



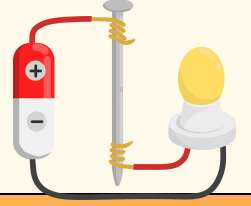
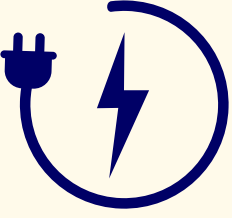
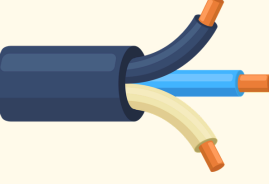
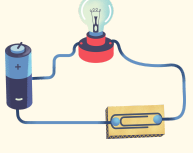
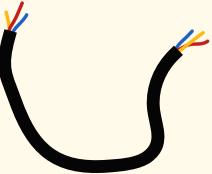
D&T - Year 3/4 - Autumn - Cycle A
Electrical systems - torches

What do I already know how to do?

- Think about what others might want from a design.
- Begin to recognise how products and designs in the world around us solve certain needs.
- Consider who I am designing for – by identifying the user.
- Talk about ideas with purpose and user in mind.
- Talk about existing products when generating ideas.
- Explain my choices based on the properties of materials and components

I will know how to design and make a torch for miners to use inspired by Sir Joseph Swan and Thomas Edison by:

- Designing a torch, giving consideration to the target audience and creating both design and success criteria focusing on features of individual design ideas.
- Making a torch with a working electrical circuit and switch.
- Using appropriate equipment to cut and attach materials.
- Assembling a torch according to the design and success criteria.

battery		Made from two or more cells that provide electrical energy to power a circuit.
bulb		A part of a circuit made from glass or plastic that gives light when electricity passes through it.
conductor		A material that allows electricity to flow through it, such as metal.
electricity		A type of energy that is usually invisible and can be made or stored to make things work, such as moving or heating objects.
insulator		A material that does not let electricity flow through it, such as plastic.
series circuit		A closed circuit where the current flows in one path.
switch		A part of a circuit that can open or close to allow electricity to flow or stop it from flowing.
torch		A battery-powered light that can be carried.
wire		A thin piece of copper that conducts electricity and connects circuit components together.



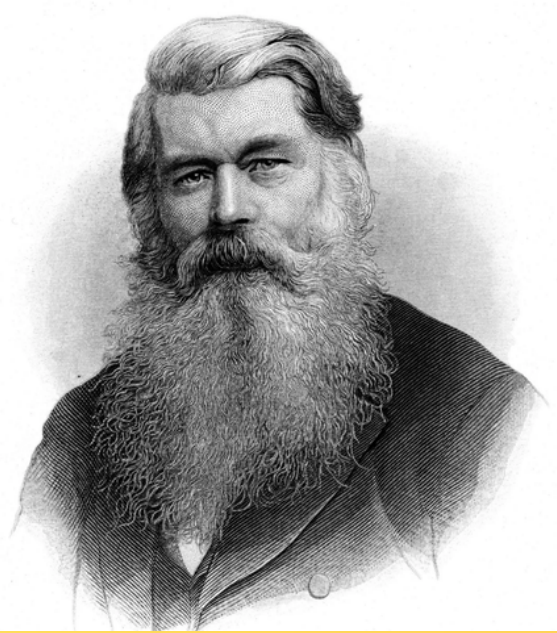
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Our brief: design and make a torch to help the miners see down the mines

