



ICT
Curriculum
Team
Tim
Cwricwlwm
TGC



Unit: Robotic Toys and Controlling Machines

ICT Early Years

Overview of this Unit:

Children should be made aware of the use of machines and equipment in their everyday lives and understand that machines need power and can be controlled through switches, buttons, dials, remote controls, keypad presses etc. They should be encouraged to talk about their experiences and learn about how ICT is used in the wider world through role play and exploring real and 'made' devices. They should be able to control a robotic toy to move around and complete simple tasks. Children should be taught how to handle and take care of equipment and consider others by taking turns and sharing.

Expectations at the end of this unit:

Most pupils are beginning to: talk about and use machines as part of their play and understand that turning a dial or pushing a switch etc. is controlling an action. For example, they can switch channels on a television with a remote control, press play to listen to music on a CD player, push buttons on a mobile phone to play text or make a pretend phone call, select a program on a toy washing machine etc. They can control a robotic toy to complete a simple task.

Some pupils will only be able to: talk with encouragement about machines and are beginning to use devices as part of their play showing some understanding that turning a dial or pushing a switch etc. is controlling an action. They enjoy moving a robotic toy randomly but lack control to undertake more specific tasks.















Some pupils will also be able to: talk confidently about their use of machines in a broad context of ICT in the wider world and use machines appropriately as part of their play. They can control a robotic toy to complete a simple task and are beginning to predict the outcomes of their actions. They work with others on a task to control the robotic toy and have ideas for making their own simple activities/tasks for the robotic toy.






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)

Early Years Finding and Developing Information and Ideas

Robotic Toys and Controlling machines

ICT Skills	Areas of Learning	Suggested Activity	Vocabulary	Resources	Skills across the Curriculum
Becomes aware of how ICT devices in “everyday” situations give us information.	   PSDWBCD LLC KUW	Show the children real or play equipment and/or photographs to discuss the use of everyday machines which are used to convey information <i>e.g. television, video, radio, telephones, digital clocks, computers, Playstations, cash point machines, scanners, microwaves, car park ticket machines etc.</i> Adults should model the use of these machines in role play situations and children should be given the opportunity to use these machines in their play to increase their knowledge and understanding of the world. 	Names of machines being discussed Information	Real and/or play machines Photographs	 
Understands that machines can be controlled.	    PSDWBCD LLC KUW CD	Discuss with the class the technology that they see or use in their everyday lives, <i>e.g. televisions, video recorders, DVD players, microwaves, washing machines, toys, traffic lights, supermarket checkouts e.g. an electric wheelchair can be controlled with a joystick etc.</i> Explain and demonstrate how this equipment is operated, <i>e.g. by pressing</i> 	Control Switches Remote control Dials Program On/Off Buttons Electricity Battery Power	Actual devices Made resources Photographs Role play areas	  

		<p>e.g. by pressing on/off buttons, using switches, turning dials,  remote control etc.</p> <p>Children could construct models of these everyday objects out of junk materials and act out everyday roles e.g. washing clothes, telephoning a friend, getting money from a cash point machine etc.</p> <p>Ask children to cut pictures of similar equipment from magazines to make a classroom display.</p>			
<p>Knows that a robotic toy can be controlled.</p>		<p>Show the class some battery-operated toys and robotic toys demonstrate how they can be used. Ensure that they are aware of the correct and safe use of the toy and talk about taking care of it, sharing with each other, making sure it's switched off after use and returned to its' appropriate resource area etc.</p> <p>Allow the children time to use and explore robotic toys, making them move around randomly by experimenting with forwards/backwards, left /right and on/off. This can be done in both the indoor and outdoor environments. Directional Welsh vocabulary can be introduced.</p> <p>A box of objects/ junk materials could be placed nearby for the children to independently construct a simple obstacle course to navigate around.</p>	<p>Battery Switch On/Off Move Wait Forward Backward Turn Right Left Obstacle</p>	<p>Robotic toys e.g. Remote control toys, Beebot, Pixie, Pip, Roamer</p>	
<p>Can direct a robotic toy to complete a simple task.</p>		<p>Encourage the children to move the robotic toy/remote control toy more purposefully by experimenting with</p>	<p>On/off Right/left Forwards/backwards</p>	<p>Robotic toy/remote control toy</p>	

		<p>forwards/backwards and left /right to move to a specific object or place. Welsh vocabulary can be introduced.</p> <p>They could move the toy to re-sequence a story, find a colour or shape on a mat, roll a dice to generate a number to move or pick a picture from a bag etc. Encourage the children to talk about what happens. Welsh vocabulary can be introduced or reinforced.</p> <p>More able children could be encouraged to talk about and predict the outcomes of their actions.</p> <p>Ask children to choose a number card and move the robotic toy along a number line the required distance.</p> <p>Children should be encouraged to come up with their own ideas for moving the robotic toys for a variety of purposes and make up their own tasks.</p>	<p>Turn Stop/go</p>	<p>Variety of large dice</p> <p>Number cards</p> <p>Number line</p> <p>Play mats</p> <p>Toys/objects</p> <p>Photographs</p>	
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