






Year 3/4: Simple Circuits and Switches-What is the best way to construct a desk lamp?

Subject Specific Vocabulary		Prior Learning Y1/2	Sticky Knowledge
circuit	path through which electricity passes.	Constructed a simple series electrical circuit in science, using bulbs, switches and buzzers. Cut and joined a variety of construction materials, such as wood, card, plastic, reclaimed materials and glue.	<div><p>Push-to-break switch The switch is off while the button is pushed, but returns to its 'on' position when button is released.</p></div> <div><p>Push-to-make switch When you push, the electricity flows through the circuit, but when you release it the circuit is broken and the switch is off.</p></div> <div><p>Reed switch Activated by a magnet - this closes the contacts and completes the circuit.</p></div> <div><p>Toggle switch Simple on/off switch</p></div> <div><ul style="list-style-type: none">• Design a product for a named person.• Select from electrical and construction materials that.• Identify areas where their product could be improved.• Make a variety of switches.• Use a cross sectional or exploded drawing to explain their ideas.• Understand how to correctly create a simple circuit.• Be aware that electric current can be dangerous.</div>
conductor	a material which allows electrical current to pass through it	Future Learning Y5/6	
insulator	a material which does not easily allow electric current to pass through it.	Select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product. Create and modify a computer control program to enable an electrical product to work automatically in response to changes in the environment. Test a system to show it works. <h2>Desk light</h2> 	
prototype	a model made to test whether a design will work		
input devices	components that are used to control an electrical circuit e.g. switches.		
output devices	components that produce an outcome e.g. bulbs and buzzers.		
reed switch	a switch operated by a magnet		
toggle switch	a switch operated when a lever is pressed.		
push-to-make switch	a switch turned on by pressing it.		
push-to-break switch	a switch turned off by pressing it.		