CD)
Language, Literacy and Communication Skills (LLC)	Knowledge and Understanding of the World (KUW)	Outdoor Play (OP)
Mathematical Development (MD)	Physical Development (PD)	Role Play (RP)



Teacher Assessment: The skills demonstrated by the children should form part of continuous assessment. Tracking and recording pupils' progress should be done in line with the schools assessment policy and used to inform future planning. Recording sheets are provided for schools as an optional part of this Scheme of work








Year 1 Find and Analyse Information

Robotic Toys

ICT Skills	Areas of Learning	Suggested Activity	Vocabulary	Resources	Skills across the Curriculum
Understand that machines and devices can be controlled.	PSEWBCD LL KUW	Discuss with the class the technology that they see or use everyday, e.g. televisions, video recorders, microwaves, toys, traffic lights, supermarket checkouts. Explain how some of this equipment can be programmed and controlled in different ways e.g. Washing machine, cash point machines, chip and pin tills, car park ticket machines and so on. Ensure that Role play areas set up in the classroom or scenarios out of doors include appropriate opportunities for the use of technology. Toys, home-made resources or use of defunct equipment can be used for this.	On Off Turn Remote control Battery Operated Power Electricity	Technological Devices in the classroom. Pictures of household machines and technology in the world around us. Battery operated toys	
Can make a robotic toy move by giving it a sequence of step by step instructions.	LL MD WLD KUW PD	During a PE lesson or outdoors give children instructions using simple directional language, such as forward, backward, left and right. Appropriate Welsh vocabulary could be considered e.g. <i>ymlaen, yn ôl, i'r chwith, i'r dde, aros.</i> Start with single instructions that children react to immediately and move to short sequences that children act upon after hearing the whole set of instructions. Discuss what happens when children start from different positions, facing different	Forward Backwards Left Right	Programmable robotic toy	

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		<p>directions. Point out that how they respond to the instructions depends on the way they are positioned. Divide the class into groups and ask them to give each other instructions. This might be to go around some obstacles or to reach a certain place. Allow them to use comparative language, such as 'a bit further'. Discuss length of pace and degree of turn at this stage.</p> <p>Repeat the previous activity with more emphasis on units of numerical value that convey distance or turn, e.g. <i>two steps forward</i>. Encourage the children to count in Welsh e.g. <i>ymlaen dau, yn ôl tri</i> etc Introduce the idea of repetition, e.g. <i>'do that twice'</i>. Talk to the children about how people interpret 'two steps forward' in different ways depending on their step size, and discuss how turns might be measured. Then discuss with the class the importance of standardising both the unit size and the language for giving instructions.</p> <p>Transfer knowledge to make a robotic toy move following step by step instructions.</p> <p>Class themes or topics will lend themselves to a variety of activities. The children can send the robotic toy in steps to complete a task in response to the roll of a dice or from pulling an object out of a bag, move around a playmat or visit objects in sequence or navigate obstacles etc. They should be encouraged to work with others in problem solving.</p>			 



ICT Skills	Areas of Learning	Suggested Activity	Vocabulary	Resources	Skills across the Curriculum
<p>Begin to predict and test programmable toy journeys.</p>		<p>Prepare three or four sets of instructions for moving about the class, starting at particular places and facing particular directions. Give the instructions to the children (in English and Welsh) and ask them to predict where the instructions will take them. Allow the children to follow the instructions to confirm or deny their predictions.</p> <p>When the children are sending the robotic toy in steps to complete a task they should be encouraged to talk about and work with each other to show a developing understanding that they can combine commands to predict and try out the movements of a robotic toy. </p>	<p>Forwards Backwards Turn right Turn left</p>	<p>Programmable robotic toy</p>	
<p>Show others the basic functions of a programmable toy.</p>		<p>The children could act as pupil-teachers and teach their peers how to program the toy.</p> <p>The children could make up simple activities and challenges for each other. </p>	<p>Forwards Backwards Turn right Turn left Clear</p>	<p>Programmable robotic toy</p>	