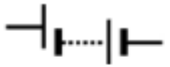
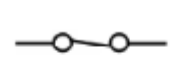
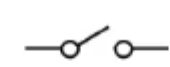
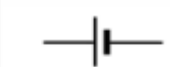
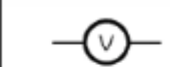

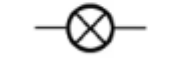
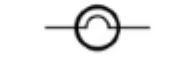




## DESIGN: MORE COMPLEX SWITCHES – RED SQUIREL CLASS

### Key Vocabulary

Electrical system	consists of all of the elements needed to distribute electrical power, including overhead and underground lines, poles, transformers, and other equipment.
Prototype	A product built to test ideas and changes until it resembles the final product.
Durable	The ability of a material to withstand damage or wear.
Electrical components	These are basic elements that are connected together to make circuits.
Unique Selling Point	What makes a product different from others.
Target audience	A specific group that a product is aimed at.
Modification	A change that is made to design at any stage of the process. This is usually made to fix a fault or improve a product.
Conductor	A material that allows electricity to pass through it easily.
Insulator	A material that doesn't easily allow heat or electricity to pass through it.

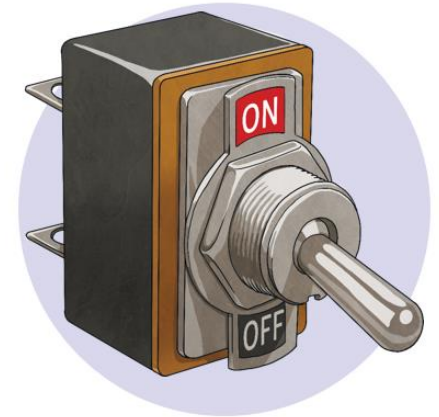
				
battery	closed switch	open switch	cell	voltmeter
				
buzzer	lamp	lamp	motor	wire

### The function of a switch

Switches allow you to control the flow of electricity through a circuit.

Turning a switch on completes a circuit, meaning that the electricity can flow and the components will function.

Turning a switch off breaks the connected loop in the circuit, stopping the flow of electricity around the circuit.

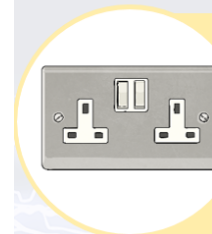


Electricity is energy that can flow from place to place; this is called a current. This flow of energy powers all kinds of things, such as computers, lights and televisions.

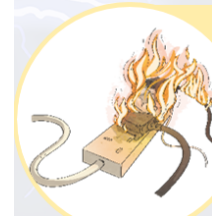
Fires can be caused if electrical equipment is damaged or incorrectly used.



### Electricity Safety



- Never put your fingers in a plug socket. Even if the switch is in the off position, there will still be an electrical current in the socket.
- If you need to unplug equipment, turn off the switch on the socket and then carefully take the plug out. Don't try to yank it out!



- Don't overload sockets. Using lots of extension cords could damage the electrical system and cause a fire.
- If you notice an electrical wire is damaged, you must tell a grown-up straight away.