

<u>Year Group:</u> <u>Year 3</u>		<u>Topic:</u> <u>DT</u>	<u>Term:</u> <u>Summer</u>	<u>Main Focus:</u> <u>Electrical Systems</u>
<u>Rationale For Topic</u> In this unit, children will be looking at electrical systems and how they work. The focus of electrical systems will be using and making simple circuits with a switch. The final product will be to design and make a battery operated light house that operates with a switch. Children will be using sustainable, recycled materials to create this product. The target market will be for Sea Captain Simon and children will need to consider this in the design process.				
<u>Lesson Number</u>	<u>Learning Objective (s):</u>	<u>Success Criteria:</u>	<u>Brief outline / reasoning for sequence</u>	
1	LO: To conduct a product analysis (IEA).	- I can identify how a battery operated light works. - I can identify the target market of a battery operated light. - I can identify what materials have been used to create a battery operated light.	Children will be exploring and testing different forms of light. Physical examples needed. • reading lights • clips of lighthouses • light up toys • lamps Children will be able to identify how each switch works, how it is controlled (computer or manual), what materials have been used, and who the target market is and how they know this.	

2	LO: To make a working circuit using a bulb (FT).	- I know I need an input and an output device in a circuit and can suggest appropriate items for these. - I can use a switch as my input device. - I can use a bulb as my output device. - I can make a simple circuit.	Children will focus on the electrical circuit element to their product. They will explore how to make a simple circuit, using an input device (switch) and an output device (bulb). They will understand and be able to explain how to use the switch to make the bulb light up. <i>Children will be challenged to think about how we could reach the circuit in bad weather (reference simple programming and being able to use computer software to make circuits work).</i> Curriculum link to our coding unit in computing.
3	LO: To design my final product. 	- I can design an eye-catching lighthouse. - I can include a switch to make the lighthouse work. - I will design my lighthouse fit for purpose.	Children will design their lighthouses whilst considering the limitations and factors needed: Lighthouses need to be eye-catching and easily visible- colour and design needs to be considered for this. Lighthouses need a working electrical circuit to ensure it lights up in bad weather to be fit for purpose. Children need to consider the placement of this circuit to avoid it being 'exposed' in bad weather- how can their design protect the circuit from the weather to ensure it works. Children will draw and label their designs with materials, colours and electrical elements needed for their build.
4 & 5	LO: To make my final product.	- I can make a working electrical system. - I can include a switch. - I can make my design	Children will be making their final product over a double lesson. They will need to independently gather their resources, construct their designs, and ensure that their electrical system works. Children will be able to follow

		eye-catching and follow my plan.	their designs to meet the brief.
6	LO: To test and evaluate my final product.	- I can evaluate my own design. - I can test whether my switch and electrical circuit work. - I can peer evaluate my classmates' designs and suggest improvements.	Children will be testing and evaluating the effectiveness of their final products and their peers' final products. They will be considering: Is the switch easy to use? Does it light up? Are the electrical components sealed and hidden? Is the design bright and eye-catching? Are you happy with the appearance of the product?