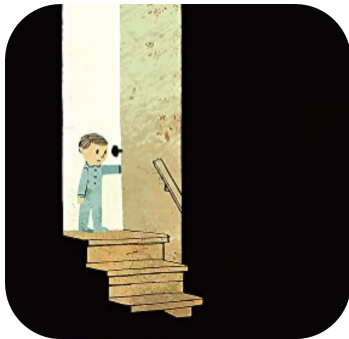# Year 4: Structures and Mechanisms / Electrical Systems and Control
How can we help Laszlo cope with his fear of the dark?

Situation

Laszlo is afraid of the dark and doesn't feel happy alone in his room at night.

Design Brief

Design, make and evaluate a prototype for a night light for Laszlo to help him feel safe in his room at night.

Design a Night Light

You will consider:

- appearance/aesthetics - *how will it look?*
- cost - *how much money will it be?*
- customer - *how will you make your night light appealing to Laszlo, or someone with a similar fear of the dark?*
- environment - *will you use sustainable materials and renewable energy?*
- size - *how big or small will it be?*
- safety - *how will you make it safe to use?*
- function/purpose - *how will it produce light?*
- materials - *what materials will you use?*
- manufacture - *how will you make and power it?*

Design Ideas

Technical Knowledge

Program your Crumble and Sparkle to provide a light source for your night light.

Thomas Edison

Thomas Edison was a famous American inventor and businessman.

He is most famous for inventing the light bulb, although some historians think he stole the idea from others.
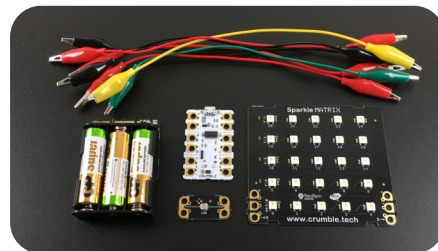
Evaluate

Does your prototype night light meet your design specification? Would it appeal to Laszlo or people like him?
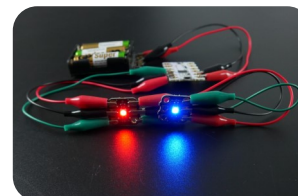
Vocabulary

circuit	A path through which electricity passes.
code	To program instructions.
colourless	To be without colour - not just 'see through'.
conductor	A material which allows an electric current to pass through it.
control	To manage or direct another device.
input device	Parts that control an electrical circuit.
insulator	A material which doesn't allow an electric current to pass through it.
output device	Parts that produce an outcome, such as a light or buzzer.
prototype	A test model of your design.
series circuit	A circuit where the current flows through each component.
switch	A break in a circuit that can be joined when needed.

CRC Article 29: All children have the right to develop their skills and talents.

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