

Sticky Knowledge

That successful design is rooted in the needs of the user.

Understand circuits need to be complete to work.

Apply our understanding of computing to program and control their products.

Know a switch can be used to break a circuit.

Key skills

Investigate and analyse a range of existing battery-powered products.

Generate realistic ideas focusing on the needs of the user and purpose of the product.

Develop ideas through the analysis of existing products and use annotated sketches and prototypes to model and communicate ideas.

Order the main stages of making.

Explain our choice of materials according to functional properties and aesthetic qualities.

Test and evaluate their own products against design criteria and the intended user and purpose.

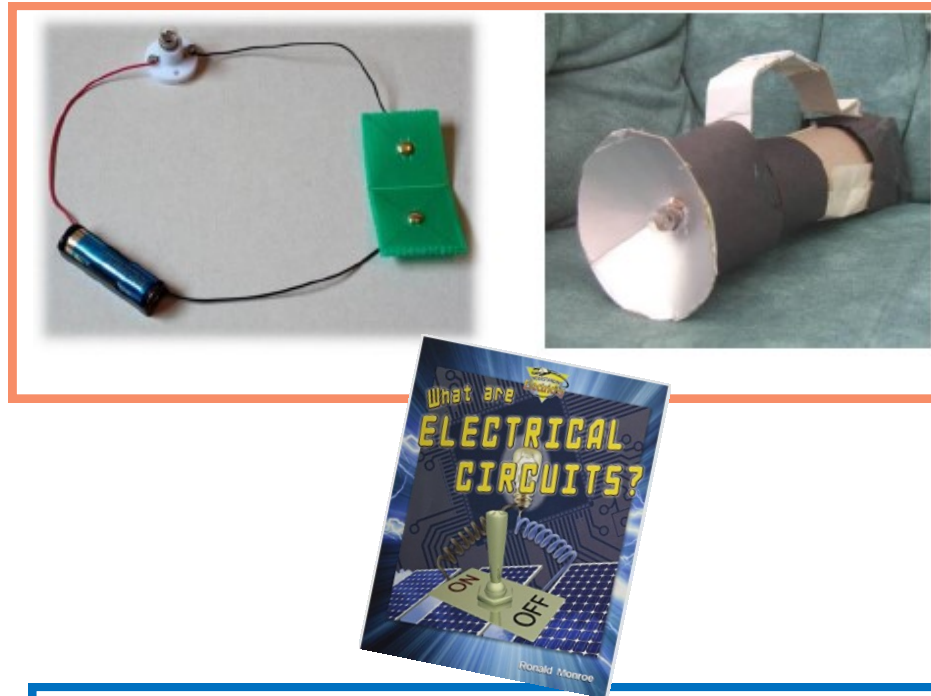
Evaluate our ideas and products against our own design criteria and identify the strengths and areas for improvement in our work.



Design Technology, cycle B, summer

Y3 and Y4 Knowledge Organiser

Electrical systems



Possible

Resources

handling collection of battery-powered electrical products

switches including toggle, push-to-make and push-to-break

aluminium foil, paper fasteners, paper clips, card, corrugated plastic, reclaimed materials, finishing materials and media

buzzers, bulbs, bulb holders, zinc carbon or zinc chloride batteries

Key Vocabulary

Design brief the problem our design will solve.

Series circuit connected electrically so that current passes through each circuit element in turn

Fault problem.

Connection join.

Battery power stored in a cell.

Light bulb produces light from energy.

Wire thin and flexible piece of metal.

Insulator materials that don't allow electricity to pass through them easily.

Conductor materials that allow electricity to pass through them easily.

Control to operate something.

Program the planning of something.

System the group of parts to make something work.

User person who will use the product.

Purpose reason to design and build.

Function the purpose of something.

Prototype an original model based on which the final product is designed.

Design criteria standards used to test and judge.

Innovative a new idea or way to do something.

Appealing attractive to the user.