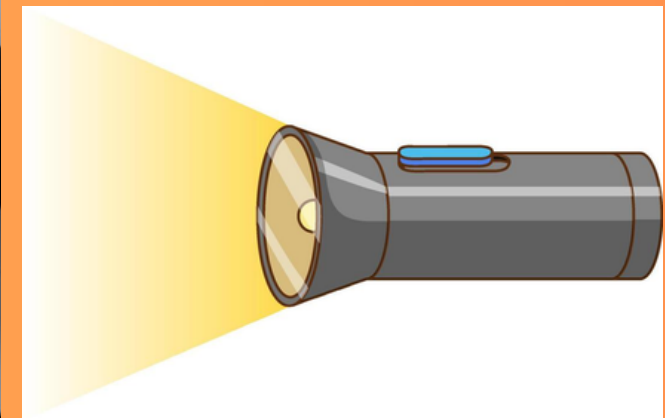
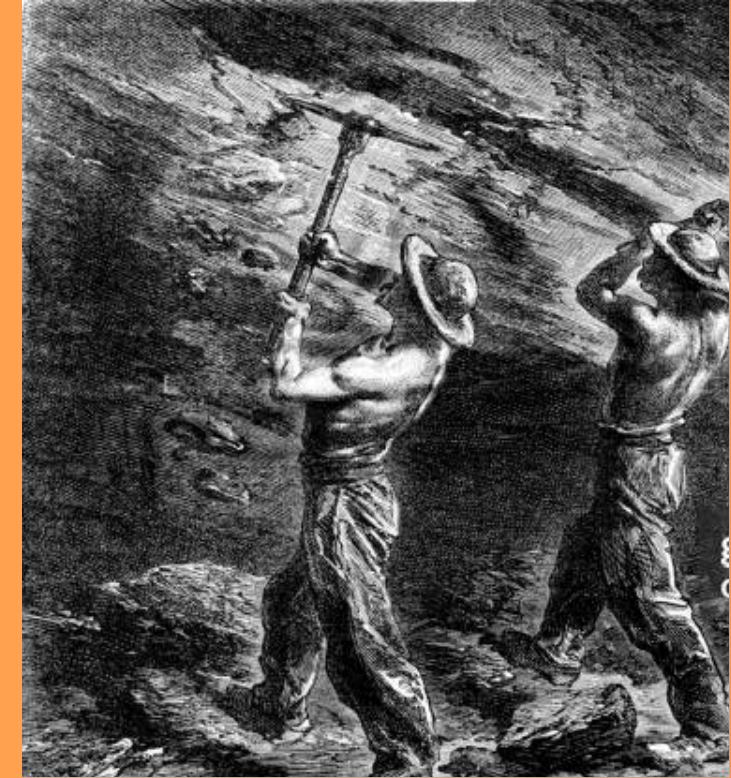
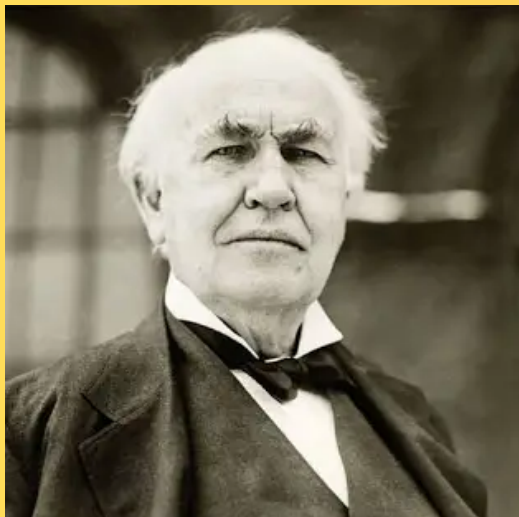
Sir Joseph Swan

Sir Joseph Swan (1828–1914) was a British scientist and inventor born in Sunderland. He is famous for developing an early, successful electric light bulb. After years of experimenting and improving his designs, his invention helped change how people lit their homes and buildings. In 1904, he was knighted for his achievements. His work inspires us to think creatively, solve problems and improve electrical products.



Thomas Edison

Thomas Edison was a famous American inventor who lived from 1847 to 1931. He invented many things that changed the world, including the electric light bulb, the phonograph (an early music player), and motion picture cameras. His inventions made life easier and more fun for people all around the world.



What do we do?

- Research your artist/s
- Explore new skills
- Design
- Create
- Evaluate