



Design and Technology Topic: To design, make and evaluate a light up picture.

Year: 4 Term: Autumn 1

Key Knowledge/Content:

- To develop design criteria from a design brief.
- To know that a birds-eye view means a view from a high angle (as if a bird in flight).
- To know that graphics are images which are designed to explain or advertise something.
- To know how more complex electrical circuits and components can be used to create functional products and how to program a computer to monitor changes in the environment and control.
- To understand that mechanical and electrical systems have an input, process and output.

Links to:

Prior learning:

To design, make, and evaluate a bag. The children practised their sewing techniques and applied them when creating their bag.

Future learning:

To design, make and evaluate an alarm box. The children will be exploring and looking at components of a simple mechanical system.

Key vocabulary with definition:

Prior vocabulary:

- Fastening – To finish a product by adding a specific detail.
- Marking- Taking measurements from a small number of set points, accuracy can be improved and maintained.
- Modifications- Making a change to a product.
- Embellish - Make (something) more attractive by the addition of decorative details or features.

New vocabulary:

- Graphics - An image created by drawing or painting.
- Birds-eye view – An aerial view A view taken from the sky looking down.
- Input - Take a signal from the physical or 'real world' and turn it into an electronic signal that a process device.
- Output – take the signal from the process device of a system and turn it back into a physical or 'real-world' signal, such as light or sound.

By the end of this unit

All children can: identify components that are required to make a mechanical system and **design** a product with a specific user.

Most children can: demonstrate how to create a mechanical system and **explain** the functions of each component.

Some children can: demonstrate and **explain** why they have designed their product for that specific user and compare to an already existing product.

Background understanding for teachers and parents:

The children are going to design, make and evaluate a light up picture. The children will explore and look at components of a simple mechanism. Whilst making the product the children will be looking at the functions of each component.

Curriculum Driver (one):

Communication

Evidence outcome:

The children will be communicating their ideas and comparing to others. When evaluating the final product, children will discuss how they could improve their product.