

KNOWLEDGE ORGANISER – St Gregory’s RC Primary School

Topic: Design Technology

Year Group: 4 Summer

Strand: Electrical Systems Simple Circuits and Switches – A Bedroom Nightlight

What I should already know	Sticky knowledge	Key skills
<ul style="list-style-type: none"> • I know how to develop ideas from an original design. • I know the ways my products can be improved • I know which tools are used for a particular task. • I know how to design a product using sketches, measurements and annotated drawings • I know how to measure and mark accurately up to 1cm. • I know how a prototype can alter and change my initial ideas and designs. 	<ul style="list-style-type: none"> • I know how to construct a simple electrical circuit and incorporate this into a product. • I know the features of a torch and how it works • I know that electricity is a type of energy that is used to power lots of things. • I know the difference between push-to-break switches and push-to-make switches • I know that electricity can flow through wires and cables. It can be stored in batteries. • I know that some materials conduct electricity and others do not. 	<p>Designing</p> <ul style="list-style-type: none"> • I have factored in who the product is for in the design criteria • I can persevere and adapt work when original ideas do not work • I can research/ evaluate existing products and identify criteria that can be used for their own designs. • I can produce a plan and explain how it will work <p>Making</p> <ul style="list-style-type: none"> • I know which material is likely to give the best outcome • I can link scientific knowledge by using lights, switches or buzzers • I can use electrical systems to enhance the quality of the product <p>Evaluating</p> <ul style="list-style-type: none"> • I can evaluate my product by carrying out appropriate tests. • I can evaluate my product during and at the end of the task • I can evaluate and suggest improvements for my design based on the purpose/ user. <p>Technical knowledge:</p> <ul style="list-style-type: none"> • I can use electric systems such as switches, bulbs and buzzers.
Design brief		
<p>Can make a nightlight for your bedroom?</p>		

Vocabulary	
Battery	A device that can supply electric power.
Bulb	Round, clear glass which produces light from an electric current.
Connection	The way that an object is linked with something else.
Design brief	A plan that has been made with a client, customer or as a team.
Design criteria	Specific goals that the product or project must achieve to be successful.
Fault	Any abnormal electric currents.
Function	How something works or operates in a certain way.
Series circuit	A path that electricity flows along.
Toggle switch	An electric switch which operates by a lever that goes up and down.
Wire	A single conductor that can carry electric current.

Diagrams/Pictures